

All Medical Records

Client: [B6]  
Address: [B6]

Patient: [B6]  
Breed: Border Collie  
DOB: [B6]

Species: Canine  
Sex: Male

Home Phone: [B6]  
Work Phone: [B6]  
Cell Phone: [B6]

[B6]

Referring Information

[B6]

Client: [B6]  
Patient: [B6]

**Initial Complaint:**  
Scanned Record

**Initial Complaint:**  
New - Rush - murmur

**Initial Complaint:**  
Recheck-Rush

SOAP Text Jul 2 2018 10:58AM - Rush, John

**Initial Complaint:**  
Recheck - Rush

Client:  
Patient:

**B6**

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**SOAP Text Jul 2 2018 11:08AM - Rush, John**

---

**Initial Complaint:**

Recheck - Rush

---

**SOAP Text Dec 19 2018 12:11PM - Rush, John**

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**Disposition/Recommendations**

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Client:  
Patient:

**B6**

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Client: **B6**  
 Patient:



**Foster Hospital for Small Animals**

55 Willard Street  
 North Grafton, MA 01536  
 (508) 839-5395

Client: **B6**  
 Veterinarian:  
 Patient ID: **B6**  
 Visit ID:

Patient: **B6**  
 Species: Canine  
 Breed: Border Collie  
 Sex: Male  
 Age: **B6** Years Old

**Lab Results Report**

**Chem Prof - Small Animal (Cobas) 7/2/2018 12:52:27 PM Accession ID:**

Test	Results	Reference Range	Units
GLUCOSE		67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM	<b>B6</b>	140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO2 (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
GGT		0 - 10	U/L



4/88

**B6**

Printed Tuesday, January 01, 2019

Client: **B6**  
Patient:

---

ALT	<b>B6</b>	14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

---



5/88

**B6**

Printed Tuesday, January 01, 2019

Client:  
Patient:

**B6**

**B6**

**B6**

Client:  
Patient:

**B6**

**B6**

**B6**

Client:  
Patient:

**B6**

rDVM:

**B6**

hx 3/6/16-7/7/17

**B4**

**B6**



Client:  
Patient:

**B6**

rDVM

B6

ix 3/6/16-7/7/17

**B6**

**B6**







Client: **B6**  
Patient:

rDVM **B6** /H hx 3/6/16-7/7/17

ILL-27-2017 01-48 From:

To: **B6**

Page: 1 of 12

07/07/17 07:57 AM **B6** →

Ilexx Laboratories | Page 001

**IDEXX**  
LABORATORIES

**B6**

1-800-433-9907

Click the RED BANNER on  
VetConnectPLUS.com for a new V

Order #:  
Patient #:  
Specimen #:  
Date:  
Age:  
Gender:

Registration #:  
Accession #:  
Order serial #:  
Ordered by:  
Requestor:

**B6**

Test	Result
ALP	
ALT	
AST	
CREATINE KINASE	
BUN	
AMYLASE	
LIPASE	
ALBUMIN	
TOTAL PROTEIN	
GLOBULIN	
TOTAL BILIRUBIN	
BILIRUBIN UNCONJUGATED	
BUN	
CREATININE	
CHOLESTEROL	
GLUCOSE	
CALCIUM	
PHOSPHORUS	
TCO2 (BICARBONATE)	
CHLORIDE	
POTASSIUM	
SODIUM	
ALBUMIN RATIO	
BUN/CREATININE RATIO	
BILIRUBIN UNCONJUGATED	
NA/K RATIO	
HEMATOCRIT INDEX	

**B6**

**B6**

PARTIAL REPORT - CONTINUED ON NEXT PAGE

PAGE 1

Client: **B6**  
Patient:

rDVM: **B6** hx 3/6/16-7/7/17

JUL 27 2017 01:48 From:

To: **B6**

Page: 013

07/27/17 01:50:02 **B6**

Maxx Laboratories | Page 002

**B6**

**B6**

THYR PLUS W/ CARBOPET KD **B6**

Test	Result
<b>B6</b>	

Interpretation (owner):

**B6**

Dogs with no clinical signs of hypothyroidism and results within the normal reference range are likely euthyroid. Dogs with low T4 concentrations may be hypothyroid or "euthyroid sick". Occasionally, hypothyroid dogs can have T4 concentrations that are low normal. Dogs with clinical signs of hypothyroidism and low or low normal T4 concentrations may be evaluated further by submission of **B6** and **B6** in a clinically normal dog is likely variation of normal.

**B6** For dogs on thyroid supplement, accessible 4-8 hour post pill total T4 concentrations generally fall within the higher end or slightly above the reference range.

**B6**

PARTIAL REPORT

PAGE 2 OF 2

Client: **B6**  
Patient: **B6**

rDVM **B6** hx 3/6/16-7/7/17

JUL-27-2017 01:48 From

To **B6**

From: 3/15

8/26/17 11:11:37

**B6**

Maxx Laboratories 1 Page 001

**IDEXX**  
LABORATORIES

1-800-453-3087  
Click the RED BANNER on  
VetConnectPLUS.com for a new visit

**B6**

Client:  
Patient:  
Species:  
Breed:  
Age:  
Gender:

Requestor:  
Accession #:  
Order #:  
Ordered by:  
Report #:

**B6**

TH PLUS W/ CARBOPET #9	CHEM 27 W/ BUN/ALB
Test	Result
ALP	<b>B6</b>
ALT	
AST	
CREATINE KINASE	
GGT	
AMYLASE	
LIPASE	
ALBUMIN	
TOTAL PROTEIN	
GLOBULIN	
TOTAL BILIRUBIN	
BILIRUBIN CONJUGATED	
BUN	
CREATININE	
CHOLESTEROL	
GLUCOSE	
CALCIUM	
PHOSPHORUS	
TCO2 (BICARBONATE)	
CHLORIDE	
POTASSIUM	
SODIUM	
ALB/LOB RATIO	
BUN/CREATININE RATIO	
BILIRUBIN UNCONJUGATED	
HAZ RATIO	
HEMOLYSIS INDEX	

**B6**

PANEL REPORT - CONTINUED ON NEXT PAGE  
PAGE 1

Client: **B6**  
Patient: **B6**

rDVM **B6** hx 3/6/16-7/7/17

JUL-27-2017 01:41 From:

To: **B6**

Page 12/17

8/28/17 10:12:17 **B6**

Miss Laboratory 1 Page 02

Index of <b>B6</b>	exhibits no significant effect on chemistry values.
LIPEMIA INDEX	
Index of <b>B6</b>	exhibits no significant effect on chemistry values.
ANION GAP	
SCAA	<b>B6</b>
<b>B6</b>	

TH PLUS W/ CARDIOPET K9	CARDIOPET PROBNP - CANINE
Test	Result
CARDIOPET PROBNP - CANINE	<b>B6</b>

**B6**

TH PLUS W/ CARDIOPET K9	GBC STANDARD
Test	Result
WBC	
RBC	
HGB	
HCT	
MCV	
MCH	
MCHC	
% RETICULOCTE	
RETICULOCTE	
% NEUTROPHIL	
% LYMPHOCYTE	
% MONOCYTE	
% EOSINOPHIL	
% BASOPHIL	
PLATELET	
NEUTROPHIL	

**B6**

**B6**

FINAL REPORT - CONTINUED ON NEXT PAGE  
PAGE 2

Client: **B6**  
Patient: **B6**

rDVM: **B6** hx 3/6/16-7/7/17

JUL 27 2017 01:41 From:

To: **B6**

Page 11 of 20

8/28/17 10:11:00 **B6**

Micro Laboratories I Page 001

LYMPHOCYTE
MONOCYTE
EOSINOPHIL
BASOPHIL
AUTOMATED CBC

**B6**

TH1 PLUS W/ CANCROPET KD T4

Test	Result
T4	<b>B6</b>

**B6**

**B6**

FINAL REPORT

PAGE 3 OF 3

Client: **B6**

Patient:

rDVM: **B6** hx 3/6/16-7/7/17

31-27-2017 01:41 From

To: **B6**

From: 05/11/17

**B6**

Printed: May 11, 2017 8:31 PM

Page 1 of 1





Client: **B6**  
Patient: **B6**

rDVM: **B6** hx 3/6/16-7/7/17

JUL-27-2017 08:43 From:

To: **B6**

From: 13713



1-888-433-9007

Click the RED BANNER on  
VetConnect.com for a new view

**B6**

Client:  
Patient:  
Species:  
Breed:  
Age:  
Gender:

Regulation #:  
Accession #:  
Order #:  
Ordered by:  
Received:

**B6**

RETICULOCYTE PANEL

Test
% RETICULOCYTE
RETICULOCYTE

**B6**

HEALTHCHECK PLUS CHEM 25 w/ SOMA

Test	Result	Reference Range	Flag	Abx Clashes
ALP				
ALT				
AST				
CREATINE KINASE				
GGT				
ALBUMIN				
TOTAL PROTEIN				
GLUCALIN				
TOTAL BILIRUBIN				
BILIRUBIN - CONJUGATED				
BILIN				
CREATININE				
CHOLESTEROL				
GLUCOSE				
CALCIUM				
PHOSPHORUS				
TCO2 (BICARBONATE)				
CHLORIDE				
POTASSIUM				
SODIUM				
ALB/CREA RATIO				
BUN/CREA RATIO				
BILIRUBIN - UNCONJUGATED				
NA/K RATIO				
HEMOLYSIS INDEX				

**B6**

**B6**  
10/07/2016

FINAL REPORT - CONTINUED ON NEXT PAGE  
PAGE 1

Client: **B6**  
Patient:

rDVM **B6** hx 3/6/16-7/7/17

ALL-27-2007 01-41 Free

To **B6**

Page 14/19

Index of N,+,++ exhibits no significant effect on chemistry values.

LIPIDMA INDEX	N
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Index of N,+,++ exhibits no significant effect on chemistry values.

ANION GAP	<b>B6</b>
SODIA	<b>B6</b>

BOTH SODIA AND CREATININE ARE WITHIN THE REFERENCE INTERVAL VALUES.

indicates **B6** **B6**  
at the upper end of the reference interval. **B6**

**B6**

HEALTHCHEK PLUS		T4		
Test	Result	Reference Range	Flag	For Graph
T4		<b>B6</b>		

Interpretive ranges:

**B6**

Dogs with no clinical signs of hypothyroidism and results within the normal reference range are likely euthyroid. Dogs with low T4 concentrations may be hypothyroid or "euthyroid sick". Occasionally, hypothyroid dogs can have T4 concentrations that are low normal. Dogs with clinical signs of hypothyroidism and low or low normal T4 concentrations may be evaluated further by submission of free T4 and canine TSH. A high T4 concentration in a clinically normal dog is likely variation of normal; however elevations may occur secondary to thyroid autoantibodies or rarely thyroid neoplasia. For dogs on thyroid supplement, acceptable 4-6 hour post pill total T4 concentrations generally fall within the higher end or slightly above the reference range.

**B6**

HEALTHCHEK PLUS		CBC STANDARD		
Test	Result	Reference Range	Flag	For Graph
WBC		<b>B6</b>		
PCV		<b>B6</b>		
HGB		<b>B6</b>		
HCT		<b>B6</b>		

**B6**

FINAL REPORT - CONTINUED ON NEXT PAGE

Client: **B6**  
Patient: **B6**

rDVM: **B6** 3/6/16-7/7/17

JA-ET-UNIT 2142 Print

To: **B6**

Page 15/19

Index of <b>B6</b> exhibits no significant effect on chemistry values.	
LIPIDIA INDEX	N
Index of <b>B6</b> exhibits no significant effect on chemistry values.	
ANION GAP	<b>B6</b>
SOMA	<b>B6</b>
<b>B6</b>	
<b>B6</b>	If SOMA and/or creatinine is at the upper end of the reference interval. <b>B6</b>
<b>B6</b>	

HEALTHCHEK PLUS		T4		
Test	Result	Reference Range	Flags	Low Growth
T4				<b>B6</b>
Interpretive ranges:				
<b>B6</b>				
<p>Dogs with no clinical signs of hypothyroidism and results within the normal reference range are likely euthyroid. Dogs with low T4 concentrations may be hypothyroid or "euthyroid sick". Occasionally, hypothyroid dogs can have T4 concentrations that are low normal. Dogs with clinical signs of hypothyroidism and low or low normal T4 concentrations may be evaluated further by submission of free T4 and canine TSH. A high T4 concentration in a clinically normal dog is likely variation of normal; however elevations may occur secondary to thyroid autoantibodies or rarely thyroid neoplasia. For dogs on thyroid supplement, acceptable 4-6 hour post pill total T4 concentrations generally fall within the higher end or slightly above the reference range.</p>				

HEALTHCHEK PLUS		CBC STANDARD
Test	Result	Reference Range
WBC		
RBC		
HGB		
HCT		

**B6**

**B6**  
16/07/2016

FINAL REPORT - CONTINUED ON NEXT PAGE  
PAGE 2

Client: **B6**  
Patient:

rDVM: **B6** 3/6/16-7/7/17

ALL-27-2017 01:42 From:

To: **B6**

From: 3/6/17

MCV	
MCH	
MCHC	
% RETICULOCYTE	
RETICULOCYTE	
% NEUTROPHIL	
% LYMPHOCYTE	
% MONOCYTE	
% EOSINOPHIL	
% BASOPHIL	
AUTO PLATELET	
REMARKS	
NEUTROPHIL	
LYMPHOCYTE	
MONOCYTE	
EOSINOPHIL	
BASOPHIL	

**B6**

**B6**  
10/07/2016

FINAL REPORT

PAGE 3 OF 3

Client: **B6**  
Patient:

rDVM: **B6** 3/6/16-7/7/17

AL-27-2017 01:42 From:

To: **B6**

From: 3/7/17

**IDEXX**  
LABORATORIES

1-888-435-7607  
Click the RED BANNER on  
VetConnect.com for a new view

**B6**

Owner:  
Patient:  
Species:  
Breed:  
Age:  
Gender:

Registration #:  
Accession #:  
Order received:  
Ordered by:  
Reported:

**B6**

FECAL O&P **B6**

Test	Result	Reference Range	Flag	Bar Graph
OVA & PARASITES			<b>B6</b>	
<b>B6</b>	<b>B6</b>			
<b>Comments:</b> In cases of acute or chronic diarrhea in addition to a fecal floatation and antigen testing for ova and parasites consider testing for viral, bacterial and protozoal infectious agents using RealPCR (canine diarrhea panel; test code 2625; feline diarrhea panel; test code 2627).				

**B6**  
16/07/2016

FINAL REPORT

PAGE 1 OF 1

Client: **B6**  
Patient:

rDVM **B6** 3/6/16-7/7/17

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

DATE 11/19/2013 BY SP4 BTJ/STW

Page 24/88

**B6**

**B6**

Client: **B6**  
Patient: **B6**

rDVM **B6** hx 3/6/16-7/7/17

3/6/16-7/7/17

**B6**

Page 19/19

**B6**

**B6**

3/6/16-7/7/17

Page 19/19

Client: **B6**  
Patient: **B6**

rDVM: **B6** hx 3/6/16-7/7/17

**B6**

**B6**

**B6**

Page 26/88



Client: **B6**  
Patient:

Prescription **B6** 8/25/17

**B6**

**B6**

Dear DVM,

**B6**

CLIENT INFO	VETERINARIAN INFO
Name: Email: Address: Phone: Pet's Name: Weight: Species: Product: Quantity:	Hospital Name: TOPPS VETS - FOSTER HOSPITAL FOR SMALL ANIMALS Name: DR. JOHN BUSH, D.V.M. Address: 300 WESTBORD ROAD NORTH GRAFTON, MA 01536-1805, grafton, MA 01536 Phone: 5086100095 Fax: 5086397091 Email:

**B6**

Prescription Directions: *Give* **B6** *by mouth twice daily*

Refills allowed: *11* Date/TIME: *8/25/17*

Vet Signature: **B6** Current License #: **B6**

**B6**

Questions **B6**

Client: **B6**  
Patient:

RDVT **B6** 0/6/16-4/24/18

DATE TIME TO BASE **B6**

TYPE

PAGE 03/08

### Patient History Report

Client:  
Phone:  
Address: **B6**

Patient: **B6**  
Species: Canine  
Age: **B6**  
Color:

Breed: Collie Border  
Sex: Male

Date Type Staff History

4/24/2018 Y

4/24/2018 L

- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 4/24/2018 B
- 7/1/2017 S

**B6**

**B6**

Client: **B6**  
Patient: **B6**

RDVM **B6** 10/6/16-4/24/18

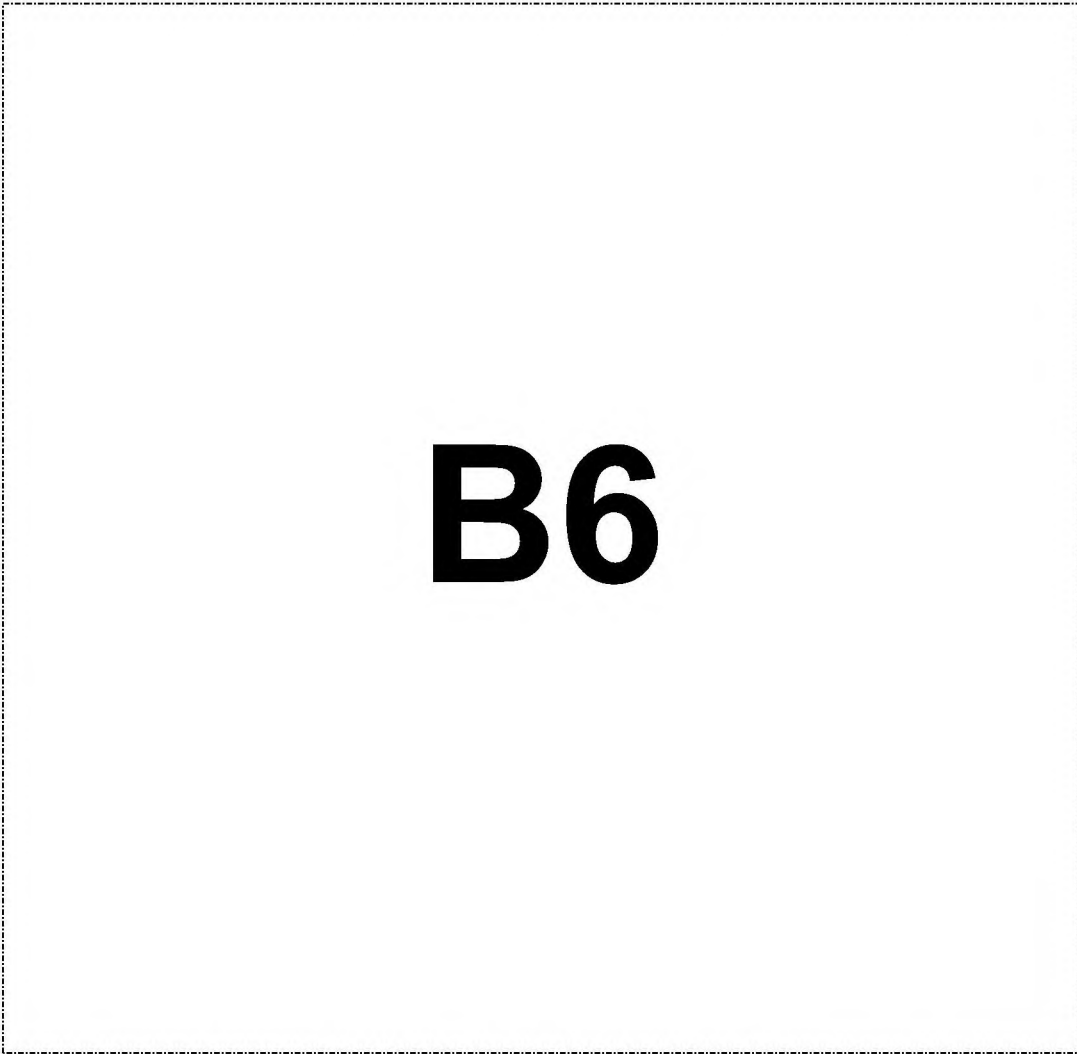
10/6/2018 10:00AM **B6** TRPH NAME: DVM/08

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Collie Border
Phone:		Species:	Canine	Sex:	Male
Address:		Age:	<b>B6</b>	Color:	

Date Type Staff History

10/02/17



10/02/17

**B6**

Client: **B6**  
Patient: **B6**

RDVM **B6** 10/6/16-4/24/18

**B6**

### Patient History Report

Client: **B6**  
Phone: **B6**  
Address: **B6**

Patient: **B6**  
Species: Canine  
Age: 0 Yrs 11 Mos  
Color: Black and White

Breed: **B6**  
Sex: Male

Date	Type	Staff	History
------	------	-------	---------

**B6**

**B6**



Client: **B6**  
Patient:

RDVM **B6** 10/6/16-4/24/18

10/25/2018 10:45AM **B6** 2590 Post Op/Dis

### Patient History Report

Client: **B6** Patient: **B6** Breed: Collie Border  
Phone: Address: Species: Canine Sex: Male  
Age: **B6** Color:

Date	Type	Staff	History
------	------	-------	---------

5/11/2017  
5/11/2017  
5/11/2017  
5/11/2017  
5/11/2017  
10/6/2016  
10/6/2016  
11/8/2016

**B6**

**B6**

**B6**

Page 5 of 5

**B6**

Client: **B6**  
Patient: **B6**

**B6** 7/5/18

**B6**

**B6**

Dear DVM,

**B6**

CLIENT INFO	VETERINARIAN INFO
<p>Name: <b>B6</b></p> <p>Email: <b>B6</b></p> <p>Address: <b>B6</b></p> <p>Phone: <b>B6</b></p> <p>Pet's Name: <b>B6</b></p> <p>Weight: <b>B6</b></p> <p>Species: <b>B6</b></p> <p>Product: <b>B6</b></p> <p>Quantity: <b>B6</b></p>	<p>Hospital Name: SLITS UNIVERSITY / FOSTER SMALL ANIMAL HOSPITAL</p> <p>Name: JOHN RUSH, DVM / CARDIOLOGY</p> <p>Address: NORTH DRAFTON, MA 01858</p> <p>Phone: (978)233-1000</p> <p>Fax: (978)233-1000</p> <p>Email: <b>B6</b></p>
Prescription Directions: <b>B6</b>	
Auth: <b>B6</b>	
Val: <b>B6</b>	
Val Name: <b>B6</b>	

**B6**

Questions: **B6**  
**B6**

Client:  
Patient:

**B6**

**B6**

7/5/18

**B6**

**B6**

**B6**

**B6**

CLIENT INFO

VETERINARIAN INFO

Name:  
Email:  
Address:  
Phone:  
Pet's Name:  
Weight:  
Species:  
Product:  
Quantity:

**B6**

Hospital Name: TUFTS UNIVERSITY / FOSTER  
SMALL ANIMAL HOSPITAL  
Name: JOHN RUSH, DVM / CARDIOLOGY  
Address: NORTH CRAFTON, MA 01861  
Phone: (978) 855-1000  
Fax: (978) 855-1001  
Email:

Prescription Directions:

**B6**

**B6**

Batch/lot:  
Vet Signature:  
Vet Name:

**B6**



Questions?

**B6**

**B6**



Client: **B6**  
Patient:

**B4** appt notes and catalyst from 7/31/18

Aug 01 15:09:18

01

**B6**

DATE: 8/1/18

TO: TUFTS

FAX NUMBER: 1-508-839-7951

SUBJECT: **B6** Blood work

FROM:

NUMBER OF PAGES (including cover sheet): 3

Client:  
Patient:

**B6**

RDVM:

**B6**

appt notes and catalyst from 7/31/18

Aug 01 18 09:13

8.2

**B6**

**B6**

**B6**

*Border Collie - BIN/W - 7/1/07 - M*  
REGISTRATION RECORD

*5/19/16*

*Strain*

*stabil*

**B6**

**B6**

Client: **B6**  
Patient:

RDVM **B6** ppt notes and catalyst from 7/31/18

Aug 01 12:02:55a

2.3

**B6**

**B6**

Species: Canine  
Breed:

Weight: 3.00 lbs

Age: 11 Years

Doctor: **B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
Catalase	<b>B6</b>				
GLU					
SCAA					
CKMB					
GLN					
BUN/CREA					
TP					
ALB					
CLD					
ALP/ALP					
ALT					
ALP					

**B6**

**B6**



Client: **B6**  
Patient: **B6**

RDVM: **B6** Bloodwork 9/18/18

**B6**

DATE: 9/19/18  
TO: IVERS-Att **B6**

FAX NUMBER: **B6**

SUBJECT: Bloodwork for **B6**

FROM: **B6**

NUMBER OF PAGES (including cover sheet) 3



Client: **B6**  
Patient: **B6**

RDVM **B6** Bloodwork 9/18/18

Seq 1875 03 006

11

Client: **B6** **B6**  
Patient: **B6** Weight: 4.00 lbs  
Sex: Female Age: 11 Years  
Breed: **B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
GLU	<b>B6</b>				
SDMA					
CREA					
BUN					
BUN/CRE					
TP					
ALB					
ALB/CRE					
ALP					
AST					
ALT					
TRIG					
TC					
CHOL					

**B6**

**B6**

Page 3 of 3



Client: **B6**  
Patient:

**B6** 11/29/18

**B6**

# B6

# B6

Dear DVM,



**B6**

CLIENT INFO	VETERINARIAN INFO
Name: Email: Address: Phone: Pet's Name: Weight: Species: Product: Quantity:	Hospital Name: TUFTS UNIVERSITY / POSTER SMALL ANIMAL HOSPITAL Name: JOHN RUSH, DVM / CARDIOLOGY Address: NORTH GRAFTON, MA 01536 Phone: 5083353305 Fax: 508337561 Email:

Prescription:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Refills: \_\_\_\_\_  
Veterinarian:  
\_\_\_\_\_  
Veterinarian:  
\_\_\_\_\_

**B6**

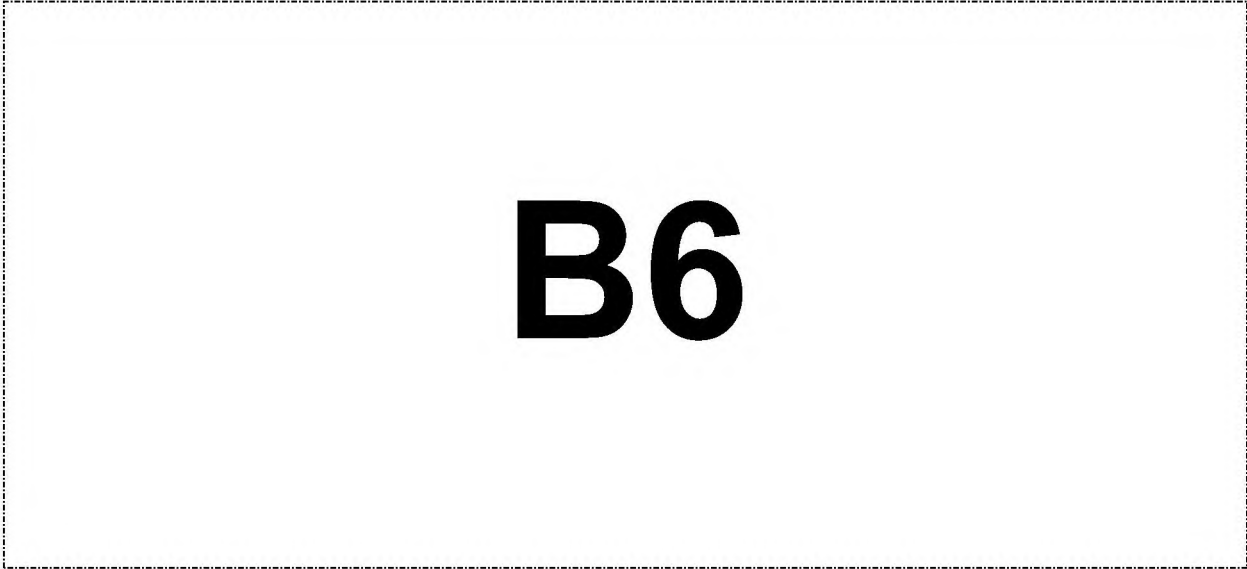
**B6**

Questions? **B6**

**B6**

Client: **B6**  
Patient:

**IDEXX BNP - 12/19/2018**





Client: **B6**  
 Patient: **B6**

Diet history 12/19/19

CANINOLOGY DIET HISTORY FORM

Pet's name: **B6** Owner's name: **B6** Today's date: 12/19/19

1. How would you describe your pet's appetite? (mark the point on the line below that best represents your pet's appetite)  
 Example: Poor \_\_\_\_\_ Excellent  
 Poor \_\_\_\_\_ **X** \_\_\_\_\_ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual  Eats less than usual  Eats more than usual  
 Seems to prefer different foods than usual  Other \_\_\_\_\_

3. Over the last few weeks, has your pet (check one)  
 Gained weight  Lost weight  Stayed about the same weight  Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what your pet is eating.  
 (Examples are shown in the table - please provide enough detail that we could go to the store and buy the exact same food)

Food (include specific product and flavor)	Form	Amount	How often?	Feed since
Nature's Blend Free Chicken, Lamb, & Sweet Potato Adult	dry	1 1/2 cups	daily	Jan 2018
Purina Next Generation	dry	2oz	1-2 times	Jan 2018
Purina Original Beef Flavor	treat	1/2	daily	Aug 2018
Beats	treat	1/2 cup daily	1-2 times	Dec 2018
Blue Buffalo	dry	1/2 cup	2-3 times	Jan 2019
Blue Buffalo	dry	1/2 cup	2-3 times	Dec 2018
Blue Buffalo	dry	1/2 cup	2-3 times	Dec 2018
Blue Buffalo	dry	1/2 cup	2-3 times	Dec 2018
Blue Buffalo	dry	1/2 cup	2-3 times	Dec 2018

\*Any additional diet information can be noted on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No. If yes, please list which ones and give brands and amounts.

Brand/Concentration	Amount per day
Taurine <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Calcium <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Anticoagins <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list):	_____
Example: Vitamin C	_____
Milpro's Blends	1000 mg tablets - 1 per day

6. How do you administer pills to your pet?  
 I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (not treats)

Client: **B6**  
Patient:

**Vitals Results**

<b>B6</b>	10:47:35 AM	Weight (kg)	<b>B6</b>
	11:31:06 AM	Blood Pressure (mmHg)	
	17 11:31:13 AM	Blood Pressure (mmHg)	
	11:48:18 AM	Weight (kg)	
	18 11:03:43 AM	Weight (kg)	

Client: **B6**  
Patient:

rDVM **B6** ads 7/6/17-THX-VD 1

**B6**

Client: **B6**  
Patient:

rDVM: **B6** rads 7/6/17-THX-VD 2

**B6**

Client: **B6**  
Patient:

rDVM **B6** rads 7/6/17-THX-VD 3

**B6**

Client: **B6**  
Patient:

rDVM **B6** rads 7/6/17-THX-RIGHT LAT

**B6**

Client: **B6**  
Patient:

rDVM **B6** 7/6/17-THX-LEFT LAT

**B6**

Client:  
Patient:

**B6**

**Patient History**

10:47 AM	Appointment
03:47 PM	Appointment
10:02 AM	UserForm
10:22 AM	Purchase
10:47 AM	Vitals
10:53 AM	Treatment
10:59 AM	UserForm
11:31 AM	Purchase
11:31 AM	Vitals
11:31 AM	Purchase
12:11 PM	Prescription
12:12 PM	Prescription
12:14 PM	Purchase
04:44 PM	UserForm
01:12 PM	Appointment
10:12 AM	UserForm
10:33 AM	Purchase
10:34 AM	Treatment
11:18 AM	Purchase
11:31 AM	Vitals
11:31 AM	Purchase
11:39 AM	UserForm
09:29 AM	Appointment
10:51 AM	Appointment
10:51 AM	Appointment
03:55 PM	Appointment
11:08 AM	UserForm
11:48 AM	Vitals
11:48 AM	Purchase
11:50 AM	Treatment
11:53 AM	Purchase
12:13 PM	UserForm
12:51 PM	Purchase
08:46 AM	Email

**B6**

**B6**



Client: **B6**  
Patient:

**Patient History**

<b>B6</b>	03:54 PM	Appointment	<b>B6</b>
	04:28 PM	Appointment	
	02:38 PM	Appointment	
	11:00 AM	UserForm	
	11:01 AM	Treatment	
	11:03 AM	Vitals	
	12:25 PM	UserForm	
	01:05 PM	Deleted Reason	
	01:05 PM	Deleted Reason	
	01:10 PM	Purchase	
	05:12 PM	Appointment	

Discharge Instructions

Patient:

Name: B6

Species: Canine

B6 Male Border Collie

Birthdate: B6

Owner:

Name:

Address:

B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVCP

B6

Cardiology Resident:

B6

Student:

Cardiology Technician:

B6

Admit Date: 8/2/2017 9:57:51 AM

Discharge Date: 8/7/2017

Diagnosis: B6

Diagnostic test results and findings:

B6

Case summary:

B6

Monitoring at home:

B6

**B6**

**Recommended Medications:**

**B6**

**B6**

**Diet suggestions:**

**B6**

**B6**

B6

**B6**

Patient ID: B6

B6 Canine

B6 Years Old Male Border Collie

B6

### Cardiology Appointment Report

Date: 8/2/2017

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (primary)

**B6**

Cardiology Resident:

B6

Cardiology Technician:

**B6**

Student:

B6

Presenting Complaint:

**B6**

Concurrent Diseases:

B6

General Medical History:

B6

Diet and Supplements:

B6

Cardiovascular History:

**B6**

# B6

## Current Medications Pertinent to CV System:

B6

## Cardiac Physical Examination:

# B6

### Muscle conditions:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

### Cardiovascular Physical Exam:

#### Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI thru left
- VI/VI

Murmur location/description: Left apex with systolic click

### Jugular vein:

- Bottom 1/3 of neck to
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

### Arterial pulse:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

### Arrhythmic:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

### Gallop: Maybe:

- Yes
- No
- Intermittent
- Pronounced
- Other:

### Pulmonary assessments:

- Espiric
- Mild dyspnea (+/- nervous)
- Marked dyspnea
- Normal IV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

V/VI murmur  
Hyperkalemia

**Differential Diagnoses:**

Degenerative valve disease - mitral

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**Echocardiogram Findings:**

# B6

**Disorder findings:**

B6

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**Blood Pressure:**

141/81L 140-150mmHg

**ECG findings:**

HR 90-100; sinus rhythm during echocardiogram

**Assessment and recommendations:**

Echocardiogram reveals compensated valvular disease of the MV and TV, more so the MV. The LA is moderately dilated. Patient remains asymptomatic at home.

B6 on hand in case there is shortness of breath and/or coughing noted.

B6

**Final Diagnosis:**

Degenerative valvular disease with moderate left atrial enlargement

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia
- Ib
- II

- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2

- C
- D

M-Mode

IVSd

IVIDd

IVPWd

IVSc

IVIDs

IVPWs

%FS

Ao Diam

LA Diam

LA/Ao

Max LA

M-Mode Normalized

IVSdN

IVIDdN

IVPWdN

IVScN

IVIDsN

IVPWsN

Ao Diam N

LA Diam N

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

IVIDd

IVPWd

EDV(Teich)

IVSc

IVIDs

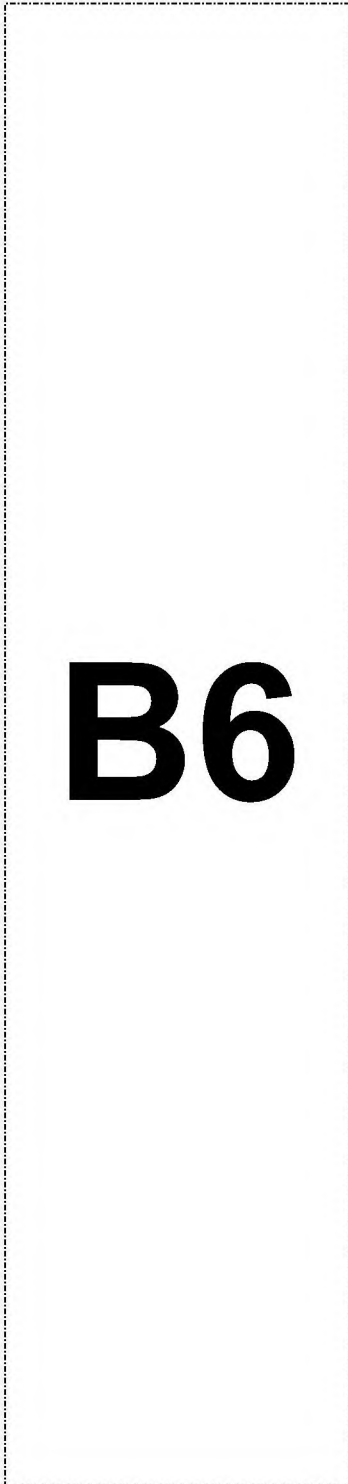
IVPWs

ESV(Teich)

D(Teich)

%FS

SV(Teich)



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(1.35 - 1.73) %  
(0.33 - 0.53)  
(0.43 - 0.71)  
(0.79 - 1.14) %  
(0.53 - 0.78)  
(0.68 - 0.89)  
(0.64 - 0.90) %

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Doppler

MR Vmax

MR maxPG

MV E Vel

MV DecT

MVA Vel

MV E/A Ratio

E'

A'

E/E'

S'

PV Vmax

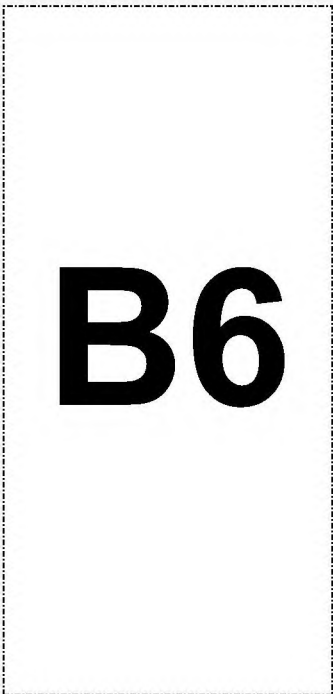
PV maxPG

AV Vmax

AV maxPG

TR Vmax

TR maxPG



m/s

mmHg

m/s

ms

m/s

m/s

m/s

m/s

m/s

mmHg

m/s

mmHg

m/s

mmHg

### Discharge Instructions

**Patient:**

Name: B6

Species/Canine:

Sex: B6 Male Border Collie

Birthdate: B6

**Owner:**

Name:

Address:

B6

Patient ID: B6

**Attending Cardiologist:**

Dr. John E. Rush DVM, MS, DACVIM (Cardiology), DACVCP

B6

**Cardiology Resident:**

B6

**Student:**

B6

**Cardiology Technician:**

B6

Admit Date: 12/28/2017 10:04:01 AM

Discharge Date: 12/29/2017

**Diagnosis:** Degenerative mitral valvular disease with moderate left atrial enlargement

**Clinical Findings:** Kody presented today for a recheck of his degenerative valvular disease and left atrial enlargement. He has been doing well at home, other than an occasional cough when B6 is exercising vigorously. On cardiac exam today, Kody's murmur continues to be a grade V/VI systolic murmur. This means that we can hear B6 murmur with a stethoscope off the chest. His femoral pulses, mucous membrane color and jugular veins all look good. On echocardiogram, B6 left atrium remains enlarged, but the size is mostly stable, or even a bit smaller, than his last exam. His mitral regurgitation also appears to be stable since his last visit. It appears that the pericardium has shrunk the heart a tiny bit, which may help it take a little longer for him to move into congestive heart failure (pulmonary edema, fluid in the lungs).

B6 blood pressure was a bit high today between 160-170 mmHg. We recommend rechecking this measurement, as it is a factor in our decision on starting B6 on another medication (an ACE inhibitor). You can bring B6 back in for a technician appointment to recheck this blood pressure and further discuss adding on the medication. We would also need to check blood work before starting this medication, if we decide to, to get baseline kidney values and potassium level now and then 10-21 days after starting the medication.

B6

# B6

**Recheck Visit:** Please e-mail our technician **B6** to schedule an appointment to recheck Kody's blood pressure.

A recheck cardiac visit and echocardiogram and blood pressure is recommended for 4 to 6 months from now - sooner if you notice difficulty breathing, worsening cough, exercise limitation, or a fainting episode.

Thank you for entrusting us with **B6** care. Please contact our Cardiology line **B6** at (408) 357-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information:

<http://vet.tufts.edu/heartsmart/>

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#### **Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

#### **Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (408-357-4696) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

#### **Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new drug or treatment. Please see our website: [vet.tufts.edu/centers/clinical-trials](http://vet.tufts.edu/centers/clinical-trials).*

---

**B6**

**Discharge Instructions:**

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-857-4296

**B6**

Patient ID: **B6**

**B6** Canine

**B6** years Old Male Border Collie

**B6**

## Cardiology Appointment Report

Date: 12/28/2017

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (primary)

**B6**

### Cardiology Resident:

**B6**

### Cardiology Technician:

**B6**

Student: **B6**

Presenting Complaint: recheck degenerative valvular disease with **B6**

Concurrent Diseases: None

General Medical History: Otherwise healthy. Seemed to feel better after starting **B6**

Diet and Supplements: origin dry kibble with cooked hamburger

### Cardiovascular History:

Prior CHF diagnosis? No

Prior ATE? No

Prior arrhythmia? No

Cough? Has occasional cough when vigorously exercising

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No, has slowed down a bit but still very active

Prior heart murmur? Yes

### Current Medications Pertinent to CV System:

Medication: **B6**

B6

Administration Frequency: 1 tab PO BID

Need refills? No

Medications: B6

B6

Administration Frequency: PO as needed for increased RR/effort

Need refills? No; has not given yet.

Cardiac Physical Examination:

B6

Muscle conditions:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: systolic murmur, PMI left apex, thrill on left

Jugular vein:

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulse paradoxus
- Other:

Arrhythmias:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal RV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

History of V/VI murmur and CHF

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile +/-
- ECG
- Renal profile
- Blood pressure +/-

- Diagnostics profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**Echocardiogram Findings:**

**B6**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

**B6**

**Assessment and recommendations:**

Echocardiogram reveals stable, compensated valvular disease of the MV and TV, more so of the MV. The LA is moderately dilated and is similar size to smaller than the last exam. The LV is smaller than the last exam on most measures. Patient remains asymptomatic at home. B6

**B6**

Recommend a recheck in 4 to 6 months.

**Final Diagnosis:**

Degenerative valvular disease with moderate left atrial enlargement

**Heart Failure Classification Score:**

**ISACH Classification:**

- Ia
- Ib
- IIIa
- IIIb

ACVIM Classifications:

- A
- B1
- B2

- C
- D

ZD

SA LA  
Ao Diam  
SA LA / Ao Diam  
IVSd  
LVIDd  
LVPWd  
EDV(Teich)  
IVSs  
LVIDs  
LVPWs  
ESV(Teich)  
EF(Teich)  
WFS  
SV(Teich)

M-Mode

IVSd  
LVIDd  
LVPWd  
IVSs  
LVIDs  
LVPWs  
WFS  
Ao Diam  
LA Diam  
LA/Ao  
Ao Diam N  
LA Diam N  
Max LA

Doppler

MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV A Vel  
MV E/A Ratio  
E'  
A'  
E/E'  
S'  
PV Vmax

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B6

AV maxPG  
AV Vmax  
AV maxPG

**B6**

maxPG  
Vmax  
maxPG



**B6**

B6

B6 Male

Canine Border Collie Black/White

Patient ID: B6

Outside Prescription Log

**B6**

10. Date:

Client:

Prescription:

If called in, pharmacy used:

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone: (508) 829-5295  
Fax: (508) 829-7951  
<http://vetmed.tufts.edu/>

## Discharge Instructions

### Patient

Name: B6

Species: B6

Breed/White: Male Border Collie

Birthdate: B6

### Owner

Name:

Address:

B6

Patient ID: B6

### Attending Cardiologist:

John L. Rush DVM, MS, DACVIM (Cardiology), DACVP CC

B6

### Cardiology Resident:

B6

### Student:

B6

### Cardiology Technician:

B6

Admit Date: 7/2/2018 11:33:43 AM

Discharge Date: 7/2/2018

Diagnoses: Chronic valvular disease (asymptomatic) with progressive cardiac enlargement

Clinical findings: B6 was previously diagnosed with a leak in his mitral valve (the valve between the atrium and ventricle on the left side of his heart, and this leak has resulted in a heart murmur and some enlargement of the heart. Today his valve continues to look thickened with a significant amount of regurgitation (backflow) at the valve. His left heart chambers are both measurably larger than at the previous visit, which suggests that his he is slowly progressing toward congestive heart failure. Unfortunately, there is no medication that can fix the thickening or leak at the valve, so the goal will be to continue to monitor the heart enlargement, which will give us an idea if we are getting close to congestive heart failure (fluid accumulating in the lungs). We will be adding a second medication to his daily routine to help slow down the development of heart failure.

Echocardiogram findings: B6 heart chambers are moderately enlarged, especially in the left side of his heart

ECG findings: Normal sinus rhythm with very infrequent premature beats (APCs)

Labwork findings: pending

B6

# B6

**Recheck Visit:** B6 needs to have bloodwork 10-14 days after he gets on twice a day Enalapril (kidney values and electrolytes). This can be done at his primary care veterinarian. We would like to recheck the echocardiogram and possibly chest x-rays in 4-6 months.

Thank you for entrusting us with B6 care. Please contact our Cardiology lab, B6 (08) 857-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information  
<http://vet.tufts.edu/heartsmart/>

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (08) 857-8579 to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new drug or treatment. Please see our website: [vet.tufts.edu/heart/clinical-trials](http://vet.tufts.edu/heart/clinical-trials)*

**B6**

Exchange Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-857-6296

**B6**

Patient ID: **B6**

**B6**

Gender:

**B6**

Years Old Male: Border Collie  
Black/White

## Cardiology Appointment Report

Date: 7/7/2018

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (Primary)

**B6**

### Cardiology Resident:

**B6**

### Cardiology Technician:

**B6**

### Student:

**B6**

Presenting Complaint: recheck echo, hx of MVD

Concurrent Diseases: none

### General Medical History:

5/2017: murmur at rOVM

7/2017: BNP at rOVM 145R, CXR showed enlarged heart, bloodwork WNL

8/2017: seen here - NSR, MVD, LAE, MR, mild TR

12/2017: Recheck echo, MVD, 2/3+ MR, V/V murmur, LAE, 160-170 mmHg.  
needed

**B6**

### Diet and Supplements:

Origins Adult dry kibble, 1.5 cups SID (sometimes doesn't finish) occasionally hamburger meat on top

### Cardiovascular History:

Prior CHF diagnosis? no

Prior ATE? no

Prior arrhythmia? no

Cough? very occasionally

Shortness of breath or difficulty breathing? not reported

Syncope or collapse? no

Sudden onset lameness? no  
Exercise intolerance? some decreased exercise tolerance  
Prior heart murmur? yes

**Current Medications Pertinent to CV System:**

**B6**

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: left apical systolic murmur

**Jugular vein:**

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

**Arterial pulse:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulse paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal RV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

MVD with LAE

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure +/-

- Dysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests

**Echocardiogram Findings:**

**B6**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

**ECG findings:**

**B6**

**Assessment and recommendations:**

Echocardiogram reveals progression of the previously diagnosed DMVD. The LA is bigger today and there is some concern that the patient is closer to CHF today than at the last examination. **B6**

**B6**  
at home. Since there has been progression of the cardiac disease, **B6**

started **B6**  
10-14 days late **B6** the RR

should be monitored closely and if higher than **B6** should be started. Monitor for cough and exercise intolerance. Recheck echocardiogram in 4 to 6 months.

**Final Diagnosis:**

DMVD with moderate to at most markedly enlarged LA that has progressed since the last visit.

**Heart Failure Classification Score:**

**ISAD/IC Classification:**

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2
- C
- D

**M-Mode**

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

AVS

Ao Diam

LA Diam

LA/Ao

Max LA

**M-Mode Normalized**

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

**ZD**

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

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(1.35 - 1.73) !

(0.33 - 0.53)

(0.43 - 0.71)

(0.79 - 1.14) !

(0.53 - 0.78) !

(0.68 - 0.89)

(0.64 - 0.90) !

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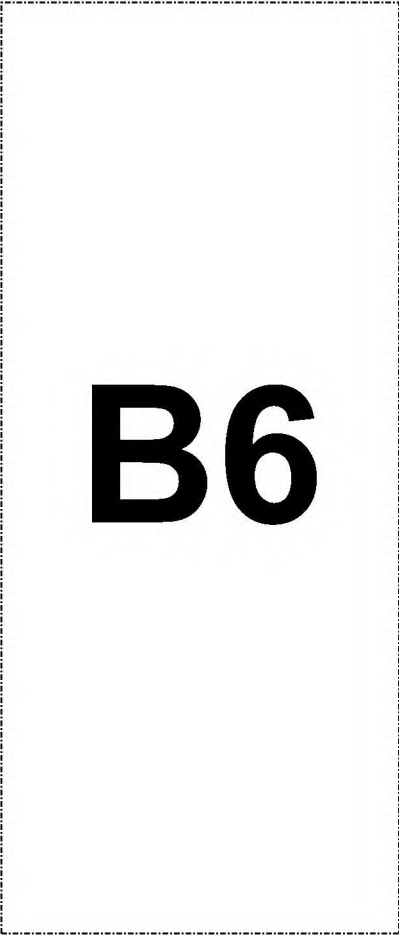
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**B6**



SV(S)  
SV(Teich)  
LA Area  
  
Doppler  
MR Vmax  
MR maxPG  
MV E Vel  
MV Dec T  
MV A Vel  
MV E/A Ratio  
C'  
A'  
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PV Vmax  
PV maxPG  
PR Vmax  
PR maxPG  
AV Vmax  
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TR Vmax  
TR maxPG



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### Discharge Instructions

**Patient:**

Name: B6

Species: Canine

Breed/White Male Border Collie

Birthdate: B6

**Owner:**

Name:

Address:

B6

Patient ID:

B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVCP

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

**Student:**

B6

Admit Date: 12/19/2018 10:53:58 AM

Discharge Date: 12/19/2018

**Diagnosis:** Chronic valvular disease with mitral regurgitation with suspected congestive heart failure; reducing myocardial function

**Clinical findings:**

B6 was previously diagnosed with a leak at mitral valve, and this leak has resulted in a loud heart murmur and enlargement of his heart. Today his valve continues to leak thickened with a significant amount of regurgitation (backflow) at the mitral valve. His left atrium is mildly larger than at the previous visit and the strength of contraction of his heart muscles have decreased. Based on the improvement of his coughing with lasixamide, we suspect that his heart enlargement had progressed to the point where fluid was backing up into the lungs causing pulmonary edema, a condition called congestive heart failure. We cannot do anything to change the thickening or leak at the valve, but the cardiac medications he is receiving and some changes to the diet to make Kody comfortable and have him breathing easier. Unfortunately, this is a progressive disease and the treatment options cannot reverse the damage to the valve.

**Diagnostic test results:**

- **Echocardiogram findings:** All chambers of the heart are enlarged and there is a large leak at the mitral valve. The strength of contraction of his heart has decreased compared to prior exams. He has one small ruptured chordae tendinae (a cord attaching a heart valve to his heart wall).
- **EKG findings:** Normal sinus rhythm with a single premature beat (APC)
- **Labwork findings:** Pending. We will call you with the results in a few days.

B6

**B6**

**B6**

**Recheck Visit:** Please schedule a recheck visit for **B6** in 3 months. At this visit we will want to check **B6** breathing effort and heart function, do a blood test to recheck kidney values, a recheck echocardiogram, and/or chest radiographs (x-rays).

Thank you for entrusting us with **B6** care. Please contact our Cardiology Liaison at (308) 337-4696 or email us at [cardio@vet.tulsa.edu](mailto:cardio@vet.tulsa.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information:  
<http://vet.tulsa.edu/heartsmart/>

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**Prescription Drug Disclaimers:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (308-337-4696) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tulsa.edu/heart/clinical-trials](http://vet.tulsa.edu/heart/clinical-trials)*

---

**B6**

Discharge Instructions:

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-857-4626

**B6**

Patient ID: **B6**

**B6**  Canine

**B6**  Years Old Male Border Collie  
Black/White

## Cardiology Appointment Report

Date: 12/19/2018

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (primary)

**B6**

### Cardiology Resident:

**B6**

### Cardiology Technician:

**B6**

Student: **B6**

### Presenting Complaint:

Recheck of asymptomatic CVD and progressive left atrial enlargement

### Concurrent Diseases:

**B6**

### General Medical History:

**B6**

### Diet and Supplements:

Orjen Senior dry kibble + fit and trim dry: < 2 cups/day, occasionally ground hamburger on top, no treats.

### Cardiovascular History:

Prior CHF diagnosis? **N**

Prior heart murmur? **Y**

Prior ATE? **N**

Prior arrhythmia? **N**

Monitoring respiratory rate and effort at home? **N** - more relaxed breathing at rest with keds

Cough? **Y** - occasional

Shortness of breath or difficulty breathing? **N**

Syncope or collapse? N  
Sudden onset lameness? N  
Exercise intolerance? N

**Current Medications Pertinent to CV System:**

**B6**

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss  | <input type="checkbox"/> Marked cachexia   |

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- |                                 |  |
|---------------------------------|--|
| <input type="checkbox"/> None   | <input type="checkbox"/> IV/VI           |
| <input type="checkbox"/> I/VI   | <input checked="" type="checkbox"/> V/VI |
| <input type="checkbox"/> II/VI  | <input type="checkbox"/> VI/VI           |
| <input type="checkbox"/> III/VI |  |

Murmur location/description: left apical systolic, radiating

**Jugular vein:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck            | <input type="checkbox"/> Top 2/3 of the neck |

**Arterial pulses:**

- |  |  |
|--|--|
| <input type="checkbox"/> Weak            | <input type="checkbox"/> Bounding        |
| <input type="checkbox"/> Fair            | <input type="checkbox"/> Pulse deficits  |
| <input checked="" type="checkbox"/> Good | <input type="checkbox"/> Pulse paradoxus |
| <input type="checkbox"/> Strong          | <input type="checkbox"/> Other:          |

**Arrhythmic:**

- |  |                                      |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Bradycardia |
|--|--------------------------------------|

- Sinus arrhythmia
- Premature beats

Tachycardia

**Gallop:**

- Yes
- No
- Intermittent

- Pronounced
- Other:

**Pulmonary assessments:**

- Espiritic
- Mild dyspnea
- Marked dyspnea
- Normal IV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

MVD and IAE and likely CHF

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Diagnostics profile
- Thoracic radiographs +/-
- NT-proBNP +/-
- Troponin I
- Other tests +/- diet change

**Echocardiogram Findings:**

**B6**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

**ECG findings:**

HR 140; sinus rhythm during echocardiogram

**Assessment and recommendations:**

Echocardiogram reveals mild progression of the previously diagnosed DMVD, with LV contractile function that has dropped off a bit since the last exam. The LA is slightly bigger today (maybe) and the dog seems to feel better while getting once a day furosemide. Recommend continuing with the current dose of

**B6**

# B6

grain free study. Recheck echocardiogram and exam in 3 months.

### Final Diagnosis:

DMVD with moderate to markedly enlarged LA and now the dog has a degree of reduced LV contractile function.

### Addendum

B6

# B6

### Heart Failure Classification Score:

#### ISACH Classification:

- Ia
- Ib
- II (suspected based on furosemide need and clinical improvement)
- IIIa
- IIIb

#### ACVIM Classification:

- A
- B1
- B2
- C Suspected; see above
- D

#### M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

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EDV(Teich)

ESV(Teich)

EF(Teich)

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LA Diam

LA/Ao

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# B6

#### M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

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(1.350 - 1.730) I

(0.330 - 0.530)

(0.430 - 0.710) I

(0.790 - 1.140) I

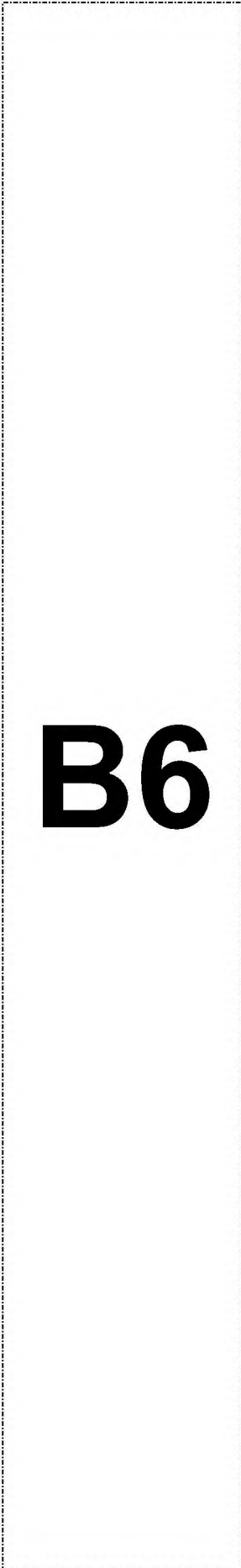
(0.530 - 0.780)

(0.680 - 0.890)

(0.640 - 0.900) I



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 IVSa  
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 LVPWdS  
 ESV(Teich)  
 EF(Teich)  
 %FS  
 SV(Teich)  
 LV Major  
 LV Minor  
 Sphericity Index  
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 LVAd LAX  
 LVEDV A-L LAX  
 LVEDV MOD LAX  
 LVIs LAX  
 LVAs LAX  
 LVESV A-L LAX  
 LVESV MOD LAX  
 HR  
 EF A-L LAX  
 LVEF MOD LAX  
 SV A-L LAX  
 SV MOD LAX  
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AV msd/G  
TR Vmax  
TR msd/G

**B6**

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m/s  
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msd/g  
m/s  
msd/g

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Forster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5395  
Fax (508) 829-7951  
<http://vetmed.tufts.edu/>

B6

B6

Male

Case# Border Collie Black/White

B6

8/4/2017

Doc: B6

Thank you for referring B6 with their pet B6

If you have any questions, or concerns, please contact us at 508-827-4901.

Thank you,

John Rich DVM, DACVIM (Cardiology), DACVCC

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5299  
Fax (508) 829-7951  
<http://vetmed.tufts.edu/>

**B6**

**B6**  
**B6** Male  
Cause: Border Collie, Black/White  
**B6**

12/29/2017

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-829-4901.

Thank you,

John Roth DVM, DACVIM (Cardiology), DACVCC

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Frontier Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5399  
Fax (508) 829-7951  
<http://vetmed.tufts.edu/>

**B6**  
**B6** Male  
Castrate Border Collie Black/White  
**B6**

7/5/2018

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-827-4901.

Thank you,

John Rich DVM, DACVIM (Cardiology), DACVCC

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Forster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5295  
Fax (508) 829-7951  
<http://vetmed.tufts.edu/>

B6

B6

Male

Coarse Border Collie Black/White

B6

12/21/2018

Dear B6

Thank you for referring B6 with their pet B6

If you have any questions, or concerns, please contact us at 508-827-4901.

Thank you,

John Rich DVM, DACVIM (Cardiology), DACVCC

---

**From:** PFR Event <pfpreventcreation@fda.hhs.gov>  
**To:** Cleary, Michael \*; HQ Pet Food Report Notification; B6  
**Sent:** 2/24/2019 10:08:57 PM  
**Subject:** Acana: Lisa Freeman - EON-380708  
**Attachments:** 2063115-report.pdf; 2063115-attachments.zip

A PFR Report has been received and PFR Event [EON-380708] has been created in the EON System.

A "PDF" report by name "2063115-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2063115-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-380708

**ICSR #:** 2063115

**EON Title:** PFR Event created for Acana Natural Balance Petcurean (see diet history for additional details); 2063115

<b>AE Date</b>	02/16/2019	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Stable
<b>Breed</b>	Terrier - Bull - American Pit		
<b>Age</b>	<span style="border: 1px dashed black; padding: 2px;">B6</span> Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2063115

**Product Group:** Pet Food

**Product Name:** Acana, Natural Balance, Petcurean (see diet history for additional details)

**Description:** DCM and CHF diagnosed 2/16/19. Eating multiple BEG diets Taurine and troponin pending Dog changed to Purina HA vegetarian dry while in hospital and owner has continued this. Will try switching to Pro Plan Sensitive Skin and Stomach Salmon when bag of HA runs out. If she tolerates that, will stay on it. If not, will switch back to HA since she's done well on that.

**Submission Type:** Initial

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Stable

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

<b>Product Name</b>	<b>Lot Number or ID</b>	<b>Best By Date</b>
Acana, Natural Balance, Petcurean (see diet history for additional details)		

**Sender information**

Lisa Freeman  
200 Westboro Rd  
North Grafton, MA 01536  
USA

**Owner information**

**B6** USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-380708>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jsps?decorator=none&e=0&issueType=12&issueId=397717>

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This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to [FDAREportableFoods@fda.hhs.gov](mailto:FDAREportableFoods@fda.hhs.gov) immediately.

---

**From:** Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>  
**To:** Carey, Lauren; Cleary, Michael \*; HQ Pet Food Report Notification;  
B6  
**Sent:** 6/10/2019 9:32:54 PM  
**Subject:** Acana: Lisa Freeman - EON-390104  
**Attachments:** 2068046-report.pdf; 2068046-attachments.zip

A PFR Report has been received and Related PFR Event [EON-390104] has been created in the EON System.

A "PDF" report by name "2068046-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2068046-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-390104

**ICSR #:** 2068046

**EON Title:** Related PFR Event created for Acana Natural Balance Petcurean (see diet history for additional details); 2068046

<b>AE Date</b>	02/16/2019	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Better/Improved/Recovering
<b>Breed</b>	Terrier - Bull - American Pit		
<b>Age</b>	B6 Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2068046

**Product Group:** Pet Food

**Product Name:** Acana, Natural Balance, Petcurean (see diet history for additional details)

**Description:** DCM and CHF diagnosed 2/16/19. Eating multiple BEG diets Taurine and troponin pending Dog changed to Purina HA vegetarian dry while in hospital and owner has continued this. Will try switching to Pro Plan Sensitive Skin and Stomach Salmon when bag of HA runs out. If she tolerates that, will stay on it. If not, will switch back to HA since she's done well on that.

**Submission Type:** Followup

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Better/Improved/Recovering

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
Acana, Natural Balance, Petcurean (see diet history for additional details)		

This report is linked to:

**Initial EON Event Key:** EON-380708

**Initial ICSR:** 2063115

**Sender information**

Lisa Freeman  
200 Westboro Rd  
North Grafton, MA 01536  
USA

**Owner information**

**B6** USA

To view this Related PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-390104>

To view the Related PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=10100&issueId=407376&parentIssueTypeId=12>

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This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration

from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

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**Discharge Instructions**

**Patient**

Name: B6

Species: Canine

Brown/White Female (Spayed) Pit Bull

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 V20

Admit Date: B6 1:00 PM

Discharge Date: B6

**Diagnoses:** Dilated cardiomyopathy (DCM) with congestive heart failure

**Diagnostic test results and findings:**

- o **Echocardiogram findings:** The heart is smaller and has better contractile function. There is still dilation but there is marked improvement.
- o **Labwork findings:** We will call you with the results

**Case summary:**

Thank you for bringing B6 for her 3 month recheck! We are glad that she is doing well at home and happy she gained weight! On her three month discharge today, her heart function has improved and her heart has decreased in size, however there is enough dilation that requires long term medication. At this point it is unclear whether her problem is a primary heart disease, secondary to diet or a combination of both. Despite there is a marked improvement in her heart, we will still keep her on her current medications and increase the Enalapril dose (see section below).

B6

# B6

**Diet suggestions:**

B6 can continue with her current diet.

**Exercise Recommendations:**

B6 can continue with her walks, but should not be stimulated to go any faster than the current pacing rhythm she is on. However, if you find that B6 is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage.

**Recheck Visits:**

You have a recheck visit scheduled for Friday, August 16th at 2 pm. Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: B6

Owner: B6

Discharge Instructions



# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

**B6**

Patient ID: B6

B6 Canine

Years Old Female (Spayed) Pit Bull  
Brown/White

## Cardiology Appointment Report

Date: B6

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

B6

### Cardiology Technician:

**B6**

Student: B6 V20

### Presenting Complaint:

Recheck

Doing well at home, breathing rate still pretty low, short walks again (10-15min) and doing fine, does not appear lame in the hind.

O is not checking respiratory rate at home.

### Concurrent Diseases:

DCM;

### General Medical History:

- 3 months ago, came in through ER

### Diet and Supplements:

Purina Pro-Plan Sensitive

### Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Unknown

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Yes, high 20s-low 30s consistently, some effort; stopped monitoring in past few months, breathing better but has not been counting

Cough? No, very rarely, when drinking water



Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No, haven't been doing too much exercise, 10-15 minutes walks in past month, has been doing well on those

**Current Medications Pertinent to CV System:**

**B6**

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Murmur location/description: -**

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Pulmonary crackles

- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

**Problems:**

- DCM (diet induced vs. primary)
- History of CHF;
- Allergies / GI disturbances

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**Echocardiogram Findings:**

# B6

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**ECG findings:**

HR: 108bpm  
Normal sinus rhythm during echocardiogram.

**Assessment and recommendations:**

Patient improved clinically and energy level is back to normal. Echocardiogram revealed improved systolic function and LA size, however still lower than desirable. PHTN is decreased, likely due to management of CHF overall and improved systolic function. Blood work revealed normal kidney values, thus B6

B6 Recommend B6 Recommend recheck echocardiogram in 3 months.

**Final Diagnosis:**

DCM with history of L-CHF.

**Heart Failure Classification Score:**

**ISACHC Classification:**

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2
- C
- D

**M-Mode**

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Max LA

Ao Diam

LA Diam

LA/Ao

TAPSE

EPSS

B6

cm  
cm  
cm  
cm  
cm  
cm  
ml  
ml  
%  
%  
ml  
cm  
cm  
cm  
cm

**2D**

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV Major

LV Minor

Sphericity Index

LVLd A/C

B6

cm  
cm  
cm  
cm  
cm  
ml  
cm  
cm  
ml  
%  
%  
ml  
cm  
cm  
cm

LVEDV MOD A4C  
LVLs A4C  
LVESV MOD A4C  
LVEF MOD A4C  
SV MOD A4C

B6

ml  
cm  
ml  
%  
ml

Doppler

MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV Dec Slope  
MV A Vel  
MV E/A Ratio  
E'  
E/E'  
A'  
MRT  
AV Vmax  
AV maxPG  
PV Vmax  
PV maxPG  
TR Vmax  
TR maxPG

B6

m/s  
mmHg  
m/s  
ms  
m/s  
m/s  
  
m/s  
  
m/s  
ms  
m/s  
mmHg  
m/s  
mmHg  
m/s  
mmHg

---

**From:** PFR Event <pfpreventcreation@fda.hhs.gov>  
**To:** Cleary, Michael \*; HQ Pet Food Report Notification; B6  
**Sent:** 5/28/2019 7:41:41 PM  
**Subject:** Bil Jac Picky No More--Small Breed-Persnickety Recipe w/ chicken liver:  
B6 - EON-388960  
**Attachments:** 2067506-report.pdf; 2067506-attachments.zip

A PFR Report has been received and PFR Event [EON-388960] has been created in the EON System.

A "PDF" report by name "2067506-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2067506-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-388960

**ICSR #:** 2067506

**EON Title:** PFR Event created for Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver; 2067506

<b>AE Date</b>	05/17/2019	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Stable
<b>Breed</b>	Spaniel - Cocker American		
<b>Age</b>	<span style="border: 1px dashed black; padding: 2px;">B6</span> Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2067506

**Product Group:** Pet Food

**Product Name:** Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver

**Description:** Patient presented to rDVM 5/17/2019 for evaluation of a cough x 1 month, extreme lethargy and decreased appetite. rDVM suspected CHF based on radiographs and worsening murmur - now a 4/6. A new arrhythmia was also discovered on ECG. Intermittent sinus rhythm with frequent APCs, occasional paroxysmal SVTs (short duration), isolated and couplet VPCs (LV and RV in origin). Confirmed patient was in left sided

heart failure w/ advanced DMVD and decreased contractile function which is very uncommon with valvular disease.

**Submission Type:** Initial

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Stable

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver		

**Sender information**

**B6**

USA

**Owner information**

**B6**

USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-388960>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jsps?decorator=none&e=0&issueType=12&issueId=406137>

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This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

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shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to [FDAREportableFoods@fda.hhs.gov](mailto:FDAREportableFoods@fda.hhs.gov) immediately.

Client:  
Patient:

**B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 12:45	<b>B6</b>	1.000		<b>B6</b>		



Client:  
Patient:

**B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 12:45	<b>B6</b> PCV/TS - FHSA	1.000			<b>B6</b>	

Client: **B6**  
Patient: **B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday: 12:55	<b>B6</b> Emergency Cardiology Clinician	1.000				<b>B6</b>

Client: B6  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 12:55	<span style="border: 1px dashed black; padding: 2px;">B6</span> Echocardiogram- 2d,Mmode,Color,Spec	1.000			<span style="border: 1px dashed black; padding: 2px;">B6</span>	

Client: **B6**  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 13:07	<b>B6</b> EKG Cardiology Rhythm Strip	1.000				<b>B6</b>

Client: **B6**  
Patient: **B6**

Patient	Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 14:49	<b>B6</b>	<b>B6</b> - FHSA	35.000				<b>B6</b>

Client: **B6**  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 14:50	<b>B6</b>	90.000		<b>B6</b>		

Client: **B6**  
Patient: **B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday 14:50	<b>B6</b> - FHSA	100.000		<b>B6</b>		

Client: **B6**  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 14:54	<b>B6</b> Pharmacy Finished	1.000			<b>B6</b>	



Client: **B6**  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 16:11	<b>B6</b>	0.600		<b>B6</b>		

Client: **B6**  
Patient: **B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 18:12	<b>B6</b>	0.600		<b>B6</b>		

Client: **B6**  
Patient:

<b>Patient Account History</b>	<b>Description</b>	<b>Qty</b>	<b>price</b>	<b>Extended</b>	<b>Disc</b>	<b>Pmt</b>
Friday, 24 May 2019 13:53	Appointment: Cardiology Study	1.000		<b>B6</b>		

Client:  
Patient:

**B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Friday, 24 May 2019 14:01	<b>B6</b> - FHSA	30.000		<b>B6</b>		



**B6**

**B6**

Female (Spayed)

Canine Cocker Spaniel Black

Patient ID: **B6**

## STANDARD CONSENT FORM

---

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name:

Date:

Owner's address:

**B6**

**B6**

**If the individual admitting the animal is someone other than the legal owner,  
please complete the portion below:**

The owner of the animal, , has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above.

\_\_\_\_\_  
Authorized Agent - Please Print

\_\_\_\_\_  
Agent's Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Date

\_\_\_\_\_  
Town/City                      State                      Zip

**Discharge Instructions**

**Patient**

Name: B6  
Signalment: B6 Years Old Black Female (Spayed) Cocker Spaniel

**Owner**

Name:  
Address: B6

Patient ID: B6  
Emergency Clinician: B6 DVM

ER Supervisor:

**B6**

Admit Date: B6 1:15:21 AM  
Check Out Date: B6

**Diagnoses:**

- Chronic valvular disease with mitral regurgitation, congestive heart failure with pulmonary edema
- Arrhythmia
- Moderate pulmonary hypertension

**Clinical findings:**

B6 has leaky heart valves, the mitral valve and tricuspid valve. This leak has resulted in a loud heart murmur and enlargement of her heart. The problem with her mitral valve is a common one in dogs, due to aging changes to the valve that result in thickening and a subsequent leak of the valve. The heart enlargement has now progressed to the point where fluid is backing up into the lungs causing pulmonary edema, a condition called congestive heart failure. We cannot do anything to change the thickening or leak at the valve, but we can use cardiac medications and some changes to the diet to make B6 comfortable and have him/her breathing easier. Unfortunately, this is a progressive disease and the treatment options cannot reverse the damage to the valve.

**Diagnostic test results:**

- Chest radiograph (x-ray) findings: The heart is enlarged and there is fluid in the lungs
- Echocardiogram findings: All chambers of the heart are enlarged and there is a large leak at the mitral valve along with a leak at the tricuspid. There is also higher than normal pressure in her lungs which could be secondary to the left sided heart disease.
- ECG findings: The ECG showed a fair amount of arrhythmia - resulting from the lower chambers (ventricles) of the heart
- Labwork findings: The kidney values and electrolytes are within normal limits

**Monitoring at home:**

We would like you to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort. In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted



by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. An increase in breathing rate or effort will usually mean that you should give an extra dose of **B6**. If difficulty breathing is not improved within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that **B6** be evaluated by an emergency clinic.

There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>). We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

#### Recommended Medications:

**B6**

#### Diet suggestions:

Continue feeding **B6** current diet until her recheck appointment.

#### Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure, we recommend very limited activity. Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that **B6** is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high-energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

#### Recheck/Follow-up:

A recheck has been scheduled for **B6** on  
Friday, May 24th at 12:00pm with **B6**

Thank you for entrusting us with **B6** care.

#### Prescription Refill Disclaimer:

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

#### Ordering Food:

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us,*

*please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

Day Respiratory B6 Dose  
Rate/Minute AM PM

Appetite

Sample	32	1 tab (12.5mg)	1/2 tab (6.25mg)	<input checked="" type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes: Breathing better
1:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
2:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
3:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
4:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
5:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
6:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
7:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
8:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
9:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
10:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
11:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
12:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
13:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
14:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
15:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
16:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
17:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
18:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
19:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
20:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
21:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
22:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:
23:				<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Notes:

- 24:  Excellent  Good  Fair  Poor Notes:
- 25:  Excellent  Good  Fair  Poor Notes:
- 26:  Excellent  Good  Fair  Poor Notes:
- 27:  Excellent  Good  Fair  Poor Notes:
- 28:  Excellent  Good  Fair  Poor Notes:
- 29:  Excellent  Good  Fair  Poor Notes:
- 30:  Excellent  Good  Fair  Poor Notes:
- 31:  Excellent  Good  Fair  Poor Notes:

**Respiration Rate:** Count the number of breaths for 30 seconds and multiply times 2 to get the respiratory rate per minute. In dogs, obtain the respiratory rate when they are at rest and not panting. In cats, get the respiratory rate at rest when they are not purring. In animals with well controlled heart failure, the breathing rate is often less than 35-40 breaths per minute. When the breathing rate is climbing, or when there is more effort to the chest wall or belly muscles during breathing, then fluid is likely accumulating in the lungs and more  B6  may be indicated. Please bring this sheet with you to your next veterinary exam.

Please visit our HeartSmart Website for further information  
<http://vet.tufts.edu/heartsmart/at-home-monitoring/>

### Nutritional Tips for Pets with Heart Disease

#### Low sodium, high quality pet treats

Notes:

1. Most other dog treats are high in sodium.
2. If your pet has other medical conditions, these treats may not be appropriate. Talk to your veterinarian if you have questions or make an appointment with the Nutrition Service.

Product	Calories per treat
<b>Dogs</b>	
Hill's Science Diet Baked Light Biscuits with Real Chicken Small Dog Treat	8
Hill's Science Diet Baked Light Biscuits with Real Chicken Medium Dog Treat	34
Hill's Science Diet Soft Savories Peanut Butter & Banana, Beef & Cheddar, or Chicken & Yogurt Dog Treat	25-27, depending on flavor
Hill's Ideal Balance Soft-Baked Naturals with Chicken & Carrots, Duck & Pumpkin, or Beef & Sweet Potato Dog Treat	12-13, depending on flavor
Purina Beyond Natural Salmon Dog Biscuit Treat with Oats or Chicken & Barley	27-29, depending on flavor
Purina Alpo Variety Snaps Little Bites (beef, chicken, liver, lamb or beef, bacon, cheese, peanut butter)	16
Purina Alpo Variety Snaps Big Bites (beef, chicken, liver, lamb)	58
Royal Canin Original Canine treat	5
<b>Cats</b>	
Royal Canin Original Feline treat	2
Fancy Feast Duos Natural Rotisserie Chicken Cat treat	2
Fancy Feast Duos Tuna with Accents of Parsley Cat treat	2

#### Taste enhancers to can make your pet's food tastier to increase food intake

Safe and effective appetite stimulants are now available for dogs and cats. Please talk to your veterinarian if your pet is not eating well, not eating ideal foods, or is losing weight.

Notes:

1. All foods in this list should be prepared without salt
2. These taste enhancers should be added in small amounts. If your pet eats too much of them, they will unbalance the diet and increase your pet's risk for nutritional deficiencies

**Dogs**

- ♥ Honey or maple syrup
- ♥ Homemade chicken, beef, or fish broth (made without salt; avoid all deli meats and rotisserie chicken). Avoid store bought broths because even the low sodium brands are too high in sodium.
- ♥ Sugar (brown or white) – Domino pourable light brown sugar is a good option
- ♥ Vanilla or fruit yogurt – One option that dogs seem to like is Yoplait Custard Yogurt (caramel or vanilla flavors). If you try other brands, just be sure the sodium is less than 100 mg per 100 calories (the Yoplait is 95 mg per 170 calories which comes out to 56 mg sodium per 100 calories). Also avoid yogurts with artificial sweeteners.
- ♥ Maple syrup. Low salt brands include Log Cabin All Natural, Maple Grove Farm 100% pure maple syrup, or Stop and Shop Original Syrup
- ♥ Applesauce (be sure they have less than 50 mg sodium per serving)
- ♥ Ketchup (no salt added). Examples include Hunts or Heinz no salt added
- ♥ Pasta sauce (no salt added). Examples: Francesco Rinaldi no salt added or Enrico's no salt added)
- ♥ Frosted Mini Wheats Original – these can be crumbled on his food
- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not deli/sandwich meats/cold cuts, rotisserie chicken, and any canned fish or meat
- ♥ Eggs, cooked

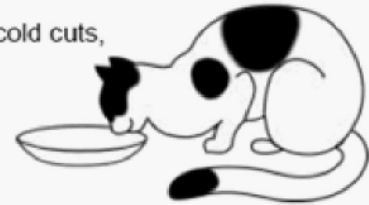


### ***Dogs (continued)***

- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium). Avoid all canned soups unless labeled as no salt added
- ♥ Low-salt breakfast cereal - the label should read, "very low sodium food" or contain less than 20 mg sodium per serving. A good option is Frosted Mini Wheats Original or Little Bites Original
- ♥ Fresh vegetables/fruit. Examples include carrots, green beans, apple, orange, banana (avoid grapes, raisins, onions, garlic)
- ♥ Low sodium canned dog foods

### ***Cats***

- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not sandwich meats/cold cuts, canned tuna, or rotisserie chicken
- ♥ Eggs, cooked
- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium)
- ♥ Low sodium canned cat foods



### **Foods to avoid**

- ♥ Fatty foods (meat trimmings, cream, ice cream)
- ♥ Baby food
- ♥ Pickled foods
- ♥ Bread
- ♥ Pizza
- ♥ Condiments (ketchup, soy sauce, barbecue sauce, etc – unless they are unsalted or no salt added)
- ♥ Sandwich meats/cold cuts (ham, corned beef, salami, sausages, bacon, hot dogs)
- ♥ Rotisserie chicken
- ♥ Most cheeses, including "squirtable" cheeses
- ♥ Processed foods (such as, potato mixes, rice mixes, macaroni and cheese)
- ♥ Canned vegetables (unless "no salt added")
- ♥ Potato chips, packaged popcorn, crackers, and other snack foods
- ♥ Soups (unless homemade without salt)
- ♥ Most commercial pet treats

### **Tips for administering medications**

Foods commonly used to administer your pet's pills can provide a large amount of additional salt to your pet's diet. Preferable ways to give medications include:

- ♥ Have one of our staff show you how to give medications without using food
- ♥ Insert medications into one of the following foods:

#### ***Dogs or cats***

- Low-sodium canned pet food
- Home-cooked meat such as chicken or hamburger (made without salt); not lunch meats
- Whipped cream (Reddi Wip)
- Marshmallows
- Greenies Pill Pockets
  - Dog chicken, hickory smoke, or peanut butter flavors; cat chicken or salmon flavor
  - Avoid grain-free duck and pea which is high in sodium
  - Try to use the smallest size possible (ideally, the cat sized Pill Pockets, even for dogs) and as few as possible to avoid excessive salt.
    - Caution: Not all similar products from other companies are low in sodium .

#### ***Dogs***

- Soft fruit, such as banana, orange, melon, or strawberries (avoid grapes)
- Peanut butter (only if labeled as "no salt added") – examples include Smucker's Natural Creamy Peanut Butter with No Salt Added or Teddie All Natural Smooth Unsalted Butter
- Frosting (should be less than 75 mg/serving and contain no artificial sweeteners or xylitol). Examples include Duncan Hines whipped vanilla frosting, Betty Crocker whipped vanilla frosting)

You may find our Petfoodology post called, "Pill-popping pets" helpful for additional ideas:

[http://vetnutrition.tufts.edu/2018/09/foods\\_for\\_giving\\_pills/](http://vetnutrition.tufts.edu/2018/09/foods_for_giving_pills/)

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY  
Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine  
Years Old Female (Spayed) Cocker  
Spaniel  
Black BW: Weight (kg) 14.40

## Cardiology Consultation

Date: B6

Weight: Weight (kg) 14.40

Requesting Clinician: B6 DVM (Intern - SAM)

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

### Cardiology Resident:

B6

### Thoracic radiographs available for review?

- Yes - in SS  
 Yes - in PACS  
 No

Yes in ECC email

Patient location: ER

### Presenting complaint and important concurrent diseases:

Enlarged heart on rDVM radiographs, cough

### Current medications and doses:

B6

### At-home diet: (name, form, amount, frequency)

Bill Jack Persnickety - BID

### Key indication for consultation: (murmur, arrhythmia, needs fluids, etc.)

Murmur and enlarged heart on radiographs, cough

### Is your consult time-sensitive? (e.g., anesthesia today, owner waiting, trying to get biopsy today)

- Yes (explain): O waiting  
 No

**\*STOP - remainder of form to be filled out by Cardiology\***

**Physical Examination**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Murmur location/description:** left apical, systolic

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- Top 2/3 of the neck
- 1/2 way up the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

**Echocardiogram Findings:**



**General/2-D findings: \*brief exam, patient vocalizing and panting in standing position\***

Normal LV wall thicknesses with reduced contractile function. LV cavity is dilated and more spherical. MV is thickened and there is mild prolapse of the anterior leaflet. LA is markedly dilated. RH is subjectively enlarged. Aorta and PA are similar in diameter. Occasional b-lines visualized. No pleural or pericardial effusion.

**Doppler findings:**

**B6**

**Mitral inflow:**

- |   |   |
|---|---|
| <input type="checkbox"/> Summated           | <input type="checkbox"/> Pseudonormal           |
| <input type="checkbox"/> Normal             | <input checked="" type="checkbox"/> Restrictive |
| <input type="checkbox"/> Delayed relaxation |   |

**ECG findings:**

**B6**

**B6**

**Assessment and recommendations:**

Findings consistent with advanced DMVD with active left-sided CHF. Despite patient having received 3 oral doses of lasix over the last 18h (less than 2mg/kg each dose), there is still significant CHF. Since hospitalization is not possible, recommend keeping patient for the day in O2 and administering 30mg furosemide IV every 4 hours. There is moderate PHTN, but LCHF should be addressed first. Reduced contractile function is not routinely seen in DMVD, but there very frequent arrhythmias and BEG diet may contribute. Start  D for 1 week (and then decrease to every 24h) and switching to a grain-based low sodium diet are recommended. Recommend recheck bloodwork and EKG in 1 week and echocardiogram in 3 months.

**Treatment plan:**

**B6**

# B6

**Final Diagnosis:**

Advanced DMVD with active L-CHF;

Moderate PHTN;

Frequent ventricular and supraventricular arrhythmias.

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM CHF Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	<b>B6</b>	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
Time		ms
HR		BPM
CO(Teich)		l/min
CI(Teich)		l/min/m
IVSd		cm
TAPSE	cm	
EPSS	cm	

M-Mode Normalized

IVSdN	<b>B6</b>	{0.290 - 0.520}
LVIDdN		{1.350 - 1.730} !

LVPWdN	<b>B6</b>	{0.330 - 0.530}
IVSsN		{0.430 - 0.710}
LVIDsN		{0.790 - 1.140} !
LVPWsN		{0.530 - 0.780}
Ao Diam N		{0.680 - 0.890}
LA Diam N		{0.640 - 0.900} !

<u>2D</u>	<b>B6</b>	
SA LA		cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LV Major		cm
LV Minor		cm
Sphericity Index		
LVLd A4C		cm
LVEDV MOD A4C		ml
LVLs A4C		cm
LVESV MOD A4C		ml
LVEF MOD A4C		%
SV MOD A4C		ml

<u>Doppler</u>	<b>B6</b>	
MR Vmax		m/s
MR maxPG		mmHg
MV E Vel		m/s
MV DecT		ms
MV Dec Slope		m/s
MV A Vel		m/s
MV E/A Ratio		
AV Vmax		m/s
AV maxPG		mmHg
PV Vmax		m/s
PV maxPG		mmHg
TR Vmax		m/s
TR maxPG		mmHg

## Discharge Instructions

### Patient

Name: B6

Species: Canine

Black Female (Spayed) Cocker Spaniel

Birthdate: B6

### Owner

Name: B6

Address: B6

Patient ID: B6

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

### Cardiology Resident:

B6

### Cardiology Technician:

B6

Student: B6

Admit Date: 5/24/2019 11:54:53 AM

Discharge Date: 5/24/2019

**Diagnoses:** Chronic valvular disease with mitral regurgitation, congestive heart failure with pulmonary edema.

**Clinical findings:** Thank you for bringing B6 in for a recheck of her recent diagnosis of chronic valvular disease with mitral regurgitation and congestive heart failure with pulmonary edema. Since her last appointment, you report that she has been coughing, has had a decreased appetite, and you've had some difficulties giving her medication. Her respiratory (breathing) rate at rest, however, has been comfortable with no effort.

On physical examination, B6 is bright, alert, and responsive. B6 has a slower heart rate today and has little to no arrhythmias which is excellent news! While it is difficult to assess her breathing rate here due to her stress and anxiety, you indicate that she does start to pant much more frequently when out on a walk. Her tongue is a little blue today, which indicates she is still having issues fully oxygenating, and she coughed occasionally during the exam.

Her arrhythmias have dramatically decreased and seems to be pretty well controlled from her anti-arrhythmias. Other findings were consistent with her previous echocardiogram. While she has not fully recovered, B6 seems to be doing much better comparatively to her initial presentation this past Saturday.

### Monitoring at home:

We would like you to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort. In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. An increase in breathing

rate or effort will usually mean that you should give an extra dose of **B6** if difficulty breathing is not improved within 30-60 minutes after giving extra **B6** then we recommend that a recheck exam be scheduled and/or that **B6** be evaluated by an emergency clinic. There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>). We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

#### Recommended Medications:

# B6

#### Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many treats, most people foods, and the supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site. In addition, your dog's usual diet may have more sodium than recommended - we want your dog to eat their usual diet for the first 7 to 14 days so we can make sure they are tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50:50, etc.). Hopefully you can find a diet on the list that **B6** likes to eat. Alternatively, you can research the amount of sodium in your dog's current diet to ensure that the sodium content is similar to those on the list. The HeartSmart web site also has some information on supplements such as fish oil, taurine, and other supplements that you might have questions about (<http://vet.tufts.edu/heartsmart/diet/>).

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.
- We recommend switching **B6** to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Petfoodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

#### Dry Food Option:

Royal Canin Early Cardiac (veterinary diet)

**Canned Food Options:**

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew  
Royal Canin Mature 8+

If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

**Exercise Recommendations:**

Please continue limiting [ B6 ] activity and avoiding any strenuous exercise when possible.

**Recheck Visits:** We want to recheck her in 10-14 days [ B6 ]. At this visit we will want to check [ B6 ] breathing effort and heart function, do a blood test to recheck kidney values, and probably recheck a blood pressure. A recheck echocardiogram and/or chest radiographs (x-rays) are recommended in 3 months.

Thank you for entrusting us with [ B6 ] care. Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information  
<http://vet.tufts.edu/heartsmart/>

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**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case [ B6 ]

Owner: [ B6 ]

Discharge Instructions

B6

Patient ID: B6

B6 Canine  
Years Old Female (Spayed) Cocker Spaniel  
Black

### Cardiology Appointment Report

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 V20

**Presenting Complaint:** Recheck for hx of advanced DMVD with active left sided CHF on B6

**Concurrent Diseases:** None

**General Medical History:** Still coughing and doing a lot of panting. When sleeping, has to splay on the ground on a cold surface. When walking any tiny bit, she will start panting. She hasn't been really eating. Having a hard time giving her medication and tries to grind it into her food but P is not really eating much of her food.

**Diet and Supplements:**  
Bill Jack Persnickety - BID

**Cardiovascular History:**  
Prior CHF diagnosis? Y  
Prior heart murmur? Y  
Prior ATE? N  
Prior arrhythmia? Y  
Monitoring respiratory rate and effort at home? N  
Cough? Y  
Shortness of breath or difficulty breathing? Y

Syncope or collapse? Has not collapsed since last Saturday during her last incident.

Sudden onset lameness? N

Exercise intolerance? Y

**Current Medications Pertinent to CV System:**

**B6**

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- |  |  |
|--|--|
| <input type="checkbox"/> Normal                      | <input type="checkbox"/> Moderate cachexia |
| <input checked="" type="checkbox"/> Mild muscle loss | <input type="checkbox"/> Marked cachexia   |

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- |                                 |   |
|---------------------------------|---|
| <input type="checkbox"/> None   | <input checked="" type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI   | <input type="checkbox"/> V/VI             |
| <input type="checkbox"/> II/VI  | <input type="checkbox"/> VI/VI            |
| <input type="checkbox"/> III/VI |   |

Murmur location/description: left apical systole

**Jugular vein:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck            | <input type="checkbox"/> Top 2/3 of the neck |

**Arterial pulses:**

- |  |   |
|--|---|
| <input type="checkbox"/> Weak            | <input type="checkbox"/> Bounding         |
| <input checked="" type="checkbox"/> Fair | <input type="checkbox"/> Pulse deficits   |
| <input type="checkbox"/> Good            | <input type="checkbox"/> Pulsus paradoxus |
| <input type="checkbox"/> Strong          | <input type="checkbox"/> Other:           |

**Arrhythmia:**



- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent

- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

CHF with advanced DMVD  
Pulmonary hypertension

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**Echocardiogram Findings:**

**General/2-D findings:**

Normal LV walls thickness with decreased contractile function. LV cavity is volume overloaded. MV is thickened and there is mild prolapse of the anterior leaflet. LA is markedly enlarged. RH is subjectively normal. Aorta and PA are similar in size. No pleural or pericardial effusion.

**Doppler findings:**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**Assessment and recommendations:**

Findings consistent with advanced DMVD with active left-sided CHF. Heart rhythm is better control and rare ventricular arrhythmias were seen today. Patient still has some respiratory effort, but seems brighter and alert. Reduced contractile function is not routinely seen in DMVD, but since there were very frequent arrhythmias and patient has been on a BEG diet, these factors should also be considered. Recommend give B6 Recheck in 7 days.

**Final Diagnosis:**

Advanced DMVD with active CHF.

Reduced contractile function.

**Heart Failure Classification Score:**

ISACHC Classification:

Ia

Ib

II

IIIa

IIIb

ACVIM Classification:

A

B1

B2

C

D

**From:** Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>  
**To:** Rotstein, David; Cleary, Michael \*; HQ Pet Food Report Notification;  
**Sent:** 6/10/2019 8:13:34 PM  
**Subject:** Bil Jac Picky No More--Small Breed-Persnickety Recipe w/ chicken liver:  
**Attachments:** 2068035-report.pdf; 2068035-attachments.zip

A PFR Report has been received and Related PFR Event [EON-390090] has been created in the EON System.

A "PDF" report by name "2068035-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2068035-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-390090

**ICSR #:** 2068035

**EON Title:** Related PFR Event created for Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver; 2068035

<b>AE Date</b>	05/17/2019	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Better/Improved/Recovering
<b>Breed</b>	Spaniel - Cocker American		
<b>Age</b>	<b>B6</b> years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2068035

**Product Group:** Pet Food

**Product Name:** Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver

**Description:** Patient presented to rDVM 5/17/2019 for evaluation of a cough x 1 month, extreme lethargy and decreased appetite. rDVM suspected CHF based on radiographs and worsening murmur - now a 4/6. A new arrhythmia was also discovered on ECG. Intermittent sinus rhythm with frequent APCs, occasional paroxysmal

SVTs (short duration), isolated and couplet VPCs (LV and RV in origin). Confirmed patient was in left sided heart failure w/ advanced DMVD and decreased contractile function which is very uncommon with valvular disease.

**Submission Type:** Followup

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Better/Improved/Recovering

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
Bil Jac Picky No More® Small Breed Persnickety Recipe w/ chicken liver		

This report is linked to:

**Initial EON Event Key:** EON-388960

**Initial ICSR:** 2067506

**Sender information**

**B6**

USA

**Owner information**

**B6**

USA

To view this Related PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-390090>

To view the Related PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=10100&issueId=407362&parentIssueTypeId=12>

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# Tufts Cummings School Of Veterinary Medicine

200 Westboro Road  
North Grafton, MA 01536

DUPLICATE

Name/DOB: **B6**  
Patient ID:  
Phone number:  
Collection Date: 6/7/2019 4:29 PM  
Approval date: 6/7/2019 5:16 PM

Sex: SF  
Age: 10  
Species: Canine  
Breed: Cocker Spaniel

Provider: **B6**  
Order Location: V320559: Investigation into  
Sample ID: 1906070126

## Research Chemistry Profile - Small Animal (Cobas)

	Ref. Range/Females
CSTCYR	
Glucose	67-135 mg/dL
Urea	8-30 mg/dL
Creatinine	0.6-2.0 mg/dL
Phosphorus	2.6-7.2 mg/dL
Calcium 2	9.4-11.3 mg/dL
Magnesium 2+	1.8-3.0 mEq/L
Total Protein	5.5-7.8 g/dL
Albumin	2.8-4.0 g/dL
Globulins	2.3-4.2 g/dL
A/G Ratio	0.7-1.6
Sodium	140-150 mEq/L
Chloride	106-116 mEq/L
Potassium	3.7-5.4 mEq/L
tCO2(Bicarb)	14-28 mEq/L
AGAP	8.0-19.0
NA/K	29-40
Total Bilirubin	0.10-0.30 mg/dL
Alkaline Phosphatase	12-127 U/L
GGT	0-10 U/L
ALT	14-86 U/L
AST	9-54 U/L
Creatine Kinase	22-422 U/L
Cholesterol	82-355 mg/dL
Triglycerides	30-338 mg/dl
Amylase	409-1250 U/L
Osmolality (calculated)	291-315 mmol/L

**B6**

#

B6

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name:

B6

Owner's name:

B6

Today's date:

6/7/19

1. How would you describe your pet's appetite? (mark the number below that best represents your pet's appetite)

Example: Poor \_\_\_\_\_ Excellent

Poor \_\_\_\_\_ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual, Eats less than usual, Eats more than usual, Seems to prefer different foods than usual, Other

3. Over the last few weeks, has your pet (check one)

- Lost weight, Gained weight, Stayed about the same weight, Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats.

Examples are shown in the table - please provide enough detail that we could go to the store and buy the exact same food.

Table with 5 columns: Food (include specific product and flavor), Form, Amount, How often?, Fed since. Includes handwritten entries like 'Royal Canin Early Cardiac' and '1 tablespoon chicken broth w/ food'.

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?

Table for dietary supplements with columns for supplement name, Yes/No, Brand/Concentration, and Amount per day. Includes handwritten entry for 'Nature's Bounty'.

6. How do you administer pills to your pet?

- I do not give any medications, I put them directly in my pet's mouth without food, I put them in my pet's dog/cat food - crushes pills and adds to food, I put them in a Pill Pocket or similar product, I put them in foods (list foods):



Gastrointestinal Laboratory  
 Dr. J.M. Steiner  
 Department of Small Animal Clinical Sciences  
 Texas A&M University  
 4474 TAMU  
 College Station, TX 77843-4474



Website User ID: lisa.freeman@tufts.edu OR **B6**

GI Lab Assigned Clinic ID: 23523

<b>B6</b> Tufts Cummings School of Vet Med - Cardiology/Nutrition 200 Westboro Road North Grafton, MA 01536 USA	<b>Phone:</b> 508 887 4696 <b>Fax:</b> <b>Animal Name:</b> <b>Owner Name:</b> <b>B6</b> <b>Species:</b> Canine <b>Date Received:</b> May 30, 2019
---	--

Tufts Cummings School of Vet Med - Cardiology/Nutrition Tracking Number: 446476 **GI Lab Accession:** **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b> ng/mL	≤0.06	05/31/19

**B6**

**Comments:**

**GI Lab Contact Information**

Phone: (979) 862-2861  
 Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu  
 vetmed.tamu.edu/gilab



**From:** PFR Event <pfpreventcreation@fda.hhs.gov>  
**To:** Cleary, Michael \*; HQ Pet Food Report Notification; [B6]  
**Sent:** 3/27/2019 6:32:23 PM  
**Subject:** Orijen Original; [B6] EON-383507  
**Attachments:** 2064779-report.pdf

A PFR Report has been received and PFR Event [EON-383507] has been created in the EON System.

A "PDF" report by name "2064779-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

**EON Key:** EON-383507

**ICSR #:** 2064779

**EON Title:** PFR Event created for Orijen Original; 2064779

<b>AE Date</b>	03/01/2019	<b>Number Fed/Exposed</b>	3
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Unknown
<b>Breed</b>	Retriever - Golden		
<b>Age</b>	3 Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2064779

**Product Group:** Pet Food

**Product Name:** Orijen Original

**Description:** [B6] has been on grain free (Origen Original) dog food for her entire life. We decided to change our dog food at the end of January 2019 to Purina Pro Plan after hearing of so many dogs being found to have Dialated Cardiomyopathy, due to grain free foods. On March 1st she went in for her regular physical appt., the vet noticed that she had a grade 1 murmur. on March 7th our vet did a chest X-ray and noticed that her heart was enlarged. May 17th we had a Echocardiogram done. The Cardiologist said she had Moderate to severe Left Ventricular enlargement. A whole blood taurine level was pulled on the same day (results are pending) if levels are low we will supplement with taurine. We will re-echo in 6 months time to see if the issue has resolved.

**Submission Type:** Initial

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Unknown

**Number of Animals Treated With Product:** 3

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
Orijen Original		

**Sender information**

**B6**

USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon/browse/EON-383507>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon/EventCustomDetailsAction!viewReport.jsps?decorator=none&e=0&issueType=12&issueId=400605>

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to [FDAReportableFoods@fda.hhs.gov](mailto:FDAReportableFoods@fda.hhs.gov) immediately.

**From:** Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>  
**To:** Carey, Lauren; Cleary, Michael \*; HQ Pet Food Report Notification;  
**B6**  
**Sent:** 3/28/2019 9:01:34 PM  
**Subject:** Rachel Ray peak open range recipe (beef: Lisa Freeman - EON-383627  
**Attachments:** 2064872-report.pdf; 2064872-attachments.zip

A PFR Report has been received and Related PFR Event [EON-383627] has been created in the EON System.

A "PDF" report by name "2064872-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2064872-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-383627

**ICSR #:** 2064872

**EON Title:** Related PFR Event created for Rachel Ray peak open range recipe (beef venison lamb); 2064872

<b>AE Date</b>	10/06/2018	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Stable
<b>Breed</b>	Boxer (German Boxer)		
<b>Age</b>	<b>B6</b> Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2064872

**Product Group:** Pet Food

**Product Name:** Rachel Ray peak open range recipe (beef, venison, lamb)

**Description:** DCM and arrhythmias diagnosed at time of GDV surgery so unclear if sepsis/post-op or true DCM. Had recheck echo **B6** and still has DCM. Taurine pending. Owner has changed diet to Royal Canin Boxer

**Submission Type:** Followup

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Stable

**Number of Animals Treated With Product: 1**

**Number of Animals Reacted With Product: 1**

<b>Product Name</b>	<b>Lot Number or ID</b>	<b>Best By Date</b>
Rachel Ray peak open range recipe (beef, venison, lamb)		

This report is linked to:

**Initial EON Event Key:** EON-370720

**Initial ICSR:** 2058685

**Sender information**

Lisa Freeman  
200 Westboro Rd  
North Grafton, MA 01536  
USA

**Owner information**

**B6**

USA

To view this Related PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-383627>

To view the Related PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspx?decorator=none&e=0&issueType=10100&issueId=400725&parentIssueTypeId=12>

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think

you received this email in error, please send an email to [FDAREportableFoods@fda.hhs.gov](mailto:FDAREportableFoods@fda.hhs.gov) immediately.

IDEXX VetConnect 1-888-433-9987

Client: B6  
Patient: B6  
Species: CANINE  
Breed:  
Gender: MALE  
Age: 8Y

Date: B6  
Requisition #: 1A  
Accession #: B6  
Ordered by: B6

TUFTS UNIVERSITY  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536  
508-839-5395

Account #88933

B4 proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L		HIGH	B6

Comments:

**B6**

Please note: Complete interpretive comments for all concentrations of Cardiotest proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT proBNP concentrations.

**CARDIOLOGY DIET HISTORY FORM**

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **B6**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)  
 Example: *Poor* \_\_\_\_\_ | \_\_\_\_\_ *Excellent*

*Poor* \_\_\_\_\_ | \_\_\_\_\_ *Excellent*

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other \_\_\_\_\_

3. Over the last few weeks, has your pet (check one)  
 Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

*Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.*

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Royal Canine	dry	1 1/2 cup	1x/day	Oct 2018
Hills Science Diet – Chick stew	wet	1/2 can	1x/day	Oct 2018

*\*Any additional diet information can be listed on the back of this sheet*

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?     Yes     No    If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Antioxidants	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Multivitamin	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Fish oil	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?  
 I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

Client: **B6**  
 Patient:

**Cummings**  
**Veterinary Medical Center**  
 AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
 North Grafton, MA 01536  
 (508) 839-5395

Client: **B6**  
 Veterinarian:  
 Patient ID: **B6**  
 Visit ID:

Patient:	<b>B6</b>
Species:	Canine
Breed:	Boxer
Sex:	Male
Age:	<b>B6</b> Years Old

**Lab Results Report**

**Nova Full Panel-ICU**      **B6**      1:30:25 AM      Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	<b>B6</b>	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE	0 - 0		



7/170

**B6**

**B6**

Printed Thursday, March 28, 2019



Client: **B6**  
 Patient: **B6**

FiO2	<b>B6</b> (room air)	0 - 0	%
PCO2	<b>B6</b>	36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

**Nova Full Panel-ICU** **B6** 1:52:25 AM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dL
Lactate (FHSA) *		0 - 0	mmol/L
BG (FHSA)		0 - 0	g/dL
TS (FHSA)		0 - 0	g/dL
PCV		0 - 0	%

**Nova Full Panel-ICU** **B6** 2:06:14 AM Accession ID: **B6**

Test	Results	Reference Range	Units
PT (ER)-Citrate	15	0 - 0	sec

**Nova Full Panel-ICU** **B6** 3:50:25 AM Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	<b>B6</b>	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
Λ		0 - 0	mmHg
NOVA SAMPLE	0 - 0		



Client: **B6**  
 Patient: **B6**

FiO2	<b>B6</b>	0 - 0	%
PCO2	<b>B6</b>	36 - 44	mmHg
PO2	<b>B6</b>	80 - 100	mmHg
PH	<b>B6</b>	7.337 - 7.467	
PCO2	<b>B6</b>	36 - 44	mmHg
PO2	<b>B6</b>	80 - 100	mmHg
HCO3	<b>B6</b>	18 - 24	mmol/L

**Nova Full Panel-ICU** **B6** 3:17 PM **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dl
PCV **	<b>B6</b>	0 - 0	%
TS (FHSA)	<b>B6</b>	0 - 0	g/dl

**Nova Full Panel-ICU** **B6** 7:54:25 AM **Accession ID: B6**

Test	Results	Reference Range	Units
SO2%	<b>B6</b>	94 - 100	%
HCT (POC)	<b>B6</b>	38 - 48	%
HB (POC)	<b>B6</b>	12.6 - 16	g/dL
NA (POC)	<b>B6</b>	140 - 154	mmol/L
K (POC)	<b>B6</b>	3.6 - 4.8	mmol/L
CL(POC)	<b>B6</b>	109 - 120	mmol/L
CA (ionized)	<b>B6</b>	1.17 - 1.38	mmol/L
MG (POC)	<b>B6</b>	0.1 - 0.4	mmol/L
GLUCOSE (POC)	<b>B6</b>	80 - 120	mg/dL
LACTATE	<b>B6</b>	0 - 2	mmol/L
BUN (POC)	<b>B6</b>	12 - 28	mg/dL
CREAT (POC)	<b>B6</b>	0.2 - 2.1	mg/dL
TCO2 (POC)	<b>B6</b>	0 - 0	mmol/L
nCA	<b>B6</b>	0 - 0	mmol/L
nMG	<b>B6</b>	0 - 0	mmol/L
GAP	<b>B6</b>	0 - 0	mmol/L
CA/MG	<b>B6</b>	0 - 0	mol/mol
BEecf	<b>B6</b>	0 - 0	mmol/L
BEb	<b>B6</b>	0 - 0	mmol/L
A	<b>B6</b>	0 - 0	mmHg
NOVA SAMPLE	<b>B6</b>	0 - 0	
FiO2	<b>B6</b> (room air)	0 - 0	%
PCO2	<b>B6</b>	36 - 44	mmHg
PO2	<b>B6</b>	80 - 100	mmHg
PH	<b>B6</b>	7.337 - 7.467	
PCO2	<b>B6</b>	36 - 44	mmHg



Client: **B6**  
 Patient: **B6**

PO2	<b>B6</b>	80 - 100	mmHg
HCO3		18 - 24	mmol/L

**Nova Full Panel-ICU** **B6** 8:25:41 AM **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dl
PCV **	<b>B6</b>	0 - 0	%
TS (FHSA)	<b>B6</b>	0 - 0	g/dl

**Nova Full Panel-ICU** **B6** 10:31:12 AM **Accession ID: B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	<b>B6</b>	4.4 - 15.1	K/uL
RBC(ADVIA)	<b>B6</b>	5.8 - 8.5	M/uL
HGB(ADVIA)	<b>B6</b>	13.3 - 20.5	g/dL
HCT(ADVIA)	<b>B6</b>	39 - 55	%
MCV(ADVIA)	<b>B6</b>	64.5 - 77.5	fL
MCH(ADVIA)	<b>B6</b>	21.3 - 25.9	pg
MCHC(ADVIA)	<b>B6</b>	31.9 - 34.3	g/dL
RDW (ADVIA)	<b>B6</b>	11.9 - 15.2	
PLT(ADVIA)	<b>B6</b>	173 - 486	K/uL
MPV (ADVIA)	<b>B6</b>	8.29 - 13.2	fl
PLTCRT	<b>B6</b>	0.129 - 0.403	%
RETIC(ADVIA)	<b>B6</b>	0.2 - 1.6	%
RETICS (ABS) ADVIA	<b>B6</b>	14.7 - 113.7	K/uL

**Nova Full Panel-ICU** **B6** 10:31:27 AM **Accession ID: B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	67 - 135	mg/dL
UREA	<b>B6</b>	8 - 30	mg/dL
CREATININE	<b>B6</b>	0.6 - 2	mg/dL
PHOSPHORUS	<b>B6</b>	2.6 - 7.2	mg/dL
CALCIUM2	<b>B6</b>	9.4 - 11.3	mg/dL
MAGNESIUM 2+	<b>B6</b>	1.8 - 3	mEq/L
T. PROTEIN	<b>B6</b>	5.5 - 7.8	g/dL
ALBUMIN	<b>B6</b>	2.8 - 4	g/dL
GLOBULINS	<b>B6</b>	2.3 - 4.2	g/dL
A/G RATIO	<b>B6</b>	0.7 - 1.6	
SODIUM	<b>B6</b>	140 - 150	mEq/L
CHLORIDE	<b>B6</b>	106 - 116	mEq/L
POTASSIUM	<b>B6</b>	3.7 - 5.4	mEq/L
tCO2 (BICARB)	<b>B6</b>	14 - 28	mEq/L
ΔGAP	<b>B6</b>	8 - 19	
NA/K	<b>B6</b>	29 - 40	



Client: **B6**  
 Patient: **B6**

T BILIRUBIN	<b>B6</b>	0.1 - 0.3	mg/dL
D.BILIRUBIN	<b>B6</b>	0 - 0.1	mg/dL
I BILIRUBIN	<b>B6</b>	0 - 0.2	mg/dL
ALK PHOS	<b>B6</b>	12 - 127	U/L
GGT	<b>B6</b>	0 - 10	U/L
ALT	<b>B6</b>	14 - 86	U/L
4309 Result(s) verified			
AST	<b>B6</b>	9 - 54	U/L
2648 Result(s) verified			
CK	<b>B6</b>	22 - 422	U/L
16084 Result(s) verified			
CHOLESTEROL	<b>B6</b>	82 - 355	mg/dL
TRIGLYCERIDES	<b>B6</b>	30 - 338	mg/dl
AMYLASE	<b>B6</b>	409 - 1250	U/L
OSMOLALITY (CALCULATED)	<b>B6</b>	291 - 315	mmol/L

**Nova Full Panel-ICU**      **B6**      10:31:11 AM      Accession ID: **B6**

Test	Results	Reference Range	Units
SEGS%	<b>B6</b>	43 - 86	%
LYMPHS%	<b>B6</b>	7 - 47	%
MONOS%	<b>B6</b>	1 - 15	%
EOS%	<b>B6</b>	0 - 16	%
SEGS (AB)ADVIA	<b>B6</b>	2.8 - 11.5	K/uL
LYMPHS (ABS)ADVIA	<b>B6</b>	1 - 4.8	K/uL
MONOS (ABS)ADVIA	<b>B6</b>	0.1 - 1.5	K/uL
EOS (ABS)ADVIA	<b>B6</b>	0 - 1.4	K/uL
TOXIC CHANGE	<b>B6</b>	0 - 0	
Occasional Occasional neutrophil appears slightly toxic			
ACANTHOCYTES	<b>B6</b>	0 - 0	
KERATOCYTES/BLISTER CELLS	<b>B6</b>	0 - 0	
POIKILOCYTOSIS	<b>B6</b>	0 - 0	

**Nova Full Panel-ICU**      **B6**      3:19:40 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
Troponin I Research - FHSA	<b>B6</b>	0 - 0.08	mg/dl



Client: **B6**  
 Patient: **B6**

**Anesthesia Record**

**Tufts Cummings School of Veterinary Medicine SA Anesthesia Surgical Checklist**

App **B6**

**Patient:** **B6**  
**Client:** **B6**

Species: Canine Patient ID: **B6**  
 Breed: Boxer City: **B6**  
 Sex: Male Home Phone: **B6**  
 Weight kg: 0.00 Cell Phone: **B6**  
 Date of Birth: **B6** Ref Facility: **B6**  
 Color: White Ref Phone: **B6**  
 Check-in Date: **B6** 12:54:23 AM

Additional notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Before Premedication of Patient	After Induction in Prep Area	Prior to Leaving OR
<b>Confirmed by Anesthesia Team</b>	<b>Initiated by Anesthesia Team</b>	<b>Initiated by Anesthesia Team</b>
<input checked="" type="checkbox"/> Patient ID, procedure, & procedure site  <input checked="" type="checkbox"/> Blood work and SOAP complete  <input checked="" type="checkbox"/> Body weight matches patient size  <input checked="" type="checkbox"/> Work-up sheet reviewed & signed by anesthesiologist	Radiology work-up completed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A  Cefazolin (or other antibiotic) requested and available <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Hold <input type="checkbox"/> N/A  Number of catheters placed is appropriate for patient needs <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, additional catheters placed	Phone call to radiology <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A  <b>Anesthesia Service States</b> <input checked="" type="checkbox"/> Any concerns for patient recovery?  <b>Surgeon States</b> <input checked="" type="checkbox"/> Any concerns for patient recovery?  <input type="checkbox"/> Ward where patient will spend the evening <u>ICU</u>
<b>Before Induction of Patient</b>	Does patient need T-set?	
<b>Confirmed by Anesthesia Team</b>	<input type="checkbox"/> Yes (place T set in induction) <input checked="" type="checkbox"/> No	
Met check cleared <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A  Red line cleared by accounting <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A  <input checked="" type="checkbox"/> Anesthesia machine checked and pop-off valve open  Difficult airway or aspiration risk? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, nec. equipment available <input type="checkbox"/> Yes, Surgeon must be present  Risk of significant blood loss <input type="checkbox"/> No <input type="checkbox"/> Yes, blood type (+/- crossmatch) and appropriate blood available	<b>Before Skin Incision</b> <b>Initiated by Anesthesia Team</b> <input checked="" type="checkbox"/> Patient's ID, procedure, & procedure site confirmed  Cefazolin (or other a/b) requested & given within the prev. 60 min <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Hold <input type="checkbox"/> N/A  <b>Anesthetist States</b> <input checked="" type="checkbox"/> Any specific anesthetic concerns  <b>Surgeon States</b> <input checked="" type="checkbox"/> Critical or non-routine steps <input checked="" type="checkbox"/> Anticipated blood loss	If patient can receive NSAIDs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Which NSAID? _____  Additional analgesics surgery will use <input checked="" type="checkbox"/> Yes rescue <u>Sentanyl</u> <input type="checkbox"/> No. Which analgesic? _____  Bladder <input type="checkbox"/> Express <input checked="" type="checkbox"/> U cath
<b>This form remains with the patient through recovery.</b>	<b>Surgery Technician States</b> <input checked="" type="checkbox"/> Sterilization indicators confirmed	Surgeon/ Resident: <b>B6</b> Anesthetist Tech/Student: <b>B6</b> Surgery Tech: <b>B6</b> Date: <b>B6</b>

Client:  
Patient:

**B6**

**Anesthesia Record**

**B6**

Surgical(surgeon/tech/student)/Anesthesia(anesthetist/student) Called? Time: \_\_\_\_\_

**If ASA status  $\geq$  III consider (check if done):**

Blood Type \_\_\_\_\_ Coags \_\_\_\_\_ 2<sup>nd</sup> IVC (hind leg)   
Lumen catheter \_\_\_\_\_ Doppler BP \_\_\_\_\_ Heat support \_\_\_\_\_

**Other Considerations (check if applicable):**

Brachycephalic? \_\_\_\_\_ vWD protocol \_\_\_\_\_ Sepsis protocol \_\_\_\_\_

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SOAP COMPLETE? Y \_\_\_ N \_\_\_ SX DEPOSIT COLLECTED? Y \_\_\_ N \_\_\_

Place

**B6**

**Patient:**

**B6**

**Client:**

Species: Canine

Patient ID: **B6**

Breed: Boxer

Sex: Male

City: **B6**

Weight kg: 0.00

Home Phone:

Date of Birth: **B6**

Cell Phone:

Color: White

Ref Facility:

Check-in Date: **B6** 12:54:23 AM

Ref Phone:

**B6**

Client:  
Patient:

**B6**

---

**Anesthesia Record**

---

Tufts University Cummings School of Veterinary Medicine  
**ANESTHESIA RECORD**

**B6**

**B6**

Client: **B6**  
Patient: **B6**

Rx **B6**

**B6** 07: 22 PM **B6** via **B6** Page 1 of 1 **B6**

**B6**

**B6**

**PRESCRIPTION AUTHORIZATION REQUEST**

Employee # **B6**  
Date **B6**  
5243234

Dear Doctor,

Please review and complete the following prescription authorization and fax the form back to our pharmacy at **B6**. If you need to speak with our pharmacists, or prefer to call us with this prescription, please call 1 **B6**. Thank you.

 **FAXED**  
**B6**

**Pet Owner Information**

Pet Owner's Name (First) **B6** (Last) **B6** C# **B6**  
Address **B6** City **B6**  
State **B6** Zip **B6** Phone **B6** Ord # **B6**

**Pet & Prescription Information**

Attn Veterinarian: Please enter all of the following Rx information.

	Pet Name	Weight	Medication	Strength	Qty	Additional Refills
<b>B6</b> 1	<b>B6</b>		<b>B6</b>	10mg	100	11
	Species DOG	Directions for Use: <i>Give 1 tablet by mouth twice daily</i>				
	Denied:	Reason:				
2	Species	Directions for Use:				
	Denied:	Reason:				

Additional Comments: **Client is requesting additional refills, thank you.**

**Veterinarian Information**

*In compliance with pharmacy law, we are only able to accept prescriptions faxed from a licensed veterinarian. Please fax the completed form to 1-800-447-2404. Thank You*

Veterinarian Name **B6** State License **B6** DEA # \_\_\_\_\_ (if applicable)  
Clinic Name **Cummings Medical Center** Phone **508-839-5395** Fax **508-839-7951**  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Email \_\_\_\_\_ ID # \_\_\_\_\_ (Pharmacy use only)

Patient Information \*\* To be completed by Veterinarian \*\*  
Please indicate any known significant allergies/medical conditions: \_\_\_\_\_  
Veterinarian's Signature **B6** Per Pharmacy Law, we are unable to accept stamped signatures. Date **B6**  
Generic Equivalent Permissible **B6** Fully Necessary **B6** Printed Name \_\_\_\_\_

Confidentiality Notice: This telecopy contains confidential information belonging to the sender that is legally privileged. This information is intended only for the use of the individual or entity named above. The authorized recipient of this information is prohibited from disclosing this information to any other party. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or action taken in reliance on the contents of this document is strictly prohibited. If you have received this telecopy in error, please notify the sender immediately to arrange for the return of this document.



Client: **B6**  
Patient:

**BNP 10/31/18**

IDEXX Reference Laboratories

Client: **B6**

Client: **B6**  
Patient:  
Species: CANINE  
Breed:  
Gender:  
Age: 0Y

Date: 10/31/2018  
Requisition #: **B6**  
Accession #: **B6**  
Ordered by: NOT SPECIFIED

IDEXX VetConnect 1-888-433-9967  
TUFTS UNIVERSITY  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536-1828  
508-839-5395  
Account: **B6**

**CARDIOPET proBNP- CANINE**

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP -CANINE	<b>B6</b>	0 - 900 pmol/L			<b>B6</b>

**Comments:**

1. Cardiopet proBNP >1800pmol/L

**B6**

at room temperature may have decreased NT-proBNP concentrations.

Client:  
Patient:

**B6**

UCDavis Taurine Panel

PL ~~AB~~ 24345

WB 24346

**Amino Acid Laboratory Sample Submission Form**

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: [ucd.aminoacid.lab@ucdavis.edu](mailto:ucd.aminoacid.lab@ucdavis.edu)

[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)

**B6**  
B6  
10:45 AM  
TAURINE PANEL  
Lithium Heparin

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015369

Email: Clinpath@tufts.edu / cardiovet@tufts.edu

Telephone: 508-887-4669

Fax: 508-839-7936

Billing Contact: **B6**

Email: **B6**

Billing Contact Phone: **B6**

Tax ID: \_\_\_\_\_

Patient Name: **B6**

Species: canine

Breed: Boxer

Owner's Name: **B6**

Current Diet: Rachel Ray super premium dry chicken/veggies dry, Purina and chicken rice canned, Newman's own chicken rice

Sample type: Plasma Whole Blood Urine Food Other \_\_\_\_\_

Test: Taurine Complete Amino Acids Other: \_\_\_\_\_

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client: **B6**  
Patient: **B6**

**BNP 3/28/19**

IDEXX Reference Laboratories

Client **B6** Patient **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed:  
Gender: MALE  
Age: 8Y

Date: 03/27/2019  
Requisition # 1A  
Accession #: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536  
508-839-5395  
Account #88933

**CARDIOPET proBNP- CANINE**

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP -CANINE	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

**Comments:**

1 Cardiopet proBNP >1800pmol/L

**B6**

Please note: Complete interpretive comments for all concentrations of Cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**  
 Patient: **B6**

Diet Hx 3/27/19

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **B6**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)  
 Example: **Poor** \_\_\_\_\_ **Excellent**

**Poor** \_\_\_\_\_ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other \_\_\_\_\_

3. Over the last few weeks, has your pet (check one)  
 Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Royal Canine	dry	1 1/2 cup	1x/day	Oct 2018
Hills Science Diet - Chick stew	wet	1/2 Can	1x/day	Oct 2018

\*Any additional diet information can be listed on the back of this sheet.

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Carnitine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list):		
Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?  
 I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

Client: **B6**  
Patient: **B6**

T4 - 3/27/19



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: U	Provider: <b>B6</b>
Patient ID:	<b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:		Species: Canine	Sample ID: <b>B6</b>
Collection Date:	3/27/2019 12:55 PM	Breed: Boxer	
Approval date:	3/27/2019 3:15 PM		

**T4/Clin Path (Research)**

ABLASOTTO  
T4/Tosoh

**B6**

Ref. Range/-  
1.00-4.10 ug/dl

Sample ID: **B6**  
REPRINT: Ong. printing on 3/27/2019 (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
Patient: **B6**

Cbc/Chem 10/31/18



### Tufts Cummings School Of Veterinary Medicine

200 Westboro Road  
North Grafton, MA 01536

#### DUPLICATE

Name/DOB: <b>B6</b>	Sex: U	Provider: <b>B6</b>
Patient ID: <b>B6</b>	Age: 8	Order Location: V320422 Barkley Fund Lipitor Study
Phone number:	Species: Canine	Sample ID: <b>B6</b>
Collection Date: 10/31/2018 10:45 AM	Breed: Boxer	
Approval date: 10/31/2018 12:58 PM		

#### CBC (Research) (Advia)

		Ref. Range/
SMACHUNSKI		
WBC (ADVIA)		4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)		39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
MCHC (ADVIA)	H	31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Comments (Hematology)	platelets/ 100x field (estimated count of 200,000-500,000/ul)	

#### Microscopic Exam of Blood Smear (Advia)

		Ref. Range/
SMACHUNSKI		
Seg Neuts (%)	H	43-86 %
Lymphocytes (%)	L	7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs) Advia	H	2.800-11.500 K/uL
Lymphs (Abs) Advia	L	1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
WBC Morphology		
Acanthocytes		
Poikilocytosis		

#### Research Chemistry Profile - Small Animal (Cobas)

		Ref. Range/
TFRANK		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40

Sample ID: **B6**  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
Patient: **B6**

Cbc/Chem 10/31/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

DUPLICATE

Name/DOB: <b>B6</b>	Sex: U	Provider: <b>B6</b>	Order Location: V320422: Barkley Fund Lipitor Study
Patient ID: <b>B6</b>	Age: 8	Sample ID: <b>B6</b>	
Phone number:	Species: Canine		
Collection Date: 10/31/2018 10:45 AM	Breed: Boxer		
Approval date: 10/31/2018 12:58 PM			

**Research Chemistry Profile - Small Animal (Cobas) (cont'd)**

		Ref. Range/-
TFRANK		
Total Bilirubin		0.10-0.30 mg/dL
Direct Bilirubin		0.00-0.10 mg/dL
Indirect Bilirubin		0.00-0.20 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT		14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol	H	82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)	L	291-315 mmol/L
Comments (Chemistry)	<b>B6</b>	

Sample ID: **B6**  
REPRINT: Orig. printing on 10/31/2018 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

Client: **B6**  
Patient: **B6**

Cbc/Chem 10/7/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: **B6**      Provider: **B6**  
Patient ID: **B6**      Sex: U      Order Location: Foster Hospital for Small Animals  
Phone number:      Age: 8      Sample ID: **B6**  
Collection Date: 10/7/2018 10:31 AM      Species: Canine  
Approval date: 10/7/2018 4:14 PM      Breed: Boxer

**CBC, Comprehensive, Sm Animal**

TFRANK		Ref. Range/
WBC (ADVIA)	H <b>B6</b>	4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)		39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)	L <b>B6</b>	173-486 K/uL
10/07/18 4:11 PM	<b>B6</b>	
Mean Platelet Volume (Advia)	<b>B6</b>	8.29-13.20 fl
10/07/18 1:18 PM	<b>B6</b>	
Platelet Crit	<b>B6</b>	0.129-0.403 %
10/07/18 1:18 PM	<b>B6</b>	
Reticulocyte Count (Advia)	<b>B6</b>	0.20-1.60 %
Absolute Reticulocyte Count (Advia)		14.7-113.7 K/uL

**Microscopic Exam of Blood Smear (Advia)**

TFRANK		Ref. Range/
Seg Neuts (%)	H <b>B6</b>	43-86 %
Lymphocytes (%)	L <b>B6</b>	7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs) Advia	H <b>B6</b>	2.800-11.500 K/uL
Lymphs (Abs) Advia	L <b>B6</b>	1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
Toxic Change	<b>B6</b>	
10/07/18 4:14 PM	<b>B6</b>	
Acanthocytes	<b>B6</b>	
Keratocytes/Blister Cells		
Poikilocytosis		

Sample ID: **B6**  
This report continues... (Final)

Reviewed by: \_\_\_\_\_



Client: **B6**  
Patient:

Cbc/Chem 10/7/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: **B6**      Provider: **B6**  
Patient ID: **B6**      Sex: U      Order Location: **Easier Hospital for Small Animals**  
Phone number:      Age: 8      Sample ID: **B6**  
Collection Date: 10/7/2018 10:31 AM      Species: Canine  
Approval date: 10/7/2018 4:14 PM      Breed: Boxer

**Chemistry Profile - Small Animal (Package) (Cobas)**

		Ref. Range/
TFRANK		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium	<b>B6</b>	140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Direct Bilirubin		0.00-0.10 mg/dL
Indirect Bilirubin		0.00-0.20 mg/dL
Alkaline Phosphatase	H	12-127 U/L
GGT		0-10 U/L
ALT	H	14-86 U/L
AST	H <b>B6</b>	9-54 U/L
Creatine Kinase	H	22-422 U/L
Cholesterol	H	82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase	<b>B6</b>	409-1250 U/L
Osmolality (calculated)		291-315 mmol/L

Sample ID: **B6**  
REPRINT: Orig. printing on 10/7/2018 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

Client: **B6**  
Patient: **B6**

NOVA 10/6/18



**ICU/Emergency & Critical Care**  
Foster Hospital for Small Animals, TCSVM  
200 Westboro Rd  
North Grafton, MA 01536

DUPLICATE

Name/DOB: **B6**      Sex: U  
Patient ID: **B6**      Age: 8  
Phone number:      Species: Canine  
Collection Date: **B6** 1:30 AM      Breed: Boxer  
Approval date: **B6** 1:58 AM  
Provider: **B6**  
Order Location: Foster Hospital for Small Animals  
Sample ID: **B6**

**Nova Full Panel-ICU**

**B6**    1:58 AM    k (SO2%)

		Ref. Range/-
RGREENWAY		
pH	L	7.337-7.467
pCO2		36.0-44.0 mmHg
pO2	L	80.0-100.0 mmHg
SO2%	L!	94.0-100.0 %
Hct (POC)		38-48 %
Hb (POC)		12.6-16.0 g/dL
Sodium (POC)		140.0-154.0 mmol/L
K (POC)		3.6-4.8 mmol/L
Cl (POC)		109-120 mmol/L
Ca (ionized)		1.17-1.38 mmol/L
Mg, (ionized) (POC)	H	0.1-0.4 mmol/L
Glucose (POC)	L	80-120 mg/dL
Lactate	H	0.0-2.0 mmol/L
BUN (POC)		12.0-28.0 mg/dL
Creat (POC)	H	0.2-2.1 mg/dL
TCO2 (POC)		mmol/L
nCa		mmol/L
nMg		mmol/L
Gap		mmol/L
Ca/Mg		mol/mol
BEecf		mmol/L
BEb		mmol/L
HCO3	L	18.0-24.0 mmol/L
A		mmHg
NOVA Sample Source		
FiO2	<b>B6</b> (room air)	%

Sample ID: **B6**  
REPRINT: Ong printing on 10/6/2018 (Final)

Reviewed by: \_\_\_\_\_

Client:  
Patient:

**B6**

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Client:  
Patient:

**B6**

---

**ECG from cardio**

---

**B6**

**B6**

9:39:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

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**B6**

Client: **B6**  
Patient:

ECG from cardio

**B6**

**B6**

9:39:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient: **B6**

ECG from cardio

**B6**

**B6**

9:40:00 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 Lead: Standard Placement

**B6**

Device:	Speed: 50 mm/sec	Limb: 10 mm/mV	Chest: 10.0 mm/mV	Electrode Dff	F 60~ 0.50-100 Hz W	CL	P
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Client:  
Patient:

**B6**

ECG from cardio

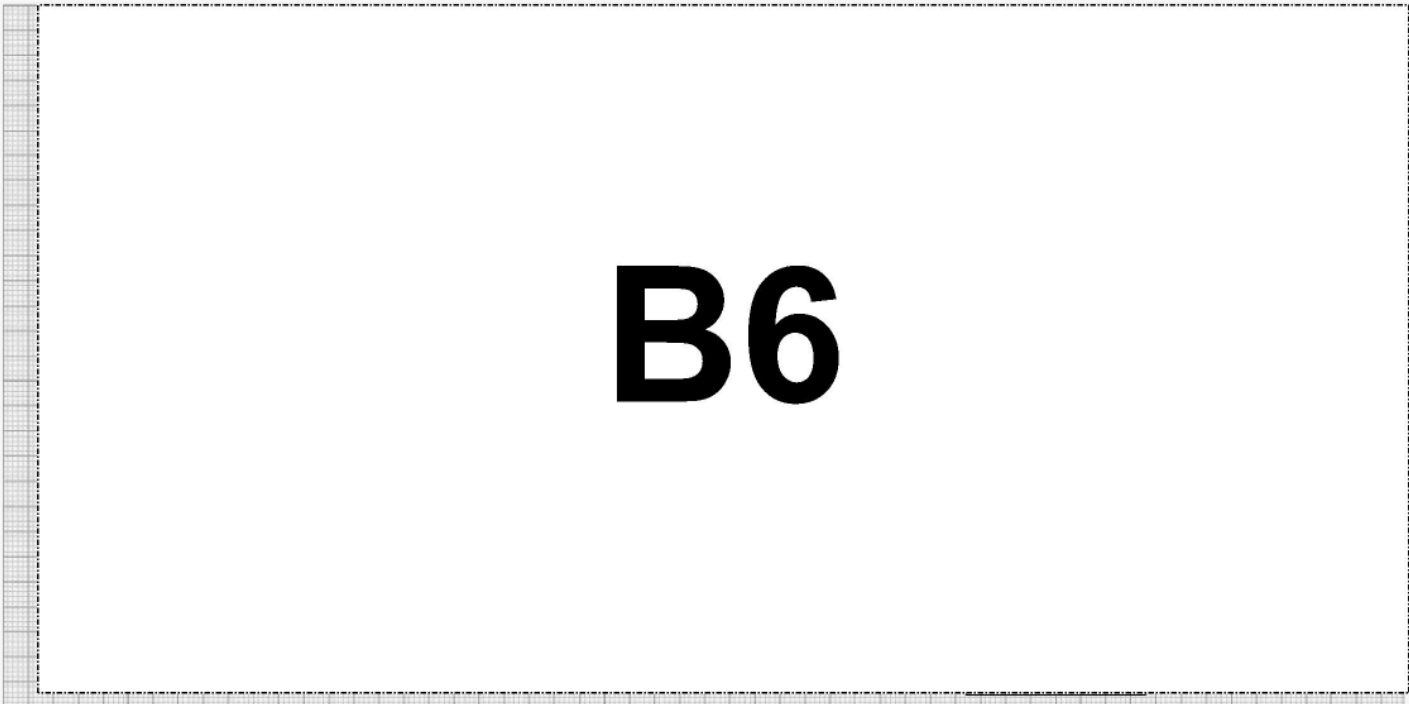
**B6**

**B6**

9:40:00 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology



Client:  
Patient:

**B6**

**ECG from cardio**

**B6**

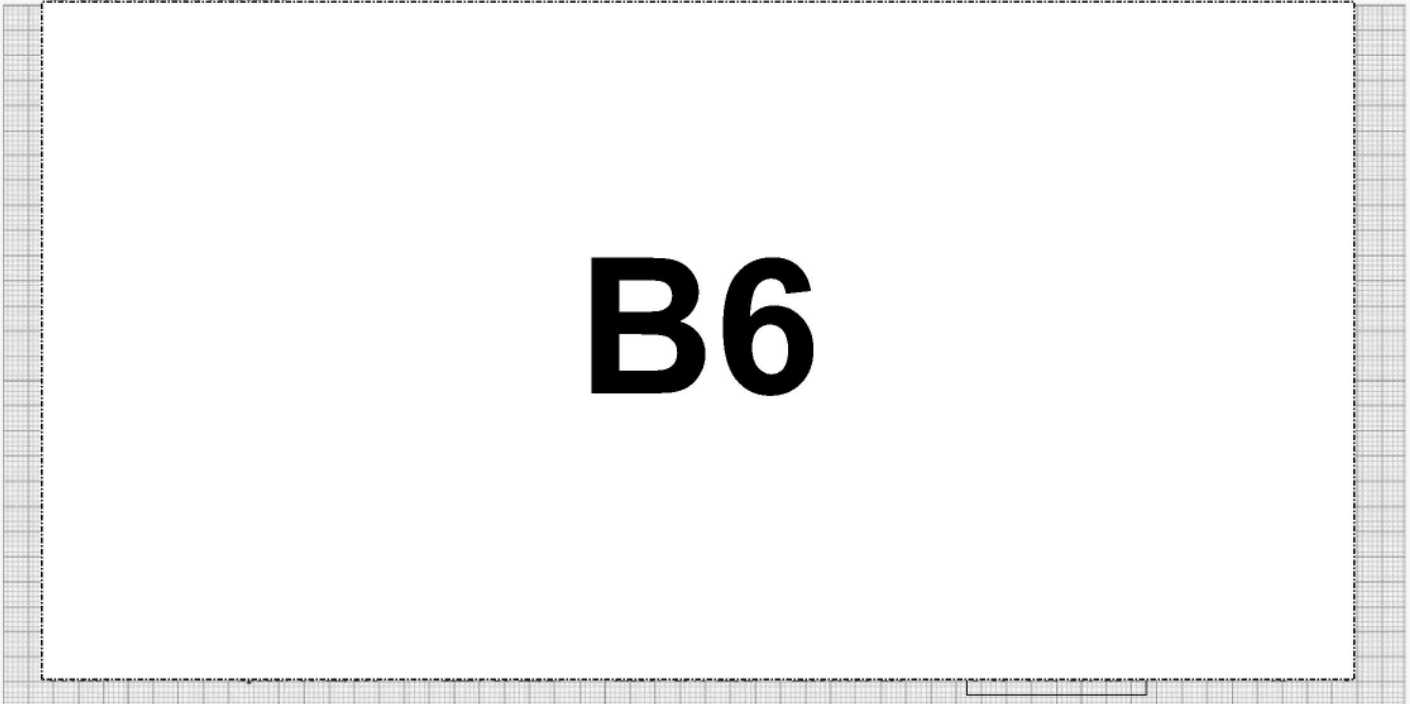
**B6**

9:40:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 Lead: Standard Placement





Client: **B6**  
Patient:

ECG from cardio

---

**B6**

**B6**

9:40:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

---



**B6**

Client:  
Patient:

**B6**

ECG from cardio

**B6**

**B6**

9:40:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 Lead; Standard Placement

**B6**

Client:  
Patient:

**B6**

ECG from cardio

**B6**

**B6**

9:40:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client:  
Patient:

**B6**

ECG from cardio

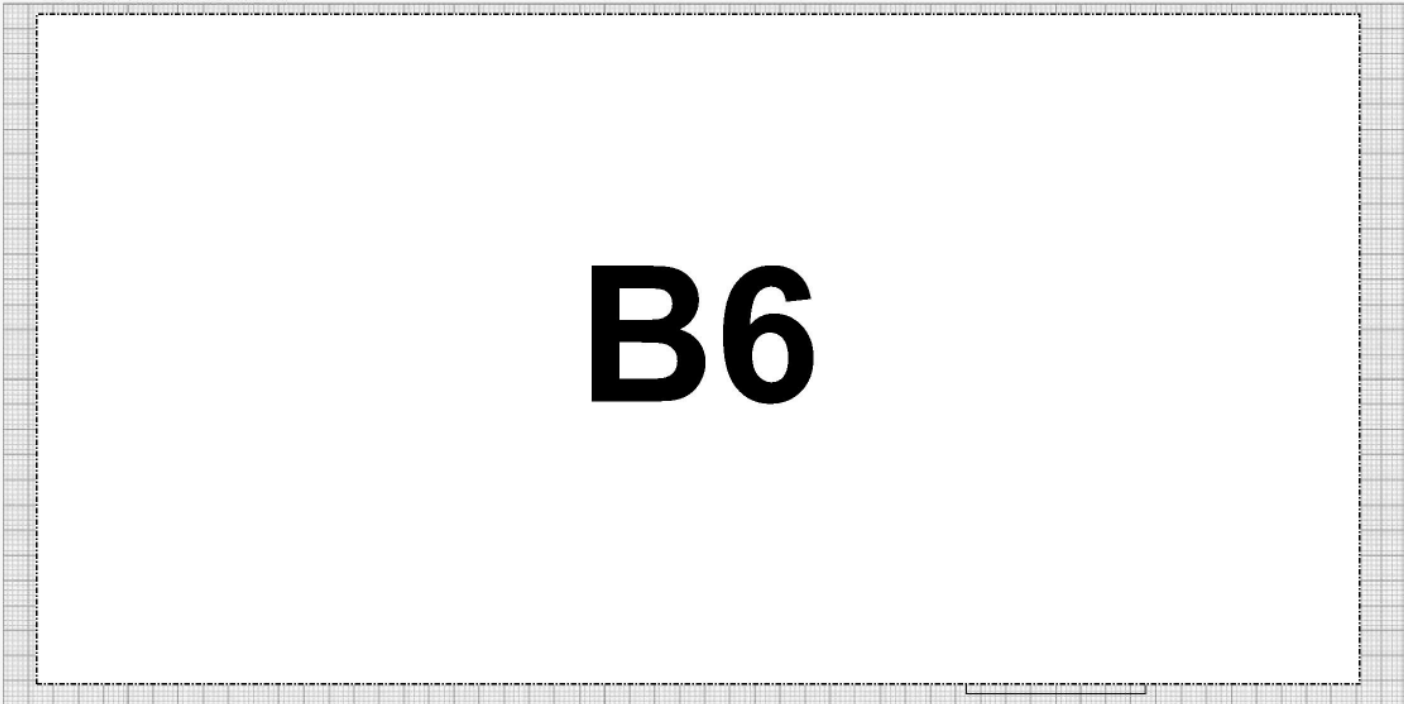
**B6**

**B6**

9:41:17 AM

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 Lead: Standard Placement



# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

Emergency & Critical Care Liaison: (508) 887-4745

### Patient

Name:

B6

Signalment:

B6 Years Old White Male Boxer

### Owner

Name:

Address:

B6

Patient ID:

B6

Emergency Clinician:

B6 DVM (Emergency and Critical Care Resident)

Consulting Clinician:

B6 DVM DACVECC, B6

B6 (Cardiology)

ER Supervisor:

B6

## Discharge Instructions

Admit Date: B6 12:54:23 AM

Check Out Date: B6

### Case Summary

Diagnosis:

1. B6

2. Dilated cardiomyopathy (DCM)

3. B6

### Case Summary:

Thank you for bringing B6 to Tufts Emergency Service for evaluation of an acute onset of B6 discomfort. On presentation to the ER, B6 had an elevated heart rate and B6

B6 which was confirmed on abdominal radiographs. Point of care ultrasound identified dilated heart chambers.

B6 was treated with IV fluids and pain medications prior to surgery to de-rotate the stomach B6

B6 had low blood pressure in surgery but recovered well post-operatively. The following day, a cardiology consultation was performed which revealed dilated cardiomyopathy (DCM), which is a common heart disease of Boxer's. Bloodwork showed elevated liver enzymes, which can sometimes be seen after B6 surgery or could indicate an underlying liver issue.

B6 has continued to do very well in hospital and is now ready to be discharged home for continued supportive care, with the following instructions:

### Patient Care Instructions:

1. MONITORING: Please monitor B6 closely for any vomiting, lethargy, lack of appetite or pale gums. If any of these signs are noted, please have him re-evaluated immediately.

2. **INCISION:** Check the incision at least once daily to ensure that it is clean and dry with no oozing, discharge, separation of skin edges or increased redness or bruising. The sutures are absorbable, there is no need for suture removal.

3. **EXERCISE & ACTIVITY:** B6 must remain exercise restricted for 2 weeks after surgery. This means NO running, jumping, rough housing with other dogs or any off leash activity for 2 weeks. He may be taken outside on a leash for short walks for eliminations, but should otherwise remain indoors. No bath or swimming for 2 weeks.

4. **DIET:** B6 can continue his normal diet. If he is not eating at least 50% of his normal amount within 24 hours of discharge, please call for advice.

#### Medications:

##### New medications:

# B6

#### Cardiology Summary:

B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management. The heart enlargement has NOT YET progressed to the point of congestive heart failure, meaning that fluid is backing up into the lungs or belly. Unfortunately this is a progressive disease and we cannot reverse the changes to the heart muscle, however we can use cardiac medications to improve his quality and duration of life.

#### Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs have a breathing rate at rest of less than 35 to 40 breaths per minute. **WHILE AT REST OR ASLEEP.** In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

#### Recheck Visits:

1) Recheck exam and bloodwork is recommended in 1-2 weeks. This can be performed with your primary care veterinarian or here at Tufts by scheduling an appointment with B6 at 508-887-4745.

2) Recheck with the Cardiology team for recheck echocardiogram is recommended in 3-6 months, or sooner if B6 develops ANY of the following symptoms: increased effort or rate of breathing at rest, cough, exercise intolerance or collapse / fainting. Cardiology recheck can be scheduled by calling 508-887-4696.

---

#### Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvm/clinical-studies](http://vet.tufts.edu/cvm/clinical-studies)*

---

Case: B6

Owner: B6

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY  
Cardiology Liaison: 508-887-4696

B6

Patient ID: B6  
B6 Canine  
B6 Years Old Male Boxer  
White BW: Weight (kg) 36.80

## Cardiology Consultation

Date: B6

Weight: Weight (kg) 36.80

Requesting Clinician: B6 DVM (Emergency and Critical Care Resident)

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

### Cardiology Resident:

B6

### Thoracic radiographs available for review?

- Yes - in SS
- Yes - in PACS
- No

Patient location: ICU

### Presenting complaint and important concurrent diseases:

B6 <12 hours post op

No previously diagnosed heart disease or heart murmurs

Current medications and doses: B6

At-home diet: Unknown

**Key indication for consultation:** Concern for LV dilation and decreased contractility on TFAST, minimal ventricular ectopy intra op and none post op. Hypotensive intra op and received dobutamine, BP post op 80-110.

**\*STOP - remainder of form to be filled out by Cardiology\***

### Physical Examination

B6

Muscle condition:



- Normal
- Mild muscle loss

- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- Top 2/3 of the neck
- 1/2 way up the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

**Echocardiogram Findings:**

**B6**

**Mitral inflow:**

- |  |                                       |
|--|---------------------------------------|
| <input checked="" type="checkbox"/> Summated | <input type="checkbox"/> Pseudonormal |
| <input type="checkbox"/> Normal              | <input type="checkbox"/> Restrictive  |
| <input type="checkbox"/> Delayed relaxation  |                                       |

**B6**

**Assessment and recommendations:**

Echocardiogram findings are consistent with DCM-like changes. Base on the current chest radiographs the patient does not appear to be in active CHF. There is decreased contractile function which could be secondary to cardiomyopathy but could also be influenced by the fact that the patient was tachycardic and had recent major surgery (inflammation/sepsis component). The degree of LAE in a dog would argue for intrinsic heart disease (DCM). We would still recommend to **B6** careful with fluid administration. Differentials for the changes visualized include primary DCM vs. diet-related vs. ARVC vs. end-stage DMVD (seems less likely base on the small amount of MR and the fact that the jet was very central). Because of the breed, ARVC that would affect mainly the LV remains a differential and the patient should be on telemetry to monitor for ventricular arrhythmia. A quick recheck echocardiogram could be perform before the patient leaves the hospital to reassess the contractile function once the patient is systemically better. Full recheck echocardiogram in 4-6 months or sooner if the patient develops clinical signs consistent with worsening heart disease such as increased RR/RE, cough, exercise intolerance, or syncope.

The diet should be explored and if a grain free diet it should be reported to the FDA.

**Final Diagnosis:**

- DCM-like changes r/o DCM vs. diet-related vs. ARVC vs. end-stage DMVD

**Heart Failure Classification Score:**

ISACHC Classification:

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II            |                               |

ACVIM CHF Classification:

- |  |                            |
|--|----------------------------|
| <input type="checkbox"/> A             | <input type="checkbox"/> C |
| <input type="checkbox"/> B1            | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 |                            |

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
%FS		%
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
TAPSE		cm
EPSS		cm

M-Mode Normalized

IVSdN	B6	{0.29 - 0.52}
LVIDdN		{1.35 - 1.73} !
LVPWdN		{0.33 - 0.53} !
IVSsN		{0.43 - 0.71} !
LVIDsN		{0.79 - 1.14} !
LVPWsN		{0.53 - 0.78} !
Ao Diam N		{0.68 - 0.89} !
LA Diam N		{0.64 - 0.90} !

2D

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml

Doppler

MR Vmax	B6	m/s
MR maxPG		mmHg
MV E Vel		m/s
MV DecT		ms
MV A Vel		m/s
MV E/A Ratio		
E'		m/s
A'		m/s
E/E'		
PV Vmax		m/s

PV maxPG  
AV Vmax  
AV maxPG  
TR Vmax  
TR maxPG

B6

mmHg  
m/s  
mmHg  
m/s  
mmHg

### Discharge Instructions

**Patient**

Name: B6

Species: Canine

White Male Boxer

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Date: B6

**Diagnoses:** Dilated cardiomyopathy (DCM)

**Case summary:**

Thank you for bringing B6 for evaluation of his heart. B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management (so far B6 has not had this). The heart enlargement can eventually progress to the point of congestive heart failure, meaning that fluid would be backing up into the lungs or belly. Unfortunately this is typically a progressive disease and we usually cannot reverse the changes to the heart muscle. However, some dogs that have been on certain grain/gluten free diets have shown improvement in their hearts when the diet has been changed and they have received taurine supplementation.

**Monitoring at home:**

- We would like you to occasionally monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. Normal breathing rate at rest is less than 35 to 40 breaths per minute.
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

**Recommended Medications:**

B6

# B6

## **Diet suggestions:**

We recommend feeding a diet formulated by a well established company since certain unique dog foods have been anecdotally associated with heart disease. Below are some dry and canned options, or if B6 does not like these foods then you could consider scheduling an appointment with our Nutrition Service (this can be done over the phone).

## **Dry options:**

Royal Canin Early Cardiac

Royal Canin Boxer

Purina Pro Plan Adult Weight Management (not significantly calory restricted despite the name)

## **Canned options:**

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrots, and Spinach Stew

Royal Canin Mature 8+

## **Exercise Recommendations:**

B6 can continue his walks as long as he does not lag behind or seem tired after. We generally recommend avoiding vigorous high intensity activity as this could worsen strain on the heart or cause arrhythmias.

## **Recheck Visits:**

A recheck visit is recommended in 3 months. B6 has been enrolled in a study and this recheck along with another one in 6 months would be included in the study. We also recommend having B6 daughter B6 screened for heart disease, which may also be covered by the study. We will plan to call you to set this appointment up, but if you have not heard from us by next week then please give us a call.

Thank you for entrusting us with B6 care. He is such a good dog! Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

## **Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

## **Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

## **Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvma/clinical-studies](http://vet.tufts.edu/cvma/clinical-studies)*

---

Case: B6

Owner: B6

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

**B6**

Patient ID: **B6**  
**B6** Canine  
**B6** Years Old Male Boxer  
White

## Cardiology Appointment Report

Date: **B6**

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

**B6**

### Cardiology Technician:

**B6**

**Presenting Complaint:** Doing great at home since surgery. Eating and drinking normally. No V/D. Had since he was a puppy. Is on heartworm prev.

**Concurrent Diseases:** **B6**

**General Medical History:** Has **B6** out 4 weeks ago. Cardio consult done at that hospitalization. No cough or trouble breathing, no exercise intolerance, goes on long walks.

### Diet and Supplements:

Rachel ray super premium dry real chicken and veggie dry, purina one chicken and rice canned, Newmans own chicken and rice, hamburger and chicken and rice cooked, mixed every other day. O feels is not grain free, but it is wheat and gluten free.

### Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home?

Cough? 2 weeks before GVD had bad cough, no fine

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

**Current Medications Pertinent to CV System:**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI +/-
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Murmur location/description:** systolic left apical

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia when more excited

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Mild ascites



- Hepatomegaly
- Abdominal distension

- Marked ascites

**Problems:**

DCM like changes at time of **B6** {r/o DCM v ARVC variant v sepsis/inflammatory related}

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: DCM study

**Echocardiogram Findings:**

**B6**

**Assessment and recommendations:**

Echocardiogram reveals persistent DCM like changes consistent with cardiomyopathy (primary DCM v ARVC with DCM phenotype v dietary) rather than sepsis/inflammatory induced cardiac changes. Patient was enrolled in DCM study. Recommend continuing **B6** adding taurine 1000mg PO BID. Recommend diet change (list provided). Will report current diet to FDA (owner gave permission and will save bag). Recheck for study in 3 months and again in 6 months. House mate should be screened for DCM also.

**Final Diagnosis:**

DCM-like changes (r/o primary DCM v ARVC with DCM phenotype v dietary)

**Heart Failure Classification Score:**

**ISACHC Classification:**

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2
- C
- D

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
%FS		%
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
TAPSE		cm
EPSS		cm

M-Mode Normalized

IVSdN	B6	(0.29 - 0.52)
LVIDdN		(1.35 - 1.73) !
LVPWdN		(0.33 - 0.53)
IVSsN		(0.43 - 0.71)
LVIDsN		(0.79 - 1.14) !
LVPWsN		(0.53 - 0.78) !
Ao Diam N		(0.68 - 0.89) !
LA Diam N		(0.64 - 0.90) !

2D

SA LA	B6	cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LVID LAX		cm
LVA d LAX		cm
LVEDV A-L LAX		ml
LVEDV MOD LAX		ml
LVLs LAX		cm
LVA s LAX		cm
LVESV A-L LAX		ml
LVESV MOD LAX		ml

HR  
EF A-L LAX  
LVEF MOD LAX  
SV A-L LAX  
SV MOD LAX  
CO A-L LAX  
CO MOD LAX

B6

BPM  
%  
%  
ml  
ml  
l/min  
l/min

Doppler  
MV E Vel  
MV DecT  
MVA Vel  
MV E/A Ratio  
E'  
A'  
E/E'  
PV Vmax  
PV maxPG  
AV Vmax  
AV maxPG

B6

m/s  
ms  
m/s  
  
m/s  
m/s  
  
m/s  
mmHg  
m/s  
mmHg

**B6**

**B6** Male  
Canine Boxer White  
Patient ID: B6

**Outside Prescription Log**

1. Date: B6

**B6**

2. Date:  
Clinician:  
Prescription:  
Pharmacy sent to:  
Completed by:  
Origin of request:

3. Date:  
Clinician:  
Prescription:  
Pharmacy sent to:  
Completed by:  
Origin of request:

4. Date:  
Clinician:  
Prescription:  
Pharmacy sent to:  
Completed by:  
Origin of request:

5. Date:  
Clinician:  
Prescription:  
Pharmacy sent to:  
Completed by:  
Origin of request:

6. Date:  
Clinician:  
Prescription:  
Pharmacy sent to:  
Completed by:  
Origin of request:

7. Date:

**Clinician :**  
**Prescription:**  
**Pharmacy sent to:**  
**Completed by:**  
**Origin of request:**

**8. Date:**

**Clinician :**  
**Prescription:**  
**Pharmacy sent to:**  
**Completed by:**  
**Origin of request:**

**9. Date:**

**Clinician :**  
**Prescription:**  
**Pharmacy sent to:**  
**Completed by:**  
**Origin of request:**

**10. Date:**

**Clinician :**  
**Prescription:**  
**Pharmacy sent to:**  
**Completed by:**  
**Origin of request:**

**Radiology Request & Report**

**Patient**

Name: B6  
Species: Canine  
White Male Boxer  
Birthdate: B6

**Owner**

Name: B6  
Address: B6

Patient ID: B6  
Date of request: B6

Attending Clinician: B6 DVM (Emergency and Critical Care Resident)

Student:

Date of exam:

Patient Location: Ward/Cage:

Weight (kg) 36.80

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

**Sedation**

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired:

Presenting Complaint and Clinical Questions you wish to answer:  
Emergency

Pertinent History:

Findings:

**B6**

THORAX, TWO VIEWS:

The cardiac silhouette is normal in size (VHS 11.5). The pulmonary vessels and caudal vena cava are small. There is a mild diffuse bronchointerstitial pattern. The trachea, diaphragm, pleural space, and mediastinum are normal.

There is multifocal incidental spondylosis deformans.

**Conclusions:**

**B6**

- Appearance of the pulmonary vessels and caudal vena cava suggest hypovolemia.
- Mild diffuse bronchointerstitial pattern is likely incidental. There is no evidence of pulmonary metastatic disease.

**Radiologists**

Primary: **B6**, DVM

Reviewing: **B6** DVM, DACVR

**Dates**

Reported: **B6**

Finalized: **B6**

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**Patient**

**Name:**

B6

**Signalment:**

B6 Years Old White Male Boxer

**Owner**

**Name:**

B6

**Address:**

**Patient ID:**

B6

**Contact Clinician:**

B6

DVM, PhD, DECVS,

**Alternate Clinician:**

B6

DVM, MPH

(Ophthalmology Intern)

**Student:**

B6

V19

## Discharge Instructions

**Admit Date:**

B6

3:00:03 PM

**Discharge Date:**

**Diagnosis:**

1.

B6

B6



# B6

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case:

B6

Owner:

B6

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Ophthalmology Liason: 508-887-4839

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**B6**

**B6**

# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

**B6**

**B6** Male  
Canine Boxer White  
**B6**

### OCULAR EXAMINATION

Date: **B6** 3:00:03 PM  
Chief complaint: **B6**  
in June or July, meds: ABX ointment, refresh

Attending Ophthalmologist:

**B6**

Ophthalmology Resident:

**B6**

**B6**

**Membranes**

---

**Comment:**

**Sclera**

**Comments:**

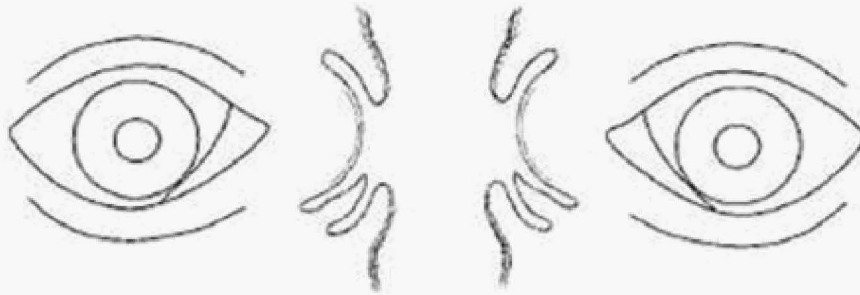
---

**Comment: hyperemia**

**Conjunctiva**

**Comment:**

---



**B6**

**B6**

OD

Exam

OS

*Comment:*

Vitreous

*Comment:*

---

*Comment: wnl*

Fundus

*Comment: wnl*

---

**B6**

# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**Patient**

**Name:**

B6

**Signalment:**

B6 Years Old White Male Boxer

**Owner**

**Name:**

B6

**Address:**

**Patient ID:**

B6

**Contact Clinician:**

B6, DVM, MPH

**Alternate Clinician:**

B6, DVM, PhD, DECVS,

**Student:**

B6 V19

### Discharge Instructions

**Admit Date:**

B6 9:06:06 AM

**Discharge Date:**

B6



Thank you for entrusting us with B6 care. He is a very sweet boy!

---

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---

Case: B6

Owner: B6

Discharge Instructions

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

**B6** Male  
Canine Boxer White  
B6

**OCULAR EXAMINATION**

Date: B6 9/06/05 AM  
Chief complaint: B6

**B6**

**B6**

**B6**

**B6**

### Discharge Instructions

**Patient**

Name: B6  
Species: Canine  
White Male Boxer  
Birthdate: B6

**Owner**

Name: B6  
Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 V20

Date: B6

**Diagnoses:**

Dilated cardiomyopathy (DCM)

**Case summary:**

Thank you for bringing B6 in today for re-evaluation of his heart - he is such a sweet boy! B6's echocardiogram today showed a large left ventricle with decreased contractile function (as previously seen), and further enlargement of his left atrium, one of the upper chambers of his heart. Since B6 has some progressive heart enlargement, we are going to add a new medication and have you take another medication home to have on hand in case of trouble breathing (see below).

**Monitoring at home:**

- We would like you to monitor B6's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs will have a breathing rate at rest of less than 35 to 40 breaths per minute.
- In the case of an increase in breathing rate or effort, you can give B6 a dose of B6. After giving the dose of B6 please call Tufts or your primary care veterinarian.
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

**Recommended Medications:**

# B6

## **Diet suggestions:**

Please continue **B6** current diet.

## **Exercise Recommendations:**

**B6** can continue his walks as long as he does not lag behind or seem tired after. We generally recommend avoiding vigorous high intensity activity as this could worsen strain on the heart or cause arrhythmias.

## **Recheck Visits:**

Recheck blood work is recommended to check kidney values and electrolytes 2-3 weeks after starting enalapril. This can be done here as a technician appointment or at your primary care veterinarian.

A recheck with cardiology has been scheduled for **B6** or **B6** at 2:30 PM. This is his next appointment for the DOM study.

Please call 508-887-4745 to schedule an appointment with dermatology if **B6** skin on his face does not improve. You could also try an e-collar to prevent him from scratching at his face.

Thank you for entrusting us with **B6** care. He is such a good boy! Please contact our Cardiology liaison at (508) 887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: **B6**

Owner: **B6**

Discharge Instructions

B6

Patient ID: B6  
B6 Canine  
B6 Years Old Male Boxer  
White

**Cardiology Appointment Report**

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6

**Presenting Complaint:**

B6 presents for 4-month recheck following diagnosis of DCM following B6 correction and B6 in October. Per O is doing very well at home, no concerns related to his DCM.

**Concurrent Diseases:**

B6

**General Medical History:**

B6

**Diet and Supplements:**

RC dry + Hills Science Diet canned (chicken stew)  
No supplements after discontinuing Taurine in October/November

**Cardiovascular History:**

Prior CHF diagnosis? No  
Prior heart murmur? Grade I/M  
Prior ATE? No



Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Yes, resting RR 25 or less

Cough? None since before the GDV sx

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No, goes on several mile walks daily

**Current Medications Pertinent to CV System:**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Bradycardia

- Sinus arrhythmia
- Premature beats

- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent

- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

-DCM, r/o primary cardiomyopathy, diet induced

**B6**

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: DCM study; Recommend Derm Appt

**Echocardiogram Findings:**

**B6**

**Assessment and recommendations:**

Echocardiogram reveals persistent DCM changes with progression in LA size. Recommend having

**B6** hand in case of increased RR/RE or cough. Recommend starting **B6**

increase to BID if well tolerated). Recheck renal values and electrolytes 2-3 weeks after starting **B6**

**B6** Recommend dermatology consultation for facial skin issues.

Recheck echo and blood work for study in 3 months, or sooner if clinical signs occur.

**Final Diagnosis:**

DCM-like changes (r/o primary DCM v ARVC with DCM phenotype v dietary)

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia  IIIa
- Ib  IIIb
- II

ACVIM Classification:

- A  C
- B1  D
- B2

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
Ao Diam		cm
LA Diam		cm
LA/Ao		
TAPSE	cm	
EPSS	cm	

M-Mode Normalized

IVSdN	B6	(0.290 - 0.520)
LVIDdN		(1.350 - 1.730) !
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710) !
LVIDsN		(0.790 - 1.140) !
LVPWsN		(0.530 - 0.780) !
Ao Diam N		(0.680 - 0.890) !
LA Diam N		(0.640 - 0.900) !

2D

SALA	B6	cm
------	----	----

Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LV Major	cm
LV Minor	cm
Sphericity Index	
LVLd LAX	cm
LVA d LAX	cm
LVEDV A-L LAX	ml
LVEDV MOD LAX	ml
LVLs LAX	cm
LVA s LAX	cm
LVESV A-L LAX	ml
LVESV MOD LAX	ml
HR	BPM
EF A-L LAX	%
LVEF MOD LAX	%
SV A-L LAX	ml
SV MOD LAX	ml
CO A-L LAX	l/min
CO MOD LAX	l/min
LVLd A4C	cm
LVEDV MOD A4C	ml
LVLs A4C	cm
LVESV MOD A4C	ml
LVEF MOD A4C	%
SV MOD A4C	ml

**B6**

<u>Doppler</u>	
E'	m/s
A'	m/s
S'	m/s
EA SUM	m/s
AV Vmax	m/s
AV maxPG	mmHg
PV Vmax	m/s
PV maxPG	mmHg

**B6**

**From:** Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>  
**To:** Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David  
**Sent:** 8/27/2018 1:37:23 PM  
**Subject:** DCM cases 8/27/2018 as of 9:30 AM  
**Attachments:** Acana Meadowlands Poultry and Freshwater Fish Grain Free Dog Food: [B6] - EON-363409; Acana Pork and Squash Singles: [B6] - EON-363325; Fromm Beef grain free: [B6]; EON-363316; Kibbles and Bits Chefs Choice Bistro AND Homestyle: [B6] [B6] - EON-363453; Petcurean Limited Ingredient Salmon Dry: Lisa Freeman - EON-363365

For EON-363453(2054237)—assuming “titer” for “tiger”

EON-363365 (2054221)-low taurine; boxer

EON-363325-Acana sent on Friday—person from Taurine Defic. [B5]

[B5]

David Rotstein, DVM, MPVM, Dipl. ACVP  
CVM Vet-LIRN Liaison  
CVM OSC/DC/CERT  
7519 Standish Place  
240-506-6763 (BB)



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## Client Diet History Form

Submitted: 06/24/2017

### PET INFORMATION

**Pet Name** B6  
**Pet Last Name**  
**Pet Species/Breed** B6  
**Pet's Color** Brindle  
**Pet's Birthdate** B6  
**Pet's Sex** Male  
**Spayed or Neutered?** Yes

### CLIENT INFORMATION

**Client Name**  
**Client Address**  
**Client Phone**  
**Client Email**  
**Co-Owner Name**  
**Co-Owner Phone**  
**Co-Owner Email**

B6

### CONSULT INFORMATION

**Type of Consult** Phone  
**HCD Being Requested?** No

### Reasons & Goals for Consult

B6 has been recently discovered to have some cardiomyopathy and low taurine levels. He has food sensitivities, so he's been on a limited ingredient diet for over a year... The cardiologist is hoping his heart presentation is mostly due to his taurine deficiency and that we can resolve it with some supplements and a balanced diet. I need help with finding a food for him that doesn't contain poultry (and possible fish).

### Attachments

### PRIMARY VETERINARIAN INFORMATION

**rDVM Name**  
**rDVM Clinic** B6  
**rDVM Phone**  
**rDVM Fax**  
**rDVM Email** B6

**Diet History Form**

---

**Diet History Form**

**Agree to Terms**

**Date Submitted**

06/24/2017

**Information to Gather**

**About You, Your Veterinarian(s) and Your Pet**

**What type of appointment are you requesting?**

Phone

**Has your pet been seen at Tufts in the last 6 months?**

No

**About the Pet Owner**

**Pet owner name**

B6

**Pet owner email**

B6

**Address**

B6

**Preferred Phone**

B6

**Preferred Phone Type**

Mobile

**Alternate Phone**

**Is there another phone number you would like to give us in case we can't reach you at one of the above?**

No

**Spouse/partner/co-owner's name**

B6

**Spouse/partner/co-owner's email**

**Spouse/partner/co-owner's phone**

**Your Pet's Primary Veterinarian**

**Primary veterinarian**

B6

## Diet History Form

---

Primary veterinarian's clinic name

B6

Primary veterinarian's clinic phone

B6

Primary veterinarian's clinic fax

Primary veterinarian's clinic email

B6

Is your pet currently being (or has your pet been) seen by any other veterinarians in relation to her/his current health issues or other health issues that you'd like to discuss with us?

Yes

### Information About Your Second Veterinarian

Name of 2nd veterinarian

B6

Clinic name of 2nd veterinarian

B6

Phone for 2nd veterinarian's clinic

B6

Fax for 2nd veterinarian's clinic

Email for 2nd veterinarian's clinic

B6

What is this second veterinarian's role in your pet's care?

Cardiologist

Should this 2nd veterinarian receive a copy of any written reports that result from working with our service?

Yes

Is your pet being seen by a 3rd veterinarian?

No

### About Your Pet

Pet's name

B6

What is your pet's species?

Dog

Breed

Boxer

Color

Brindle



## Diet History Form

**Sex**

Male

**Spayed/neutered?**

Yes

**Do you know your pet's exact birthdate?**

Yes

**Pet's Birthdate**

B6

**What is your pet's current weight**

69

**Pounds or kilograms?**

lbs

**Has your pet gained or lost weight within the past 6 months?**

Stayed the same

**Which category best describes your pet?**

ideal weight

**Reason and goals for consultation**

B6 has been recently discovered to have some cardiomyopathy and low taurine levels. He has food sensitivities, so he's been on a limited ingredient diet for over a year... The cardiologist is hoping his heart presentation is mostly due to his taurine deficiency and that we can resolve it with some supplements and a balanced diet. I need help with finding a food for him that doesn't contain poultry (and possible fish).

### Details About Your Pet's Habits

**Questions about your pet**

**Is your pet housed:**

Indoors

**Please describe your pet's activity level:**

High

**Do you have any other pets?**

Yes

**What are your other pets?**

**Species How many?**

Dog 1

**Do any pets have access to other pets' food?**

No

**How many people (including yourself) live in your household?**

4

## Diet History Form

### Who feeds your pet?

All of us take turns

### How many times per day do you feed your pet?

Three

### Does your pet finish all food that is offered?

It depends

### Depends on what?

What we're offering. He won't finish Salmon - he'll walk away from it. He does like any beef/bison/venison food offered.

### Does your pet have any difficulty with the following?

### Does your pet have any of the following?

- Food allergies
- Environmental allergies

### Please explain about your pet's conditions

**B6** was on a mixed protein commercial food as a puppy. He was underweight. We saw a vet in **B6** for an emergency problem when he was about 6 months old who (as an aside) suggested that he was 10-20% smaller than he should be. He suggested looking into a food that doesn't contain poultry to see if maybe he had some sort of allergy to it. We switched to a salmon limited ingredient food and he gained 10# in two months, so we stayed on that until very recently. He was fickle about eating it - I mentioned that to our trainer. She suggested that we see a kinesiologist to assess if he had developed an allergy to salmon too. She was the one who suggested we switch to food that was based in beef/bison/boar/venison (hooved animals). **B6** has been on that for about 3 weeks.

He ALSO has an allergy to bees. He tends to eat them off of flowers. They sting his mouth and his face blows up like a balloon. He was on a daily dose of benadryl last spring/summer and fall. This spring, we haven't had an instance yet, but I did notice he was very affected by the pollen (runny eyes w/ discharge and lower energy)

### Have you observed any changes in any of the following?

### Have you made any recent changes in diet (last 4 weeks)?

Yes

### Please explain the changes in your pet's diet

See above

### Your Pet's Diet

### Do you feed your pet DRY (e.g., kibble) pet food?

Yes

### Please list each kind of DRY petfood individually

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Petcurean - Go! Limited ingredient	2 cups	1-3 times a day	April 2016

**Diet History Form**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Petcurean - Fresh Now	2 cups	1-3 times a day (we alternate)	December 2015-April 2016, and again June 2017-present
Stella & Chewy's Raw	8 oz patty	1x day (sometimes)	June 2017

**Do you feed your pet WET (e.g., canned or pouched) pet food?**  
No

**Do you feed your pet HOME-COOKED food?**  
No

**Do you feed your pet TREATS?**  
Yes

**Please list each kind of TREAT individually**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Lean Treats	1-2 chunks	1-5 times a day	December 2015
Wellness Core	2-5 pieces	1-3 times a day (Alternating with above)	June 2017

**Is there any OTHER kind of food you feed your pet?**  
Yes

**Please list each kind of OTHER pet food individually**

Food, brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Bread	small piece	1x a day	April 2016
Banana	small piece	occasionally	December 2016

**Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, herbs, or any other supplements)?**  
Yes

**Please list any dietary supplements**

Product Name	Amount	Frequency
Taurine	1 gram	2-3 times a day (Started 6/19/2017)
L-Carnitine	2 grams	2-3 times a day (Started 6/19/2017)

**Is your pet receiving any medications?**  
Yes

**Please list your pet's medications**

Drug Name	Dosage
B6	2x a day (started on 6/19/2017)

**Do you use food (e.g., Pill Pockets, cheese, bread, peanut butter, etc.) to administer medications?**  
Yes

**Lists foods used to administer medication**

## Diet History Form

---

**What kind?**

**Amount? How often?**

See above - Lean treats, bread, banana

**Regarding commercial diets (pet foods and treats not made in your home) your pet may have received in the past, please select the following statement that is most accurate:**

I have never fed other commercial diets to my pet

### Home-cooked Diets

**Is a home-cooked diet being requested? (Please note that this option is only available for phone or in-person consults, not for consults directly with veterinarians.)**

No

### Medical Records & Test Results

#### Requested Items

- Complete blood count, biochemistry profile and urinalysis
- Additional relevant diagnostics (e.g., urine culture, T4, ultrasound reports)
- Last 6 months' medical records or as appropriate (all consults)

**Do you have any of the above in electronic format?**

No

**Would you like to upload and attach anything else to this form?**

SOAP - Cardiology

Mar 01, 2018

<b>B6</b>	United States	Patient:	<b>B6</b>	DOB:	<b>B6</b>
		Species:	Canine	Age:	
Acc. No: 223669		Breed:	Boxer	Sex:	Neutered Male
Phone: Primary	<b>B6</b>	Color:	brindle	Tag:	
		Doctor:	<b>B6</b>		

Weight: 72.9 lbs.

Prior Medical History

As of **B6**

- Dilated cardiomyopathy, suspect secondary to taurine-deficiency given improvement in appearance with diet change/supplementation
- currently moderate left atrial enlargement,
- Borderline pulmonary hypertension
- Mildly elevated left and right ventricular outflow tract velocities



MEDICATIONS:

**B6**

Presenting Complaint

Recheck echo

Current Medical History

General Complaints: Doing well at home, good energy, good appetite

Coughing? No

Sneezing? No

Vomiting? No

Polyuria No

Polydipsia No

Diarrhea? No

Diet?: RC Boxer

Appetite: Increased

Any collapses or seizures? No

Current Medications

Do you need any refills today?: No  
First Cardiac Evaluation?: No  
Referral Radiographs?: No

---

### Physical Exam

**B6**

---

### Echocardiogram

Two Dimensional Description **B6** was very nervous and tense on the echo is ble- a little better when we had **B6** leave the exam room. Able to do the study unassisted with two holders.

The left atrium appears mildly to moderately enlarged (appearance of enlargement and LA/Ao increased by small aortic root). The mitral valve appears normal. The left ventricular chamber appears mildly dilated with walls at lower end of normal. Wall motion appears slightly depressed (especially for such a nervous dog) and somewhat asynchronous. The aortic root appears mildly small (breed variant) with normal aortic valve. The right atrium appears mildly dilated. The tricuspid valve appears normal. The right ventricular chamber is normal. The pulmonary artery and pulmonic valve are normal.

**B6**

**B6**

**ECHOCARDIOGRAPHIC DIAGNOSIS:**

**ECHOCARDIOGRAPHIC DIAGNOSIS:**

-Hx Dilated cardiomyopathy dx: **B6** suspect secondary to taurine-deficiency given improvement in appearance with diet change/supplementation (currently mild to moderate left atrial enlargement, slight decreased systolic function as of **B6**)  
-Hx Borderline pulmonary hypertension  
-Mildly elevated left and right ventricular outflow tract velocities.

**Comparison to previous studies:**

There has been continued improvement in cardiac appearance (although still not completely normal). Left atrial size now similar to 2016 echo (prior to dx with DCM- when echo done for asymptomatic murmur and systolic function was normal, so this may be **B6** "normal" value)

**B6**

**Final Assessment**

**Final Diagnosis:**

-Hx Dilated cardiomyopathy dx: **B6** suspect secondary to taurine-deficiency given improvement in appearance with diet change/supplementation (currently mild to moderate left atrial enlargement, slight decreased systolic function as of **B6**)  
-Hx Borderline pulmonary hypertension  
-Mildly elevated left and right ventricular outflow tract velocities.

**Diagnostic Recommendations:**

No further cardiac testing currently recommended

**Therapeutic Recommendations:**

Continue current medications

**B6**

**FollowUp:**

Recheck echo scheduled for October 4th at 1:30 pm (recommended 6-8 month recheck)

Consulting Cardiologist: **B6** DVM, DACVIM (cardiology)

**B6**

**B6**

Pet: **B6**  
DOB: **B6**  
Breed: Boxer  
Sex: M  
Color: brindle

Cummings Veterinary Medical Center at Tuft's University  
Behavior Service  
55 Willard St  
North Grafton, Massachusetts, United States  
01536

Visit Date: **B6**

Dear Drs. **B6** and Freeman,

Please see the accompanying cardiology report for our mutual patient, **B6**. I am thrilled that **B6**'s heart has improved since changing his diet and supplementing taurine and carnitine! He is such a nice dog with such a nice family, and it was wonderful to be able to give them some good news. Thank you for the referral and your continued support of **B6** Jr. Please contact me if you need any more information regarding **B6**.

Sincerely,

**B6**



B6

SOAP - Cardiology

B6

B6

Patient: B6  
Species: Canine  
Breed: Boxer  
Color: brindle  
Doctor: B6

DOB: B6  
Age: B6  
Sex: M  
Tag:

Acc. No: 223689  
Phone: Wife cell B6

Weight: 75.3 lbs.

Prior Medical History

- As of B6
- Dilated cardiomyopathy (severe), r/o idiopathic, secondary to taurine-deficiency, myocarditis, other
- Borderline pulmonary hypertension
- Mildly elevated left ventricular outflow tract velocity (dx B6)
- Normal sinus arrhythmia with no ventricular ectopy

Diagnostics: B6  
Taurine: B6

B6

MEDICATIONS:

B6

Presenting Complaint

Recheck echo

Current Medical History

General Complaints: Doing ok at home, O is concerned that he is becoming a finicky eater again. Currently eating RC boxer and O thinks this is the longest he has gone liking/eating the same food. Will eat some treats, but is also not as interested in PB pill pockets - possibly causes stomach upset. Loose stools but not diarrhea.

Coughing?: No  
Sneezing?: No  
Vomiting: No

From: **B6**

Fax: **B6**

To:

Fax: **B6**

Page 5 of 6 **B6** 11:16 AM

Polyuria: No  
Polydipsia: No  
Diarrhea?: No  
Diet?: RC Boxer (had nutrition consult with Dr. Freeman at Tufts)  
Appetite: Normal  
Any collapses or seizures?: No

**Current Medications**

Do you need any refills today?: No  
First Cardiac Evaluation?: No  
Referral Radiographs?: No

**Physical Exam**

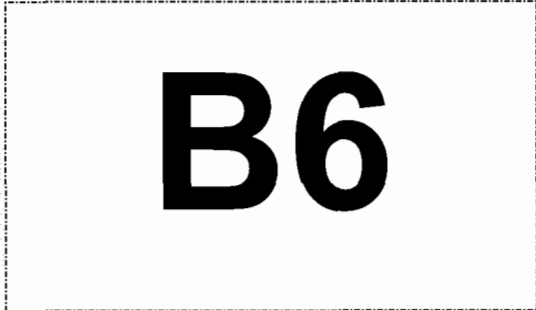
**B6**

**Echocardiogram**

Two Dimensional Description: **B6** was nervous, but good on the echo table and able to do the study unsedated with two holders.

The left atrium appears moderately enlarged (appearance of enlargement and LA/Ao increased by small aortic root). The mitral valve appears normal. The left ventricular chamber is moderately dilated with mildly thin walls. Wall motion appears mildly depressed and somewhat asynchronous. The aortic root appears mildly small (breed variant) with normal aortic valve. The right atrium appears mildly dilated. The tricuspid valve appears normal. The right ventricular chamber is normal. The pulmonary artery and pulmonary valve are normal.

**B6**



**ECHOCARDIOGRAPHIC DIAGNOSIS:**

**ECHOCARDIOGRAPHIC DIAGNOSIS:**

- Dilated cardiomyopathy, suspect secondary to taurine-deficiency given improvement in appearance with diet change/supplementation (currently moderate left atrial enlargement).
- Borderline pulmonary hypertension
- Mildly elevated left and right ventricular outflow tract velocities

**Comparison to previous studies:**

There has been significant improvement in the cardiac appearance since dx with DCM 2 months ago. All chamber sizes are smaller, there is less MR and TR, and contractility appears improved. LA measurements are fairly similar to the original echo one year ago (for asymptomatic murmur).



**Final Assessment**

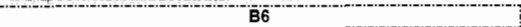
**Final Diagnosis:**

- Dilated cardiomyopathy, suspect secondary to taurine-deficiency given improvement in appearance with diet change/supplementation (currently moderate left atrial enlargement).
- Borderline pulmonary hypertension
- Mildly elevated left and right ventricular outflow tract velocities

**Diagnostic Recommendations:**

No further testing currently recommended.

**Therapeutic Recommendations:**



**Follow-Up:**

Recheck echo 8 months (scheduled for March 1, 2018 at 1:30 pm).

**Consulting Cardiologist:**

**B6** DVM; DACVIM (cardiology)

**Clinical Nutrition Service**

Foster Hospital for Small Animals  
200 Westboro Road  
North Grafton, MA 01536  
Phone: (508) 887-4696 Attn: Nutrition Liaison  
Fax: 508-887-4363  
<http://vetnutrition.tufts.edu/>  
vetnutrition@tufts.edu



**Nutrition Consultation**

Date: 7/7/17 (Phone consultation)

Pet Name: B6 (owner: B6)

Signalment: 1 ½ year old castrated male Boxer

Weight: 69 pounds (31 kg), body condition score 4/9 (ideal), muscle condition score: Normal

Diagnosis/Problems: Dilated cardiomyopathy with low taurine level; possible food sensitivities; bee and environmental allergies

Medications: B6

RDVM: B6

B6

*Recommendations below are based on information obtained from owner and referring veterinarians.*

**Diet History:**

- Current diet: Petcurean Go! Limited Ingredient dry, Petcurean Now Fresh, Stella & Chewy's raw patties, Lean Treats, Wellness Core treats; bread or banana for medication administration. Just started transitioning to Purina Pro Plan Focus Adult Sensitive Skin and Stomach salmon and rice dry based on Dr. B6 recommendations
- Petcurean Now Fresh large breed puppy dry; initially on Iams Smart Puppy Small and Toy Breed dry (8-12 weeks of age), Go Salmon (not finishing food)
- Supplements: Taurine 1000 mg 3 times daily, L-carnitine 2000 mg 2 times daily (NOW or Whole Foods)

**Nutritional Goals**

- Complete and balanced diet
- Adequate calorie intake to maintain ideal body weight (approximately 70 pounds)
- Reduced sodium
- Moderate protein
- Taurine and L-carnitine supplementation
- Omega-3 fatty acid supplementation

**Recommendations:**

- I'm happy that we were able to talk about B6 diet to ensure he's getting optimal nutrition. Nutrition is an integral part of the treatment for a dog with heart disease. This is especially important for B6 because we're suspicious of taurine and/or carnitine deficiencies playing a role in his disease. Hopefully the taurine and carnitine supplementation and a diet we can be more confident in will be helpful for his heart!
- As we discussed, there's a lot of misinformation about pet foods so I'll only be recommending diets that meet all the criteria for being of the highest quality: <http://vetnutrition.tufts.edu/2016/12/questions-you-should-be-asking-about-your-pets-food/>
- My estimate of B6 daily calorie needs is approximately 1700 calories per day (based on the average of 2 cups twice daily that he was getting from the Go Fresh Now dry food). This is an initial estimate to keep him at a weight 70 pounds. However, since every dog is an individual, I'd like to have you weigh him in 2 weeks to be sure he's maintaining his weight. If he's losing weight, you should increase the amount of food and continue to weigh him and if he's gaining weight, you should reduce the amount of food and continue to weigh him. Let me know if you need help with adjusting the amounts.
- The current diet you're feeding (Purina Pro Plan Sensitive Skin and Stomach) is of excellent quality, high in omega-3 fatty acids, and not too high in sodium. Since B6 is not in heart failure, the dietary sodium doesn't

need to be quite as low so I'm comfortable having him continue to eat the Pro Plan (especially since he seems to enjoy it!). However, I'm providing a few other options that are also high in omega-3 fatty acids. Please note the variable calorie density of these foods and adjust the number of cups accordingly to provide our starting point for calories of 1700 calories/day:

Dry Food	Calories/cup	Sodium (mg/100 calories)
Pro Plan Focus sensitive skin & stomach salmon & rice (dry)	447	128
Purina JM (dry)*	408	100
Purina DRM Naturals (dry)*	418	80
Royal Canin Boxer (dry)	335	73
Royal Canin Mobility Support JS (dry)*	324	70

Diets with an asterisk are ones that must be purchased from **B6** or, if not available, from an online pet food store (eg. Chewy.com, Petfooddirect.com) with a prescription or approval from her. The other 2 diets are available over-the-counter

- Make all changes gradually over 5-7 days to avoid gastrointestinal upset.
- We didn't discuss this on our call but I strongly urge you to discontinue the raw patties immediately. There is no evidence of any health benefit of raw meat diets and there are many, many documented risks. In addition, raw meat diets put you, your family, and your dogs at risk for bacterial infections because of high rates of bacterial contamination of raw meat diets.

**Supplements:**

- Unfortunately, there is little regulation of supplements for people or animals (safety, effectiveness, and quality control do not have to be proven for them to be sold), and some of these products may be harmful rather than helpful. Therefore, I am very selective when it comes to recommending specific supplements that have undergone independent quality control testing. Looking for the USP logo or using Consumerlab.com is very helpful for finding products with independent testing of quality.
- Taurine and L-carnitine: Because of his low plasma taurine and the potential for some Boxers to have carnitine deficiency, I support **B6** recommendations for supplementation. Since results of independent testing of taurine and carnitine are not available on Consumerlab, we tested a number of products in 2009. Although I don't know that the results are still true 8 years later, the products that did well in our testing were:
  - o Taurine: Solgar, Twinlab, Swanson, NOW, Country Life, and GNC.
  - o L-carnitine: Solgar, Country Life, Jarrow. Although we did not test the liquid L-carnitine from Solgar, I think that would be a reasonable one to try if it's easier to get him to take it as a liquid.
  - o The doses that you're giving Mo are appropriate.
  - o We have some additional information on these supplements on our HeartSmart website: <http://vet.tufts.edu/heartsmart/diet/important-nutrients-for-pets-with-heart-disease/>
- Omega-3 fatty acids: Fish oil, which is high in the omega-3 fatty acids, EPA and DHA, can have modest benefits in reducing inflammation, maintaining muscle mass, reducing abnormal heart rhythms, and improving appetite. The diets above all contain sufficient omega-3 fatty acids but if we do need to use a supplement in the future, we have brands with independent testing on our HeartSmart website: [http://vet.tufts.edu/wp-content/uploads/omega-3\\_supplementation.pdf](http://vet.tufts.edu/wp-content/uploads/omega-3_supplementation.pdf)

**Treats:**

- Some good treat options
  - Hill's Ideal Balance Breakfast Medleys with Country Chicken & Egg Dog Treat
  - Hill's Ideal Balance Oven-Baked Naturals with Chicken & Apples Dog Treat
  - Science Diet Grain Free treat with Chicken & Apples Dog Treat
  - Hill's Ideal Balance Soft-Baked Naturals with Chicken & Carrots Dog Treat
  - Hill's Science Diet Baked Light Biscuits with Real Chicken Small Dog Treat
  - Royal Canin Veterinary Diets Original Dog Treats
  - Frosted Mini Wheats (original)
  - Fresh vegetables/fruit – eg. carrots, green beans, apple, orange, bananas, berries (except ones listed below)
- Avoid macadamia nuts, avocado, garlic, onions, grapes, raisins, and other foods known to be toxic to dogs.

**Medication Administration**

- Dog tablet sized Greenies Pill Pockets are relatively low in sodium (just be sure to avoid Duck and Pea flavor which is high in sodium) but try to limit the total to 4-5/day
- You can also insert medications into one of the following foods:
  - Low-sodium canned pet food (I can give you some specific canned foods if you want to try this option)
  - Mini marshmallows
  - Fruit such as banana, orange, melon, or berries (avoid grapes)
  - Peanut butter (labeled as "no salt added")
  - Pro Plan Additions Puree (Chicken and berries or chicken and pumpkin). This also works well for some dogs to give them pills

**Follow Up:**

- Monitor body weight to ensure he stays at an ideal weight of about 70 pounds (it may take some adjustment of the new food).
- Please let me know how things go at [B6] recheck cardiology evaluation at the end of August. Hopefully, there will be an improvement in his heart function!

Please contact me if you have any questions about [B6] nutritional plan.

Sincerely,

Lisa M. Freeman, DVM, PhD, DACVN  
Professor, Clinical Nutrition  
508-887-4696 (telephone)  
vetnutrition@tufts.edu (email)  
[www.petfoodology.org](http://www.petfoodology.org) (FAQs and other resources)

Client:  
Address:

**B6**

**All Medical Records**

Patient: **B6**  
Breed: Great Dane  
DOB: **B6**

Species: Canine  
Sex: Female  
(Spayed)

Home Phone: **B6**  
Work Phone:  
Cell Phone: **B6**

**Referring Information**

**B6**

Client: **B6**  
Patient:

**Initial Complaint:**

Scanned Record

**Initial Complaint:**

New - Rush - murmur

SOAP Text **B6** 2:50PM - Rush, John

**Disposition/Recommendations**

Client:  
Patient:

**B6**

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Client: **B6**  
Patient:

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

Client: **B6**  
Veterinarian:  
Patient ID: **B6**  
Visit ID:

Patient:	<b>B6</b>
Species:	Canine
Breed:	Great Dane
Sex:	Female (Spayed)
Age:	<b>B6</b> Years Old

**Lab Results Report**

**Accession ID:**

Test	Results	Reference Range	Units
------	---------	-----------------	-------



3/21

**B6**

Printed Monday, October 08, 2018

Client: **B6**  
Patient:

rDVM: **B6** AH hx 5/21/15-7/17/18

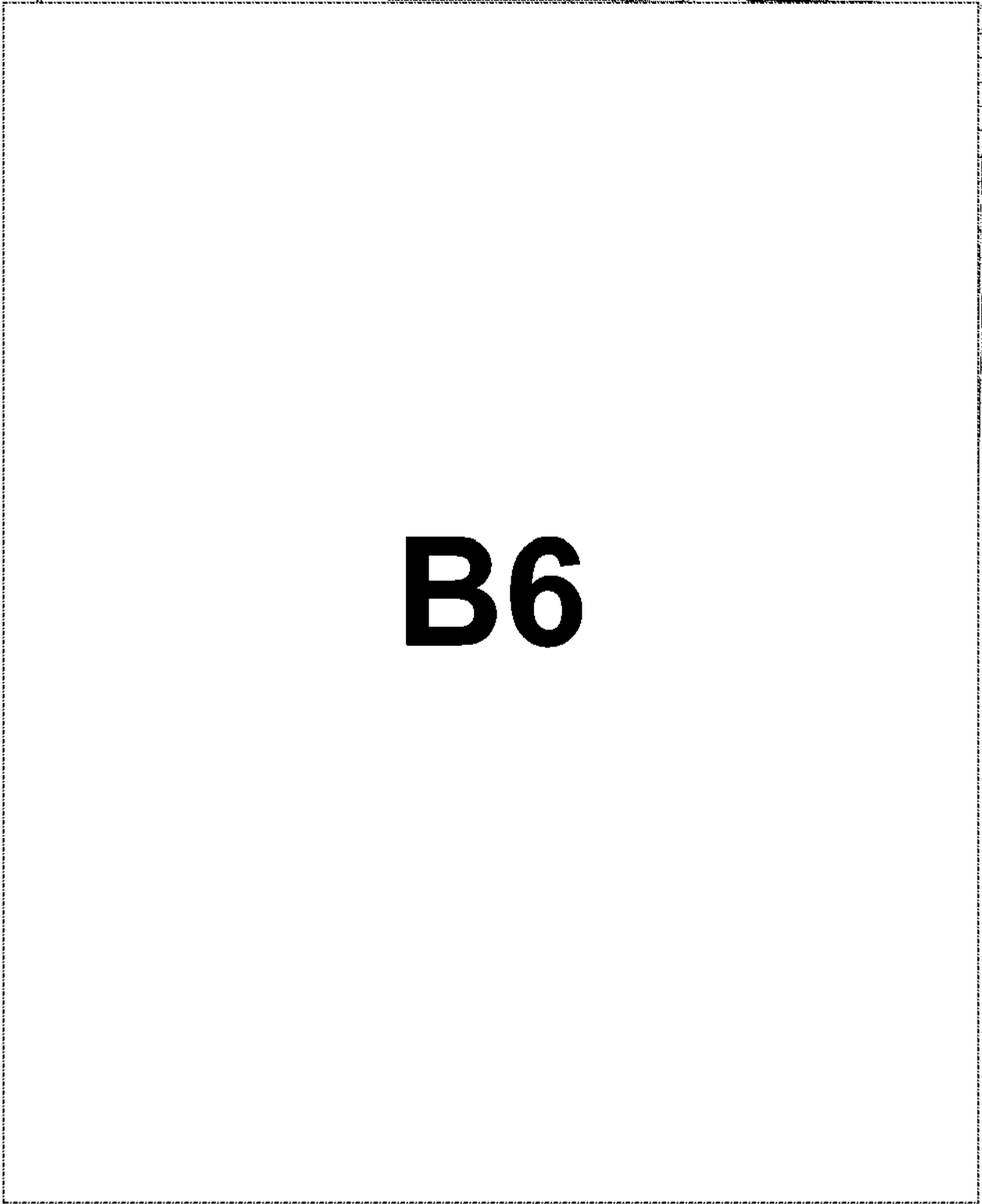
07/17/2018 05:44

**B6**

**B6**

PAGE 02/05

**B6**



Client:  
Patient:

**B6**

rDVM **B6** AH hx 5/21/15-7/17/18

07/17/2018 05:44

**B6**

**B6**

PAGE 03/06

**B6**

MEDICAL RECORD

**B6**



Client: **B6**  
Patient: **B6**

rDVM **B6** AH hx 5/21/15-7/17/18

07/17/2018 05:44 **B6**

**B6**

PAGE 05/06

Client: **B6**  
Patient Name: **B6**  
Species: Canine  
Breed: Great Dane

Gender: Female, Spayed  
Weight:  
Age: 3 Years  
Doctor: **B6**

**B6**

Test	Results	Reference interval	LOW	NORMAL	HIGH
<b>B6</b>					

7/17/18  
3:02 PM  
Negative  
Negative  
Negative  
Negative

Printed: July 17, 2018 3:02 PM

Page 1 of 1

**B6**

Client: **B6**  
Patient: **B6**

rDVM **B6** AH bx 5/21/15-7/17/18

07/17/2018 05:44

**B6**

**B6**

PAGE 05/05

Client: **B6**  
Patient Name: **B6**  
Species: Canine  
Breed: Great Dane

Gender: Female/Spayed  
Weight:  
Age: 2 Years  
Doctor: **B6**

**B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
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**B6**

**B6**

Client: **B6**  
Patient: **B6**

**B6** CARDIOPET proBNP 10/4/18

**B6**

Client **B6** Patient **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: GREAT\_DANE  
Gender: FEMALE SPAYED  
Age: 3Y

Date: 10/04/2018  
Requisition #: 434696  
Accession #: **B6**  
Ordered by: RUSH, JOHN

**B6**  
TUFTS UNIVERSITY  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536-1828  
508-839-5353  
Account#00733

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Unit	Comment	Stat
CARDIOPET I proBNP - CANINE	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

Comments:

1. Cardiopet proBNP >1300pmol/L

**B6**

Please note: Complete interpretive comments for all concentrations of Cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client:  
Patient:

**B6**

**Vitals Results**

**B6** 2:50:15 PM  
3:33:56 PM

Weight (kg)  
Sedation

**B6**

**Patient History**

**B6** 03:46 PM Appointment  
04:46 PM Appointment  
02:28 PM UserForm  
02:33 PM UserForm  
02:49 PM Purchase  
02:49 PM Purchase  
02:50 PM Vitals  
02:50 PM Treatment  
02:59 PM UserForm  
03:33 PM Vitals  
03:34 PM Purchase  
04:08 PM Purchase  
04:08 PM Purchase  
04:10 PM Prescription  
04:10 PM Purchase  
04:11 PM Purchase  
04:13 PM Purchase

**B6**



**B6**

**B6**

Female (Spayed)

Canine Great Dane Black

Patient ID: B6

## **STANDARD CONSENT FORM**

---

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$.50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name:  Date:

Owner's address:

**If the individual admitting the animal is someone other than the legal owner,  
please complete the portion below:**

The owner of the animal  has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above

\_\_\_\_\_  
Authorized Agent - Please Print

\_\_\_\_\_  
Agent's Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Date

\_\_\_\_\_  
Town/City                      State                      Zip

## Discharge Instructions

**Patient**

Name: B6

Species: Canine

Black Female (Spayed) Great Dane

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:** John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 M19

Admit Date: B6 2:27:50 PM

Discharge Date: B6

**Diagnoses:** Dilated cardiomyopathy (DCM) with mitral regurgitation**Clinical Findings:**

Thank you for bringing B6 to Tufts today. On presentation B6 was bright, alert, and very nervous. We had to give some sedation to B6 for her exam today, she may be a sleepy when she gets home today. She has normal lung sounds and was panting. Her heart rate was increased (likely excitement), an extra heart sound and grade I/VI heart murmur on the left side and a grade II/VI murmur on the right was heard. On echocardiogram (ultrasound of the heart), the left ventricle is dilated with thickened walls, there is decreased ability of the heart to contract, the left atrium is moderately to markedly enlarged, and there is a moderate amount of mitral and tricuspid regurgitation. No arrhythmias were seen on ECG today.

B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life threatening and also require medical management. The heart enlargement can progress to the point of congestive heart failure, meaning that fluid is backing up into the lungs or belly. Unfortunately this is a progressive disease and we usually cannot reverse the changes to the heart muscle, however we can use cardiac medications and some changes to the diet to help delay the onset of heart failure.

Today we performed an NT-proBNP test, BNP is produced when the heart muscles are stretched. We have also checked her taurine levels today, because of the association with the diets that she is on. These results are pending and we will give you a call when they are in. The BNP should be back in 1-2 days; the taurine often takes 10-12 days - so if you have not heard from us in about 12 days then please call.

### Monitoring at Home:

We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest.

In general, most dogs have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal. If you notice fast or labored breathing then a chest x-ray should be performed.

We want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

### Diet Suggestions:

Today we discussed the fact that there seem to be a relationship between grain free diet, diets with exotic protein sources, and DCM. We recommend switching from a grain free diet. At this moment we are unsure of the cause of the connection, some studies have indicated low taurine levels in the food. If taurine is the cause, there is potential for some reversal of her heart disease. We have checked her taurine levels today, and results are pending. If results are low, supplementation long term may be required.

### Some Diet Change Recommendations

#### Canned Options

Hills Science Diet Adult Beef & Barely Entree

Hills Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrots & Spinach Stew

#### Dry Options

Royal Canin Early Cardiac

Purina Pro Plan Adult Weight Management

A sheet that has suggestions for low sodium, heart healthy, treats and diets can also be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

Here is a link to a blog by our nutritionist with more information about the association between diet and DCM on Petiodology.

"A broken heart risk of heart disease in boutique or grain free diets and exotic ingredients"

<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>

If it is possible for you to bring a sample of her food to us for analyzing and reporting to the FDA.

### Exercise Recommendations:

B6 can continue with her normal activity level, we recommend that she not exercise to the point of exhaustion.

### Recommended Medications:

# B6

**Recheck Visits:** A recheck echocardiogram is recommended in 3-4 months. At this time we will reassess her heart disease and changes in medication or additional medications may be required. We gave you a prescription for B6 to give before the visit - this may calm her down just a bit and we might be able to get away without sedation. Give the B6 at home on a trial at home to see the response; if good (quieter, not more excitable) then give a dose the night before and a dose (2 capsules) the morning of the next visit.

Thank you for entrusting us with **B6** care. Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: **B6**

Owner: **B6**

Discharge Instructions

**B6**

Patient ID: B6  
B6 Canine  
B6 Years Old Female (Spayed) Great Dane  
Black

**Cardiology Appointment Report**

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (primary)

**B6**

**Cardiology Resident:**

B6

**Cardiology Technician:**

**B6**

Student: B6 V19

**Presenting Complaint:** Murmur II/VI

First heard B6, zero change in behavior, has always been happy and healthy. No other concerns.

**Concurrent Diseases:** No other diseases

**General Medical History:**

B6

**Diet and Supplements:**

Acana, Fromm, dry food, Kongs with peanut butter, carrots  
no supplements

**Cardiovascular History:**

Prior CHF diagnosis? N  
Prior heart murmur? Y  
Prior ATE? N  
Prior arrhythmia? N  
Monitoring respiratory rate and effort at home? N  
Cough? N  
Shortness of breath or difficulty breathing? N  
Syncope or collapse? N  
Sudden onset lameness? N  
Exercise intolerance? N

**Current Medications Pertinent to CV System:**

No medications

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**B6**

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Mild ascites
- Marked ascites

Abdominal distension

**Problems:**

Hx: Murmur II/VI (rDVM)

**Differential Diagnoses:**

Valvular disease (dysplasia vs degenerative) vs pulmonic stenosis vs aortic stenosis vs DCM

**Diagnostic plan:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Echocardiogram    | <input type="checkbox"/> Dialysis profile     |
| <input checked="" type="checkbox"/> Chemistry profile | <input type="checkbox"/> Thoracic radiographs |
| <input type="checkbox"/> ECG                          | <input type="checkbox"/> NT-proBNP            |
| <input type="checkbox"/> Renal profile                | <input type="checkbox"/> Troponin I           |
| <input type="checkbox"/> Blood pressure               | <input type="checkbox"/> Other tests:         |

**Echocardiogram Findings:**

**B6**

**Assessment and recommendations:**

Echocardiogram findings are consistent with dilated cardiomyopathy. The patient was very tachycardiac during the echocardiogram. Because today's findings are consistent with DCM and the patient is on a grain-free diet, the DCM protocol is recommended. Blood was pulled and submitted for a taurine level today. Discussed with the owner that the patient should not be on a grain free diet anymore and taurine supplementation should be started while we are waiting for the result of the test. **B6** BID should be started. Recheck echocardiogram in 3 months or sooner if the patient develops clinical signs consistent with worsening heart disease such as increased RR/RE, cough, exercise intolerance, or syncope.

**Final Diagnosis:**

- Occult DCM r/o genetic vs. diet related.
- Murmur due to secondary mitral regurgitation

**Heart Failure Classification Score:**

ISACHC Classification:

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |



ACVIM Classification:

- A
- B1
- B2

- C
- D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

%FS

Ao Diam

LA Diam

LA/Ao

Max LA

EPSS

B6

cm  
cm  
cm  
cm  
cm  
cm  
%  
cm  
cm  
cm  
cm  
cm

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

B6

{0.29 - 0.52} !  
{1.35 - 1.73} !  
{0.33 - 0.53}  
{0.43 - 0.71}  
{0.79 - 1.14} !  
{0.53 - 0.78}  
{0.68 - 0.89}  
{0.64 - 0.90} !

2D

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LVld LAX

LVAd LAX

LVEDV A-L LAX

LVEDV MOD LAX

B6

cm  
cm  
cm  
ml  
cm  
cm  
cm  
ml  
%  
%  
ml  
cm  
cm  
ml  
ml

LVLs LAX  
LVA<sub>s</sub> LAX  
LVESV A-L LAX  
LVESV MOD LAX  
HR  
EF A-L LAX  
LVEF MOD LAX  
SV A-L LAX  
SV MOD LAX  
CO A-L LAX  
CO MOD LAX  
LV Diameter  
LV Length

B6

cm  
cm  
ml  
ml  
BPM  
%  
%  
ml  
ml  
l/min  
l/min  
cm  
cm

Doppler

MR Vmax  
MR maxPG  
AV Vmax  
AV maxPG

B6

m/s  
mmHg  
m/s  
mmHg

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**B6** Female (Spayed)  
Canine Great Dane Black  
B6

10/5/2018

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

John Rush DVM, DACVIM (Cardiology), DACVECC

Foster Hospital for Small Animals

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

All Medical Records

Client: [B6]  
Address: [B6]

Patient: [B6]  
Breed: Labrador Retriever  
DOB: [B6]

Species: Canine  
Sex: Male  
(Neutered)

Home Phone: [B6]  
Work Phone: [B6]  
Cell Phone: [B6]

Referring Information

[B6]

Client: [B6]  
Patient: [B6]

Initial Complaint:

Emergency

SOAP Text: [B6] 6:54PM - Clinician, Unassigned FHSA

NEW VISIT (ER)

Doctor: [B6]

Presenting complaint: cardiomegaly

Referral visit? yes

Diagnostics completed prior to visit: CXR (on disk), cardiomegaly, perihilar interstitial pattern

HISTORY:

Signalment: 7yo NM lab

Current history: Presented for cardiomegaly diagnosed at rDVM. Developed cough and went to rDVM on Tuesday, where was put on [B6] with presumptive diagnosis of kennel cough (was boarded last week). Better for about a day. However, last night was coughing a lot and seemed uncomfortable. Restless last night and this morning. Seems to have increased effort breathing. Productive cough this am. Took to rDVM this am where they took chest rads and saw cardiogenic pulmonary edema and cardiomegaly. Non-febrile at that time. Was coughing quite a bit previously at rDVM. No prior c/s/v/d/PU/PD. This past week had decreased appetite and lethargic.

Prior medical history: Hx of kennel cough last year. Was boarded again last week. Other dog doesnt show any signs. Hx of skin allergies. Takes [B6] from June throughout summer. [B6]

Current medications: [B6]

Diet: Purina ProPlan.

Vaccination status/flea & tick preventative use: UTD. Flea/tick and heartworm preventative. Just had heartworm test

Client: **B6**  
Patient: **B6**

(negative)  
Travel history: None

EXAM:

**B6**

C/V: grade IV-V/VI L systolic heart murmur, thready pulse quality, no arrhythmia ausculted

**B6**

ASSESSMENT:

A1: Heart murmur, cardiomegaly, r/o DCM, CHF

A2: **B6**

A3:

PLAN:

TFAST: poor contractility, no pce, 2-3 Blines bilaterally

**B6**

Diagnostics completed: NOVA

Diagnostics pending: CBC/Chem, cardio consult

Client communication:

Told O that gave **B6**. Also told them that he had significant heart murmur today. On rads he has enlarged heart and pulmonary edema. Gave **B6** to draw fluid out of lungs. On triage US also has decreased contractility. This is seen with DCM, which can be seen with genetics and age. Gave **B6** because heart is being inefficient and have fluid back-up into lungs. Told O that should be admitted to hospital, get recheck rads tomorrow, and likely will need repeat of **B6**. Needs cardio consult and an echo-likely wont get until Monday. Also may need oxygen supplementation. O asked if common to see acute signs with DCM. Told O that likely had minor progressive changes culminating in breathing difficulty. O asked if fluid could be related to pneumonia. Told O that unlikely, but also why we do recheck rads (looking to see improvement with **B6** if it is CHF). O asked about treatment for DCM. Informed O that will be **B6** to make them urinate out his retained fluid. O asked if will drink more. Told will need free choice water while on **B6**. O asked what other drugs he might be on. Discussed **B6** which will help

Client: **B6**  
Patient: **B6**

with contractility. Also informed O that with DCM are at risk for arrhythmia, which we havent noticed yet but he may need medication for if he develops it. O asked if drugs might shrink his heart. Told it likely won't make a significant difference in heart size. However, may shrink heart enough to relieve any compression on trachea and may help with relieving cough. rDVM was worried that cardiomegaly was contributing to his coughing. Told O that coughing is likely related to pulmonary edema. O asked about prognosis and told them that the goal is 6 months without another episode of failure. Some dogs may live longer than that, but on average they generally come back in failure in 6 months. O asked when they might be able to take him home, told them likely Monday. O was very distressed about 6 month timeline, was very surprised and upset. Told O that we frequently have dogs live past the 6 months, but it is hard for us to tell beyond that. Told O that he will need to be on medications and have follow-up with Cardio. O asked if he can go back to his normal activity levels. Told O that he will need to have pretty strict exercise restriction and that Cardio will guide them further.

Deposit & estimate status: **B6**

Resuscitation code (if admitting to ICU) **B6**

SOAP approved (DVM to sign) **B6** DVM ECC Resident

SOAP Text **B6** 9:40AM **B6**

7 yo MN LRT

- Presented **B6** for cardiomegally and suspected cardiogenic edema (rDVM rads)
- Coughing since start of the week, initially received doxy b/c boarded at week; not febrile at rDVM

Subjective:

- BAR, friendly, lovely dog

Objective:

**B6**

Assessment:

1. CHF, suspected secondary to DCM

Plan:

1. **B6**
- 2.
- 3.
- 4.
- 5.

Client: **B6**  
Patient: **B6**

---

**B6**

**Initial Complaint:**

New - **B6** - presumed DCM from ICU

SOAP Text **B6** 5:23PM - **B6**

---

**Disposition/Recommendations**

---

Client:  
Patient:

**B6**

---

---



Client: **B6**  
 Patient: **B6**



**Foster Hospital for Small Animals**

55 Willard Street  
 North Grafton, MA 01536  
 (508) 839-5395

Client: **B6**  
 Veterinarian:  
 Patient ID: **B6**  
 Visit ID:

Patient: **B6**  
 Species: Canine  
 Breed: Labrador Retriever  
 Sex: Male (Neutered)  
 Age: **B6** Years Old

**Lab Results Report**

**Nova Full Panel-ICU**      **B6**      58:25 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	<b>B6</b>	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEeef		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	



Client: **B6**  
 Patient: **B6**

FiO2	<b>B6</b>	0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

**Nova Full Panel-ICU**      **B6**      10:02:12 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	<b>B6</b>	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL

**Nova Full Panel-ICU**      **B6**      10:02:28 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO2 (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
NA/K		29 - 40	



Client: **B6**  
 Patient: **B6**

T BILIRUBIN	<b>B6</b>	0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
GGT		0 - 10	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L
COMMENTS (CHEMISTRY)		0 - 0	

**Nova Full Panel-ICU**      **B6**      10:02:07 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
SEGS%	<b>B6</b>	43 - 86	%
L YMPHS%		7 - 47	%
MONOS%		1 - 15	%
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
L YMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
RBC MORPHOLOGY		0 - 0	
No morphologic abnormalities			

**Nova Full Panel-ICU**      **B6**      10:49:36 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl

**Nova Full Panel-ICU**      **B6**      11:42:25 AM      Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	<b>B6</b>	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L



8/27

**B6**

Printed Monday, October 08, 2018

Client: **B6**  
 Patient: **B6**

GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEeef		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

**B6**

**Nova Full Panel-ICU**      **B6**      11:47:47 AM      Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)		0 - 0	g/dl
PCV **	<b>B6</b>	0 - 0	%
TS (FHSA)		0 - 0	g/dl

**Nova Full Panel-ICU**      **B6**      5:24:21 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE		67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN	<b>B6</b>	2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	



**B6**

Client: **B6**  
Patient: **B6**

T BILIRUBIN	<b>B6</b>	0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)		291 - 315	mmol/L
COMMENTS (CHEMISTRY)		0 - 0	
Slight hemolysis; Slight lipemia			

<b>Nova Full Panel-ICU</b>		<b>B6</b>	<b>10/27:27:40 PM</b>	<b>Accession ID:</b>	<b>B6</b>
Test	Results	Reference Range	Units		
TS (FHSA)		0 - 0	g/dl		
PCV **	<b>B6</b>	0 - 0	%		
TS (FHSA)		0 - 0	g/dl		



10/27

**B6**

Printed Monday, October 08, 2018

Client:  
Patient:

**B6**

RDVM

**B6**

animal Hosp referral

**B6**



REFERRAL FORM

TUFTS UNIVERSITY  
Cummings School of Veterinary Medicine  
Henry and Lois Foster Hospital for Small Animals  
Hospital for Large Animals  
200 Westboro Road, Room 30  
North Grafton, MA 01536  
508-852-5500

Service to Which Referred: Emergency Appointment Date: \_\_\_\_\_ Time: \_\_\_\_\_

OWNER INFORMATION

Name: **B6** Daytime Phone: **B6** Evening Phone: \_\_\_\_\_  
Address: **B6** City: **B6** State: **B6** Zip Code: **B6**

PATIENT INFORMATION

Registered Name/ID: **B6**  
Species: dog Breed: Labrador Sex: M Age: 7

CASE HISTORY

Chief Complaint/Provisional Diagnosis: Non-productive cough  
intermittent, worse at night

Vaccination History: Current - rabies, distemper (AD)

Other History: Intermittent cough, worse at night  
No response to antibiotics and steroids

Diagnostic Test Results (if possible, please attach results): None

Are Radiographs enclosed? Yes

Current Therapy & Medication (include dosages): **B6**

Special Comments/Requests: Severe cough R/O infection

REFERRING VETERINARIAN INFORMATION

Name: **B6** Clinic/Hospital: **B6** AM  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

If an animal is being referred which has had lab work done at TVDL, please include copies of the lab results or the TVDL accession number. If you are faxing us information about a clinical case which has been referred, please use fax number (508) 852-7881.

Client:  
Patient:

**B6**

**Taurine Level**

**B6**

**Sample Submission Form**

Amino Acid Laboratory  
University of California, Davis  
1020 Vet Med Bldg  
1089 Veterinary Medicine Drive  
Davis, CA 95616  
Tel: (530)752-5058, Fax: (530)752-4698

UC CUSTOMERS ONLY:  
Non-federal funds ID/Account Number  
to bill: \_\_\_\_\_

<http://www.vetmed.ucdavis.edu/vmb/aal/aal.html>

Vet/Tech Contact: **B6**  
Company Name: Tufts Cummings School of Vet Med - Clinical Pathology Laboratory  
Address: 300 Western Road  
North Grafton, MA 01536  
Email: clinpath@tufts.edu; carlovet@tufts.edu  
Tel: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6** TAX ID: \_\_\_\_\_  
Email: **B6** Tel: **B6**

Patient Name: **B6**  
Species: canine **B6**  
Owner's Name: **B6**

Sample Type:  Plasma  Whole Blood  Urine  Food  Other: \_\_\_\_\_  
Test Items:  Taurine  Complete Amino Acid  Other: \_\_\_\_\_

Taurine Results (nmol/ml)  
Plasma: \_\_\_\_\_ Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

**Reference Ranges (nmol/ml)**

	Plasma		Whole Blood	
	Normal Range	No Known Risk for Taurine Deficiency	Normal Range	No Known Risk for Taurine Deficiency
Cat	80-120	>40	200-600	>200
Dog	60-120	>40	200-350	>150

Client: **B6**  
Patient: **B6**

Amino Acid Labs Taurine result: **B6**

**B6**

Sample Submission Form

Amino Acid Laboratory  
University of California, Davis  
1020 Vet Med Bldg  
1020 Veterinary Medicine Center  
Davis, CA 95616  
Tel: (530)752-5058 Fax: (530)752-4098

FOR CUSTOMERS ONLY  
New Animal Record ID/Account Number  
ID# \_\_\_\_\_

<http://www.vetmed.ucdavis.edu/vetmed/aaal.html>

Vet/Tech Contact: **B6**

Company Name: Tufts Cummings School of Vet Med - Clinical Pathology Laboratory  
Address: 300 Western Road  
North Duxbury, MA 01930

Email: [ahpaul@tufts.edu](mailto:ahpaul@tufts.edu) / [randycow@tufts.edu](mailto:randycow@tufts.edu)  
Tel: 508-547-4500 Fax: 508-549-7500

Billing Contact: **B6** TAX ID: \_\_\_\_\_  
Email: **B6** Tel: **B6**

Patient Name: **B6**  
Species: **B6**  
Owner's Name: **B6**

Sample Type:  Plasma  Whole Blood  Urine  Food  Other \_\_\_\_\_  
Test Name:  Taurine  Complete Amino Acid  Other \_\_\_\_\_

Taurine Results (umol/ml):  
Plasma: \_\_\_\_\_ Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

Reference Ranges (umol/ml)

	Plasma		Whole Blood	
	Normal Range	Lowest Risk for Taurine Deficiency	Normal Range	Lowest Risk for Taurine Deficiency
Cat	80-170	>10	300-600	>200
Dog	60-120	>10	100-150	>150

**B6**

Client: **B6**  
Date: 8/28/2018 9:58 PM  
TAURINE (WHOLE BLOOD)  
Lithium Paper (u)



UNIVERSITY OF CALIFORNIA, DAVIS



STERN CARDIAC GENETICS LABORATORY  
JOHNSA A. STERN, DVM, PhD, DACVIM (CARDIOLOGY)  
ststern@ucdavis.edu August 9, 2018

**FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED  
CARDIOMYOPATHY IN GOLDEN RETRIEVERS**

**Taurine reference ranges for Golden Retrievers:** The Stern Lab suggests that the following (normal reference) ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundland or American Cocker Spaniels. This is primarily based on 3 observations:

- 1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have demonstrated disease reversal after taurine supplementation and diet change.
- 2. Previously published work demonstrates taurine insufficiency in Golden Retrievers.
- 3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- a. Normal whole blood taurine: >270nmol/dL
- a. Normal plasma taurine: >71nmol/dL
  
- a. Marginal whole blood taurine: 190-250nmol/dL
- a. Marginal plasma taurine: 60-70nmol/dL
  
- a. Low whole blood taurine: <200nmol/dL
- a. Low plasma taurine: <60nmol/dL

**References:**

Albery LA, Williams MB, Pitt PH, Lewis J, Pitt PH. Plasma taurine concentrations with normal dogs and in dogs with heart disease. J Vet Intern Med 1995; 9:222-226

Rehder MC, Reuter H, Gentes G, Wenzel W. Taurine deficiency causes cardiomyopathy in a family of golden retrievers. J Anim Health 2017; 30:189-191

Williams MB, Lewis J, Pitt PH, Lewis JG. MRI study investigates details of the pathogenesis of dilated cardiomyopathy (DCM) in dogs and identifies a potential dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentrations. J Vet Intern Med 2017; 31:204-211

Reuter H, Gentes G, Pitt PH, Lewis JG, Reuter H, Wenzel W. Plasma deficiency of Newfoundland Retrievers causes complete and incomplete dilated cardiomyopathy. J Anim Health 2016; 29:123-126-128

Wenzel W, Pitt PH, Reuter H, Reuter H. Taurine deficiency in dogs with dilated cardiomyopathy. J Anim Health 2014; 27:112-116. J Anim Health 2013; 26:123-126

Williams MB, Lewis JG, Lewis J, Pitt PH, Williams MB, Williams J, Lewis JG, Pitt PH. Dilated cardiomyopathy in German Shepherds. J Anim Health 2015; 28:242-246

Albery LA, Pitt PH, Reuter H, Wenzel W. Plasma and whole blood taurine in normal dogs of varying breeds. J Anim Health 2017; 30:189-191

**Plasma vs. whole blood taurine testing**

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with HCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <http://www.vetmed.ucdavis.edu/labs/amino-acid-lab/assay.html>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underlines the value of paired sampling.

**Amino Acid Labs Taurine results 8/28/18**

**Clinical Recommendations for Golden Retrievers based on taurine levels:**

**Taurine levels are < 250nmol/mol in whole blood or < 100nmol/mol in plasma**

- An echocardiogram by a board-certified veterinary cardiologist is indicated.
- After echocardiogram has been completed, a diet change is recommended.
  - If HCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If HCM is diagnosed, prescribed supplementation with oral taurine and L-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedule will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with cardiac-deficient HCM do not show clinical signs and steady improvement over a period of 6-12 months.

**Taurine levels are 251 - 250nmol/mol in whole blood or 101-200nmol/mol in plasma**

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and that the value of screening should be carefully considered. If the dog is eating what they fall within the FDA warning of studies together with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months of the new diet should be considered.
- If HCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If HCM is diagnosed, prescribed supplementation with oral taurine and L-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedule will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with cardiac-deficient HCM do not show clinical signs and steady improvement over a period of 6-12 months.

**Taurine levels are > 250nmol/mol in whole blood or > 200nmol/mol in plasma**

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or studies together with the diets identified in our study (see diets of concern section below).
- If your pet shows any signs of cardiac disease (frequent breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

**Amino Acid Labs Taurine results 8/28/18**

**Diet of Concern & Choosing a Diet**

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk for example legumes like peas and lentils, white or stone fruits. These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and HCM. Our lab considers these ingredients in order of greatest concern when printing within the diet 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study went using protein sources other than chicken or beef and labeled as "grain-free".

Patients consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above.
- Choose a diet that states the WSAVA Global Nutrition Assessment Committee published a statement for voluntary compliance from printed the URL:
  - <https://www.wsava.org/WSAVA/media/4/peas-and-lentils-removed-from-the-Best-Food-for-your-Pet.pdf>
- FDA alert hazard here:
  - <https://www.fda.gov/oc/ohrt/summary/CaseStudies/CMV/labeling/08182018.pdf>

**Choosing a taurine or L-carnitine supplement**

Selecting supplements should be performed based upon items that match their stated contents and are readily available for administration. Ideally, a previous publication tested multiple taurine and L-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Nagy et al. 2009) *Am J Vet Res* 70: 234-237

**Taurine** 1-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes:

- Taurine 500 by TetraLab (1000mg capsule)
- Taurine by Swanson Health Products (1000mg capsule)
- Taurine by NOW Foods (1000mg capsule)
- Taurine 500 by CNC (1000mg tablet)

**Taurine** L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes:

- L-carnitine 500 by L-carnitine (1000mg capsule)
- L-carnitine 500 by Country Labs (1000mg capsule)
- Meat L-carnitine by Soligra Vitamins and Herbs (1000mg tablet)
- L-carnitine by PetVet's World (1000mg tablet)

The above lab does not recommend the concurrent supplementation of L-carnitine or L-carnitine to dogs without evidence of HCM and/or significant deficiency. If HCM is diagnosed we typically recommend dogs over 10lbs receive 1000mg of taurine every 12hrs and dogs under 10lbs receive 500mg of taurine every 12hrs. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 12hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

**Reporting to the FDA**

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs are asked to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death or any combination of these events to the FDA by following the information found here: <https://www.fda.gov/oc/ohrt/summary/CaseStudies/CMV/labeling/08182018.pdf>

Additional questions or comments:  
Dr. Raymond P. Washburn, DVM  
The Cummings Lab, printed, Aug. 10, 2018



Client:  
Patient:

**B6**

**Vitals Results**

7:19:38 PM	Heart Rate (/min)
7:19:39 PM	Respiratory Rate
7:19:40 PM	Temperature (F)
7:19:41 PM	<b>B6</b> treatment note
8:01:18 PM	Nursing note
10:51:29 PM	Cardiac rhythm
10:51:30 PM	Heart Rate (/min)
10:52:15 PM	Respiratory Rate
10:55:36 PM	<b>B6</b> treatment note
11:11:46 PM	Respiratory Rate
11:15:36 PM	Eliminations
11:59:29 PM	Cardiac rhythm
11:59:30 PM	Heart Rate (/min)
1:06:28 AM	Respiratory Rate
1:06:38 AM	Cardiac rhythm
1:06:39 AM	Heart Rate (/min)
1:07:29 AM	Respiratory Rate
1:16:20 AM	Catheter Assessment
1:16:30 AM	Temperature (F)
1:16:40 AM	Amount eaten
1:24:55 AM	Eliminations
1:59:16 AM	Cardiac rhythm
1:59:17 AM	Heart Rate (/min)
2:00:45 AM	Nursing note
3:07:42 AM	Cardiac rhythm
3:07:43 AM	Heart Rate (/min)
3:08:14 AM	Respiratory Rate
3:51:34 AM	Respiratory Rate
3:51:49 AM	Cardiac rhythm
3:51:50 AM	Heart Rate (/min)
3:56:33 AM	Eliminations
4:53:31 AM	Respiratory Rate
4:53:41 AM	Cardiac rhythm
4:53:42 AM	Heart Rate (/min)
5:05:59 AM	Catheter Assessment
5:47:32 AM	Cardiac rhythm
5:47:33 AM	Heart Rate (/min)
5:47:43 AM	Respiratory Rate
6:58:01 AM	Cardiac rhythm
6:58:02 AM	Heart Rate (/min)

**B6**

**B6**

Client:  
Patient:

**B6**

**Vitals Results**

6:58:10 AM	Respiratory Rate
7:36:37 AM	Weight (kg)
7:36:43 AM	Eliminations
7:36:58 AM	Respiratory Rate
7:40:41 AM	Amount eaten
7:40:57 AM	Cardiac rhythm
7:40:58 AM	Heart Rate (/min)
8:15:42 AM	<b>B6</b> treatment note
8:57:02 AM	Cardiac rhythm
8:57:03 AM	Heart Rate (/min)
8:57:12 AM	Respiratory Rate
9:02:45 AM	Catheter Assessment
9:02:59 AM	Eliminations
9:58:29 AM	Respiratory Rate
11:03:50 AM	Respiratory Rate
11:36:45 AM	Respiratory Rate
11:36:53 AM	Heart Rate (/min)
11:42:00 AM	Eliminations
12:53:35 PM	Respiratory Rate
1:51:27 PM	Amount eaten
2:11:08 PM	Respiratory Rate
2:32:31 PM	<b>B6</b> treatment note
2:32:41 PM	Catheter Assessment
2:46:00 PM	Respiratory Rate
2:50:43 PM	Eliminations
4:29:41 PM	Weight (kg)

**B6**

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

Center Rads

**B6**

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

Center Rads

**B6**

**B6**



Client:  
Patient:

**B6**

RDVM

**B6**

Center Rads

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

06:37 PM	UserForm
07:19 PM	Vitals
07:19 PM	Vitals
07:19 PM	Vitals
07:19 PM	Vitals
07:19 PM	Vitals
08:01 PM	Vitals
08:13 PM	Prescription
09:00 PM	UserForm
09:24 PM	Purchase
09:24 PM	Purchase
09:25 PM	Purchase
09:25 PM	Purchase
09:25 PM	Purchase
09:58 PM	Purchase
10:02 PM	Purchase
10:02 PM	Purchase
10:06 PM	Purchase
10:06 PM	Purchase
10:49 PM	Labwork
10:51 PM	Treatment
10:51 PM	Vitals
10:51 PM	Vitals
10:52 PM	Treatment
10:52 PM	Vitals
10:55 PM	Vitals
10:55 PM	Treatment
11:11 PM	Treatment
11:11 PM	Vitals
11:11 PM	Treatment
11:15 PM	Treatment
11:15 PM	Vitals
11:59 PM	Treatment
11:59 PM	Vitals
11:59 PM	Vitals
01:06 AM	Treatment
01:06 AM	Vitals
01:06 AM	Treatment
01:06 AM	Vitals
01:06 AM	Vitals
01:07 AM	Treatment
01:07 AM	Vitals
01:16 AM	Treatment
01:16 AM	Vitals

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

01:16 AM	Treatment
01:16 AM	Vitals
01:16 AM	Treatment
01:16 AM	Vitals
01:24 AM	Treatment
01:24 AM	Vitals
01:59 AM	Treatment
01:59 AM	Vitals
01:59 AM	Vitals
02:00 AM	Vitals
03:07 AM	Treatment
03:07 AM	Vitals
03:07 AM	Vitals
03:08 AM	Treatment
03:08 AM	Vitals
03:51 AM	Treatment
03:51 AM	Vitals
03:51 AM	Treatment
03:51 AM	Vitals
03:51 AM	Vitals
03:56 AM	Treatment
03:56 AM	Vitals
04:53 AM	Treatment
04:53 AM	Vitals
04:53 AM	Treatment
04:53 AM	Vitals
04:53 AM	Vitals
05:05 AM	Treatment
05:05 AM	Vitals
05:06 AM	Treatment
05:47 AM	Treatment
05:47 AM	Vitals
05:47 AM	Vitals
05:47 AM	Treatment
05:47 AM	Vitals
06:58 AM	Treatment
06:58 AM	Vitals
06:58 AM	Vitals
06:58 AM	Treatment
06:58 AM	Vitals
07:36 AM	Treatment
07:36 AM	Vitals
07:36 AM	Treatment

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

07:36 AM	Vitals
07:36 AM	Treatment
07:36 AM	Vitals
07:40 AM	Treatment
07:40 AM	Treatment
07:40 AM	Vitals
07:40 AM	Treatment
07:40 AM	Vitals
07:40 AM	Vitals
08:15 AM	Vitals
08:16 AM	Treatment
08:57 AM	Treatment
08:57 AM	Vitals
08:57 AM	Vitals
08:57 AM	Treatment
08:57 AM	Vitals
09:02 AM	Treatment
09:02 AM	Vitals
09:02 AM	Treatment
09:02 AM	Vitals
09:11 AM	Purchase
09:22 AM	Purchase
09:52 AM	UserForm
09:58 AM	Treatment
09:58 AM	Treatment
09:58 AM	Vitals
10:04 AM	Deleted Reason
11:03 AM	Treatment
11:03 AM	Vitals
11:29 AM	Treatment
11:31 AM	Purchase
11:36 AM	Treatment
11:36 AM	Vitals
11:36 AM	Treatment
11:36 AM	Vitals
11:42 AM	Treatment
11:42 AM	Vitals
11:42 AM	Treatment
11:42 AM	Purchase
11:47 AM	Labwork
12:53 PM	Treatment

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

**B6**

12:53 PM	Vitals
01:51 PM	Treatment
01:51 PM	Treatment
01:51 PM	Vitals
02:11 PM	Treatment
02:11 PM	Vitals
02:30 PM	Prescription
02:31 PM	Prescription
02:32 PM	Vitals
02:32 PM	Treatment
02:32 PM	Treatment
02:32 PM	Vitals
02:34 PM	Purchase
02:46 PM	Treatment
02:46 PM	Vitals
02:50 PM	Treatment
02:50 PM	Vitals
03:05 PM	UserForm
12:25 PM	Appointment
04:00 PM	UserForm
04:00 PM	Purchase
04:04 PM	Treatment
04:29 PM	Vitals
04:49 PM	Purchase
05:24 PM	Purchase
05:27 PM	Labwork
06:02 PM	UserForm
06:17 PM	Prescription
06:19 PM	Purchase
09:54 AM	Prescription
09:54 AM	Purchase

**B6**

**B6**

2



Client:

B6

Address:

All Medical Records

Patient:

B6

Breed:

Hound Cross

DOB:

B6

Species: Canine

Sex: Female  
(Spayed)

Home Phone:

B6

Work Phone:

( ) -

Cell Phone:

B6

Referring Information

\*\*UNKNOWN RDVM\*\*

\*\*UNKNOWN RDVM\*\*

\*\*UNKNOWN RDVM\*\*

\*\*UNKNOWN RDVM\*\*

Client:

B6

Patient:

**Initial Complaint:**

Scanned Record

**Initial Complaint:**

Nutrition Phone/In person

SOAP Text Oct 2 2018 5:09PM - Freeman, Lisa

**Subjective**

Nutrition Phone Consult Notes

\*\*PHONE CONSULTATION - NO EXAM PERFORMED\*\*

(See Diet History Form and information from referring veterinarian in Documents for additional details)

History: DCM and CHF diagnosed Jan, 2018; history of environmental allergies (ears/skin). Taurine WNL.

Meds:

B6

Current Diet: (See Diet History Form in Documents and comm log for additional information)

- Current diet: Taste of the Wild High Prairie dry (1 ¾ cup [10 oz cup] or 17.5 oz twice daily). Occasional canned (I and love and you Clucking Good Stew or Wellness Beef Stew)

Client:  
Patient:

**B6**

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- Previous: Taste of the Wild Pine Forest dry (20 oz twice daily)
- Treats/human foods: Homemade dried cooked beef liver or kidneys (dried in oven – keep in freezer); Occasional “I and love and you” jerky treats – venison and lamb but none recently.
- Medication administration: Galbani ricotta cheese ½ teaspoon twice daily

Supplements:

- Supplements: Taurine (Nutricost) – 1000 mg twice daily

Owner Goals:

Diet to help with DCM

Assessment: Possible diet-associated DCM and CHF

Plan: Change diet

- Avoid BEG diets (boutique, exotic ingredient, or grain-free)
- Adequate calories to maintain body weight at 75 pounds
- Reduced sodium from all sources (diet, treats, table food)
- Moderate protein to help maintain muscle mass
- Supplements: Taurine, omega-3 fatty acids
- Owner is ok to have me report to FDA and willing to answer their questions

\*\*PHONE CONSULTATION - NO EXAM PERFORMED\*\*

**Disposition/Recommendations**

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Client:  
Patient:

**B6**

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Client: **B6**  
Patient: **B6**

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

Client:	<b>B6</b>
Veterinarian:	
Patient ID:	<b>B6</b>
Visit ID:	

Patient:	<b>B6</b>
Species:	Canine
Breed:	Hound Cross
Sex:	Female (Spayed)
Age:	<b>B6</b> Years Old

**Lab Results Report**

Accession ID:			
Test	Results	Reference Range	Units



Client:  
Patient:

**B6**

## Nutrition Diet Hx Form

### Client Diet History Form

Submitted: 09/04/2018

#### PET INFORMATION

Pet Name

**B6**

Pet Last Name

Pet Species/Breed

Dog / Hound (Bloodhound Redbone mix)

Pet's Color

Tan

Pet's Age (Best Guess)

Probably born

**B6**

Pet's Sex

Female

Spayed or Neutered?

Yes

#### CLIENT INFORMATION

Client Name

Client Address

Client Phone

Client Email

Co-Owner Name

Co-Owner Phone

Co-Owner Email

**B6**

#### CONSULT INFORMATION

Type of Consult

Phone

HCD Being Requested?

No

Reasons & Goals for Consult

On **B6** **B6** was diagnosed with DCM. I read the "A broken heart!" article about the possible association between grain-free diet and DCM. **B6** has been on a grain-free diet, and I'm hoping that a change of diet will help with her condition.  
As of her weight, she might be just a tad overweight but most likely not by much, perhaps a pound or two.

Attachments

[Additional relevant diagnostics](#)

[IMG\\_4818.jpeg](#)

#### PRIMARY VETERINARIAN INFORMATION

rDVM Name

rDVM Clinic

rDVM Phone

rDVM Fax

rDVM Email

**B6**

Client:  
Patient:

**B6**

**Nutrition Diet Hx Form**

**Diet History Form - updated**

**Agree to Terms**

**Date Submitted**

09/04/2018

**Information to Gather**

**About You, Your Veterinarian(s) and Your Pet**

**What type of appointment are you requesting?**

Phone

**Has your pet been seen at Tufts in the last 6 months?**

No

**About the Pet Owner**

**Pet owner name**

**B6**

**Pet owner email**

**B6**

**Address**

**B6**

United States

**Preferred Phone**

**B6**

**Preferred Phone Type**

Mobile

**Alternate Phone**

**Is there another phone number you would like to give us in case we can't reach you at one of the above?**

No

**Spouse/partner/co-owner's name**

**B6**

**Spouse/partner/co-owner's email**

**B6**

**Spouse/partner/co-owner's phone**

**B6**

**How did you hear about our service?**

. Media - interview, article, etc

Client:  
Patient:

**B6**

**Nutrition Diet Hx Form**

**Your Pet's Primary Veterinarian**

Primary veterinarian

**B6**

Primary veterinarian's clinic name

**B6**

Primary veterinarian's clinic phone

**B6**

Primary veterinarian's clinic fax

**B6**

Primary veterinarian's clinic email

**B6**

Is your pet currently being (or has your pet been) seen by any other veterinarians in relation to her/his current health issues or other health issues that you'd like to discuss with us?

Yes

**Information About Your Second Veterinarian**

Name of 2nd veterinarian

**B6**

Clinic name of 2nd veterinarian

**B6**

Phone for 2nd veterinarian's clinic

**B6**

Fax for 2nd veterinarian's clinic

**B6**

Email for 2nd veterinarian's clinic

**B6**

What is this second veterinarian's role in your pet's care?

To get an expert opinion on **B6** treatment

Should this 2nd veterinarian receive a copy of any written reports that result from working with our service?

No

Is your pet being seen by a 3rd veterinarian?

No

**About Your Pet**

Pet's name

**B6**

What is your pet's species?

Dog

Client:  
Patient:

**B6**

**Nutrition Diet Hx Form**

**Breed**

Hound (Bloodhound Redbone mix)

**Color**

Tan

**Sex**

Female

**Spayed/neutered?**

Yes

**Do you know your pet's exact birthdate?**

No

**Pet's Age**

Probably born

**B6**

**What is your pet's current weight**

75

**Pounds or kilograms?**

lbs

**Has your pet gained or lost weight within the past 6 months?**

Stayed the same

**Which category best describes your pet?**

ideal weight

**Reason and goals for consultation**

On **B6** **B6** was diagnosed with DCM. I read the "A broken heart" article about the possible association between grain-free diet and DCM. **B6** has been on a grain-free diet, and I'm hoping that a change of diet will help with her condition.

As of her weight, she might be just a tad overweight but most likely not by much, perhaps a pound or two.

**Details About Your Pet's Habits**

**Questions about your pet**

**Is your pet housed:**

· Indoors

**Please describe your pet's activity level:**

Moderate

**Do you have any other pets?**

Yes

**What are your other pets?**

**Species**    **How many?**

Dogs    two additional dogs

Client:  
Patient:

**B6**

**Nutrition Diet Hx Form**

**Do any pets have access to other pets' food?**

No

**How many people (including yourself) live in your household?**

3

**Who feeds your pet?**

Me

**How many times per day do you feed your pet?**

Twice

**Does your pet finish all food that is offered?**

Yes

**Does your pet have any difficulty with the following?**

**Does your pet have any of the following?**

. Environmental allergies

**Please explain about your pet's conditions**

Seasonal allergies only. Her underbelly gets dark, and she gets ear infections.

**Have you observed any changes in any of the following?**

**Have you made any recent changes in diet (last 4 weeks)?**

No

**Your Pet's Diet**

**Do you feed your pet DRY (e.g., kibble) pet food?**

Yes

**Please list each kind of DRY petfood individually**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Taste of the Wild High Prairie Grain-Free	1 ¼ cup (cup size 10 oz)	2x/day	Dec 2017
Taste of the Wild Pine Forest Grain-Free	2 cups (cup size 10 oz)	2x/day	Feb 2016

**Do you feed your pet WET (e.g., canned or pouched) pet food?**

Yes

**Please list each kind of WET (e.g., canned or pouched) petfood individually**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
"I and love and you" Clucking Good Stew	Perhaps ½ can	Rarely	Several cans at most since late 2016
Wellness Beef Stew	Perhaps ½ can	Rarely	Several cans at most since late 2016

**Do you feed your pet HOME-COOKED food?**

No

Client:  
Patient:

**B6**

**Nutrition Diet Hx Form**

**Do you feed your pet TREATS?**

Yes

**Please list each kind of TREAT individually**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Homemade dried beef liver and kidneys	2-3 small pieces	Perhaps 4 times a week, if that	Not sure, probably less than a year
"I and love and you", Natural Jerky Dog Treats, Venison & Lamb	Small pieces	Not sure, infrequently	Not sure, probably several bags since early 2016
Happy Howie's Premium Turkey Roll	Tiny pieces	Infrequent, a 2 bl log lasted a long time	May 2017 only
Merrick Texas Hold'em's Premium Lamb (or beef) Lung Filets Dog Treats	A little bit, not sure	Infrequently, 2-3 8 oz bag lasted several months	Mid 2016 to early 2017 only
Merrick Lamb Lung Training Dog Treats	A little bit, not sure	Infrequently, the 5 oz bag lasted a while	June-July 2016 only
Stewart Pro-Treat Beef Liver Freeze-Dried Dog Treats	A little bit, not sure	Infrequently, the 21 oz tub lasted a good few months	June-July 2016 only
Beef Marrow Bone Dog Treat & Beef Knee Caps Dog Treats	One piece	Once a month	March & April 2017 only

**Is there any OTHER kind of food you feed your pet?**

No

**Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, herbs, or any other supplements)?**

Yes

**Please list any dietary supplements**

Product Name	Amount	Frequency
Nutricost Taurine 1000mg		2x daily

**Is your pet receiving any medications?**

Yes

**Please list your pet's medications**

Drug Name	Dosage
<b>B6</b>	

**Do you use food (e.g., Pill Pockets, cheese, bread, peanut butter, etc.) to administer medications?**

Yes

**Lists foods used to administer medication**

What kind?	Amount?	How often?
Ricotta cheese	½ teaspoon	2x daily

**Regarding commercial diets (pet foods and treats not made in your home) your pet may have received**



Client:  
Patient:

**B6**

---

## Nutrition Diet Hx Form

---

**in the past, please select the following statement that is most accurate:**

I have never fed other commercial diets to my pet

### Home-cooked Diets

**Is a home-cooked diet being requested? (Please note that this option is only available for phone or in-person consults, not for consults directly with veterinarians.)**

No

### Medical Records & Test Results

#### Requested Items

- Additional relevant diagnostics (e.g., urine culture, T4, ultrasound reports)
- Last 6 months' medical records or as appropriate (all consults)

**Do you have any of the above in electronic format?**

Yes

#### Additional relevant diagnostics

- [Archive.zip](#)

#### Last 6 months' medical records

**Would you like to upload and attach anything else to this form?**

- [IMG\\_4818.jpeg](#)

Client: **B6**  
Patient: **B6**

RDVM: **B6** Care records

**B6**

Patient Chart

Printed: 09-05-18 at 6:47p

CLIENT INFORMATION

Name **B6** Spouse **B6**  
Address **B6**

PATIENT INFORMATION

Name **B6** (Record - 18741) Species Canine  
Sex Female, Spayed Breed Bloodhound Mix  
Birthday **B6** Age 3y  
ID **B6** Rabies 011425  
Color Red Weight 75.00 lbs  
Reminded 10-01-16 Codes

Reminders for <b>B6</b>	Last done
02/21	02-21-18
11/19	11-21-16
02/19	02-21-18
02/19	02-21-18
01/19	01-25-18
03/18	09-27-17

HEALTH HISTORY SUMMARY

Date	Diagnosis
02-22-18	<b>B6</b> Spoke to owner
11-21-16	Spoke to owner

<b>B6</b> weight history (in lbs)	
02-21-18	75.00
01-22-18	75.30
01-12-18	74.00
12-23-17	71.60
11-30-17	70.90
09-27-17	76.00
05-25-17	68.50
03-23-17	65.60
02-01-17	73.00
12-07-16	64.60
11-21-16	66.10
09-01-16	62.50
08-30-16	62.80
08-23-16	62.20
08-10-16	59.00
05-25-16	58.30
05-04-16	55.10
04-19-16	56.90
02-08-16	52.10

MEDICAL HISTORY

Client: **B6**  
Patient: **B6**

RDVM: **B6** Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 2

Date	By	Code	Description	Qty (Variance)
<b>B6</b>				

Client:  
Patient:

**B6**

RDVM

**B6**

Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 3

Date	By	Code	Description	Qty (Variance)
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**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page. 4

Date	By	Code	Description	Qty (Variance)
<b>B6</b>				

Client: **B6**  
Patient: **B6**

RDVM: **B6** Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page. 5

Date	By	Code	Description	Qty (Variance)
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**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

Care records

**B6**

Patient Chart for **B6**

Date: 09-05-18, Time: 6:47p

Client: **B6**

Page: 6

Date	By	Code	Description	Qty (Variance)
Age: 2y				
02-05-18	<b>B6</b>	FNOTE\$	By: <b>B6</b> Rx request	
	<b>B6</b>		02-05-18 at 2:45p: O is requesting 2 pills of <b>B6</b> 10mg and <b>B6</b> 25mg.	
	<b>B6</b>		Does not want the <b>B6</b> 10mg tablets anymore	
	<b>B6</b>		02-05-18 at 4:02p: filled, please print the labels.	
	<b>B6</b>		02-05-18 at 5:11p: labels printed. O will pick up tonight	
02-03-18	<b>B6</b>	FNOTE\$	By: <b>B6</b> Update/New Records	
	<b>B6</b>		02-03-18 at 8:39a: <b>B6</b> Cardiology Report Attached	
		FNOTE\$	By: <b>B6</b> P Update	
	<b>B6</b>		01-31-18 at 9:34a: O emailed yesterday	
			We met with <b>B6</b> today. He ran another echo. According to him, the prognosis is terrible and the upcoming week is critical. He'll talk with <b>B6</b> and will send a written report.	
			He modified some of the doses:	
			<b>B6</b>	
			The other two meds he left the doses the same.	
			He sent blood work to see her taurine levels.	
			I placed an order with <b>B6</b> for all the meds. Can you please let me know when you send them the prescription? I don't want to run out of the meds.	
			A few questions:	
			1. When should we bring <b>B6</b> for blood work? <b>B6</b> mentioned that we should do a blood test in a week or so to test for kidney issues.	
			2. Given that <b>B6</b> has a heart murmur, are there any preventative measures we can take? For example, to give him this supplement or something like it (which also includes Taurine and L-Carnitine)?	
			<a href="https://www.amazon.com/VetriScience-Laboratories-Cardiovascular-Circulatory-Supplement/dp/B00151O8TA">https://www.amazon.com/VetriScience-Laboratories-Cardiovascular-Circulatory-Supplement/dp/B00151O8TA</a>	
	<b>B6</b>		02-02-18 at 5:50p: O came in to PAU meds and asked when he should Bring in P for renal panel?	
	<b>B6</b>		02-03-18 at 5:53p: One week after starting medications.	
			OUTREQD Outside Records	
	<b>B6</b>		02-03-18 at 8:38a: <b>B6</b> Cardiology Report Attached	
02-02-18	<b>B6</b>	FNOTE\$	By: <b>B6</b> Rx Request	
	<b>B6</b>		02-02-18 at 10:54a: O emailed that they need 18 pills of the <b>B6</b> (2 day supply) until their meds arrive from <b>B6</b> . Let O know we will let them know when its ready	
	<b>B6</b>		02-02-18 at 1:03p: O emailed again asking to Pick up meds at 5:30pm. Let O know again that	

Client:  
Patient:

**B6**

RDVM

**B6**

Care records

**B6**

Patient Chart for **B6**

Date: 09-05-18, Time: 6:47p

Client: **B6**

Page: 7

Date	By	Code	Description	Qty (Variance)
			we will let him know when its ready and you are currently in procedures.	
	<b>B6</b>		02-02-18 at 3:59p: we can only give the full bottle of <b>B6</b> will rx that.	
	<b>B6</b>		02-02-18 at 4:03p: Sent Email to O that meds are ready for P/U	
02-02-18		<b>B6</b>	Tablets 50 count	
		<b>B6</b>	Please give as directed by: <b>B6</b>	
02-01-18		<b>B6</b>	FNOTE\$ By: <b>B6</b> Rx request	
	<b>B6</b>		02-01-18 at 6:16p: In your bin, <b>B6</b> forgot his signature	
	<b>B6</b>		02-01-18 at 6:40p: signed	
	<b>B6</b>		02-01-18 at 6:56p: attached and faxed	
02-01-18		<b>B6</b>	03061 <b>B6</b> Tablets	18
			Give two tablets every eight hours. Once coughing subsides and she is breathing easier, reduce dose to one tablet every eight hours. We will gradually lower dose to lowest effective dose.	
			FNOTE\$ By: <b>B6</b> Rx form	
	<b>B6</b>		01-30-18 at 7:49p: forms for 4 different prescriptions are in your bin	
	<b>B6</b>		01-31-18 at 7:46p: O called and asked if we can do the RX forms. informed o that RX time is usually within 24hrs	
	<b>B6</b>		01-31-18 at 8:38p: Send it out	
	<b>B6</b>		02-01-18 at 8:58a: sent via fax	
01-30-18		EM FNOTE\$	By: <b>B6</b> client communication	
	<b>B6</b>		01-30-18 at 8:46p: new client communication in chart. most of it regarding Rx form requests in separate follow up	
		CALL	Client Communication	
	<b>B6</b>		01-30-18 at 8:38p: O emailed the following message: "We met with <b>B6</b> today. He ran another echo. According to him, the prognosis is terrible and the upcoming week is critical. He'll talk with <b>B6</b> and will send a written report.	
			He modified some of the doses:	
			<b>B6</b>	
			- He added Taurine 2g every 8 hours. The other two meds he left the doses the same. He sent blood work to see her taurine levels.	
			I placed an order with <b>B6</b> for all the meds. Can you please let me know when you send them the prescription? I don't want to run out of the meds. A few questions:	
			1. When should we bring <b>B6</b> for blood work? <b>B6</b> mentioned that we should do a blood test in a week or so to test for kidney issues.	
			FNOTE\$ By: <b>B6</b> Call back/Outside Dr	
	<b>B6</b>		01-30-18 at 4:32p: <b>B6</b> called for you and wanted to discuss his finding for this P. He is only	



Client:  
Patient:

**B6**

RDVM

**B6**

Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 8

Date	By	Code	Description	Qty (Variance)
			available to speak over the phone until 6pm; <b>B6</b>	
01-30-18	<b>B6</b>	FNOTE\$	By <b>B6</b> Update/New Records	
	<b>B6</b>		01-30-18 at 6:09p: echo report and letter attached	
			OUTRECD Outside Records	
	<b>B6</b>		01-30-18 at 6:10p: echo report and letter attached	
01-27-18	<b>B6</b>	FNOTE\$	By <b>B6</b> Records request	
	<b>B6</b>		01-27-18 at 8:13a: O need records and rads to be emailed to him, P has appt with <b>B6</b> on Tuesday, okay to send?	
	<b>B6</b>		01-27-18 at 10:22a: ok to send, make sure the x-rays from Thursday get sent and there were x-rays taken in november too (there is one of the heart).	
	<b>B6</b>		01-27-18 at 10:46a: Emailed O records, echo report and all rads	
	<b>B6</b>		01-30-18 at 12:42p: sent via email to <b>B6</b>	
01-26-18	<b>B6</b>	FNOTE\$	By <b>B6</b> Echocardiogram	
	<b>B6</b>		01-26-18 at 8:22a: Echo Report Attached	
	<b>B6</b>		01-26-18 at 5:07p: O called for Results, O is worried	
	<b>B6</b>		01-26-18 at 5:52p: swo about report, rec cardiologist consult if o is interested, will fill meds.	
	<b>B6</b>		can you email o the report and let him know that <b>B6</b> rec cardiologist, <b>B6</b> at the <b>B6</b>	
	<b>B6</b>		and text him when the meds are filled?	
	<b>B6</b>		and can you print the labels?	
	<b>B6</b>		01-26-18 at 5:59p: Printed Labels and emailed O	
	<b>B6</b>		01-26-18 at 7:50p: O came in to pick up meds	
		1002	<b>B6</b>	30
			Please give 1.5 tablets by mouth twice daily.	
		10101	<b>B6</b>	2
			Please give 1.5 tablet twice daily.	
			<b>B6</b>	
			Please give 2 tablets by mouth twice daily.	
01-25-18	<b>B6</b>	111	Transaction Complete	
01-25-18			<b>B6</b>	3
				30
			Give two tablets every eight hours. Once coughing subsides and she is breathing easier, reduce dose to one tablet every eight hours. We will gradually lower dose to lowest effective dose.	
	<b>B6</b>	RAD	Radiographic Series	
	<b>B6</b>		01-26-18 at 8:30a: RADS Attached	
		2313	Office Exam, Recheck	

Client: **B6**  
Patient: **B6**

RDVM: **B6** Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 9

Date	By	Code	Description	Qty (Variance)
01-25-18	<b>B6</b>	601	Echocardiogram	
			OD: 01-26-18 at 8:22a: Echo Report Attached	
		2002	Blood Pressure	
		V\$IT	Patient check-in	

Drop off for rads

**B6** cough hasn't improved. She coughed all night and hardly slept. Yesterday morning she refused to eat, last night she ate a bit of her food and some leftover rice and chicken. This morning she hasn't eaten again and vomited yellow bile. She drinks normally, but behaves weird - staring at us and occasionally panting.

Age: 2y

#### SUBJECTIVE SECTION

Coughing getting worse. Seems lethargic today

#### OBJECTIVE SECTION

BARH  
Very pronounced cough.

#### ABNORMALITIES

Heart/Lungs  
Gallop arrhythmia -

Normal Systems: Coat, Skin, Vital Signs, Extremities, Urinary/Genital, Gait, Mouth/Teeth, Lymph Nodes, Eyes/Ears/Nose/Throat, Abdomen/GI

#### ASSESSMENT SECTION

##### NOTES

Gallop arrhythmia, cardiomegaly on radiograph. Possible pulmonary effusion

#### PLAN SECTION

##### NOTES

Spoke with owner. Need echocardiogram.

#### DIAGNOSTIC PLAN

Blood Pressure  
Echocardiogram  
Radiographic Series  
Office Exam, Recheck

01-22-18	<b>B6</b>	111	Transaction Complete	
01-22-18	<b>B6</b>	6019	Office Exam	

Client: **B6**  
Patient: **B6**

RDVM: **B6** Care records

**B6**

Patient Chart for: **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page. 10

Date	By	Code	Description	Qty (Variance)
01-22-18	<b>B6</b>	<b>B6</b>	mg Give two tablets twice daily until finished.	2
		V\$IT	Patient check-in	
			Still Coughing	

Age: 2y Weight: 75.30

**SUBJECTIVE SECTION**

GS2: 01-22-18 at 6:34p: still coughing and panting since the last visit - sent videos through email

Verify Address and Phone Number: same  
Verify E-Mail: same  
Diet (brand, frequency, amount):  
Appetite: eats slower  
Drinking: normal  
Energy: normal  
Urination: normal  
Defecation: normal  
C/S/V/D: coughing - sometimes tries to vomit but doesn't actually vomit  
Medications (type, frequency, dose): none  
Vaccine Status: due for da2p & cpv  
Lyme (dog only)? never had  
Bordetella (dog only)? has had  
Influenza (dog only)? has had  
Lepto (dog only)? doesn't need  
Senior Wellness (>7 yrs): doesn't need yet  
Heartworm Status (year round or seasonal?): already has  
Flea/Tick preventative (refills needed?): already has  
Indoor/Outdoor: both  
Other Pets: yes  
Microchip: no  
Tech discussed:

**OBJECTIVE SECTION**

BARH

**ABNORMALITIES**

Normal Systems: Coat, Heart/Lungs, Skin, Vital Signs, Extremities, Urinary/Genital, Gait, Mouth/Teeth, Lymph Nodes, Eyes/Ears/Nose/Throat, Abdomen/GI

**ASSESSMENT SECTION**

**NOTES**

Prominent tracheal cough. Lungs sound clear

**PLAN SECTION**

Client: **B6**  
Patient: **B6**

RDVM **B6** Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 11

Date	By	Code	Description	Qty (Variance)
------	----	------	-------------	----------------

NOTES

Consider radiographs

TREATMENT PLAN

**B6** mg

Give two tablets twice daily until finished.

01-22-18	Office Visit still coughing	<b>B6</b>	MSIT Patient check-in	
----------	--------------------------------	-----------	-----------------------	--

01-21-18	EM FNOTES\$ By: <b>B6</b> O question <b>B6</b> 01-21-18 at 2:35p: O wants to know if it is okay to give flea and tick while P is taking meds for kennel cough <b>B6</b> 01-21-18 at 2:51p: Yes that would be ok 01-21-18 at 2:59p: emailed O, said giving f&t meds is fine			
----------	---	--	--	--

01-12-18		<b>B6</b>	111 Transaction Complete	
----------	--	-----------	--------------------------	--

**B6**

SUBJECTIVE SECTION

cough started yesterday, all night mucous noted in am several spots on floor  
patient goes to park in am (during off leash hours)  
hx of kennel cough end of Nov 2017. pt given ab's - finished

Verify Address and Phone Number: verified  
Verify E-Mail: verified

Client: **B6**  
Patient:

RDVM **B6** Care records

**B6**

Patient Chart for **B6**  
Date: 09-05-18, Time: 6:47p

Client: **B6** Page: 12

Date	By	Code	Description	Qty (Variance)
			Diet (brand, frequency, amount): dry, owner unsure of brand Appetite: WNL Drinking: WNL Energy: WNL, no lethargy noted Urination: WNL Defecation: WNL C/S/V/D: No s, d, v Medications (type, frequency, dose): none Vaccine Status: informed of distemper vaccine Lyme (dog only)? NA Bordetella (dog only)? up to date Influenza (dog only)? up to date Lepto (dog only)? NA Senior Wellness (>7 yrs): Heartworm Status (year round or seasonal?): up to date Flea/Tick preventative (refills needed?): Indoor/Outdoor: both Other Pets: 2 other dogs at home Microchip: Tech discussed: ear cytology	

**OBJECTIVE SECTION**

**ABNORMALITIES**

Heart/Lungs  
cough on tracheal palp

Eyes/Ears/Nose/Throat  
mod brown debris AU

Normal Systems: Coat, Skin, Vital Signs, Extremities, Urinary/Genital, Gait, Mouth/Teeth, Lymph Nodes, Abdomen/GI

**ASSESSMENT SECTION**

**NOTES**

mild otitis externa AU  
r/o kennel cough vs other

**PLAN SECTION**

**B6**

---

**From:** Nemser, Sarah </O=FDA/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS /CN=SARAH.YACHETTI>  
**To:** Rotstein, David; Carey, Lauren; CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L  
**Sent:** 5/18/2015 6:53:37 PM  
**Subject:** RE: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food: [B6]

I can follow up on this case. It looks like testing was already completed at [B6] lab for this case (endocrine).

[B6] lab is currently working on another case to test for VIT D.  
If there is enough product we could send some to [B6] and some to [B6]?

S

Sarah Nemser M.S.

tel: 240-402-0892

[sarah.nemser@fda.hhs.gov](mailto:sarah.nemser@fda.hhs.gov)

---

**From:** Rotstein, David  
**Sent:** Monday, May 18, 2015 2:41 PM  
**To:** Nemser, Sarah; Carey, Lauren; CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L  
**Subject:** RE: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food: [B6]  
[B6]

The complaint states that they possess open product and is stored in the original packaging.

Testing- Vitamin D2, Vitamin D3

Will Vet-LIRN be able to follow up?

Thanks,  
dave

David Rotstein, DVM, MPVM, Dipl. ACVP  
CVM Vet-LIRN Liaison  
CVM OSC/DC/ICERT  
7519 Standish Place, RM 120  
**240-402-5613** (Office and Fax) (NEW NUMBER)  
240-506-6763 (BB)

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**From:** Nemser, Sarah  
**Sent:** Monday, May 18, 2015 2:39 PM  
**To:** Carey, Lauren; Rotstein, David; CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L  
**Subject:** RE: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food: [B6]  
[B6]

What testing is recommended for this complaint?  
Do we know if the owner still has the food.

Lauren

**B5**

Thanks,  
Sarah

Sarah Nemser M.S.

tel: 240-402-0892

[sarah.nemser@fda.hhs.gov](mailto:sarah.nemser@fda.hhs.gov)

---

**From:** Carey, Lauren

**Sent:** Thursday, May 14, 2015 2:40 PM

**To:** Rotstein, David; CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L

**Subject:** RE: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food:

**B6**

**B6**

Only one other report for Grandma Lucy's (Artisan chicken flavor) EON-167610 – No Adverse Event – reporter concerned that Phosphorus max (0.44%) was below AAFCO min, Ca/P ratio 2.27:1.4 per reporter

---

**From:** Rotstein, David

**Sent:** Thursday, May 14, 2015 2:25 PM

**To:** Carey, Lauren; CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L

**Subject:** RE: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food:

**B6**

**B6**

Would be interested in confirming other food exposures.

Here is the ingredient list:

USDA Chicken, Potatoes, Flax, Carrots, Celery, Apples, Blueberries, Cranberries, Garlic, Vitamin A, **Vitamin D3**, Vitamin E, Niacin, Iron, Calcium, Phosphorus, Zinc, Riboflavin, Thiamin, Potassium, Manganese, Chloride, Copper, Magnesium, Pyridoxine, Cyanocobalamin.

Do we have any other Grandma Lucy's?

**B4**

dave

David Rotstein, DVM, MPVM, Dipl. ACVP

CVM Vet-LIRN Liaison

CVM OSC/DC/ICERT

7519 Standish Place, RM 120

**240-402-5613** (Office and Fax) (NEW NUMBER)

240-506-6763 (BB)

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---

**From:** Carey, Lauren

**Sent:** Thursday, May 14, 2015 2:15 PM

**To:** CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L; Rotstein, David

**Subject:** FYI: EON-208329 - FW: Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food:

**B6**

**B6**

Elevated Calcium/Phosphorus with serum elevations of Vitamin D in a 4yo WHWT.  
This is a raw diet I believe ("freeze dried")

**From:** PFR Event [mailto:pfreventcreation@fda.hhs.gov]

**Sent:** Thursday, May 14, 2015 2:00 PM

**To:** [redacted] B6 HQ Pet Food Report Notification; [redacted] B6;

[redacted] B6

**Subject:** Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food: [redacted] B6

A PFR Report has been received and PFR Event [EON-208329] has been created in the EON System

A "PDF" report by name "1039540-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "1039540-attachments.zip" and is attached to this email notification.

Below is the summary of the report

**EON Key:** EON-208329

**EON Title:** PFR Event created for Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food: 1039540

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-208329>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction/viewReport.jspx?decorator=none&e=0&issueType=12&issueId=221181>

**Product information**

**Individual Case Safety Report Number:** 1039540

**Product Group:** Pet Food

**Product Name:** Grandma Lucy's Artisan Chicken Grain Free/Freeze Dried Dog Food

**Description:** Has been eating Grandma Lucy's Artisan Chicken food for about 8 months. Presented [redacted] B6 for intermittent gastrointestinal signs and lethargy. Overall health was good with unremarkable physical exam. Bloodwork showed increased serum calcium and phosphorus levels. Tested negative for Addison's disease, ultrasound showed renal mineralization, negative testing for malignancy (PTHrP) and hyperparathyroidism. Serum Vitamin D levels were elevated, consistent with ingestion of excessive dietary Vitamin D. No history of exposure to cholecalciferol rodenticides, Vitamin D supplements, or Vitamin D-containing ointments.

**Submission Type:** Initial

**Report Type:** Both

**Outcome of reaction/event at the time of last observation:** Stable

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

**Sender information**

[redacted] B6

USA



**Owner information**

<b>B6</b>	
<b>B6</b>	USA

---

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

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---

**From:** Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>  
**To:** 'Andrea Fascetti'; [REDACTED] **B6**  
**CC:** Guag, Jake  
**Sent:** 4/1/2019 11:30:52 AM  
**Subject:** RE: Heads up: Vet-LIRN (FDA) shipped 800.267 samples  
**Attachments:** 14Cases\_\_FDA\_BL\_PL\_Urine.xlsx; 800.267-Rd1-Blood-Ship Inventory.xlsx

Good morning Andrea and [REDACTED] **B6**

I was reviewing the results and needed some clarification of the results for 2 cases. The results you sent show plasma amino acid values for cv-09 but not cv-14. However, I did not send any plasma for cv-09. I did send plasma for cv-14 (attached inventory sheet). Can you please clarify which set of plasma values belong to cv-14? Thank you in advance and have a wonderful week,  
Jen

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** Andrea Fascetti <ajfascetti@ucdavis.edu>  
**Sent:** Saturday, March 23, 2019 1:30 PM  
**To:** [REDACTED] **B6**  
**Cc:** Guag, Jake <Jake.Guag@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hello Jen and Jake- Please see attached file with your results. Thanks for the heads-up on the species. We have to know in case someone in the lab comes in contact with the blood (especially through a cut). Our occupational health and safety folks then have us file a report and follow up on those cases to ensure vaccination status etc.

We will bill according to your comments below.

Have a nice weekend.

Andrea

On Mar 21, 2019, at 10:51 AM, [REDACTED] **B6** wrote:

Hi Jake,

May you help to confirm the samples are for dogs or cats? I could not find the information

Thanks,

[REDACTED] **B6**

---

**From:** Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Sent:** Tuesday, March 12, 2019 8:53 AM  
**To:** [REDACTED] **B6**  
**Cc:** Jones, Jennifer L  
**Subject:** Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hi **B6**

Hope you are well. We shipped 800.267 samples on dry ice to you.

Box#1 has urine samples its tracking number is 1ZA4420T0194520315 with UPS.

Box#2 has whole blood and serum samples and its tracking number is 1ZA4420T0192121929 with UPS. Both boxes are expected to arrive your location tomorrow (Mar. 13<sup>th</sup>, 2019)

Please charge the urine sample analysis under AA contract.

Please provide invoice for the blood and serum analysis.

Thank you

Jake

Jake Guag, MPH, CPH

Biologist (FDA/CVM/OR/Vet-LIRN)

8401 Muirkirk Road

Laurel, Maryland 20708

Email: [jake.guag@fda.hhs.gov](mailto:jake.guag@fda.hhs.gov)

Tel: 240-402-0917

---

**From:** [REDACTED] B6  
**To:** Jones, Jennifer L; Andrea Fascetti  
**CC:** Guag, Jake  
**Sent:** 4/2/2019 12:06:20 AM  
**Subject:** Re: Heads up: Vet-LIRN (FDA) shipped 800.267 samples  
**Attachments:** 14Cases\_\_FDA\_BL\_PL\_Urine.xlsx

Hi Dr. Jones,

Attached please find the corrected data file.

Kind Regards,

[REDACTED] B6

---

**From:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Sent:** Monday, April 1, 2019 4:30 AM  
**To:** Andrea Fascetti; [REDACTED] B6  
**Cc:** Guag, Jake  
**Subject:** RE: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Good morning Andrea and [REDACTED] B6

I was reviewing the results and needed some clarification of the results for 2 cases. The results you sent show plasma amino acid values for cv-09 but not cv-14. However, I did not send any plasma for cv-09. I did send plasma for cv-14 (attached inventory sheet). Can you please clarify which set of plasma values belong to cv-14?

Thank you in advance and have a wonderful week,

Jen

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** Andrea Fascetti <ajfascetti@ucdavis.edu>  
**Sent:** Saturday, March 23, 2019 1:30 PM  
**To:** [REDACTED] B6  
**Cc:** Guag, Jake <Jake.Guag@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

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We will bill according to your comments below.

Have a nice weekend.

Andrea

On Mar 21, 2019, at 10:51 AM, [REDACTED] B6 wrote:

Hi Jake,

May you help to confirm the samples are for dogs or cats? I could not find the information

Thanks,

**B6**

---

**From:** Guag, Jake <[Jake.Guag@fda.hhs.gov](mailto:Jake.Guag@fda.hhs.gov)>

**Sent:** Tuesday, March 12, 2019 8:53 AM

**To:** **B6**

**Cc:** Jones, Jennifer L

**Subject:** Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hi **B6**

Hope you are well. We shipped 800.267 samples on dry ice to you.

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Box#2 has whole blood and serum samples and its tracking number is 1ZA4420T0192121929 with UPS. Both boxes are expected to arrive your location tomorrow (Mar. 13<sup>th</sup>, 2019)

Please charge the urine sample analysis under AA contract.

Please provide invoice for the blood and serum analysis.

Thank you

Jake

Jake Guag, MPH, CPH

Biologist (FDA/CVM/OR/Vet-LIRN)

8401 Muirkirk Road

Laurel, Maryland 20708

Email: [jake.guag@fda.hhs.gov](mailto:jake.guag@fda.hhs.gov)

Tel: 240-402-0917

---

**From:** [REDACTED] B6  
**To:** Jones, Jennifer L  
**CC:** Guag, Jake; Andrea Fascetti  
**Sent:** 5/8/2019 5:30:49 PM  
**Subject:** Re: Heads up: Vet-LIRN (FDA) will ship 800.267 R2 samples  
**Attachments:** C\_28857FDA\_PL\_WB\_U\_CAA.xlsx

Hi Dr. Jones,

Yes, I finished the analysis a while ago. If you have not received the results, here I am attaching an Excel file. please feel free to let me know if you have any question,

Have a nice day,

[REDACTED] B6

---

**From:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Sent:** Wednesday, May 8, 2019 4:25 AM  
**To:** [REDACTED] B6  
**Cc:** Guag, Jake  
**Subject:** RE: Heads up: Vet-LIRN (FDA) will ship 800.267 R2 samples

Good morning [REDACTED] B6  
I hope you're well. Are you able to provide any updates on the results from these samples?  
Take care,  
Jen

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** [REDACTED] B6  
**Sent:** Thursday, April 04, 2019 6:58 PM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: Heads up: Vet-LIRN (FDA) will ship 800.267 R2 samples

Hi Dr. Jones,

Your sample arrived safely.

Thanks,

[REDACTED] B6

---

**From:** Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Sent:** Tuesday, April 2, 2019 7:54 AM  
**To:** [REDACTED] B6  
**Cc:** Jones, Jennifer L  
**Subject:** RE: Heads up: Vet-LIRN (FDA) will ship 800.267 R2 samples

Hi [REDACTED] B6

I shipped 800.2676 R2 samples on dry ice to you place this morning. R2 Urine samples are in Box#1, and R2 whole blood and plasma samples are in Box #2.

Both boxes will be arrive tomorrow (Apr. 3<sup>rd</sup>, 2019), and their tracking numbers are 1ZA4420T0196121216 (Box#1) and 1ZA4420T0199460229 (Box#2) with UPS.

Note: [B6] Please provide sample receipt confirmations to Dr. Jones  
Also, Please charge urine test under AA contract, and submit invoice for WB and plasma test.

Thanks  
Jake

**From:** Guag, Jake  
**Sent:** Friday, March 29, 2019 11:04 AM  
**To:** [B6]  
**Subject:** Heads up: Vet-LIRN (FDA) will ship 800.267 R2 samples

Hi [B6]  
This is heads up that I will ship 800.267 R2 samples to you on Apr 2<sup>nd</sup>.

Thanks  
Jake

Jake Guag, MPH, CPH  
Biologist (FDA/CVM/OR/Vet-LIRN)  
8401 Muirkirk Road  
Laurel, Maryland 20708  
Email: [jake.guag@fda.hhs.gov](mailto:jake.guag@fda.hhs.gov)  
Tel: 240-402-0917

---

**From:** Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>  
**To:** Rotstein, David; Reimschuessel, Renate  
**Sent:** 8/9/2018 10:55:31 AM  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc  
**Attachments:** 800.267-draft-Vet-LIRN Rapid Necropsy-DCM-v2.docx

Round 1 of edits-thank you, Dave.

**B5**

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** Rotstein, David  
**Sent:** Wednesday, August 08, 2018 3:37 PM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** Re: Please Review-800.267-Rapid Necropsy Doc

Looking now!

---

**From:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Date:** August 8, 2018 at 3:36:20 PM EDT  
**To:** Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** Please Review-800.267-Rapid Necropsy Doc

**Jennifer L. A. Jones, DVM**

Veterinary Medical Officer  
U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Office of Research  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
8401 Muirkirk Road, G704  
Laurel, Maryland 20708  
new tel: 240-402-5421  
fax: 301-210-4685  
e-mail: [jennifer.jones@fda.hhs.gov](mailto:jennifer.jones@fda.hhs.gov)  
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>





---

**From:** Reimschuessel, Renate </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4C00C47AE2794134B2906D6B9252FCF6-RREIMSCH>  
**To:** Jones, Jennifer L; Rotstein, David  
**Sent:** 8/9/2018 12:06:09 PM  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc  
**Attachments:** 800.267-draft-Vet-LIRN Rapid Necropsy-DCM-v3.docx

I've made some edits

B5

Renate Reimschuessel V.M.D. Ph.D. Director Vet-LIRN  
*Phone 1-240-402-5404*  
Fax 301-210-4685  
<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

**From:** Jones, Jennifer L  
**Sent:** Thursday, August 9, 2018 6:56 AM  
**To:** Rotstein, David <David.Rotstein@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc

Round 1 of edits-thank you, Dave.

B5

B5

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



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**Sent:** Wednesday, August 08, 2018 3:37 PM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** Re: Please Review-800.267-Rapid Necropsy Doc

Looking now!

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**Date:** August 8, 2018 at 3:36:20 PM EDT  
**To:** Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** Please Review-800.267-Rapid Necropsy Doc

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e-mail: [jennifer.jones@fda.hhs.gov](mailto:jennifer.jones@fda.hhs.gov)  
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



**From:** Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>  
**To:** Reimschuessel, Renate; Rotstein, David  
**Sent:** 8/13/2018 7:36:46 PM  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc  
**Importance:** High  
**Attachments:** 800.267-Vet-LIRN Rapid Necropsy-DCM-v4.docx

I made some edits.

B5

B5

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** Reimschuessel, Renate  
**Sent:** Thursday, August 09, 2018 8:06 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc

I've made some edits

B5

Renate Reimschuessel V.M.D. Ph.D. Director Vet-LIRN  
*Phone 1-240-402-5404*  
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**To:** Rotstein, David <David.Rotstein@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc

Round 1 of edits-thank you, Dave.

B5

B5

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** Rotstein, David  
**Sent:** Wednesday, August 08, 2018 3:37 PM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate

<[Renate.Reimschuessel@fda.hhs.gov](mailto:Renate.Reimschuessel@fda.hhs.gov)>

**Subject:** Re: Please Review-800.267-Rapid Necropsy Doc

Looking now!

---

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**Date:** August 8, 2018 at 3:36:20 PM EDT

**To:** Rotstein, David <[David.Rotstein@fda.hhs.gov](mailto:David.Rotstein@fda.hhs.gov)>, Reimschuessel, Renate  
<[Renate.Reimschuessel@fda.hhs.gov](mailto:Renate.Reimschuessel@fda.hhs.gov)>

**Subject:** Please Review-800.267-Rapid Necropsy Doc

**Jennifer L. A. Jones, DVM**

Veterinary Medical Officer  
U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Office of Research  
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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



**From:** Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>  
**To:** Jones, Jennifer L; Reimschuessel, Renate  
**Sent:** 8/13/2018 7:44:58 PM  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc  
**Attachments:** 800.267-Vet-LIRN Rapid Necropsy-DCM-v5.docx

Jen,

**B5**

David Rotstein, DVM, MPVM, Dipl. ACVP  
CVM Vet-LIRN Liaison  
CVM OSC/DC/CERT  
7519 Standish Place  
240-506-6763 (BB)



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**From:** Jones, Jennifer L  
**Sent:** Monday, August 13, 2018 3:37 PM  
**To:** Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>  
**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc  
**Importance:** High

I made some edits

**B5**

**B5**

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**Sent:** Thursday, August 9, 2018 6:56 AM

**To:** Rotstein, David <[David.Rotstein@fda.hhs.gov](mailto:David.Rotstein@fda.hhs.gov)>; Reimschuessel, Renate <[Renate.Reimschuessel@fda.hhs.gov](mailto:Renate.Reimschuessel@fda.hhs.gov)>

**Subject:** RE: Please Review-800.267-Rapid Necropsy Doc

Round 1 of edits-thank you, Dave.

**B5**

**B5**

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



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**Sent:** Wednesday, August 08, 2018 3:37 PM

**To:** Jones, Jennifer L <[Jennifer.Jones@fda.hhs.gov](mailto:Jennifer.Jones@fda.hhs.gov)>; Reimschuessel, Renate <[Renate.Reimschuessel@fda.hhs.gov](mailto:Renate.Reimschuessel@fda.hhs.gov)>

**Subject:** Re: Please Review-800.267-Rapid Necropsy Doc

Looking now!

---

**From:** Jones, Jennifer L <[Jennifer.Jones@fda.hhs.gov](mailto:Jennifer.Jones@fda.hhs.gov)>

**Date:** August 8, 2018 at 3:36:20 PM EDT

**To:** Rotstein, David <[David.Rotstein@fda.hhs.gov](mailto:David.Rotstein@fda.hhs.gov)>, Reimschuessel, Renate <[Renate.Reimschuessel@fda.hhs.gov](mailto:Renate.Reimschuessel@fda.hhs.gov)>

**Subject:** Please Review-800.267-Rapid Necropsy Doc

**Jennifer L. A. Jones, DVM**

Veterinary Medical Officer

U.S. Food & Drug Administration

Center for Veterinary Medicine

Office of Research

Veterinary Laboratory Investigation and Response Network (Vet-LIRN)

8401 Muirkirk Road, G704

Laurel, Maryland 20708

new tel: 240-402-5421

fax: 301-210-4685

e-mail: [jennifer.jones@fda.hhs.gov](mailto:jennifer.jones@fda.hhs.gov)

Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



20484

### Sample Submission Form

Amino Acid Laboratory  
University of California, Davis  
1020 Vet Med 3B  
1089 Veterinary Medicine Drive  
Davis, CA 95616  
Tel: (530)752-5058, Fax: (530)752-4698

UC CUSTOMERS ONLY:  
Non-federal funds ID/Account Number  
to bill: \_\_\_\_\_

<http://www.vetmed.ucdavis.edu/vmb/aal/aal.html>

**B6**

B6 Canine  
8/20/2018 1:58 PM  
TAURINE (WHOLE BLOOD)  
Lithium Heparin

Vet/Tech Contact: **B6**

Company Name: Tufts Cummings School of Vet Med - Clinical Pathology Labor

Address: 200 Westboro Road  
North Grafton, MA 01536

Email: [clinpath@tufts.edu](mailto:clinpath@tufts.edu); [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu)

Tel: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6**

TAX ID:

Email: **B6**

Tel: **B6**

Patient Name: **B6**

Species: canine

Owner's Name: **B6**

Sample Type:  Plasma  Whole Blood  Urine  Food  Other: \_\_\_\_\_

Test Items:  Taurine  Complete Amino Acid  Other: \_\_\_\_\_

#### Taurine Results (nmol/ml)

Plasma: \_\_\_\_\_ Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

#### Reference Ranges (nmol/ml)

	Plasma		Whole Blood	
	Normal Range	No Known Risk for Taurine Deficiency	Normal Range	No Known Risk for Taurine Deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150



**B6**

20465

**B6** Canine  
18 2:11 PM  
TAURINE (WHOLE BLOOD)  
Lithium Heparin

n

Amino Acid Laboratory  
University of California, Davis  
1020 Vet Med 3B  
1089 Veterinary Medicine Drive  
Davis, CA 95616  
Tel: (530)752-5058, Fax: (530)752-4698

UC CUSTOMERS ONLY:  
Non-federal funds ID/Account Number  
to bill: \_\_\_\_\_

<http://www.vetmed.ucdavis.edu/vmb/aal/aal.html>

Vet/Tech Contact: **B6**

Company Name: Tufts Cummings School of Vet Med - Clinical Pathology Laboratory

Address: 200 Westboro Road  
North Grafton, MA 01536

Email: clinpath@tufts.edu; cardiovet@tufts.edu

Tel: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6** TAX ID: \_\_\_\_\_

Email: **B6** Tel: **B6**

Patient Name: **B6**

Species: Canine

Owner's Name: **B6**

Sample Type:  Plasma  Whole Blood  Urine  Food  Other: \_\_\_\_\_

Test Items:  Taurine  Complete Amino Acid  Other: \_\_\_\_\_

Taurine Results (nmol/ml)

Plasma: \_\_\_\_\_ Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

Reference Ranges (nmol/ml)

	Plasma		Whole Blood	
	Normal Range	No Known Risk for Taurine Deficiency	Normal Range	No Known Risk for Taurine Deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

---

**From:** Carey, Lauren </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F0226BD682844FA2B71EA3750D4FCB82-LAUREN.CARE>  
**To:** Rotstein, David  
**CC:** Jones, Jennifer L  
**Sent:** 2/14/2019 3:23:39 PM  
**Subject:** RE: DCM-Lisa Freeman

FYI, working back through these. EON-374786 is the second dog in the household of EON-362878.

**From:** Rotstein, David  
**Sent:** Monday, January 28, 2019 8:39 AM  
**To:** Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Glover, Mark <Mark.Glover@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>  
**Subject:** DCM-Lisa Freeman

Here is the Freeman Collection

David Rotstein, DVM, MPVM, Dipl. ACVP  
CVM Vet-LIRN Liaison  
CVM OSC/DC/CERT  
7519 Standish Place  
240-506-6763 (BB)



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**Foster Hospital for Small Animals**

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

Client:

**B6**

Address:

**All Medical Records**

Patient:

**B6**

Breed: Doberman

DOB:

**B6**

Species: Canine

Sex: Female  
(Spayed)

Home Phone:  
Work Phone:  
Cell Phone:

**B6**

**Referring Information**

**B6**

Client:

**B6**

Patient:

**Initial Complaint:**

Cardiology Study Appointment

SOAP Text Aug 20 2018 1:58PM

**B6**

**Initial Complaint:**

Recheck **B6** DCM study

SOAP Text Dec 12 2018 12:23PM

**B6**

**Disposition/Recommendations**

Client:  
Patient:

**B6**

---

---

Client: **B6**  
Patient:



**Foster Hospital for Small Animals**

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

Client: **B6**  
Veterinarian:  
Patient ID: **B6**  
Visit ID:

Patient:	<b>B6</b>
Species:	Canine
Breed:	Doberman
Sex:	Female (Spayed)
Age:	<b>B6</b> Years Old

**Lab Results Report**

Accession ID:			
Test	Results	Reference Range	Units



**B6**

Client: **B6**  
Patient: **B6**

UCDavis Taurine Level

**B6**

Sample Submission Form

Animal Care Laboratory  
University of California, Davis  
2020 West Mead Dr  
Davis, CA 95616  
Tel: (530) 752-2000 Fax: (530) 752-1000

**B6**

Client/Owner Information (Name, Address, City, State, Zip)

**B6**

Vet/Tech Contact: **B6**  
Company Name: **B6**

Address: **B6**

Email: **B6**  
Tel: **B6**

Billing Contact: **B6** TAX ID  
Email: **B6** Tel: **B6**

Patient Name: **B6**  
Species: **B6**  
Owner's Name: **B6**

Sample Type:  Plasma  Whole Blood  Urine  Food  Other  
Test Name:  Taurine  Complete Ammonia Acid  Other

Taurine Results (nmol/ml)  
Plasma: **B6** Whole Blood: **B6** Urine: **B6** Food: **B6**

Reference Ranges (nmol/ml)

	Plasma		Whole Blood	
	Normal Range	Low Values Suggest Taurine Deficiency	Normal Range	Low Values Suggest Taurine Deficiency
Ud	80-120	<40	300-500	>200
Dog	80-120	<40	300-500	>200

Client:  
Patient:

**B6**

**Lab Results IDEXX CARDIOPET proBNP 12/12/18**

**B6**





Client: **B6**  
 Patient:

Diet history 8/20/18

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet.

**B6**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)  
 Example: Poor \_\_\_\_\_ | \_\_\_\_\_ Excellent  
 Poor \_\_\_\_\_ | \_\_\_\_\_ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual  
 Eats less than usual  
 Eats more than usual  
 Seems to prefer different foods than usual  
 Other \_\_\_\_\_

3. Over the last few weeks, has your pet (check one)  
 Lost weight  
 Gained weight  
 Stayed about the same weight  
 Don't know

4. Please list below ALL pet foods, people food, treats, snacks, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what your pet is eating.

Food (include specific product and flavor) Form Amount How often? Fed since  
 (Examples are shown in the table - please provide enough detail that we could go to the store and buy the exact same food.)

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Astro Grain Free Chicken, Lamb, & Sweet Potato Adult	Dry	1 1/2 cup	Twice	Jan 2018
AKO lean hamburger	Moistened	3 oz	Twice	Jan 2018
Purina original beef flavor	Free	N	Twice	Aug 2018
Rawhide	Free	1 each treat	Twice	Jan 2018
Blue Fire Kibbles		1 1/2 cup	2x/day	7/18
Blueberry Quinoa		Handful	Twice/day	
Apple, Carrot, Pumpkin		"	Twice/day	
Almonds		"	Twice/day	
Crane Brand Turkey		1/2 cup	twice a week	
Boiled eggs		1 teaspoon	twice a week	
Chicken		1 slice	twice a week	

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No. If yes, please list which ones and give brands and amounts.

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Carbide	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Other (please list):		
Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day

6. How do you administer pills to your pet?

- I do not give any medications
- I put them directly in my pet's mouth without food
- I put them in my pet's dog/cat food
- I put them in a Pill Pocket or similar product
- I put them in foods (list foods): in cranberry / banana / cooked food

Client:  
Patient:

**B6**

---

**Vitals Results**

---

8/20/2018 1:25:17 PM

Weight (kg)

**B6**

Client: **B6**  
Patient:

**ECG from Cardio**

---

**B6**

**B6**

Client: **B6**  
Patient:

**ECG from Cardio**

---

**B6**

**B6**

Client: **B6**  
Patient:

**ECG from Cardio**

---

**B6**

**B6**

**Patient History**

08/20/2018 12:48 PM	UserForm
08/20/2018 01:07 PM	Treatment
08/20/2018 01:20 PM	UserForm
08/20/2018 01:25 PM	Vitals
08/20/2018 01:26 PM	Purchase
08/20/2018 01:27 PM	Purchase
08/20/2018 01:27 PM	Purchase
10/17/2018 09:42 AM	Appointment
12/11/2018 07:22 PM	Appointment
12/12/2018 11:04 AM	UserForm
12/12/2018 11:07 AM	Treatment
12/12/2018 11:59 AM	Purchase
12/12/2018 11:59 AM	Purchase
12/12/2018 12:09 PM	UserForm
12/12/2018 12:24 PM	Purchase
12/12/2018 12:47 PM	Appointment

**B6**

**Discharge Instructions**

Patient:

**B6**

Owner:

**B6**

Patient ID:

**B6**

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVCP

**B6**

Cardiology Resident:

**B6**

**B6**

Student:

**B6**

Cardiology Technician:

**B6**

Admit Date: 8/20/2018 12:44:33 PM

Discharge Date: 8/20/2018

Diagnosis: Apparently healthy animal!

**B6**

**Dry Food:**

Royal Canin Early Cardiac diet

Purina Canin Bacter

Purina Pro Plan Adult Weight Management (this does not have low calories, in spite of the name of the food)

**Canned Food:**

Hill's Science diet adult beef and barley mixer

**B6**



**B6**

11/13/2018

**Cardiology Appointment Report**

**Date:** 8/20/2018

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

**Cardiology Resident:**

**B6**

**Cardiology Technician:**

**B6**

**Student:**

**B6**

**Presenting Complaint:**

Brother from same litter was unexpectedly diagnosed with DCM with secondary CHF recently

**Consent Discussed:**

**B6**

**B6**

**B6**

**B6**

**B6**

**Discharge Instructions**

Patient:

Owner:

**B6**

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVCC

**B6**

**Cardiology Resident:**

**B6**

**Cardiology Technicians:**

**B6**

**Student:**

**B6**

/13

Admit Date: 8/20/2018 12:44:33 PM

Discharge Date: 12/12/2018

**Diagnosis:**

Mild decreased contractile function

**Clinical Findings:**

**B6**

**Monitoring at home:**

1. We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. If you noticed any trends or abnormalities, please contact us.
2. We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

3. If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

**Diet Recommendations:**

Please continue feeding **B6** Purina Pro Plan Weight Management dry food and Hill's ScienceDiet adult beef and barley recipe. These foods are low in sodium and do not have low calories despite the name.

**Exercise Recommendations:**

**B6** does not need any exercise restriction at this time.

**Recommended Medications:**

**B6** does not need any cardiac medications at this time.

**Reschedule Visits:**

A reschedule appointment March 6th 11 am with **B6**. At this time we will reschedule an echocardiogram.

Thank you for entrusting us with **B6** care. Please contact our Cardiology liaison at (408)-987-4626 or email us at [cardio@vetsofts.com](mailto:cardio@vetsofts.com) for scheduling and non-emergent questions or concerns.

**Security:**

**B6**

Please visit our HeartSmart website for more information

<https://vetsofts.com/heartsmart/>

**Prescription Refill Disclaimer:**

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

**Ordering Food:**

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (408-987-4626) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

**Clinical Trials:**

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new drug or treatment. Please see our website: [vet.softs.com/clinical-trials](http://vetsofts.com/clinical-trials)

**B6**

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Union: 508-857-4696

**B6**

male (spayed) Doberman

11/13/2018

## Cardiology Appointment Report

Date: 12/12/2018

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

B6

(primary)

### Cardiology Technician:

**B6**

### Student:

B6

### Presenting Complaint:

Mild MMVD

Mild decreased contractile function R/O diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

DCM Study

### Concurrent Diseases:

**B6**



**B6**

**B6**





**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
25 Willard Street  
North Grafton, MA 01526  
Telephone (NOR) 829-5295  
Fax (NOR) 829-7951  
<http://vetmed.tufts.edu/>

**B6**

**B6**

8/24/2018

Dear **B6**

Thank you for referring **B6**

If you have any questions, or concerns, please contact us at 508-827-4900.

Thank you,

**B6**

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5295  
Fax (508) 829-7951  
<http://vetmed.tufts.edu/>

**B6**

**B6**

12/19/2018

Dear

**B6**

Thank you for referring

**B6**

If you have any questions, or concerns, please contact us at 508-829-4988.

Thank you,

**B6**

**All Medical Records**

Client: **B6**

Address: **B6**

Patient: **B6**

Breed: Doberman Pinscher

DOB: **B6**

Species: Canine

Sex: Female  
(Spayed)

Home Phone: **B6**  
Work Phone: **B6**  
Cell Phone: **B6**

**Referring Information**

**B6**

Client: **B6**  
Patient: **B6**

**Initial Complaint:**

intestinal foreign material, vomiting

**SOAP Text** **B6** 7:14AM **B6**

**B6** 7:33:38 AM NEW VISIT (ER)

Doctor: **B6**

Presenting complaint: vomit x 10 this AM

Past pertinent medical history: **B6** vomited 10x this morning - white foam with blood red tinge. Os woke up to her vomiting at 5am and she has vomited 10x in the past 2 hours. Has gotten into things in the past (passed a sock in stool once), so not 100% unlikely to eat foreign material, but O don't know of anything she could have gotten into. She was at doggy daycare yesterday. Ate normally yesterday, not offered breakfast this morning. No recent change in diet. No previous GI signs. Previously healthy. Unknown **B6** status.

Medications currently administered at home: none

Visit is a referral: No

Exam:

**B6**

H/L: NSR, NMA, fPSS; normal BV sounds bilaterally, cupneic

Client: **B6**  
Patient: **B6**

**B6**

**B6**

**B6**

**B6** DVM  
Presenting complaint: vomit x 10 this AM

Past pertinent medical history: **B6** vomited 10x this morning - white foam with blood red tinge. Os woke up to her vomiting at 5am and she has vomited 10x in the past 2 hours. Has gotten into things in the past (passed a sock in stool once), so not 100% unlikely to eat foreign material, but O don't know of anything she could have gotten into. She was at doggy daycare yesterday. Ate normally yesterday, not offered breakfast this morning. No recent change in diet. No previous GI signs. Previously healthy. Unknown

**B6** status.



Client: **B6**  
Patient: **B6**

**B6**

H/L: NSR, NMA, fPSS; normal BV sounds bilaterally, eupneic

**B6**

SOAP Text **B6** 1:13PM **B6**

2 yo SF Doberman Pinscher was presented early yesterday morning Sunday **B6** for severe acute vomiting.

Vomitted once overnight and given **B6** no vomiting since. Urinating well; no defecation yet. Still NPO.

**B6**

Client: **B6**

Patient: **B6**

CV: NMA, NSR, SSP

**B6**

A:

**B6**

**B6**

SOAP Text

**B6**

1:55PM -

**B6**

2 yo SF Dobberman Pinscher was presented **B6** for severe acute vomiting. Vomited once since admit. Started refeeding last night and has been eating ravenously.

**B6**

CV: NMA, NSR, SSP

**B6**

**B6**

**Initial Complaint:**

Emergency

Client: [B6]

Patient: [B6]

SOAP Text [B6] 5:20PM [B6]

[B6] 5:20:18 PM NEW VISIT (ER)

Doctor: [B6]

Student: [B6]

Presenting complaint: [B6]

**B6**

Client: B6

Patient: B6



Estimate given: \$

Deposit collected: \$

9/21/2015 7:06:22 PM

Prescribed

B6

Instructions:

Expires: 9/20/2016 No Refills

**Initial Complaint:**

New B6 - DCM protocol

---

**Disposition/Recommendations**

---

Client: B6

Patient: B6

---

---

Client: **B6**  
 Patient: **B6**

**Cummings**  
**Veterinary Medical Center**  
 AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
 North Grafton, MA 01536  
 (508) 839-5395

Client: **B6**  
 Veterinarian:  
 Patient ID: **B6**  
 Visit ID:

Patient:	<b>B6</b>
Species:	Canine
Breed:	Doberman Pinscher
Sex:	Female (Spayed)
Age:	<b>B6</b> Years Old

**Lab Results Report**

**Nova Full Panel-ICU**      **B6** 8:55:00 AM      Accession ID: **B6**

Test	Results	Reference Range	Units
nCA	<b>B6</b>	0 - 0	mmol/L
FiO2		0 - 0	%
BEb		0 - 0	mmol/L
TCO2 (POC)		0 - 0	mmol/L
GAP		0 - 0	mmol/L
BEecf		0 - 0	mmol/L
CREAT (POC)		0.2 - 2.1	mg/dL
NOVA SAMPLE		0 - 0	
MG (POC)		0.1 - 0.4	mmol/L
CA/MG		0 - 0	mol/mol
HCT (POC)		38 - 48	%
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
SO2%		94 - 100	%
nMG		0 - 0	mmol/L
CL(POC)		109 - 120	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
K (POC)		3.6 - 4.8	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
HB (POC)		12.6 - 16	g/dL
A	0 - 0	mmHg	



8/22

**B6**

**B6**

Printed Tuesday, October 09, 2018

Client: B6

Patient: B6

NA (POC)	B6	140 - 154	mmol/L
PO2		80 - 100	mmHg
PCO2		36 - 44	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

**Nova Full Panel-ICU**      B6      9:01:30 AM      Accession ID: B6

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl

**Nova Full Panel-ICU**      B6      9:50:00 AM      Accession ID: B6

Test	Results	Reference Range	Units
MCH(ADVIA)	B6	21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
WBC (ADVIA)		4.4 - 15.1	K/uL
MCV(ADVIA)		64.5 - 77.5	fL
MPV (ADVIA)		8.29 - 13.2	fl
RDW (ADVIA)		11.9 - 15.2	
HCT(ADVIA)		39 - 55	%
PLT(ADVIA)		173 - 486	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL

**Nova Full Panel-ICU**      B6      9:50:00 AM      Accession ID: B6

Test	Results	Reference Range	Units
CALCIUM2	B6	9.4 - 11.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
T BILIRUBIN		0.1 - 0.3	mg/dL
NA/K		29 - 40	
SODIUM		140 - 150	mEq/L
CREATININE		0.6 - 2	mg/dL
ALK PHOS		12 - 127	U/L
GLOBULINS		2.3 - 4.2	g/dL
T. PROTEIN		5.5 - 7.8	g/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALT		14 - 86	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L
CHLORIDE		106 - 116	mEq/L



Client: **B6**  
 Patient: **B6**

AST	<b>B6</b>	9 - 54	U/L
UREA		8 - 30	mg/dL
POTASSIUM		3.7 - 5.4	mEq/L
CHOLESTEROL		82 - 355	mg/dL
GLUCOSE		67 - 135	mg/dL
ALBUMIN		2.8 - 4	g/dL
A/G RATIO		0.7 - 1.6	

**Nova Full Panel-ICU** **B6** 9:50:00 AM Accession ID: **B6**

Test	Results	Reference Range	Units
EOS%	<b>B6</b>	0 - 16	%
RBC MORPHOLOGY		0 - 0	
No morphologic abnormalities			
SEGS%		43 - 86	%
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
LYMPHS%		7 - 47	%
MONOS%		1 - 15	%
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			

**Nova Full Panel-ICU** **B6** 9:50:00 AM Accession ID: **B6**

Test	Results	Reference Range	Units
VWF:AG	<b>B6</b>	0 - 0	%

**Nova Full Panel-ICU** **B6** 10:22:42 AM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl



10/22

**B6**

**B6**

Printed Tuesday, October 09, 2018



Client: B6

Patient: B6

Emergency Form: B6



TUFTS UNIVERSITY
Foster Hospital for Small Animals
Hospital for Large Animals
200 Westboro Road,
N. Grafton, MA 01536

EMERGENCY SERVICES

This form must be submitted to accounting within 24 hours of overtime incurred for treatment of emergency cases to ensure timely entry on bill. Emergency fees will not be paid if client is not billed. This form must be completed in full or it will not be accepted.

Doctor or Technician name: B6

Client name: B6 Animal name: B6

Date of services: B6 Case #: B6 Client #:

TECHNICIAN

- S1X2 Surgery A1X2 Anesthesia
M8X2 Ophthalmology M1D9 Intensive Care
R1X2 Radiology

Procedure: \_\_\_\_\_

Overtime hours incurred: \_\_\_\_\_

Time paged/called: \_\_\_\_\_

Arrived: \_\_\_\_\_

Start surgery/procedure: \_\_\_\_\_

End surgery/procedure: \_\_\_\_\_

Left building: \_\_\_\_\_

CLINICIAN

Equine Farm Small

SAH

- Surgery Anesthesia
S1X3 Surgeon A1X3 Anesthesiologist
S1X3 Resident A1X3 Resident

LAH

- Surgery Anesthesia
S1X5 Surgeon A1X6 Anesthesiologist<4hrs
S1XA Surgeon w/sx<4hrs A1X7 Anesthesiologist>4hrs
S1XB Surgeon w/sx>4hrs A1X3 Resident
S1X3 Resident

LAH & SAH

- Medicine Pathology
M1X1 Resident P1X1 Pathologist
M1X4 Clinician < 4 hrs P1X1 Resident
M1X5 Clinician > 4 hrs G1X1 Ambulatory

RADIOLOGY

Equine Farm X Small

- R1X5 ER Radiologist: \_\_\_\_\_
R1X1 ER Resident: \_\_\_\_\_
R1X3 Celiogram: \_\_\_\_\_
R1X4 Cysto/Urethrogram: \_\_\_\_\_
R1X6 Myelogram: \_\_\_\_\_
R1X7 Ultrasound: \_\_\_\_\_
R1X8 Intrav/Urogram (IVU): \_\_\_\_\_
R1X9 Liver/Gastro/IGG1: \_\_\_\_\_

Ophthalmology

Equine Farm Small

- M8X4 Ophthalmologist 1 hr: \_\_\_\_\_
M8X5 Ophthalmologist 2 hrs: \_\_\_\_\_
M8X6 Ophthalmologist 3 hrs: \_\_\_\_\_
M8X7 Ophthalmologist 4 hrs: \_\_\_\_\_

X R1X8 Radiologist (PACS)

B6

B6

B6

Supervisor Signature

Print Name

Form#255-C (Rev. 12-11-12)

WHITE-Accounting

YELLOW-Payroll

PINK-Employee

Client: B6  
 Patient: B6

**Diet history 10-2-18**

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet:

Pet's name: B6 Owner's name: B6 Today's date: 10/02/18

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)  
 Example: Poor \_\_\_\_\_ Excellent  
 Poor \_\_\_\_\_ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other: \_\_\_\_\_

3. Over the last few weeks, has your pet (check one):  
 Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what your pet is eating.

**Food (include specific product and flavor)    Form    Amount    How often?    Fed since**  
 Examples are shown in the table - please provide enough detail that we could go to the store and buy the exact same food

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan. 2015
85% lean hamburger	microwaved	3 oz	1x/week	Jan. 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twigs	1x/week	Dec 2015
Taste of the Wild	dry	1 cup	3x/day	Nov 2013
Purina Pro Weight Manage	dry	1 cup	3x/day	Sep 2018
various veggies (fresh)	treat		daily	Nov 2013
K9 Granola Factory	treat	5-10	daily	Nov 2013
Raw marrow Bones	treat	1	1x/week	2015

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No. If yes, please list which ones and give brands and amounts.

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Carnitine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list):		
Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?  
 I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

Client: B6

Patient: B6

**Vitals Results**

7:00:15 AM	Nursing note
8:04:09 AM	Temperature (F)
8:04:41 AM	Heart Rate (/min)
8:04:59 AM	Respiratory Rate
8:05:10 AM	Weight (kg)
9:01:51 AM	Notes
9:02:21 AM	Quantify IV fluids (mls)
9:05:28 AM	Eliminations
9:08:07 AM	Respiratory Rate
9:08:24 AM	Heart Rate (/min)
11:14:46 PM	Respiratory Rate
11:14:56 PM	Quantify IV fluids (mls)
11:15:08 PM	Eliminations
13:03:56 PM	Heart Rate (/min)
15:10:06 PM	Quantify IV fluids (mls)
15:10:59 PM	Respiratory Rate
15:16:36 PM	Eliminations
17:53:39 PM	Temperature (F)
19:14:21 PM	Quantify IV fluids (mls)
19:26:23 PM	Eliminations
19:28:24 PM	Nursing note
19:34:23 PM	Respiratory Rate
19:34:35 PM	Heart Rate (/min)
11:25:05 PM	Cage or Walk notes
12:41:08 AM	Cage or Walk notes
11:21:29 AM	Quantify IV fluids (mls)
11:21:47 AM	Eliminations
11:22:15 AM	Cage or Walk notes
11:24:43 AM	Respiratory Rate
14:31:18 AM	Heart Rate (/min)
15:42:34 AM	Respiratory Rate
15:51:30 AM	Quantify IV fluids (mls)
15:51:40 AM	Eliminations
18:26:27 AM	Eliminations
11:56:11 AM	Temperature (F)
11:56:23 AM	Heart Rate (/min)
11:56:50 AM	Quantify IV fluids (mls)
11:57:02 AM	Respiratory Rate

**B6**

**B6**

Client: B6

Patient: B6

**Vitals Results**

5:27:57 PM	Eliminations
5:32:11 PM	Quantify IV fluids (mls)
5:35:18 PM	Respiratory Rate
5:35:30 PM	Heart Rate (/min)
5:37:40 PM	Temperature (F)
5:27:01 PM	Eliminations
7:04:35 PM	Eliminations
7:07:59 PM	Weight (kg)
7:08:08 PM	Temperature (F)
7:08:44 PM	Quantify IV fluids (mls)
7:14:28 PM	Heart Rate (/min)
7:14:36 PM	Respiratory Rate
9:09:44 PM	Amount eaten
11:42:29 PM	Heart Rate (/min)
11:42:36 PM	Respiratory Rate
11:42:45 PM	Eliminations
11:43:13 PM	Quantify IV fluids (mls)
3:38:41 AM	Quantify IV fluids (mls)
3:43:03 AM	Heart Rate (/min)
3:43:09 AM	Respiratory Rate
3:43:19 AM	Eliminations
5:09:16 AM	Amount eaten
7:01:03 AM	Heart Rate (/min)
7:01:09 AM	Weight (kg)
7:01:19 AM	Respiratory Rate
7:01:25 AM	Temperature (F)
7:01:36 AM	Eliminations
7:02:01 AM	Quantify IV fluids (mls)
11:38:03 AM	Heart Rate (/min)
11:39:59 AM	Respiratory Rate
11:40:05 AM	Quantify IV fluids (mls)
11:40:13 AM	Eliminations
11:43:47 PM	Amount eaten
5:20:19 PM	Heart Rate (/min)
5:20:20 PM	Temperature (F)
5:20:21 PM	Respiratory Rate
5:20:22 PM	Weight (kg)
3:58:13 PM	Weight (kg)

**B6**

**B6**

Client: B6

Patient: B6

**Patient History**

06:47 AM	Purchase
07:00 AM	Vitals
07:51 AM	UserForm
07:54 AM	Treatment
07:54 AM	Purchase
08:03 AM	UserForm
08:04 AM	Treatment
08:04 AM	Vitals
08:04 AM	Vitals
08:04 AM	Vitals
08:05 AM	Vitals
08:08 AM	UserForm
08:10 AM	Purchase
08:55 AM	Purchase
08:59 AM	Purchase
08:59 AM	Purchase
09:01 AM	Labwork
09:01 AM	Vitals
09:02 AM	Treatment
09:02 AM	Treatment
09:02 AM	Vitals
09:05 AM	Purchase
09:05 AM	Purchase
09:05 AM	Treatment
09:05 AM	Vitals
09:07 AM	Prescription
09:08 AM	Treatment
09:08 AM	Treatment
09:08 AM	Vitals
09:08 AM	Purchase
09:08 AM	Treatment
09:08 AM	Vitals
09:09 AM	Prescription
09:18 AM	Treatment
09:50 AM	Purchase
09:51 AM	Purchase
01:07 PM	Treatment
01:07 PM	Treatment
01:14 PM	Treatment
01:14 PM	Vitals
01:14 PM	Treatment
01:14 PM	Vitals
01:15 PM	Treatment
01:15 PM	Vitals

**B6**

**B6**

Client: B6  
Patient: B6

**Patient History**

03:03 PM	Treatment
03:03 PM	Vitals
05:10 PM	Treatment
05:10 PM	Vitals
05:10 PM	Treatment
05:10 PM	Vitals
05:11 PM	Treatment
05:16 PM	Treatment
05:16 PM	Treatment
05:16 PM	Vitals
07:53 PM	Treatment
07:53 PM	Vitals
09:13 PM	Purchase
09:14 PM	Treatment
09:14 PM	Vitals
09:26 PM	Treatment
09:26 PM	Treatment
09:26 PM	Treatment
09:26 PM	Vitals
09:28 PM	Vitals
09:34 PM	Treatment
09:34 PM	Vitals
09:34 PM	Treatment
09:34 PM	Vitals
11:25 PM	Vitals
12:41 AM	Vitals
01:21 AM	Treatment
01:21 AM	Vitals
01:21 AM	Treatment
01:21 AM	Vitals
01:22 AM	Treatment
01:22 AM	Treatment
01:22 AM	Vitals
01:24 AM	Treatment
01:24 AM	Vitals
01:33 AM	Treatment
01:36 AM	Treatment
01:39 AM	Treatment
04:31 AM	Treatment
04:31 AM	Vitals
05:39 AM	Treatment
05:39 AM	Treatment
05:42 AM	Treatment
05:42 AM	Vitals
05:51 AM	Treatment

**B6**

**B6**

Client: B6

Patient: B6

**Patient History**

05:51 AM	Vitals
05:51 AM	Treatment
05:51 AM	Vitals
08:26 AM	Vitals
09:10 AM	UserForm
09:11 AM	Purchase
09:11 AM	Purchase
09:42 AM	Purchase
09:44 AM	Treatment
09:49 AM	Purchase
09:49 AM	Purchase
09:49 AM	Purchase
10:22 AM	Labwork
10:22 AM	Treatment
10:39 AM	Prescription
10:39 AM	Prescription
10:40 AM	Purchase
10:49 AM	Purchase
11:40 AM	Treatment
11:55 AM	Treatment
11:56 AM	Treatment
11:56 AM	Treatment
11:56 AM	Treatment
11:56 AM	Vitals
11:56 AM	Treatment
11:56 AM	Treatment
11:56 AM	Vitals
11:56 AM	Treatment
11:56 AM	Vitals
11:57 AM	Treatment
11:57 AM	Vitals
01:27 PM	Treatment
01:27 PM	Vitals
02:06 PM	Purchase
03:32 PM	Treatment
03:32 PM	Vitals
03:34 PM	Treatment
03:35 PM	Treatment
03:35 PM	Vitals
03:35 PM	Treatment
03:35 PM	Vitals
03:37 PM	Vitals

**B6**

**B6**

Client: B6

Patient: B6

**Patient History**

04:47 PM	UserForm
05:27 PM	Treatment
05:27 PM	Vitals
06:52 PM	Prescription
06:53 PM	Prescription
07:04 PM	Treatment
07:04 PM	Vitals
07:04 PM	Treatment
07:07 PM	Treatment
07:07 PM	Vitals
07:08 PM	Treatment
07:08 PM	Vitals
07:08 PM	Treatment
07:08 PM	Vitals
07:14 PM	Treatment
07:14 PM	Vitals
07:14 PM	Treatment
07:14 PM	Vitals
09:09 PM	Treatment
09:09 PM	Vitals
09:13 PM	Purchase
11:42 PM	Treatment
11:42 PM	Vitals
11:42 PM	Treatment
11:42 PM	Vitals
11:42 PM	Treatment
11:42 PM	Vitals
11:43 PM	Treatment
11:43 PM	Vitals
11:44 PM	Treatment
03:38 AM	Treatment
03:38 AM	Vitals
03:43 AM	Treatment
03:43 AM	Vitals
03:43 AM	Treatment
03:43 AM	Vitals
03:43 AM	Treatment
03:43 AM	Vitals
05:09 AM	Treatment
05:09 AM	Vitals
07:01 AM	Treatment

**B6**

**B6**



Client: B6

Patient: B6

**Patient History**

<b>B6</b>	07:01 AM	Vitals	<b>B6</b>
	07:01 AM	Treatment	
	07:01 AM	Vitals	
	07:01 AM	Treatment	
	07:01 AM	Vitals	
	07:01 AM	Treatment	
	07:01 AM	Vitals	
	07:01 AM	Treatment	
	07:01 AM	Vitals	
	07:01 AM	Treatment	
	07:01 AM	Vitals	
	07:02 AM	Treatment	
	07:02 AM	Vitals	
	09:11 AM	Purchase	
	09:11 AM	Purchase	
	11:38 AM	Treatment	
	11:38 AM	Vitals	
	11:39 AM	Treatment	
	11:39 AM	Vitals	
	11:40 AM	Treatment	
	11:40 AM	Vitals	
	11:40 AM	Treatment	
	11:40 AM	Vitals	
	12:12 PM	Purchase	
	12:12 PM	Treatment	
	01:33 PM	UserForm	
	01:43 PM	Treatment	
	01:43 PM	Vitals	
	05:17 PM	UserForm	
	05:20 PM	Vitals	
	05:20 PM	Vitals	
	05:20 PM	Vitals	
	05:20 PM	Vitals	
	05:24 PM	Prescription	
	05:24 PM	Prescription	
	05:49 PM	Prescription	
	07:16 PM	Purchase	
	07:16 PM	Purchase	
	07:18 PM	Purchase	
	07:28 PM	Prescription	
08:11 AM	Appointment		
01:47 PM	Appointment		
03:53 PM	UserForm		
03:54 PM	UserForm		
03:55 PM	UserForm		
03:55 PM	Treatment		

Treatment Completed - Appointment: Cardiology

Client: B6

Patient: B6

**Patient History**

<b>B6</b>	03:58 PM	Vitals	<b>B6</b>
	04:25 PM	Purchase	
	04:25 PM	Purchase	
	04:59 PM	UserForm	
	05:25 PM	Purchase	
			Appointment: Cardiology Study (1)





Lab Results IDEXX CARDIOPET proBNP 9/10/18

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: DOBERMAN\_PINSCHE  
Gender: MALE NEUTERED  
Age: 8Y

Date: 09/10/2018  
Requisition #: **B6**  
Accession #: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
TUFTS UNIVERSITY  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536-1828  
508-839-5395

Account: **B6**

Test	Result	Reference Range	Low	Normal	High
<b>B6</b>		0 - 900 pmol/L			<b>B6</b>

Comments:

**B6**

Please note: Complete interpretive comments for all concentrations of Cardiotest proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

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**From:** PFR Event <pfpreventcreation@fda.hhs.gov>  
**To:** Cleary, Michael \*; HQ Pet Food Report Notification; [B6]  
**Sent:** 1/15/2019 9:05:17 PM  
**Subject:** 4Health whitefish and potato dry: Lisa Freeman - EON-376448  
**Attachments:** 2061217-report.pdf; 2061217-attachments.zip

A PFR Report has been received and PFR Event [EON-376448] has been created in the EON System.

A "PDF" report by name "2061217-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2061217-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-376448

**ICSR #:** 2061217

**EON Title:** PFR Event created for 4Health whitefish and potato dry, 4Health salmon and potato adult dog food; 2061217

<b>AE Date</b>	01/03/2019	<b>Number Fed/Exposed</b>	3
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Stable
<b>Breed</b>	Pit Bull		
<b>Age</b>	7.5 Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2061217

**Product Group:** Pet Food

**Product Name:** 4Health whitefish and potato dry, 4Health salmon and potato adult dog food

**Description:** Eating BEG diet Syncopal episodes - identified arrhythmia recently Owner changing diet and will recheck in 3 months Elevated BNP [B6] taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet

**Submission Type:** Initial

**Report Type:** Adverse Event (a symptom, reaction or disease associated with the product)

**Outcome of reaction/event at the time of last observation:** Stable

**Number of Animals Treated With Product:** 3

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
4Health salmon and potato adult dog food		
4Health whitefish and potato dry		

**Sender information**

Lisa Freeman  
200 Westboro Rd  
North Grafton, MA 01536  
USA

**Owner information**

**B6**  
**B6** USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-376448>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=12&issueId=393457>

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think

you received this email in error, please send an email to [FDAREportableFoods@fda.hhs.gov](mailto:FDAREportableFoods@fda.hhs.gov) immediately.



Client:  
Patient:

**B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Thursday, 03 January 2019 15:33	<b>B6</b>					

Client: **B6**  
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Thursday, 03 January  
2019 15:38

<b>B6</b>						
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Client: **B6**  
Patient:

<b>Patient Account History</b>	<b>Description</b>	<b>Qty</b>	<b>price</b>	<b>Extended</b>	<b>Disc</b>	<b>Pmt</b>
Thursday, 03 January 2019 15:46	Pharmacy Finished	1.000	0.000	0.0000	0.0000	0.0000

Client: **B6**  
Patient:

---

<b>Patient Account History</b>	<b>Description</b>	<b>Qty</b>	<b>price</b>	<b>Extended</b>	<b>Disc</b>	<b>Pmt</b>
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Friday, 04 January  
2019 18:18

**B6**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For B6 2/2019**

**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card Fee** **B6** **3/2019**

**B6**

**Weight  
(kg)**

**Discharge Instructions**

**Patient**

Name: B6

Species: Canine

Brindle/Blue Male (Neutered) Pit Bull

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6

Appointment Date: 1/3/2019

**Diagnoses: Dilated cardiomyopathy (DCM)**

Ventricular arrhythmias (ventricular tachycardia, ventricular bigeminy)

**Case summary:**

Thank you for bringing B6 to Tufts Cardiology Service for evaluation of his collapsing episodes and arrhythmia that was noticed at your referring veterinarian. B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management.

Fortunately, we caught this condition relatively early and B6 does not appear to be in congestive heart failure yet.

However, if you notice that B6 breathing rate is faster than normal at home we will want to have chest x-rays taken.

B6 also have some arrhythmias that are likely secondary to his heart disease. We will be starting him on some medications to mitigate the heart disease that he has and the arrhythmias that he is experiencing. We would like to adjust

B6 diet and we provided some dietary recommendations below.

**Diagnostic test results and findings:**

- o **Echocardiogram findings:** The walls of the chambers of his heart are thinner than normal and he has reduced contractile function. The left ventricle and left atrium are dilated.
- o **ECG findings:** The ECG showed arrhythmias that are ventricular in origin.

B6

**Monitoring at home:**

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. If you notice that his respiratory rate is elevated, we recommend that you bring him to your referring veterinarian for chest x-rays so that we can see if his heart disease has progressed.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

**Recommended Medications:**



**Exercise Recommendations:**

For the first 7 to 10 days after starting anti-arrhythmic medications, and until we know that the medications are effectively controlling arrhythmia, we recommend very limited activity. Leash walk only is ideal, and short walks to start. Once the arrhythmia has been well-controlled then slightly longer walks are acceptable. However, repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are not recommended as these activities may result in worsened arrhythmia or even sudden death.

**Diet suggestions:**

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

Your dog's usual diet may also have more sodium than recommended - we want **B6** to continue to eat his normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50:50, etc.).

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those



containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.

- We recommend switching  to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Petfoodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease. If none of these work for you then please give us a call.

#### Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management (may be more cost-efficient)

#### Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

#### Recheck Visits:

Thank you for enrolling  in our clinical study.

is scheduled for an appointment on April 4th, 2019 at 4:00 P.M. We will perform an echo, ECG and bloodwork at this time.

If you would like to have your other dogs who have been eating the same diet as  screened as part of the study, please call or email to set up an appointment in the near future.

Thank you for entrusting us with  care! It was a pleasure to meet you all today and he was a very good boy. Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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#### Prescription Refill Disclaimer:

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

#### Ordering Food:

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

#### Clinical Trials:

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvm/clinical-studies](http://vet.tufts.edu/cvm/clinical-studies)*

---

Case:

Owner:

Discharge Instructions

# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

### **AliveCor/Kardia Handout**

If you have an iPhone or Android, you may want to explore the option of purchasing an AliveCor/Kardia ECG monitor which will allow you to record and email your pet's heart rate and rhythm at home.

The device (Kardia) can be purchased at [www.alivecor.com](http://www.alivecor.com) or [www.amazon.com](http://www.amazon.com). The app for your phone is free.

#### **If you have an iPhone:**

- Search for "Veterinary AliveECG" app in the Apple Store
- You will need to sign-up for an account
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker portal, say "OK/allow"

#### **If you have an Android:**

- Search for "Kardia" app in the Google Playstore
- You will need to sign-up for an account.
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker portal, say "OK/allow"
- Once downloaded, it will require you to send a "test ECG" for activation of the app. Just place your fingers on the silver sensors and let it record
- If the test ECG is unable to record, try again, with less movement. If it still fails, then your phone is not compatible with the device

#### **Recording an ECG:**

- Apply rubbing alcohol (soaked cotton ball will work) to the chest region behind your pet's elbow (where you can feel the heartbeat)
- Enough to wet the regions where both silver boxes will touch the animal
- If your pet is fluffy, you may have to clip a small patch of fur to allow for better contact
- Hold the device against your pet's chest with the silver areas being up and down (vertical) in contact with the animal
- With the app open, hold your phone near (within a few inches) the device.
- There is a signal bar in the upper left corner of the app to show whether it detects the device. If there are no bars then move your phone around/get closer to the device until they appear.
- Once you see a recording, hold everything in place for at least 30 seconds if possible.
- *The human Kardia app will attempt to interpret the ECG; just ignore this as it is not always accurate.*
- *The heart rate that the apps report is also not always accurate.*

**Saving an ECG:**

- The app will automatically save the ECG as long as the recording is long enough (>20seconds)
- You can click on the ID (box with pencil icon) in the Veterinary AliveECG app to add your pet's name

**Emailing an ECG:**

- If you are in the recording screen on the Veterinary AliveECG app, click on "ECGs" to see the list of saved ECGs
- If you are in the home screen on the Kardia app, click "History".
- Select the ECG you wish to send. Go to "Share". Select "Email PDF". **SKIP** the Password protect feature and select the email app you wish to send it by (Gmail, outlook, yahoo, etc). **You must have a working email on your phone for this to work.**
- Select an ECG that you wish to send
- Click the mail icon (either a box with arrow or a letter symbol), and select "Email"
- Email to: [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) (*only monitored Monday-Friday 9AM-5PM*)

**B6**

Patient ID: 436257

B6

Canine

B6 Years Old Male (Neutered) Pit Bull  
Brindle/Blue

**Cardiology Appointment Report**  
**ENROLLED IN DCM STUDY**

**Date:** 1/3/2019

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

**Cardiology Resident:**

B6

**Cardiology Technician:**

**B6**

**Student:**

B6

**Presenting Complaint:**

B6

**Concurrent Diseases:**

**B6**

**General Medical History:**

First episode occurred about a year ago - owner originally thought that she had given him too much trazodone. He takes it in the winter because he is reactive to snow falling off the roof. Dog fight about to break out later that day and he collapsed.

Has had 5-6 episodes in the past year where he collapses - maintains consciousness, gum color is normal and he is alert. He is usually down for 30-60 seconds. Takes around a couple of hours after the event to go back to normal (lethargic).

All of these had been stimulated by a dog or a lot of arousal. Twice in past month.

Most recent episode was on Saturday - weasel in the yard and B6 got very worked up. Didn't fully collapse but laid down and wouldn't move. This move recent time he was spinning and acting nauseous (lip smacking). Took into the rDVM where they diagnosed an abnormal arrhythmia.

Chest rads from September, 4DX negative.

Diet has been reduced in the past week, will eat if the food is elevated.

Started urinating in the house about a year ago, believed to be behavioral.  
Possibly PUPD in the past couple of months.

**Diet and Supplements:**

For Health grain free diet until 2 weeks ago For Health  
Switched to non-grain free For Health 1 cup and 1/4 BID  
Nupro powder

**B6**

**Cardiovascular History:**

Prior CHF diagnosis? No  
Prior heart murmur? No  
Prior ATE? No  
Prior arrhythmia? Yes  
Monitoring respiratory rate and effort at home? No  
Cough? No  
Shortness of breath or difficulty breathing? Snoring, raspy  
Syncope or collapse? yes  
Sudden onset lameness? No  
Exercise intolerance? No

**Current Medications Pertinent to CV System:**

None

**Cardiac Physical Examination:**

**B6**

**Muscle condition:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss  | <input type="checkbox"/> Marked cachexia   |

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- |  |                                |
|--|--------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI            | <input type="checkbox"/> V/VI  |
| <input type="checkbox"/> II/VI           | <input type="checkbox"/> VI/VI |
| <input type="checkbox"/> III/VI          |                                |

**Jugular vein:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck            | <input type="checkbox"/> Top 2/3 of the neck |

**Arterial pulses:**

- |  |  |
|--|--|
| <input type="checkbox"/> Weak            | <input type="checkbox"/> Bounding                  |
| <input checked="" type="checkbox"/> Fair | <input checked="" type="checkbox"/> Pulse deficits |
| <input type="checkbox"/> Good            | <input type="checkbox"/> Pulsus paradoxus          |

Strong

Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent

- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

Collapse  
Arrhythmia

**Differential Diagnoses:**

DCM/CHF vs tachyarrhythmia vs bradyarrhythmia vs non-cardiac cause of collapse

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs +/-
- NT-proBNP
- Troponin I
- Other tests:

**Echocardiogram Findings:**

**B6**

**Doppler findings:**

1+ MR

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive when separating

**ECG findings:**

B6



M-Mode

IVSd		cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
EPSS		cm

**B6**

M-Mode Normalized

IVSdN		(0.290 - 0.520)
LVIDdN		(1.350 - 1.730) !
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710)
LVIDsN		(0.790 - 1.140) !
LVPWsN		(0.530 - 0.780) !
Ao Diam N		(0.680 - 0.890) !
LA Diam N		(0.640 - 0.900) !

2D

SA LA		cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LV Major		cm
LV Minor		cm
Sphericity Index		
LVLd LAX		cm
LVA d LAX		cm
LVEDV A-L LAX		ml

**B6**



LVEDV MOD LAX  
LVLs LAX  
LVA<sub>s</sub> LAX  
LVESV A-L LAX  
LVESV MOD LAX  
HR  
EF A-L LAX  
LVEF MOD LAX  
SV A-L LAX  
SV MOD LAX  
CO A-L LAX  
CO MOD LAX

Doppler

MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV Dec Slope  
MV A Vel  
MV E/A Ratio  
E'  
E/E'  
A'  
AV Vmax  
AV maxPG  
PV Vmax  
PV maxPG

**B6**

ml  
cm  
cm  
ml  
ml  
BPM  
%  
%  
ml  
ml  
l/min  
l/min

m/s  
mmHg  
m/s  
ms  
m/s  
m/s  
  
m/s  
  
m/s  
m/s  
mmHg  
m/s  
mmHg

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

B6  
B6 Male (Neutered)  
Canine Pit Bull Brindle/Blue  
B6

1/4/2019

Dear B6

Thank you for referring B6 with their pet B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

Client: **B6**  
Patient: **B6**

**B6** hospital records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 14

Date	By	Code	Description	Qty (Variance)	Photo
10-19-12	KR	<b>B6</b>	<b>B6</b>		
10-19-12		OTC NOTES	Notes	<b>B6</b>	
			Attachments\10080\ <b>B6</b> .pdf		
10-17-12	KR	NOTES	Notes	<b>B6</b>	
			<b>B6</b>		
			<b>B6</b>		
10-17-12	<b>B6</b>	OTC NOTES	Scan of MVR report		
			Attachments\10080V\ <b>B6</b> \2012114422397.pdf		
10-08-12	KR	<b>B6</b>	<b>B6</b>		
10-04-12		OTC NOTES	Notes		
			DJL: 10-04-12 at 3:53p: see scanned records from <b>B6</b>		
			Attachments\10080V\ <b>B6</b> .pdf		
10-03-12	KR	3CAR1B	<b>B6</b>		
		3CAR7T	<b>B6</b>		
			<b>B6</b>		
		3GAB3	<b>B6</b>		
			<b>B6</b>		
		CC	Client Communication		
	KR		10-03-12 at 5:32p: <b>B6</b>		
			<b>B6</b>		
10-03-12		OTC NOTES	Scan from <b>B6</b>		
			Attachments\10080\ <b>B6</b> \10032012122018088.pdf		
09-24-12	KR	CC	Client Communication		
			<b>B6</b>		
		FNOTES	By: KR, Please Call		
			MUS: 09-24-12 at 10:32a: <b>B6</b>		

Client: **B6**  
Patient: **B6**

RDVM: **B6**

Patient Chart for: **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 15

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

(has only been off 1 day) he has lost 8lbs. not eating well, drinking but feels he is dehydrated  
Panting, aggression is getting worse with the dog can draw blood and bring in but they only have  
red top she has him with with her at **B6**

09-19-12	WGM	3PRD10	<b>B6</b>	<b>B6</b>	
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09-18-12	KR	3PRD10	<b>B6</b>	<b>B6</b>	
----------	----	--------	-----------	-----------	--

		3GAB3	<b>B6</b>	<b>B6</b>	
--	--	-------	-----------	-----------	--

**B6**

**B6**

09-18-12	SGY	VISIT	Patient check-in	<b>B6</b>	
----------	-----	-------	------------------	-----------	--

Age: **B6**

09-18-12	KR	CC	Client Communication	<b>B6</b>	
			KR: 09-17-12 at 1:25p:	<b>B6</b>	

09-07-12	KR	FNOTE\$	By: KR, check on progress	<b>B6</b>	
			KR: 09-06-12 at 8:20p: LMOM for PR	<b>B6</b>	
			ERH: 09-07-12 at 3:14p: R	<b>B6</b>	

09-04-12	OTC	CC	Client Communication	<b>B6</b>	
			KR: 09-04-12 at 9:22a:	<b>B6</b>	

Client: **B6**  
Patient: **B6**

RDVM: **B6** records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 16

Date	By	Code	Description	Qty (Variance)	Photo
09-04-12	KR		<b>B6</b>		
			<b>B6</b>		
			<b>B6</b>		
08-31-12	KR	CC	Client Communication		
			KR: 08-31-12 at 2:17p: <b>B6</b>		
			<b>B6</b>		
08-30-12	KR	CC	Client Communication		
			KR: 08-30-12 at 8:08p: <b>B6</b>		
08-27-12	KR	1DOCI	Doctors' Instructions		

**B6**

Please contact our office with any concerns or questions. **B6**

Thank you,  
**B6**

**B6**

Client: **B6**  
Patient: **B6**

RDVM **B6** records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 17

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

	<b>B6</b>				
08-27-12	KR	1OCB	Office Call - Brief Exam		

**B6**

Rads show

VISIT Patient check-in  
DJL: 08-23-12 at 9:47a: exam **B6**

**B6**  
MUS: 08-27-12 at 8:54a **B6** for call in on emergency line at **B6**

Age: 16m

06-14-12	KR	<b>B6</b>			
----------	----	-----------	--	--	--

**B6**

Client:  
Patient:

**B6**

**IDEXX BNP - 1/3/2019**

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: AMERICAN\_PIT\_BU  
Gender: MALE NEUTERED  
Age: 0Y

Date: 01/03/2019  
Requisition #: 436257  
Accession: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536  
508-839-5395  
Account #88933

**CARDIOPET proBNP - CANINE**

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	<b>B6</b>	0 - 900 pmol/L			<b>B6</b>

**Comments:**

1: **B6**

Client: **B6**  
Patient: **B6**

CBC/CHEM - 1/3/2019



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: **B6**      Sex: CM      Provider: **B6**  
Patient ID: **B6**      Age: **B6**      Order Location: V320559: Investigation into  
Phone number:      Species: Canine      Sample ID: 1901030138  
Collection Date: 1/3/2019 3:35 PM      Breed: Pit Bull  
Approval date: 1/4/2019 10:42 AM

**CBC, Comprehensive, Sm Animal (Research)**

		Ref. Range/Males
DNOYES		
WBC (ADVIA)	<b>B6</b>	4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)		39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)		173-486 K/uL
01/03/19 5:49 PM		<b>B6</b>
Mean Platelet Volume (Advia)	<b>B6</b>	8.29-13.20 fl
01/03/19 4:20 PM	<b>B6</b>	
Platelet Crit	<b>B6</b>	0.129-0.403 %
01/03/19 4:20 PM	<b>B6</b>	
Reticulocyte Count (Advia)	<b>B6</b>	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	<b>B6</b>	14.7-113.7 K/uL

**Microscopic Exam of Blood Smear (Advia)**

		Ref. Range/Males	
DNOYES			
Seg Neuts (%)	<b>B6</b>	43-86 %	
Lymphocytes (%)		7-47 %	
Monocytes (%)		1-15 %	
Eosinophils (%)		0-16 %	
Seg Neutrophils (Abs) Advia		2.80-11.50 K/uL	
Lymphs (Abs) Advia		1.00-4.80 K/uL	
Mono (Abs) Advia		0.10-1.50 K/uL	
Eosinophils (Abs) Advia		0.00-1.40 K/uL	
WBC Morphology		<b>B6</b>	
RBC Morphology		<b>B6</b>	

**Research Chemistry Profile - Small Animal (Cobas)**

		Ref. Range/Males
ABLASSOTTO		
Glucose	<b>B6</b>	67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL

Sample ID: 1901030138/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_



Client: **B6**  
Patient: **B6**

CBC/CHEM - 1/3/2019



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: **B6**      Sex: CM      Provider: **B6**  
Patient ID: **B6**      Age: **B6**      Order Location: V320559: Investigation into  
Phone number:      Species: Canine      Sample ID: 1901030138  
Collection Date: 1/3/2019 3:35 PM      Breed: Pit Bull  
Approval date: 1/4/2019 10:42 AM

**Research Chemistry Profile - Small Animal (Cobas) (cont'd)**

		Ref. Range/Males
ABLASOTTO		
Calcium 2	H	9.4-11.3 mg/dL
Magnesium 2+	L	1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium	H	140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP	H	8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT	H	14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)	H	291-315 mmol/L

Sample ID: 1901030138/2  
END OF REPORT (Final)

Reviewed by: \_\_\_\_\_  
Page 2

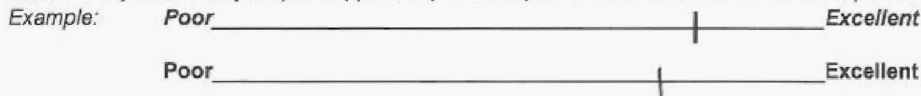
Client: **B6**  
 Patient: **B6**

**Diet history 1/3/19**

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 1/3/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)



2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other seems more hesitant to eat but once encouraged, he eats his meals. Elevating his bowl has helped

3. Over the last few weeks, has your pet (check one)

- Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below **ALL** pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
4Health adult Kibble (alternating proteins - lamb, fish)	dry	1 1/4 c	Twice daily	12/18
↓ WHITE FISH + POTATO OR SALMON + POTATO ADULT				

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Antioxidants	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Multivitamin	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Fish oil	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
<u>Augen powder</u>	_____	1 tsp twice daily
<u>CBQ oil - 4 drops BID</u>	_____	(just for flavor)

6. How do you administer pills to your pet?

- I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food - canned food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

Client:

**B6**

Patient:

---

**Diet history 1/3/19**

---

Has been eating 4health grain free (alternating proteins) for multiple years, just recently switched to regular kibble (w/grain)

has ~~use~~ been fed a very wide variety of canned food, only used to give medications - about 2 tablespoons twice daily

- pedigree
- pure balance
- 4 health

Client: **B6**  
Patient: **B6**

**Lab Results IDEXX Leptospirosis Panel (MAT) 1/4/19**

IDEXX Reference Laboratories

Client: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: AMERICAN\_PIT\_BU  
Gender: MALE NEUTERED  
Age: 7Y

Date: 01/04/2019  
Requisition #: 462544  
Accession #: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536-1828  
508-339-5395  
Account #80735

**LEPTOSPIROSIS PANEL (MAT)**

Test	Result	Reference Range	Low	Normal	High	
L. BRATISLAVA	<b>B6</b>					
L. CANICOLA						
L. GRYPPOTYPHOSA						
L. ICTEROHAEMORRHAGIAE						
L. POMONA						
L. AUTUMNALIS						

**Comments:**

**B6**

Client: **B6**  
Patient:

**B6** results- 1/7/19

Patient Info: Name: **B6** Species: Dog Hospital: **B6**  
Record No: 21646 Breed: American Pit Bull  
Owner: **B6** Age: 7Y  
Doctor: **B6** Sex: N

Accession No.	Doctor	Owner	Patient Name
<b>B6</b>		<b>B6</b>	

Test	Results	Adult Reference Range	L	Normal	H
------	---------	-----------------------	---	--------	---

**SPECIAL URINE PRO/CREAT RATIO** Date given: 01-07-19 T11:30a

URINE CREATININE		-			
URINE PROTEIN	<b>B6</b>	-			
URINE PRO/CREAT RATIO		-			
COLOR		-			

Renal proteinuria:  
UPC <0.2 non-proteinuric  
UPC 0.2-0.5 borderline proteinuric  
UPC >0.5 proteinuric  
The urine protein:creatinine ratio (UPC) should be interpreted along with a concurrent urinalysis. Pre-renal and post-renal proteinuria need to be ruled-out prior to evaluating renal proteinuria. Renal proteinuria requires proof of persistence by repeating UPC on at least three urine samples collected over a period of at least 2 weeks.  
Additional interpretive guidelines and management recommendations are available in our online directory on [www.vetconnectplus.com](http://www.vetconnectplus.com) or [www.iris-kidney.com](http://www.iris-kidney.com).

**UPC IF INDICATED** Date given: 01-07-19 T11:30a

UPC IF INDICATED	-
------------------	---

A urine protein:creatinine ratio (UPC) has been ordered as indicated by a positive urine protein with an inactive urine sediment.

**URINALYSIS** Date given: 01-07-19 T11:30a

COLLECTION METHOD	CYSTOCENTESIS -
COLOR	<b>B6</b>
CLARITY	
SPECIFIC GRAVITY	
GLUCOSE	
BILIRUBIN	
KETONES	
BLOOD	
PH	
PROTEIN	
UROBILINOGEN	
WBC	

Client: **B6**  
Patient: **B6**

**B6** results- 1/7/19

Accession No.	Doctor	Owner	Patient Name		
<b>B6</b>		<b>B6</b>			
Test	Results	Adult ReferenceRange	L	Normal	H
RBC	<b>B6</b>	-			
BACTERIA		-			
EPI CELL		-			
MUCUS		-			
CASTS		-			
CRYSTALS		-			

Client: **B6**  
Patient: **B6**

IDEXX Chemistry 1/8/19

01/08/2019 15:59

**B6**

**B6**

PAGE 02

**B6**

Date: 1/8/19

To: Tufts Foster Hospital

Attn: Cardiology **B6**

Fax Number: **B6**

NUMBER OF PAGES (including this cover page) \_\_\_\_\_

MESSAGE: Results attached of VA results  
for **B6** (obtained via Cysto)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Client: **B6**  
Patient: **B6**

**IDEXX Chemistry 1/8/19**

01/08/2019 15:59  
01-08-2019 6:19 AM

**B6**

**B6**

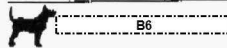
PAGE 01  
pg 1 of 2



IDEXX Reference Laboratories  
Division of IDEXX Laboratories  
www.idexx.com

One IDEXX Drive  
Westbrook, Maine 04092  
United States

IDEXX Reference Laboratories  
Customer Support  
888 433 9887



PET OWNER: **B6**

**B6**

ACCESSION # **B6**  
REQUISITION #: 116852762  
DATE OF COLLECTION: 01/08/2018  
DATE OF RECEIPT: 01/08/2018  
DATE OF REPORT: 01/08/2019

SPECIES: CANINE  
BREED: PIT BULL, AMERICAN  
GENDER: MALE NEUTERED  
AGE: **B6**

ACCOUNT #: 71290  
ORDERED BY: **B6**

IDEXX SERVICES: 3970 SPECIAL URINE PRO/CREAT RATIO, 2326 UA WITH UPC REFLEX

**CHEMISTRY**

TEST	RESULT	REF. RANGE/UNITS
Urine Protein: Creatinine Ratio If Indicated	<b>B6</b>	
Urine Creatinine		mg/dL
Urine Protein	<b>B6</b>	mg/dL
Urine Protein: Creatinine Ratio Color <sup>a</sup>		

**URINALYSIS**

TEST	RESULT	REF. RANGE/UNITS
Collection	CYSTOCENTESIS	
Color		
Clarity		
Specific Gravity		
pH		
Urine Protein		
Glucose		
Ketones		
Blood / Hemoglobin	<b>B6</b>	
Bilirubin		
Urobilinogen		
White Blood Cells		(0 - 5) HPF
Red Blood Cells		HPF
Bacteria		
Epithelial Cells		
Mucus		
Casts		
Crystals		

**NOTES**

CHEMISTRY

<sup>a</sup>

Renal proteinuria:  
UPC <0.2 non-proteinuric  
UPC 0.2-0.5 borderline proteinuric  
UPC >0.5 proteinuric

The urine protein:creatinine ratio (UPC) should be interpreted along with a

Get deeper insights: For complete access to this patient's diagnostic results, including historic values and images, login to [www.vetconnectplus.com](http://www.vetconnectplus.com)

Final report generated January 08, 2019

PAGE 1 of 2



Client: **B6**  
Patient: **B6**

Taurine Panel send out 1/3/2019

26456 PL ①  
26457 WB ②

### Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: [ucd.aminoacid.lab@ucdavis.edu](mailto:ucd.aminoacid.lab@ucdavis.edu)

[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)

1901030139  
B6  
B6 pit Race  
1/3/2019 3:36 PM  
SHIP w ICE PACKS, TAURINE  
PANEL  
Lithium Heparin  
Korin

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015389

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4689 Fax: 508-839-7938

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: \_\_\_\_\_

Patient Name: **B6** Species: Canine

Breed: Pit Bull Owner's Name: \_\_\_\_\_

Current Diet : \_\_\_\_\_

Sample type: Plasma Whole Blood Urine Food Other \_\_\_\_\_

Test: Taurine Complete Amino Acids Other: \_\_\_\_\_

#### Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client: **B6**  
Patient: **B6**

**Amino Acid Labs Taurine Panel 1/3/19**

**Amino Acid Laboratory Sample Submission Form**

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 956  
Telephone: 530-752-5058, Fax: 530-752-4698  
Email: [ucd.aminoacid.lab@ucdavis.edu](mailto:ucd.aminoacid.lab@ucdavis.edu)  
[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)

1901030139  
B6  
17/3/2019 3:36 PM  
SHIP w ICE PACKS, TAURINE  
PANEL  
Lithium Heparin  
Karl D

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA 015369

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669 Fax: 508-839-7836

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: \_\_\_\_\_

Patient Name: **B6** Species: Canine

Breed: Pit Bull Owner's Name: \_\_\_\_\_

Current Diet : \_\_\_\_\_

Sample type:  Plasma  Whole Blood  Urine  Food  Other \_\_\_\_\_

Test:  Taurine  Complete Amino Acids  Other: \_\_\_\_\_

**Taurine Results (lab use only)**

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

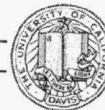
Client:  
Patient:

**B6**

**Amino Acid Labs Taurine Panel 1/3/19**

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

STERN CARDIAC GENETICS LABORATORY  
JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)  
[sterngenetics@ucdavis.edu](mailto:sterngenetics@ucdavis.edu); August 9, 2018

**FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED  
CARDIOMYOPATHY IN GOLDEN RETRIEVERS**

**Taurine reference ranges for Golden Retrievers:** The Stern Lab suggests that the following clinical reference ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundlands or American Cocker Spaniels. This is primarily based on 3 observations :

1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have documented disease reversal after taurine supplementation and diet change.
2. Previously published work documents taurine sensitivity in Golden Retrievers.
3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- Normal whole blood taurine: >250nmol/mL
- Normal plasma taurine: >70nmol/mL
- Marginal whole blood taurine: 200-250nmol/mL
- Marginal plasma taurine: 60-70nmol/mL
- Low whole Blood taurine: <200nmol/mL
- Low plasma taurine: <60nmol/mL

**References:**

- Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations with normal dogs and in dogs with heart disease. *J Vet Intern Med* 1995;9:253-258.
- Belanger MC, Ouellet M, Queney G, Moreau M. Taurine-deficient dilated cardiomyopathy in a family of golden retrievers. *J Am Anim Hosp Assoc* 2005;41:284-291.
- Kittleson MD, Keene B, Pion PD, Loyer CG, MUST Study Investigators. Results of the multicenter spaniel trial (MUST): taurine- and carnitine-responsive dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentration. *J Vet Intern Med* 1197;11:204-211.
- Backus RC, Choen G, Pion PD, Good KL, Rogers QR, Fascetti AJ. Taurine deficiency in Newfoundlands fed commercially available complete and balanced diets. *J Am Vet Med Assoc* 2003;223:1130-1136.
- Fascetti AJ, Reed JR, Rogers QR, Backus RC. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001). *J Am Vet Med Assoc* 2003;223:1137-1141.
- Freeman LM, Michel KE, Brown DJ, Kaplan PM, Stamoulis ME, Rosenthal SL, Keene BW, Rush JE. Idiopathic dilated cardiomyopathy in Dalmatians: nine cases (1990-1995). *J Am Vet Med Assoc* 1996;209:1592-1596.
- Delaney SJ, Kass PH, Rogers QR, Fascetti AJ. Plasma and whole blood taurine in normal dogs of varying size fed commercially prepared food. *J Anim Physiol a Anim Nutr* 2003;87:236-244.

**Plasma vs. whole blood taurine testing:**

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with DCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underscores the value of paired sampling.

Page 1 of 3

Client:  
Patient:

**B6**

---

**Amino Acid Labs Taurine Panel 1/3/19**

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**Clinical Recommendations for Golden Retrievers based on taurine levels:**

If taurine levels test <200nmol/mL in whole blood or <60nmol/mL in plasma

- An echocardiogram by a board-certified veterinary cardiologist is indicated
- After echocardiogram has been completed, a diet change is recommended.
  - If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test 200 – 250nmol/mL in whole blood or 60-70nmol/mL in plasma

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and thus the value of screening should be carefully considered. If the dog is eating a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months on the new diet should be considered.
- If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test >250nmol/mL in whole blood or >70nmol/mL in plasma

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below)
- If your pet shows any signs of cardiac disease (trouble breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

#### **Diets of Concern & Choosing a diet**

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk (for example legumes like peas and lentils, white or sweet potatoes). These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and DCM. Our lab considers these ingredients to be of greatest concern when present within the first 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study were using protein sources other than chicken or beef and labeled as grain-free.

Points to consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above
- Choose a diet that meets the WSAVA Global Nutrition Assessment Guidelines published as consensus by veterinary nutritionists from around the world:
  - <https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>
- FDA alert found here:
  - <https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

#### **Choosing a taurine or l-carnitine supplement:**

Selecting supplements should be performed based upon those that match their stated contents and are readily available for absorption. Luckily a previous publication tested multiple taurine and l-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Bragg et al. 2009 J Am Vet Med Assoc; 234(2))

#### Tested taurine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- Mega taurine caps by Twinlab (1000 capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

#### Tested L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- L-carnitine 500 by Jarrow Formulas (500mg capsule)
- L-carnitine caps by Country Life (500mg capsule)
- Maxi L-carnitine by Solgar Vitamin and Herb (500mg tablet)
- L-carnitine by Puritan's Pride (500mg tablet)

The Stern lab does not recommend the empirical supplementation of taurine or l-carnitine to dogs without evidence of DCM and/or significant deficiency. If DCM is diagnosed we typically recommend dogs over 50lbs receive 1000mg of taurine every 12hrs and dogs under 50lbs receive 500mg of taurine every 12hours. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 8hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

#### **Reporting to the FDA:**

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs can contribute their data to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death, or any combination of these events to the FDA by following the information found here:

<https://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>

Additional questions or comments:

[sterngenetics@ucdavis.edu](mailto:sterngenetics@ucdavis.edu)

This document last updated: Aug. 20, 2018

Page 3 of 3

Client:  
Patient:

**B6**

**Amino Acid Labs Taurine Panel 1/3/19**



**CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY**

The Cardiology Service has developed this document in response to the alerts from the FDA. These alerts identify an associated risk for some grain-free diets containing certain ingredients (legumes like peas, pea components, lentils; white potatoes, sweet potatoes) and a diagnosis of dilated cardiomyopathy (DCM). The links provided throughout this document can be copied and pasted to obtain additional information.

FDA Alerts found here:

<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

<https://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm616279.htm>

**What is Dilated Cardiomyopathy (DCM)?**

DCM is a heart muscle disorder that results in a weak pump function and heart chamber enlargement. In the early stages of this disease pets may appear totally healthy with no apparent clinical signs. Later in the course of this disease, dogs may have a heart murmur, an arrhythmia (irregular heart beat), collapse episodes, weakness or tiredness with exercise, and even trouble breathing from congestive heart failure. While there are some breeds of dogs (like Dobermans) that have a genetic predisposition to development of DCM, there are also nutritional factors that may result in this disease.

**What should I do?**

If you are feeding a diet of concern based upon the FDA alert we recommend that you consult with your veterinarian or veterinary cardiologist. We provide 4 general points for guidance below:

1. An initial step is to **consider whether you are willing or interested in performing additional testing** to assess whether your pet is affected with DCM. If you believe your dog is at risk, showing any of the aforementioned clinical signs or would prefer to simply rule out any heart disease, we recommend that you first have your pet's taurine levels tested (both whole blood and plasma levels) as well as seek an echocardiogram by a board-certified veterinary cardiologist. Low taurine levels are associated with development of DCM in dogs and are sometimes a component of this current issue.

Information on taurine testing can be found here: <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>

2. At this time, **diet change is recommended when possible** and should be considered regardless of the results obtained from any testing. You can consult with your veterinarian in selecting a new diet that avoids the ingredients of concern listed by the FDA. When selecting this diet, we recommend that you choose a diet that is manufactured with rigorous quality control measures and research behind the formulation. A way to ensure that your diet meets these recommendations is to follow the following guidelines that were generated by a large number of the world's leading experts in veterinary nutrition.

Food selection guidelines found here:

<https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>

3. If your pet is identified through testing to have a low blood taurine level or evidence of DCM by echocardiogram, we urge you to **report this information to the FDA**.

FDA reporting guidelines found here: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

4. **Work with your veterinarian(s)** to determine the best course of action and medical treatments if indicated. In the case of a DCM diagnosis, diet change alone may not be sufficient and additional medications may be prescribed.

Please continue to monitor the FDA website and the UC Davis School of Veterinary Medicine Newsfeeds for updates and recommendations regarding this issue.

Client:  
Patient:

**B6**

**Texas A&M GI Lab Troponin Result 1/24/19**



**Gastrointestinal Laboratory**  
**Dr. J.M. Steiner**  
**Department of Small Animal Clinical Sciences**  
**Texas A&M University**  
**4474 TAMU**  
**College Station, TX 77843-4474**



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

**B6**  
Tufts University-Clinical Pathology Lab  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

Phone: 508 887 4669  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name:  
Species: Canine  
Date Received: Jan 24, 2019

**B6**

Tufts University-Clinical Pathology Lab  
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤0.06	01/24/19

**B6**

Comments:

**GI Lab Contact Information**

Phone: (979) 862-2861  
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu  
vetmed.tamu.edu/gilab

Client: **B6**  
Patient:

Gastro Lab 1/24/19



Gastrointestinal Laboratory  
Dr. J.M. Steiner  
Department of Small Animal Clinical Sciences  
Texas A&M University  
4474 TAMU  
College Station, TX 77843-4474



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

**B6**  
Tufts University-Clinical Pathology Lab  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

Phone: 508 887 4669  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name: **B6**  
Species: Canine  
Date Received: Jan 24, 2019

Tufts University-Clinical Pathology Lab  
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤0.06	01/24/19

**B6**

Comments:

GI Lab Contact Information

Phone: (979) 862-2861  
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu  
vetmed.tamu.edu/gilab



Client:  
Patient:

**B6**

**B6**

1/29/19

Client: **B6**  
Patient Name: **B6**  
Species: Canine  
Breed:

Gender:  
Weight:  
Age:  
Doctor: **B6**

**B6**

Test      Results      Reference Interval      LOW      NORMAL      HIGH

Catalyst One (January 29, 2019 2:46 PM)

GLU		74 - 143	
CREA		0.5 - 1.8	HIGH
BUN		7 - 27	HIGH
BUN/CREA			
PHOS		2.5 - 6.8	
CA		7.9 - 12.0	
TP		5.2 - 8.2	
ALB		2.3 - 4.0	
GLOB	<b>B6</b>	2.5 - 4.5	
ALB/GLOB			
ALT		10 - 125	HIGH
ALKP		23 - 212	
GGT		0 - 11	
TBIL		0.0 - 0.9	
CHOL		110 - 320	
AMYL		500 - 1500	
LIPA		200 - 1800	

1/29/19  
78.4lbs

Specific Gravity

**B6**

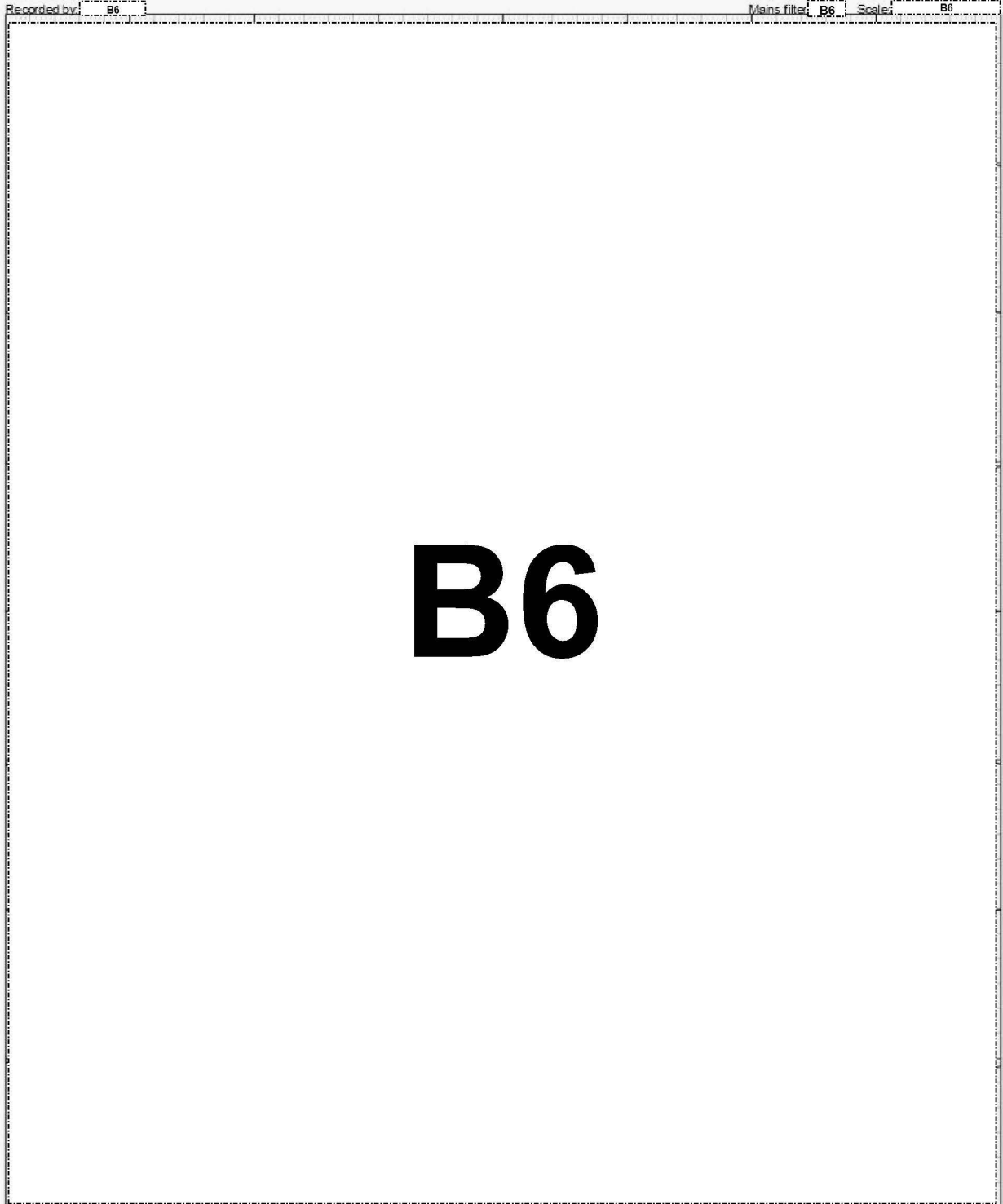


Client:  
Patient:

**B6**

**AliveCor ECG**

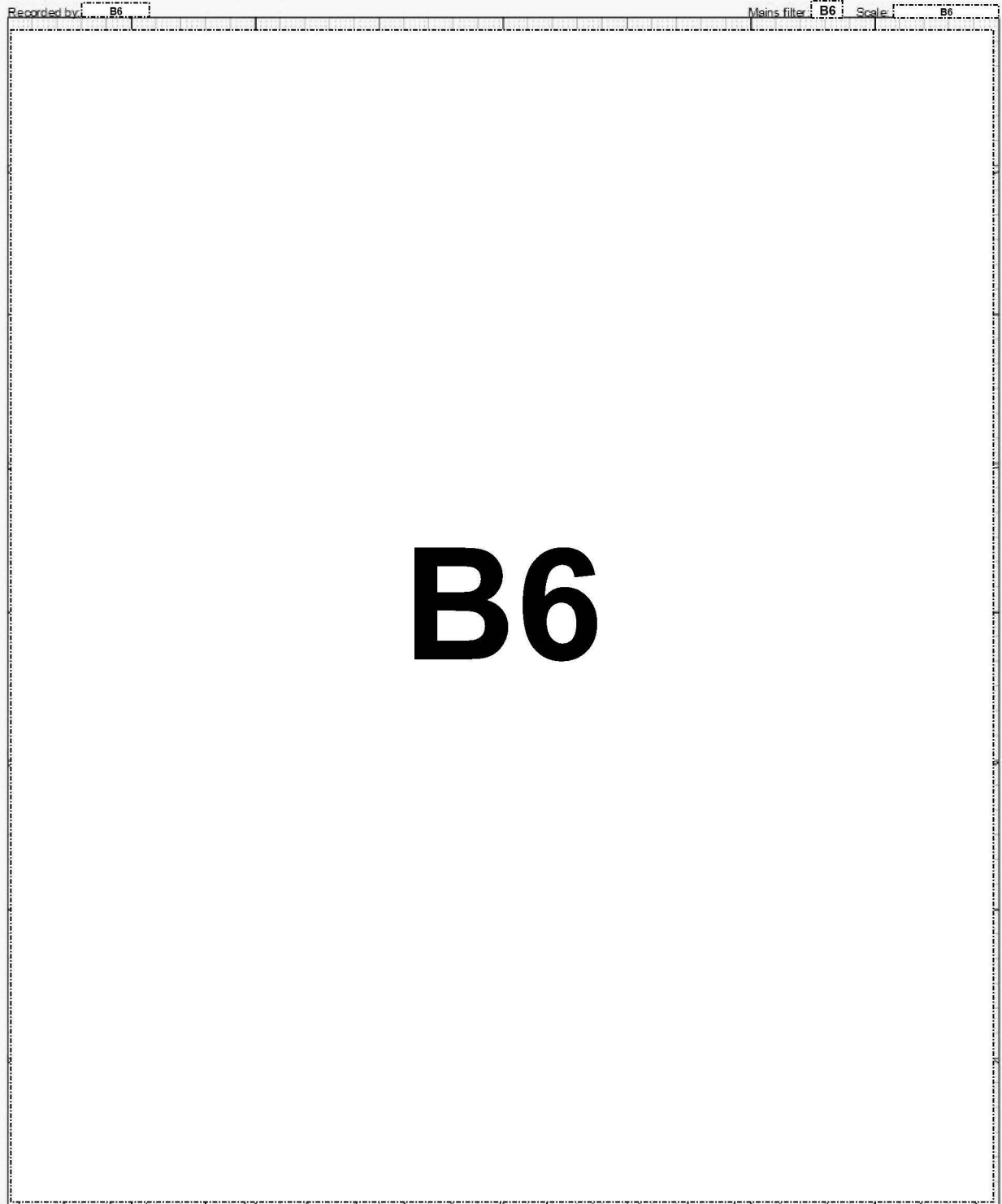
Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



Client: **B6**  
Patient: **B6**

**AliveCor ECG**

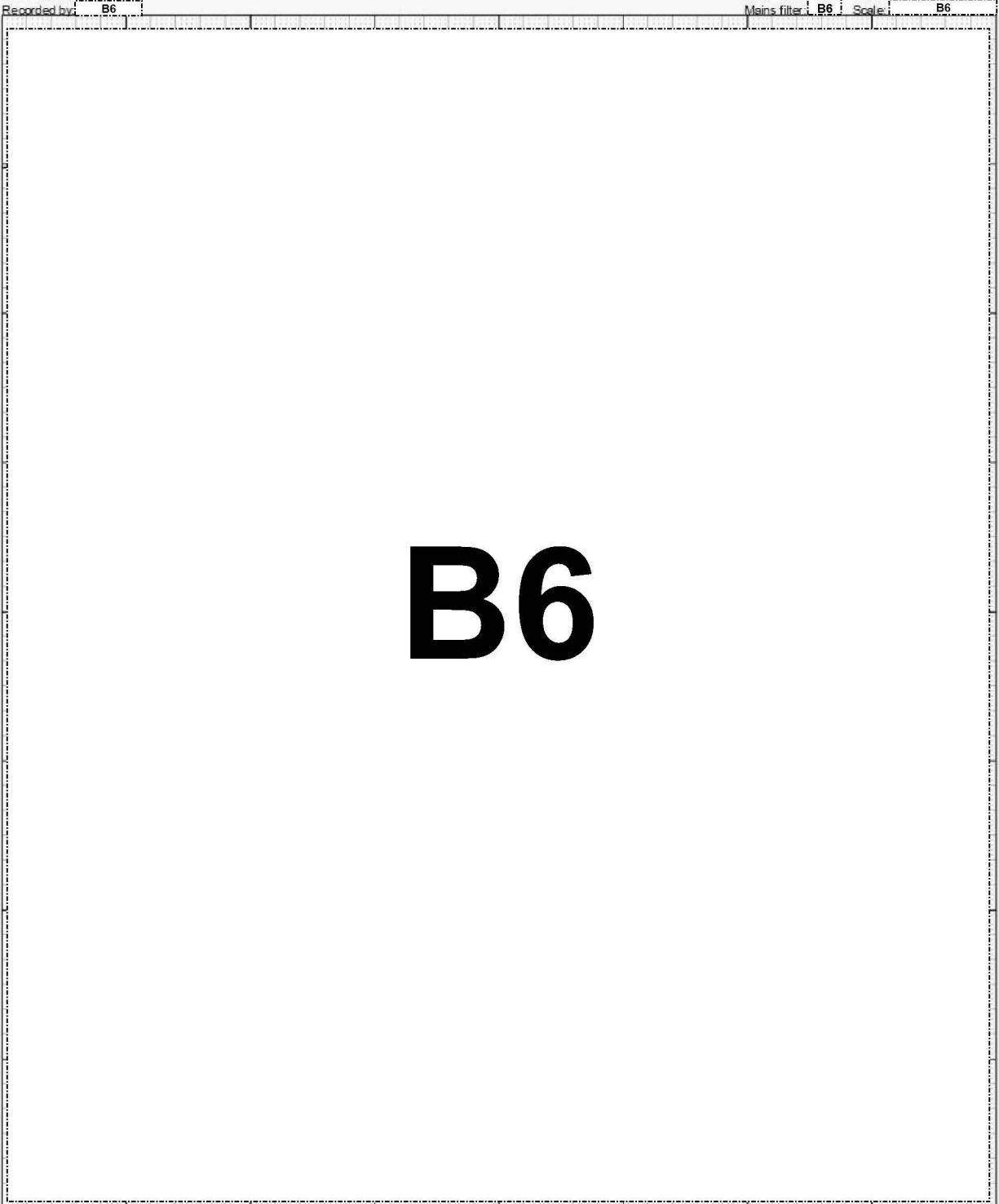
Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



Client:  
Patient: **B6**

**AliveCor ECG**

Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



Client: **B6**  
Patient: **B6**

**RDVM** **B6** et hospital records

Patient Chart for: **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 14

Date	By	Code	Description	Qty (Variance)	Photo
10-19-12	KR		<b>B6</b>		
10-19-12		OTC NOTES	Notes		
			JGH: 10-19-12 at 2:26p: <b>B6</b>		
			Attachments\10080\ <b>B6</b> .pdf		
10-17-12	KR	NOTES	Notes		
			KR: 10-19-12 at 12:57p: <b>B6</b>		
			<b>B6</b>		
			KR: 10-17-12 at 5:17p: <b>B6</b>		
			<b>B6</b>		
			<b>B6</b>		
10-17-12		OTC NOTES	Scan of MVR report		
	Est #		<b>B6</b>		
			Attachments\10080\ <b>B6</b> 10172012114422397.pdf		
10-08-12	KR		<b>B6</b>		
10-04-12		OTC NOTES	Notes		
			DJL: 10-04-12 at 3:53p: <b>B6</b>		
			Attachments\10080\ <b>B6</b> .pdf		
10-03-12	KR	3CAR1B	<b>B6</b>		
			<b>B6</b>		
		CC	Client Communication		
			KR: 10-03-12 at 5:32p: <b>B6</b>		
10-03-12		OTC NOTES	Scan from <b>B6</b>		
			Attachments\10080\ <b>B6</b> 10032012122018088.pdf		
09-24-12	KR	CC	Client Communication		
			<b>B6</b>		
		FNOTES	By: KR, Please Call		
			MUS: 09-24-12 at 10:32a: <b>B6</b>		

Client: **B6**  
Patient: **B6**

RDVM **B6** records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 15

Date	By	Code	Description	Qty (Variance)	Photo
			<b>B6</b>		
09-19-12	WGM	3PRD10	<b>B6</b>	<b>B6</b>	
09-18-12	KR		<b>B6</b>	<b>B6</b>	
			<b>B6</b>		
			<b>B6</b>		
			<b>B6</b>		
			<b>B6</b>		
09-18-12	SGY	VISIT	Patient check-in		
			<b>B6</b>		
			<b>B6</b>		
09-18-12	KR	CC	Client Communication		
			KR: 09-17-12 at 1:25p: <b>B6</b>		
			<b>B6</b>		
			<b>B6</b>		
09-07-12	KR	FNOTES	By: KR, check on progress		
			KR: 09-06-12 at 8:20p: LMOM for PR		
			ERH: 09-07-12 at 3:14p: <b>B6</b>		
			<b>B6</b>		
09-04-12	OTC	CC	Client Communication		
			KR: 09-04-12 at 9:22a: <b>B6</b>		
			<b>B6</b>		

Client: **B6**  
Patient: **B6**

RDVM **B6** records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 16

Date	By	Code	Description	Qty (Variance)	Photo
09-04-12	KR		<b>B6</b>		
		<b>B6</b>			
	<b>B6</b>		<b>B6</b>		
08-31-12	KR	CC	Client Communication		
	KR: 08-31-12 at 2:17p:			<b>B6</b>	
	<b>B6</b>				
08-30-12	KR	CC	Client Communication		
	KR: 08-30-12 at 8:08p: put rads on vin - they thin			<b>B6</b>	
					has bilateral CCL ruptures.
08-27-12	KR	1DOCI	Doctors' Instructions		

**B6**

Please contact our office with any concerns or questions. **B6**

Thank you,  
**B6**

**B6**

Client:  
Patient:

**B6**

RDVM **B6** records

Patient Chart for **B6**  
Date: 01-02-19, Time: 5:09p

Client: **B6** Page: 17

Date	By	Code	Description	Qty (Variance)	Photo
		<b>B6</b>			
08-27-12	KR	1OCB	Office Call - Brief Exam		
<b>B6</b>					
		VISIT	Patient check-in		
		D.JL: 08-23-12 at 9:47a: exam		<b>B6</b>	
		MUS: 08-27-12 at 8:54a: NPG	<b>B6</b> call in on emergency line at	<b>B6</b>	

Age: 16m

06-14-12	KR	<b>B6</b>			
<b>B6</b>					



Client: **B6**  
Patient: **B6**

**IDEXX BNP - 1/3/2019**

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: AMERICAN\_PIT\_BU  
Gender: MALE NEUTERED  
Age: 0Y

Date: 01/03/2019  
Requisition #: 436257  
Accession #: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536  
508-839-5395  
Account #88933

**CARDIOPET proBNP - CANINE**

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

Comments:

**B6**

Client: **B6**  
Patient: **B6**

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road  
North Grafton, MA 01536

DUPLICATE

Name/DOB: **B6**      Sex: CM      Provider: **B6**  
Patient ID: **B6**      Age: **18d**      Order Location: V320539: Investigation into  
Phone number:      Species: Canine      Sample ID: 1901030138  
Collection Date: 1/3/2019 3:35 PM      Breed: Pit Bull  
Approval date: 1/4/2019 10:42 AM

CBC, Comprehensive, Sm Animal (Research)

Test	Result	Ref. Range/Males
DNOYES		
WBC (ADVIA)	<b>B6</b>	4.40-15.10 K/uL
RBC (Advia)	<b>B6</b>	5.80-8.50 M/uL
Hemoglobin (ADVIA)	<b>B6</b>	13.3-20.5 g/dL
Hematocrit (Advia)	<b>B6</b>	39-55 %
MCV (ADVIA)	<b>B6</b>	64.5-77.5 fL
MCH (ADVIA)	<b>B6</b>	21.3-25.9 pg
MCHC (ADVIA)	<b>B6</b>	31.9-34.3 g/dL
RDW (ADVIA)	<b>B6</b>	11.9-15.2
Platelet Count (Advia)	<b>B6</b>	173-486 K/uL
01/03/19 5:49 PM		
Mean Platelet Volume (Advia)	<b>B6</b>	8.29-13.20 fl
01/03/19 4:20 PM		
Platelet Crit	<b>B6</b>	0.129-0.403 %
01/03/19 4:20 PM		
Reticulocyte Count (Advia)	<b>B6</b>	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	<b>B6</b>	14.7-113.7 K/uL

Microscopic Exam of Blood Smear (Advia)

Test	Result	Ref. Range/Males
DNOYES		
Seg Neuts (%)	<b>B6</b>	43-86 %
Lymphocytes (%)	<b>B6</b>	7-47 %
Monocytes (%)	<b>B6</b>	1-15 %
Eosinophils (%)	<b>B6</b>	0-16 %
Seg Neutrophils (Abs) Advia	<b>B6</b>	2.80-11.50 K/uL
Lymphs (Abs) Advia	<b>B6</b>	1.00-4.80 K/uL
Mono (Abs) Advia	<b>B6</b>	0.10-1.50 K/uL
Eosinophils (Abs) Advia	<b>B6</b>	0.00-1.40 K/uL
WBC Morphology	<b>B6</b>	
RBC Morphology	<b>B6</b>	

Research Chemistry Profile - Small Animal (Cobas)

Test	Result	Ref. Range/Males
ABLASSOTTO		
Glucose	<b>B6</b>	67-135 mg/dL
Urea	<b>B6</b>	8-30 mg/dL
Creatinine	<b>B6</b>	0.6-2.0 mg/dL
Phosphorus	<b>B6</b>	2.6-7.2 mg/dL

Sample ID: 1901030138/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
Patient: **B6**

CBC/CHEM - 1/3/2019



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: CM	Provider: <b>B6</b>
Patient ID:	<b>B6</b>	Age: <b>1:00</b>	Order Location: V320559: Investigation into
Phone number:		Species: Canine	Sample ID: 1901030138
Collection Date: 1/3/2019 3:35 PM		Breed: Pit Bull	
Approval date: 1/4/2019 10:42 AM			

**Research Chemistry Profile - Small Animal (Cobas) (cont'd)**

		Ref. Range/Males
ABLASOTTO		
Calcium 2	H	9.4-11.3 mg/dL
Magnesium 2+	L	1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium	H	140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP	H	8.0-19.0
NA/K	<b>B6</b>	29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT	H	14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)	H	291-315 mmol/L

Sample ID: 1901030138/2  
END OF REPORT (Final)

Reviewed by: \_\_\_\_\_  
Page 2

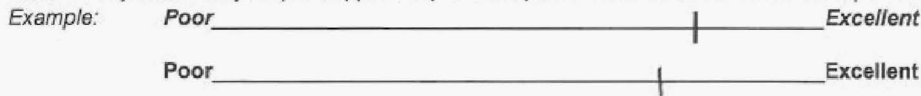
Client: **B6**  
 Patient: **B6**

**Diet history 1/3/19**

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 1/3/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)



2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other seems more hesitant to eat but once encouraged, he eats his meals. Elevating his bowl has helped

3. Over the last few weeks, has your pet (check one)

- Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below **ALL** pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
4Health adult Kibble (alternating proteins - lamb, fish)	dry	1 1/4 c	Twice daily	12/18
↓ WHITERISIL + POTATO OR SALMON + POTATO ADULT				

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Antioxidants	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Multivitamin	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Fish oil	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Other (please list): Example: Vitamin C	<u>Nature's Bounty</u>	<u>500 mg tablets - 1 per day</u>
<u>Augen powder</u>	_____	_____
<u>CBQ oil - 4 drops BID</u>	_____	<u>1 tsp twice daily (just for flavor)</u>

6. How do you administer pills to your pet?

- I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food - canned food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

Client:

**B6**

Patient:

---

**Diet history 1/3/19**

---

Has been eating 4health grain free (alternating proteins) for multiple years, just recently switched to regular kibble (w/grain)

has ~~use~~ been fed a very wide variety of canned food, only used to give medications - about 2 tablespoons twice daily

- pedigree
- pure balance
- 4 health

Client: **B6**  
Patient: **B6**

**Lab Results IDEXX Leptospirosis Panel (MAT) 1/4/19**

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: AMERICAN\_PIT\_BU  
Gender: MALE NEUTERED  
Age: 7Y

Date: 01/04/2019  
Requisition #: 462544  
Accession: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9987  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536-1828  
508-839-5395  
Account #80735

**LEPTOSPIROSIS PANEL (MAT)**

Test	Result	Reference Range	Low	Normal	High
L. BRATISLAVA	<b>B6</b>				
L. CANICOLA					
L. GRYPPOTYPHOSA					
L. ICTEROHAEMORRHAGIAE					
L. POMONA					
L. AUTUMNALIS					

**Comments:**

**B6**

Client:  
Patient:

**B6**

**B6**

results- 1/7/19

Page: 1

Patient Info:

Name: **B6**

Record No: 21646

Owner: **B6**

Doctor: **B6**

Species: **B6**

Breed: American Pit Bull

Age: **B6**

Sex: N

**B6**

Accession No.	Doctor	Owner	Patient Name
<b>B6</b>		<b>B6</b>	
Test	Results	Adult Reference Range	L Normal H
<b>SPECIAL URINE PRO/CREAT RATIO</b>			Date given: 01-07-19 T11:30a

URINE CREATININE

URINE PROTEIN

URINE PRO/CREAT RATIO

COLOR

**B6**

Renal proteinuria

UPC <0.2 non-proteinuric  
 UPC 0.2-0.5 borderline proteinuric  
 UPC >0.5 proteinuric

**B6**

Additional interpretive guidelines and management recommendations are available in our online directory on [www.vetconnectplus.com](http://www.vetconnectplus.com) or [www.iris-kidney.com](http://www.iris-kidney.com).

**UPC IF INDICATED**

Date given: 01-07-19 T11:30a

UPC IF INDICATED

A urine protein : creatinine ratio (UPC) has been ordered as indicated by a positive urine protein with an inactive urine sediment.

**URINALYSIS**

Date given: 01-07-19 T11:30a

COLLECTION METHOD

CYSTOCENTESIS -

COLOR

CLARITY

SPECIFIC GRAVITY

GLUCOSE

BILIRUBIN

KETONES

BLOOD

PH

PROTEIN

UROBILINOGEN

WBC

**B6**

Client: **B6**  
Patient: **B6**

**B6** results- 1/7/19

Accession No.	Doctor	Owner	Patient Name		
<b>B6</b>		<b>B6</b>			
Test	Results	Adult ReferenceRange	L	Normal	H
RBC	<b>B6</b>				
BACTERIA					
EPI CELL					
MUCUS					
CASTS					
CRYSTALS					



Client:  
Patient:

**B6**

IDEXX Chemistry 1/8/19

01/08/2019 15:59

**B6**

**B6**

PAGE 02

**B6**

Date: 1/8/19

To: Tufts Foster Hospital

Attn: Cardiology / **B6**

Fax Number: **B6**

NUMBER OF PAGES (including this cover page) \_\_\_\_\_

MESSAGE: Results attached of VA results  
for **B6** (Obtained via Cysto)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Client: **B6**  
Patient: **B6**

IDEXX Chemistry 1/8/19

01/08/2019 15:59  
01-08-2019 6:19 AM

**B6**

**B6**

PAGE 81  
00 1 of 2



IDEXX Reference Laboratories  
Division of IDEXX Laboratories  
www.idexx.com

One IDEXX Drive  
Westbrook, Maine 04092  
United States

IDEXX Reference Laboratories  
Customer Support  
888 433 8987



**B6**

PET OWNER: **B6**

**B6**

ACCESSION # **B6**  
REQUISITION #: 116892762  
DATE OF COLLECTION: 01/08/2019  
DATE OF RECEIPT: 01/08/2019  
DATE OF REPORT: 01/08/2019

SPECIES: CANINE  
BREED: PIT BULL, AMERICAN  
SEX: MALE NEUTERED  
AGE: **B6**

ACCOUNT #: 71280  
ORDERED BY: **B6**

IDEXX SERVICES: 3970 SPECIAL URINE PRO/CREAT RATIO, 2328 UA WITH UPC REFLEX

**CHEMISTRY**

TEST RESULT REF RANGE/UNITS  
Urine Protein:  
Creatinine Ratio If  
Indicated **B6**

Urine Creatinine mg/dL  
Urine Protein mg/dL  
Urine Protein:  
Creatinine Ratio  
Color \*

**URINALYSIS**

TEST REF RANGE/UNITS  
Collection  
Color  
Clarity  
Specific Gravity  
pH  
Urine Protein **B6**  
Glucose  
Ketones  
Blood / Hemoglobin  
Bilirubin  
Urobilinogen  
White Blood Cells (0 - 5) HPF  
Red Blood Cells HPF  
Bacteria  
Epithelial Cells  
Mucus  
Casts  
Crystals

**NOTES**

CHEMISTRY

<sup>a</sup> Renal proteinuria:  
UPC <0.2 non-proteinuric  
UPC 0.2-0.5 borderline proteinuric  
UPC >0.5 proteinuric

The urine protein:creatinine ratio (UPC) should be interpreted along with a

Get deeper insights: For complete access to this patient's diagnostic results, including historic values and images, login to [www.vetconnectplus.com](http://www.vetconnectplus.com)  
Final report generated January 08, 2019 PAGE 1 of 2

Client:  
Patient:

**B6**

Taurine Panel send out 1/3/2019

26 Q56 PL ①  
26457 WB ②

### Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: [ucd.aminoacid.lab@ucdavis.edu](mailto:ucd.aminoacid.lab@ucdavis.edu)

[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)

**B6**  
B6 pit Race  
1/3/2019 3:36 PM  
SHIP w ICE PACKS, TAURINE  
PANEL  
Lithium Heparin  
**B6**

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015389

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: \_\_\_\_\_

Patient Name: **B6** Species: Canine

Breed: Pit Bull Owner's Name: \_\_\_\_\_

Current Diet : \_\_\_\_\_

Sample type: Plasma Whole Blood Urine Food Other \_\_\_\_\_

Test: Taurine Complete Amino Acids Other: \_\_\_\_\_

#### Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client:  
Patient:

**B6**

**Amino Acid Labs Taurine Panel 1/3/19**

**Amino Acid Laboratory Sample Submission Form**

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 956  
Telephone: 530-752-5058, Fax: 530-752-4698  
Email: [ucd.aminoacid.lab@ucdavis.edu](mailto:ucd.aminoacid.lab@ucdavis.edu)  
[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)

**B6**

pit Race  
1/3/2019 3:36 PM  
SHIP w ICE PACKS, TAURINE  
PANEL  
Lithium Heparin

Veterinarian Contact: **B6**

**B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA 01536

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669

Fax: 508-839-7936

Billing Contact: **B6**

Email: **B6**

Billing Contact Phone: \_\_\_\_\_

Tax ID: \_\_\_\_\_

Patient Name: **B6**

Species: Canine

Breed: Pit Bull

Owner's Name: \_\_\_\_\_

Current Diet: \_\_\_\_\_

Sample type:  Plasma  Whole Blood  Urine  Food  Other \_\_\_\_\_

Test:  Taurine  Complete Amino Acids  Other: \_\_\_\_\_

**Taurine Results (lab use only)**

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client:  
Patient:

**B6**

**Amino Acid Labs Taurine Panel 1/3/19**

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

STERN CARDIAC GENETICS LABORATORY  
JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)  
[sterngenetics@ucdavis.edu](mailto:sterngenetics@ucdavis.edu); August 9, 2018

**FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED  
CARDIOMYOPATHY IN GOLDEN RETRIEVERS**

**Taurine reference ranges for Golden Retrievers:** The Stern Lab suggests that the following clinical reference ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundlands or American Cocker Spaniels. This is primarily based on 3 observations :

1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have documented disease reversal after taurine supplementation and diet change.
2. Previously published work documents taurine sensitivity in Golden Retrievers.
3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- Normal whole blood taurine: >250nmol/mL
- Normal plasma taurine: >70nmol/mL
- Marginal whole blood taurine: 200-250nmol/mL
- Marginal plasma taurine: 60-70nmol/mL
- Low whole Blood taurine: <200nmol/mL
- Low plasma taurine: <60nmol/mL

**References:**

- Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations with normal dogs and in dogs with heart disease. *J Vet Intern Med* 1995;9:253-258.
- Belanger MC, Ouellet M, Queney G, Moreau M. Taurine-deficient dilated cardiomyopathy in a family of golden retrievers. *J Am Anim Hosp Assoc* 2005;41:284-291.
- Kittleson MD, Keene B, Pion PD, Loyer CG, MUST Study Investigators. Results of the multicenter spaniel trial (MUST): taurine- and carnitine-responsive dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentration. *J Vet Intern Med* 1197;11:204-211.
- Backus RC, Choen G, Pion PD, Good KL, Rogers QR, Fascetti AJ. Taurine deficiency in Newfoundlands fed commercially available complete and balanced diets. *J Am Vet Med Assoc* 2003;223:1130-1136.
- Fascetti AJ, Reed JR, Rogers QR, Backus RC. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001). *J Am Vet Med Assoc* 2003;223:1137-1141.
- Freeman LM, Michel KE, Brown DJ, Kaplan PM, Stamoulis ME, Rosenthal SL, Keene BW, Rush JE. Idiopathic dilated cardiomyopathy in Dalmatians: nine cases (1990-1995). *J Am Vet Med Assoc* 1996;209:1592-1596.
- Delaney SJ, Kass PH, Rogers QR, Fascetti AJ. Plasma and whole blood taurine in normal dogs of varying size fed commercially prepared food. *J Anim Physiol a Anim Nutr* 2003;87:236-244.

**Plasma vs. whole blood taurine testing:**

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with DCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underscores the value of paired sampling.

Page 1 of 3

**Clinical Recommendations for Golden Retrievers based on taurine levels:**

If taurine levels test <200nmol/mL in whole blood or <60nmol/mL in plasma

- An echocardiogram by a board-certified veterinary cardiologist is indicated
- After echocardiogram has been completed, a diet change is recommended.
  - If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test 200 – 250nmol/mL in whole blood or 60-70nmol/mL in plasma

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and thus the value of screening should be carefully considered. If the dog is eating a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months on the new diet should be considered.
- If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
  - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
  - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
  - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
  - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test >250nmol/mL in whole blood or >70nmol/mL in plasma

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below)
- If your pet shows any signs of cardiac disease (trouble breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

Client:  
Patient:

**B6**

## Amino Acid Labs Taurine Panel 1/3/19

### Diets of Concern & Choosing a diet

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk (for example legumes like peas and lentils, white or sweet potatoes). These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and DCM. Our lab considers these ingredients to be of greatest concern when present within the first 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study were using protein sources other than chicken or beef and labeled as grain-free.

Points to consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above
- Choose a diet that meets the WSAVA Global Nutrition Assessment Guidelines published as consensus by veterinary nutritionists from around the world:
  - <https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>
- FDA alert found here:
  - <https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

### Choosing a taurine or l-carnitine supplement:

Selecting supplements should be performed based upon those that match their stated contents and are readily available for absorption. Luckily a previous publication tested multiple taurine and l-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Bragg et al. 2009 J Am Vet Med Assoc; 234(2))

#### Tested taurine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- Mega taurine caps by Twinlab (1000 capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

#### Tested L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- L-carnitine 500 by Jarrow Formulas (500mg capsule)
- L-carnitine caps by Country Life (500mg capsule)
- Maxi L-carnitine by Solgar Vitamin and Herb (500mg tablet)
- L-carnitine by Puritan's Pride (500mg tablet)

The Stern lab does not recommend the empirical supplementation of taurine or l-carnitine to dogs without evidence of DCM and/or significant deficiency. If DCM is diagnosed we typically recommend dogs over 50lbs receive 1000mg of taurine every 12hrs and dogs under 50lbs receive 500mg of taurine every 12hours. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 8hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

### Reporting to the FDA:

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs can contribute their data to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death, or any combination of these events to the FDA by following the information found here:

<https://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>

Additional questions or comments:

[sterngenetics@ucdavis.edu](mailto:sterngenetics@ucdavis.edu)

This document last updated: Aug. 20, 2018

Page 3 of 3

Client:  
Patient:

B6

## Amino Acid Labs Taurine Panel 1/3/19



### **CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY**

The Cardiology Service has developed this document in response to the alerts from the FDA. These alerts identify an associated risk for some grain-free diets containing certain ingredients (legumes like peas, pea components, lentils; white potatoes, sweet potatoes) and a diagnosis of dilated cardiomyopathy (DCM). The links provided throughout this document can be copied and pasted to obtain additional information.

FDA Alerts found here:

<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

<https://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm616279.htm>

#### **What is Dilated Cardiomyopathy (DCM)?**

DCM is a heart muscle disorder that results in a weak pump function and heart chamber enlargement. In the early stages of this disease pets may appear totally healthy with no apparent clinical signs. Later in the course of this disease, dogs may have a heart murmur, an arrhythmia (irregular heart beat), collapse episodes, weakness or tiredness with exercise, and even trouble breathing from congestive heart failure. While there are some breeds of dogs (like Dobermans) that have a genetic predisposition to development of DCM, there are also nutritional factors that may result in this disease.

#### **What should I do?**

If you are feeding a diet of concern based upon the FDA alert we recommend that you consult with your veterinarian or veterinary cardiologist. We provide 4 general points for guidance below:

1. An initial step is to **consider whether you are willing or interested in performing additional testing** to assess whether your pet is affected with DCM. If you believe your dog is at risk, showing any of the aforementioned clinical signs or would prefer to simply rule out any heart disease, we recommend that you first have your pet's taurine levels tested (both whole blood and plasma levels) as well as seek an echocardiogram by a board-certified veterinary cardiologist. Low taurine levels are associated with development of DCM in dogs and are sometimes a component of this current issue.

Information on taurine testing can be found here: <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>

2. At this time, **diet change is recommended when possible** and should be considered regardless of the results obtained from any testing. You can consult with your veterinarian in selecting a new diet that avoids the ingredients of concern listed by the FDA. When selecting this diet, we recommend that you choose a diet that is manufactured with rigorous quality control measures and research behind the formulation. A way to ensure that your diet meets these recommendations is to follow the following guidelines that were generated by a large number of the world's leading experts in veterinary nutrition.

Food selection guidelines found here:

<https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>

3. If your pet is identified through testing to have a low blood taurine level or evidence of DCM by echocardiogram, we urge you to **report this information to the FDA**.

FDA reporting guidelines found here: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

4. **Work with your veterinarian(s)** to determine the best course of action and medical treatments if indicated. In the case of a DCM diagnosis, diet change alone may not be sufficient and additional medications may be prescribed.

Please continue to monitor the FDA website and the UC Davis School of Veterinary Medicine Newsfeeds for updates and recommendations regarding this issue.



Client: **B6**  
Patient: **B6**

Texas A&M GI Lab Troponin Result 1/24/19



Gastrointestinal Laboratory  
Dr. J.M. Steiner  
Department of Small Animal Clinical Sciences  
Texas A&M University  
4474 TAMU  
College Station, TX 77843-4474



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

**B6**  
Tufts University-Clinical Pathology Lab  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

Phone: 508 887 4669  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name: **B6**  
Species: Canine  
Date Received: Jan 24, 2019

Tufts University-Clinical Pathology Lab  
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤0.06	01/24/19

**B6**

Comments:

GI Lab Contact Information

Phone: (979) 862-2861  
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu  
vetmed.tamu.edu/gilab

Client: **B6**  
Patient:

Gastro Lab 1/24/19



Gastrointestinal Laboratory  
Dr. J.M. Steiner  
Department of Small Animal Clinical Sciences  
Texas A&M University  
4474 TAMU  
College Station, TX 77843-4474



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

**B6**  
Tufts University-Clinical Pathology Lab  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

Phone: 508 887 4669  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name: **B6**  
Species: Canine  
Date Received: Jan 24, 2019

Tufts University-Clinical Pathology Lab  
Tracking Number:

GI Lab Accession: **B6**

<u>Test</u>	<u>Result</u>	<u>Reference Interval</u>	<u>Assay Date</u>
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤0.06	01/24/19

**B6**

Comments:

GI Lab Contact Information

Phone: (979) 862-2861  
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu  
vetmed.tamu.edu/gilab

Client: **B6**  
Patient: **B6**

**B6** HS Catalyst One 1/29/19

Client: **B6**  
Patient Name: **B6**  
Species: Canine  
Breed:

Gender:  
Weight:  
Age:  
Doctor: **B6**

**B6**

Test Results Reference Interval LOW NORMAL HIGH

Catalyst One (January 29, 2019 2:46 PM)

Test	Results	Reference Interval	LOW	NORMAL	HIGH
GLU	<b>B6</b>	74 - 143			
CREA	<b>B6</b>	0.5 - 1.8	HIGH		
BUN	<b>B6</b>	7 - 27	HIGH		
BUN/CREA	<b>B6</b>				
PHOS	<b>B6</b>	2.5 - 6.8			
CA	<b>B6</b>	7.9 - 12.0			
TP	<b>B6</b>	5.2 - 8.2			
ALB	<b>B6</b>	2.3 - 4.0			
GLOB	<b>B6</b>	2.5 - 4.5			
ALB/GLOB	<b>B6</b>				
ALT	<b>B6</b>	10 - 125	HIGH		
ALKP	<b>B6</b>	23 - 212			
GGT	<b>B6</b>	0 - 11			
TBIL	<b>B6</b>	0.0 - 0.9			
CHOL	<b>B6</b>	110 - 320			
AMYL	<b>B6</b>	500 - 1500			
LIPA	<b>B6</b>	200 - 1800			

**B6**

1/29/19  
78.4lbs

Specific Gravity  
**B6**

Client:  
Patient: **B6**

**AliveCor ECG**

Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



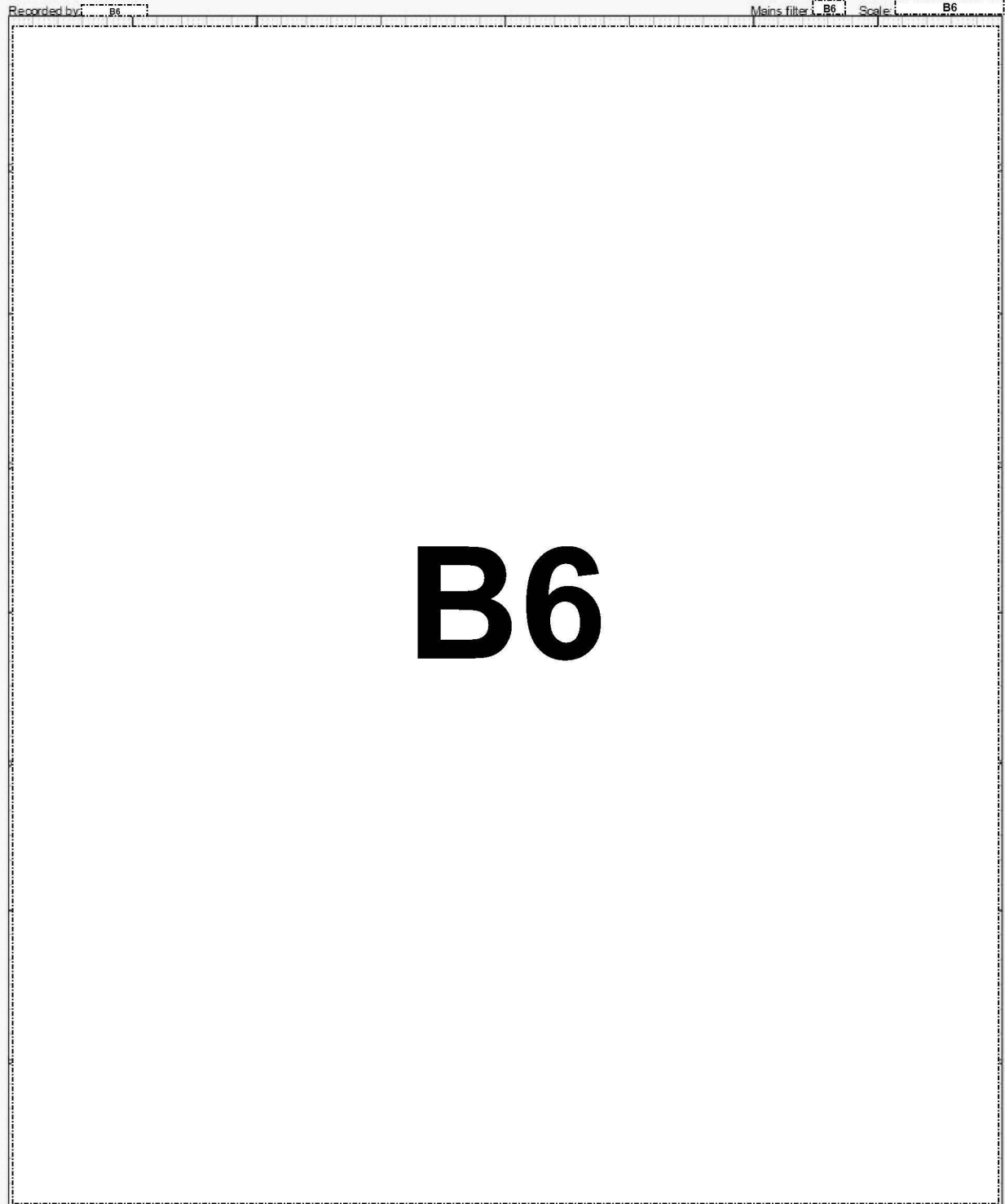
Recorded by: **B6**      Main filter: **B6**      Scale: **B6**

**B6**

Client: **B6**  
Patient: **B6**

**AliveCor ECG**

Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



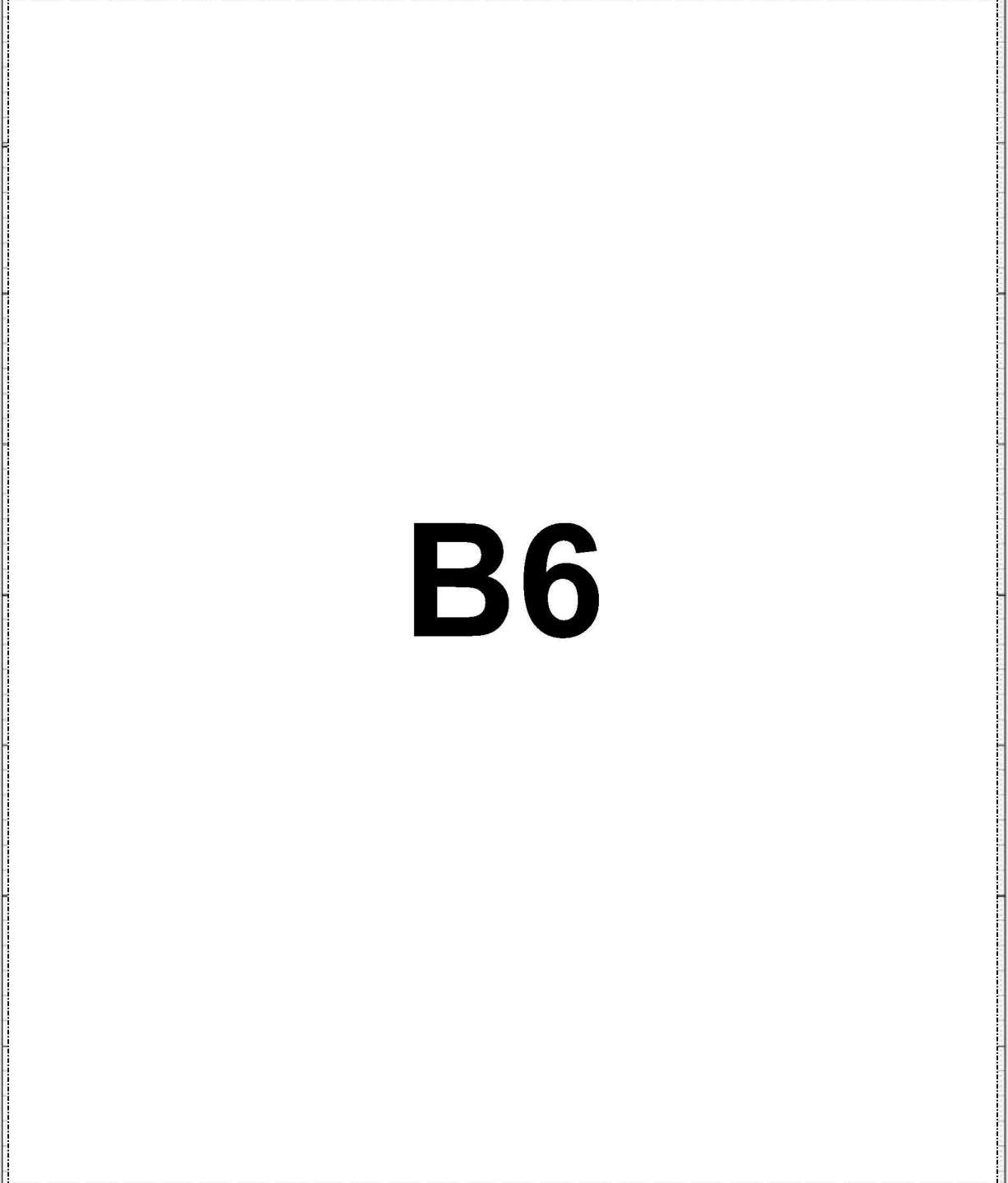
Client: **B6**  
Patient: **B6**

**AliveCor ECG**

Patient: **B6**  
Breed/Species: American Pit Bull Terrier / Dog  
Recorded: Sunday, February 10, 2019 at 10:01:55 PM  
Heart Rate: 163 bpm      Duration: 1 min 7 s



Recorded by: **B6**      Main filter: **B6**      Scale: **B6**



---

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**To:** Jones, Jennifer L  
**Sent:** 2/24/2019 11:46:47 PM  
**Subject:** [REDACTED] records  
**Attachments:** rpt\_medical\_record\_preview3 small.pdf

Hi Jen  
Trying to get caught up. Here are records for [REDACTED] (file too large to be uploaded).  
Thanks  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University  
[www.petfoodology.org](http://www.petfoodology.org)

**All Medical Records**

Client: **B6**  
Address: **B6**

Patient: **B6**  
Breed: Chihuahua  
DOB: **B6**

Species: Canine  
Sex: Female  
(Spayed)

Home Phone: **B6**  
Work Phone:  
Cell Phone:

**Referring Information**

---

**B6**

Client: **B6**  
Patient:

---

**Initial Complaint:**

Scanned Record

---

**Initial Complaint:**

New **B6** - PDA

---

SOAP Text **B6** 3:37PM - **B6**

---

**Initial Complaint:**

PDA surgery



Client:  
Patient:

**B6**

SOAP Text

**B6**

6:38AM

**B6**

**B6**

6:39:52 AM Exam, cardiology

**B6**

is a 6 year old SF Chihuahua presenting for surgical occlusion of her PDA.

**B6**

was adopted this winter and taken to her primary care vet a number of times. On **B6** she had a CBC/chem within normal limits except for a mild eosinophilia. She had a ProBNP which was negative. She had chest radiographs which showed a right sided cardiac enlargement, mixed pulmonary infiltrates and mild tracheal collapse. On **B6** she had an echo done by a vet at **B6** Animal Hospital. It showed a PDA, mild left ventricular dilation, decreased left ventricular contractility with mitral and tricuspid regurgitation. She was referred to Tufts. We performed an echo on **B6** which confirmed the PDA and valvular regurgitation.

The plan for today is to occlude her PDA. First we will try the Amplatz device because it has the best success rate but because

**B6**

is so small, we may end up using coil embolization.

**B6**

Assessments

A1: Continuous murmur from PDA

A2: Systolic murmur from mitral and tricuspid regurgitation

A3: Eosinophilia r/o allergies vs parasites (not likely, negative fecal and 4DX)

Plan [reflects diagnostic or treatment plans for each Assessment]

**B6**

SOAP completed by:

**B6**

V17

SOAP reviewed by:

**B6**

**B6**

3:44:27 PM Anesthesia Notes - 0.00 Anesthesia smooth, 0.03mg acepromazine IV upon extubation-dysphoric, settled

Recovery in ICU on heat T95.1F Rounded

**B6**

Client: **B6**  
Patient:

**B6** 8:17:23 PM  
**B6** 8:17:23 PM  
**B6** 8:17:23 PM  
**B6** 8:17:23 PM

SOAP Text **B6** 6:53AM - Clinician, Unassigned FHSA

**B6** 6:54:03 AM Exam, cardiology

**B6** is a 6 year old SF Chihuahua one day post op after having Amplatz surgical occlusion of her PDA.

Pre op PCV/TS was 44/7.4 (WNL). Post op PCV/TS was 37/6.6 (WNL) but no hemolysis was noted in the sample. This is suggestive of minor bleeding during surgery (to be expected).

**B6** is more quiet this morning than yesterday. She has a good appetite. Her incision looks good (no redness, discharge or swelling) and is non painful with gentle palpation. The long suture tags seem to bother her such that she is holding her leg up and out.

**B6**

Assessments

A1: Systolic murmur r/o pulmonary artery stenosis vs mitral and tricuspid regurgitation

A2: Slight drop in PCV/TS attributed to minor blood loss and fluids during sx

A3: Eosinophilia r/o allergies vs parasites (not likely, negative fecal and 4DX)

Plan

**B6**

SOAP completed by: **B6** V17

SOAP reviewed by:

**Initial Complaint:**

Recheck: **B6**

Client: **B6**  
Patient: **B6**

---

SOAP Text **B6** 3:23PM **B6**

---

**B6** 3:29:05 PM  
**B6**

**Initial Complaint:**

Emergency

---

**Initial Complaint:**

Tech - TEG, Troponin, ECG

---

SOAP Text **B6** 2:08PM **B6**

---

**Initial Complaint:**

Recheck - **B6**

---

**Initial Complaint:**

Recheck **B6**

---

**Initial Complaint:**

Recheck **B6**

---

SOAP Text **B6** 3:28PM **B6**

---

**Initial Complaint:**

Recheck **B6**

---

SOAP Text Feb 28 2018 11:01AM - **B6**

---

Client: B6  
Patient:

---

**Initial Complaint:**

Cardiology recheck

---

**Disposition/Recommendations**

---

Client:  
Patient:

**B6**

---

---

Client: **B6**  
 Patient: **B6**

**Cummings**  
**Veterinary Medical Center**  
 AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
 North Grafton, MA 01536  
 (508) 839-5395

Client: **B6**  
 Veterinarian:  
 Patient ID: **B6**  
 Visit ID:

Patient: **B6**  
 Species: Canine  
 Breed: Chihuahua  
 Sex: Female (Spayed)  
 Age: **B6** Years Old

**Lab Results Report**

**Heartworm Antigen (K9)** **B6** 10:38:00 AM **Accession ID: B6**

Test	Results	Reference Range	Units
HW ANTIGEN-CANINE	<b>B6</b>	0 - 0	

**Heartworm Antigen (K9)** **B6** 10:38:29 AM **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dL
AZO (FHSA)		0 - 0	
BG (FHSA)		0 - 0	g/dL
TS (FHSA)		0 - 0	g/dL
PCV *		0 - 0	%

**Heartworm Antigen (K9)** **B6** 8:17:26 PM **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	<b>B6</b>	0 - 0	g/dL
AZO (FHSA)		0 - 0	
BG (FHSA)		0 - 0	g/dL
TS (FHSA)		0 - 0	g/dL
PCV *		0 - 0	%

**Heartworm Antigen (K9)** **B6** 3:24:11 PM **Accession ID: B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	<b>B6</b>	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL



7/108

**B6** **B6**

Printed Sunday, February 24, 2019

Client: **B6**  
 Patient: **B6**

HCT(ADVIA)	<b>B6</b>	39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL

**Heartworm Antigen (K9)**      **B6**      **3:24:25 PM**      **Accession ID: B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO2 (BICARB)		14 - 28	mEq/L
ΔGAP		8 - 19	
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
ALK PHOS		12 - 127	U/L
GGT		0 - 10	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

**Heartworm Antigen (K9)**      **B6**      **3:24:09 PM**      **Accession ID: B6**

Test	Results	Reference Range	Units
SEGS%	<b>B6</b>	43 - 86	%



Client: **B6**  
 Patient: **B6**

LYPH% MONOS% EOS% SEGS (AB)ADVIA LYMPHS (ABS)ADVIA MONOS (ABS)ADVIA EOS (ABS)ADVIA WBC MORPHOLOGY No Morphologic Abnormalities RBC MORPHOLOGY No morphologic abnormalities	<b>B6</b>	7 - 47 1 - 15 0 - 16 2.8 - 11.5 1 - 4.8 0.1 - 1.5 0 - 1.4 0 - 0	% % % K/uL K/uL K/uL K/uL 0 - 0
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**Heartworm Antigen (K9)**      **B6** 4:27:15 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
U COLLECT	<b>B6</b>	0 - 0	
U COLOR		0 - 0	
U TURBIDITY		0 - 0	
U SG		0 - 0	
U PH		0 - 0	
U PROTEIN		0 - 0	
U GLUCOSE		0 - 0	
U KETONES		0 - 0	
U BILIRUBIN		0 - 0	
Negative Bilirubin up to 2+ may be normal highly concentrated urine.			
U HEME PROTEIN	<b>B6</b>	0 - 0	
U WBC		0 - 0	/hpf
U RBC		0 - 0	/hpf
U BACTERIA		0 - 0	/hpf
U CRYSTALS		0 - 0	/hpf
U SQUAMOUS CELLS		0 - 0	/hpf
U FAT		0 - 0	/hpf

**Heartworm Antigen (K9)**      **B6** 4:27:02 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
URINE TP	<b>B6</b>	0 - 0	mg/dL
U CREAT		0 - 0	mg/dL
UPC		0 - 0.5	

**Heartworm Antigen (K9)**      **B6** 1:52:45 PM      Accession ID: **B6**

Test	Results	Reference Range	Units
Troponin I (i-STAT) Cardiology - FHSA	<b>B6</b>	0 - 0.08	ng/ml





Client: **B6**  
Patient:

Heartworm Antigen (K9)		<b>B6</b>	2:08:05 PM	Accession ID:	<b>B6</b>
Test	Results	Reference Range	Units		
TEG R	<b>B6</b>	2 - 7	min		
TEG K TIME		1 - 4	min		
TEG ANGLE		48 - 77	degrees		
TEG MA		45 - 64	mm		
TEG G		3.9 - 8.4	Kd/sec		
TEG LY30		0 - 3	%		



10/108

**B6**

**B6**

Printed Sunday, February 24, 2019

**Vitals Results**

<b>B6</b>	4:02:20 PM	Blood Pressure (mmHg)	<b>B6</b>
	4:27:10 PM	Weight (kg)	
	7:35:53 PM	Weight (kg)	
	7:36:05 PM	Eliminations	
	7:37:15 PM	Amount eaten	
	7:45:19 PM	Temperature (F)	
	7:46:19 PM	Respiratory Rate	
	7:46:31 PM	Heart Rate (/min)	
	9:07:25 PM	Respiratory Rate	
	9:08:50 PM	Heart Rate (/min)	
	10:06:56 PM	Respiratory Rate	
	10:56:49 PM	Respiratory Rate	
	11:57:55 PM	Respiratory Rate	
	1:03:28 AM	Respiratory Rate	
	1:09:15 AM	Eliminations	
	1:42:58 AM	Respiratory Rate	
	1:43:26 AM	Heart Rate (/min)	
	3:00:44 AM	Respiratory Rate	
	3:56:13 AM	Respiratory Rate	
	5:00:45 AM	Respiratory Rate	
5:01:29 AM	Heart Rate (/min)		
5:55:58 AM	Respiratory Rate		
6:39:01 AM	Respiratory Rate		
6:39:17 AM	Temperature (F)		
6:52:25 AM	Weight (kg)		
7:08:06 AM	Eliminations		
9:02:50 AM	Respiratory Rate		

Client:  
Patient:

**B6**

**Vitals Results**

9:41:59 AM	Respiratory Rate
9:42:11 AM	Heart Rate (/min)
11:17:54 AM	Respiratory Rate
11:45:42 AM	Respiratory Rate
3:44:27 PM	Anesthesia Notes
4:11:31 PM	Respiratory Rate
5:23:38 PM	Temperature (F)
5:23:45 PM	Mucous membranes
5:25:01 PM	Incision check
5:26:08 PM	Respiratory Rate
5:41:43 PM	Heart Rate (/min)
6:08:37 PM	Temperature (F)
6:08:57 PM	Incision check
6:09:07 PM	Mucous membranes
6:09:18 PM	Respiratory Rate
7:17:05 PM	Mucous membranes
7:17:29 PM	Respiratory Rate
7:17:43 PM	Incision check
7:18:06 PM	Temperature (F)
8:07:34 PM	Respiratory Rate
8:18:58 PM	Incision check
8:19:16 PM	Mucous membranes
8:19:40 PM	Amount eaten
9:03:54 PM	Mucous membranes
9:04:14 PM	Respiratory Rate
9:04:29 PM	Incision check
10:32:02 PM	Incision check
10:32:21 PM	Respiratory Rate
10:32:34 PM	Mucous membranes
10:32:46 PM	Temperature (F)
10:32:59 PM	Heart Rate (/min)
11:09:53 PM	Respiratory Rate
11:10:25 PM	Nursing note
11:11:44 PM	Eliminations
12:05:15 AM	Respiratory Rate
12:58:40 AM	Respiratory Rate
1:06:20 AM	Heart Rate (/min)
1:06:44 AM	Mucous membranes
1:07:00 AM	Incision check
2:59:21 AM	Respiratory Rate

**B6**

**B6**

Client:  
Patient:

**B6**

**Vitals Results**

<b>B6</b>	3:49:11 AM	Respiratory Rate	<b>B6</b>
	5:03:01 AM	Eliminations	
	5:23:26 AM	Respiratory Rate	
	5:59:29 AM	Incision check	
	5:59:39 AM	Mucous membranes	
	5:59:55 AM	Respiratory Rate	
	6:00:03 AM	Heart Rate (/min)	
	7:10:34 AM	Respiratory Rate	
	7:11:58 AM	Temperature (F)	
	7:12:09 AM	Incision check	
	7:12:34 AM	Mucous membranes	
	7:17:30 AM	Food/Appetite? (ILA)	
	7:18:27 AM	Weight (kg)	
	8:06:36 AM	Respiratory Rate	
	9:02:09 AM	Eliminations	
	9:06:01 AM	Respiratory Rate	
	10:15:44 AM	Respiratory Rate	
	10:16:08 AM	Heart Rate (/min)	
	10:16:21 AM	Mucous membranes	
	10:16:36 AM	Incision check	
	11:02:05 AM	Respiratory Rate	
	12:06:01 PM	Respiratory Rate	
	1:00:52 PM	Respiratory Rate	
	2:19:40 PM	Respiratory Rate	
	2:25:16 PM	Amount eaten	
	2:26:04 PM	Heart Rate (/min)	
	2:27:22 PM	Mucous membranes	
	2:28:39 PM	Incision check	
	3:02:35 PM	Respiratory Rate	
	4:14:49 PM	Respiratory Rate	
4:31:05 PM	Eliminations		
5:14:50 PM	Weight (kg)		
12:34:22 PM	Weight (kg)		
10:18:49 AM	Weight (kg)		
11:02:13 AM	Weight (kg)		
10:07:27 AM	Weight (kg)		
12:25:43 PM	Weight (kg)		

**Patient History**

**B6** 10:09:54 AM Appointment Appointment Made for **B6** 12:30:00 PM for

Client:  
Patient:

**B6**

**Patient History**

Time	Event
11:36 AM	Purchase
05:48 PM	Appointment
09:58 AM	Appointment
10:06 AM	Appointment
02:17 PM	UserForm
02:26 PM	UserForm
03:27 PM	UserForm
04:01 PM	Purchase
04:02 PM	Vitals
04:02 PM	Purchase
04:03 PM	Deleted Reason
04:04 PM	Purchase
04:27 PM	Vitals
06:45 PM	Email
10:36 AM	Appointment
10:45 AM	UserForm
07:11 PM	UserForm
07:34 PM	Purchase
07:34 PM	Purchase
07:35 PM	Treatment
07:35 PM	Vitals
07:36 PM	Treatment
07:36 PM	Vitals
07:36 PM	Vitals
07:37 PM	Treatment
07:37 PM	Vitals
07:37 PM	Treatment
07:45 PM	Treatment
07:45 PM	Vitals
07:46 PM	Treatment
07:46 PM	Vitals
07:46 PM	Treatment
07:46 PM	Vitals
08:46 PM	Treatment

**B6**

**B6**

Client: **B6**  
Patient:

**Patient History**

<b>B6</b>	09:07 PM	Treatment	<b>B6</b>
	09:07 PM	Vitals	
	09:08 PM	Treatment	
	09:08 PM	Vitals	
	10:06 PM	Treatment	
	10:06 PM	Vitals	
	10:55 PM	Treatment	
	10:56 PM	Treatment	
	10:56 PM	Vitals	
	11:57 PM	Treatment	
	11:57 PM	Vitals	
	01:03 AM	Treatment	
	01:03 AM	Vitals	
	01:09 AM	Treatment	
	01:09 AM	Vitals	
	01:09 AM	Treatment	
	01:42 AM	Treatment	
	01:42 AM	Vitals	
	01:43 AM	Treatment	
	01:43 AM	Vitals	
	03:00 AM	Treatment	
	03:00 AM	Vitals	
	03:56 AM	Treatment	
	03:56 AM	Vitals	
	05:00 AM	Treatment	
	05:00 AM	Vitals	
	05:01 AM	Treatment	
	05:01 AM	Treatment	
	05:01 AM	Vitals	
	05:55 AM	Treatment	
	05:55 AM	Vitals	
	06:39 AM	Treatment	
	06:39 AM	Vitals	
	06:39 AM	Treatment	
	06:39 AM	Vitals	
	06:52 AM	Vitals	
	07:08 AM	Treatment	
	07:08 AM	Vitals	
	07:17 AM	Purchase	
	09:02 AM	Treatment	
09:02 AM	Vitals		
09:09 AM	Treatment		
09:41 AM	Treatment		
09:41 AM	Vitals		
09:42 AM	Treatment		
09:42 AM	Vitals		
10:37 AM	UserForm		
10:37 AM	Treatment		
10:38 AM	Purchase		

Client:  
Patient:

**B6**

**Patient History**

10:38 AM	Labwork
11:17 AM	Treatment
11:17 AM	Vitals
11:24 AM	UserForm
11:45 AM	Treatment
11:45 AM	Vitals
12:43 PM	Purchase
03:24 PM	Purchase
03:25 PM	Treatment
03:44 PM	Vitals
03:46 PM	Purchase
03:46 PM	Purchase
03:46 PM	Purchase
03:59 PM	Purchase
03:59 PM	Purchase
04:00 PM	Purchase
04:00 PM	Purchase
04:11 PM	Treatment
04:11 PM	Vitals
05:23 PM	Treatment
05:23 PM	Vitals
05:23 PM	Treatment
05:23 PM	Vitals
05:25 PM	Treatment
05:25 PM	Vitals
05:26 PM	Treatment
05:26 PM	Vitals
05:36 PM	Treatment
05:36 PM	Treatment
05:40 PM	Treatment
05:41 PM	Treatment
05:41 PM	Vitals
06:08 PM	Treatment
06:08 PM	Vitals
06:08 PM	Treatment
06:08 PM	Vitals
06:09 PM	Treatment
06:09 PM	Vitals
06:09 PM	Treatment
06:09 PM	Vitals
07:00 PM	Purchase
07:00 PM	Purchase
07:17 PM	Treatment
07:17 PM	Vitals
07:17 PM	Treatment
07:17 PM	Vitals
07:17 PM	Treatment
07:17 PM	Vitals

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

07:18 PM	Treatment
07:18 PM	Vitals
08:07 PM	Treatment
08:07 PM	Vitals
08:17 PM	Treatment
08:18 PM	Labwork
08:18 PM	Treatment
08:18 PM	Vitals
08:19 PM	Treatment
08:19 PM	Vitals
08:19 PM	Treatment
08:19 PM	Vitals
09:03 PM	Treatment
09:03 PM	Vitals
09:04 PM	Treatment
09:04 PM	Vitals
09:04 PM	Treatment
09:04 PM	Vitals
09:05 PM	Treatment
10:32 PM	Treatment
10:32 PM	Vitals
10:32 PM	Treatment
10:32 PM	Vitals
10:32 PM	Treatment
10:32 PM	Vitals
10:32 PM	Treatment
10:32 PM	Vitals
10:32 PM	Treatment
10:32 PM	Vitals
11:09 PM	Treatment
11:09 PM	Vitals
11:10 PM	Vitals
11:11 PM	Treatment
11:11 PM	Vitals
11:11 PM	Treatment
12:05 AM	Treatment
12:05 AM	Vitals
12:05 AM	Treatment
12:58 AM	Treatment
12:58 AM	Vitals
12:59 AM	Treatment
01:06 AM	Treatment
01:06 AM	Vitals
01:06 AM	Treatment
01:06 AM	Vitals
01:07 AM	Treatment

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

01:07 AM Vitals  
02:59 AM Treatment  
02:59 AM Vitals  
03:49 AM Treatment  
03:49 AM Vitals  
05:03 AM Treatment  
05:03 AM Vitals  
05:03 AM Treatment  
05:03 AM Treatment  
05:23 AM Treatment  
05:23 AM Vitals  
05:59 AM Treatment  
  
05:59 AM Treatment  
05:59 AM Vitals  
05:59 AM Treatment  
05:59 AM Vitals  
05:59 AM Treatment  
05:59 AM Vitals  
06:00 AM Treatment  
06:00 AM Vitals  
07:10 AM Treatment  
07:10 AM Vitals  
07:11 AM Treatment  
07:11 AM Vitals  
07:12 AM Treatment  
07:12 AM Vitals  
07:12 AM Treatment  
07:12 AM Vitals  
07:17 AM Purchase  
07:17 AM Vitals  
07:18 AM Vitals  
08:06 AM Treatment  
08:06 AM Vitals  
08:13 AM Treatment  
08:21 AM Treatment  
  
09:02 AM Treatment  
09:02 AM Vitals  
09:06 AM Treatment  
09:06 AM Vitals  
10:15 AM Treatment  
10:15 AM Vitals  
10:16 AM Treatment  
10:16 AM Vitals  
10:16 AM Treatment  
10:16 AM Treatment  
10:16 AM Vitals  
10:16 AM Treatment  
10:16 AM Vitals

**B6**

**B6**



Client: **B6**  
Patient:

**Patient History**

11:02 AM	Treatment
11:02 AM	Vitals
12:06 PM	Treatment
12:06 PM	Vitals
01:00 PM	Treatment
01:00 PM	Vitals
02:19 PM	Treatment
02:19 PM	Vitals
02:25 PM	Treatment
02:25 PM	Vitals
02:26 PM	Treatment
02:26 PM	Vitals
02:27 PM	Treatment
02:27 PM	Vitals
02:27 PM	Treatment
02:28 PM	Treatment
02:28 PM	Vitals
03:02 PM	Treatment
03:02 PM	Vitals
04:14 PM	Treatment
04:14 PM	Vitals
04:31 PM	Treatment
04:31 PM	Vitals
05:24 PM	Appointment
06:09 PM	UserForm
01:32 PM	UserForm
01:46 PM	Vitals
02:10 PM	UserForm
02:14 PM	Treatment
02:25 PM	Purchase
02:27 PM	Purchase
03:24 PM	Purchase
03:24 PM	Purchase
03:27 PM	Purchase
03:31 PM	Prescription
03:57 PM	Purchase
04:27 PM	Purchase
11:43 PM	Email
11:43 PM	Email
03:30 PM	Purchase
03:38 PM	Appointment
03:39 PM	Appointment

**B6**

**B6**

Client:  
Patient:

**B6**

**Patient History**

<b>B6</b>	01:52 PM	Purchase
	01:52 PM	Purchase
	01:52 PM	Labwork
	01:54 PM	Purchase
	02:08 PM	Purchase
	05:38 PM	UserForm
	05:39 PM	Email
	11:39 AM	Appointment
	11:57 AM	UserForm
	12:26 PM	Treatment
	12:28 PM	Purchase
	12:34 PM	Vitals
	12:43 PM	UserForm
	01:09 PM	Purchase
	01:12 PM	Appointment
	01:30 PM	Email
	09:02 AM	Appointment
	09:02 AM	Appointment
	10:08 AM	UserForm
	10:18 AM	Vitals
	10:18 AM	Vitals
	10:30 AM	UserForm
	11:16 AM	Purchase
	11:16 AM	Purchase
	02:32 PM	Appointment
	02:33 PM	Appointment
	04:50 PM	Email
	06:11 PM	Appointment
	11:50 AM	Appointment
	11:51 AM	Appointment
11:51 AM	Appointment	
02:28 PM	UserForm	
02:39 PM	Treatment	

**B6**

Client: **B6**  
Patient:

**Patient History**

03:05 PM	Purchase
03:06 PM	Purchase
03:44 PM	UserForm
03:49 PM	Email
12:20 PM	Appointment
11:02 AM	UserForm
11:02 AM	Vitals
11:13 AM	UserForm
11:24 AM	Treatment
11:35 AM	Purchase
11:55 AM	Purchase
12:12 PM	UserForm
03:04 PM	Appointment
09:00 AM	UserForm
09:00 AM	Treatment
09:07 AM	Vitals
09:53 AM	UserForm
10:32 AM	UserForm
10:43 AM	Purchase
10:43 AM	Deleted Reason
10:55 AM	Appointment
10:55 AM	Treatment
11:11 AM	UserForm
11:47 AM	Treatment
11:48 AM	Purchase
11:51 AM	Purchase
11:53 AM	Deleted Reason
11:53 AM	Purchase
11:53 AM	Deleted Reason
02:25 PM	Vitals

**B6**

**B6**

**Best Available Copy**

**Best Available Copy**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

<b>B6</b>	<b>B6</b>
-----------	-----------

**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

B6	B6
----	----

**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

B6	B6
----	----

**Weight  
(kg)**



**Foster Hospital for Small Animals**

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**Patient Report Card For**

B6	B6
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**Weight  
(kg)**

**Foster Hospital for Small Animals**

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**Patient Report Card For**

B6
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B6
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**Weight  
(kg)**

**Foster Hospital for Small Animals**

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**Patient Report Card For**

B6
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B6
----

**Weight  
(kg)**

Foster Hospital for Small Animals

Phone: (508) 839-5395

FHSA@tufts.edu

<http://vetmed.tufts.edu/>

Patient Report Card For 

B6
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B6
----

Weight  
(kg)

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

<b>B6</b>	<b>B6</b>
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**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

B6
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B6
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**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

B6	B6
----	----

**Weight  
(kg)**

**Foster Hospital for Small Animals**

**Phone: (508) 839-5395**

**FHSA@tufts.edu**

**<http://vetmed.tufts.edu/>**

**Patient Report Card For**

B6	B6
----	----

**Weight  
(kg)**



**B6****B6**

Female (Spayed)

Canine Chihuahua Multi

Patient ID: **B6**

## STANDARD CONSENT FORM

---

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name:  Date:

Owner's address:

Date

**If the individual admitting the animal is someone other than the legal owner,  
please complete the portion below:**

The owner of the animal,  has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above

\_\_\_\_\_  
Authorized Agent - Please Print

\_\_\_\_\_  
Agent's Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Date

\_\_\_\_\_  
Town/City                      State                      Zip

## Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

Student: B6

Cardiology Technician: B6 CVT

Admit Date: B6 2:16:43 PM

Discharge Date: B6

**Diagnoses:** Left-to-right shunting patent ductus arteriosus

**Case Summary:**

Thank you for bringing in B6 to our cardiology service. B6 was adopted earlier this year. Since that time B6 has had intermittent coughing episodes. She had chest radiographs and blood work on B6. Her complete blood count, chemistry and ProBNP were within normal limits. On B6 an echocardiogram showed a patent ductus arteriosus with mild left ventricular dilation and decreased left ventricular contractility. This test also showed mild mitral and tricuspid valve regurgitation.

B6 seems to be doing well at home. She is no longer coughing and does not have any exercise intolerance. She is not on any medications at this time.

**Clinical Findings:**

On physical exam B6 is bright and alert. She has a grade V/VI continuous murmur heard in the typical location for a PDA. B6 lungs sound normal. She has hair loss along her back and moderate dental disease.

Today's echocardiogram confirmed the presence of a PDA. A PDA is a blood vessel connecting the aorta and pulmonary artery which should close off at birth. If the vessel does not close this can cause a volume overload in the left side of the heart and can lead to congestive heart failure (when fluid accumulates in the lungs as a result of the high pressure within the vessels). Untreated, this ultimately leads to congestive heart failure. B6 also has a small amount of mitral valve regurgitation and some mild enlargement of her heart, but does not appear close to heart failure at this time.

**Discussion:**

B6

# B6

**Monitoring at Home:**

Please continue to monitor B6 for evidence of increased breathing rate or effort, coughing episodes, changes in her attitude or appetite, or fainting episodes. If you notice any of these complications please have her seen by a veterinarian immediately. You do not need to restrict her at this time, but do monitor her carefully.

**Diet Suggestions:**

Please try to limit salty snacks.

**Recheck Visits:** We will call you in 3 weeks to schedule the procedure once Dr. Rush is back in town. If you have not heard from us by the third week of June please call our cardiology liaison at 508-887-4696 to schedule the procedure.

Thank you for bringing B6 to Tufts - she was a wonderful patient for us!

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

Case: B6

Owner: B6

Discharge Instructions

### Radiology Request & Report

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6 DVM, DACVIM (Cardiology)

Student:

Date of exam: B6

Patient Location: Ward/Cage:

Weight (kg) 3.10

**Sedation**

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

**Examination Desired:**  
fluoro/angio @ 1:30pm

**Presenting Complaint:**  
PDA

**History:**

**Findings:**

**Conclusions:**

**Radiologists**

Primary:

Reviewing:

**Dates**

Reported:

Finalized:

# Treatment Plan

Estimated Charges

**B6**

**B6**

*This estimate is based upon our preliminary examination. This is an estimate and is not the final bill. Every effort will be made to keep you informed of the current status of your bill throughout your animal's hospitalization. The final fee may vary considerably from this estimated cost.*

Patient	Description	Low Qty	Low Extended	High Qty	High Extended
<b>B6</b>	<b>B6</b>				

Doctor of Record: **B6**

**B6**

I understand that no guarantee of successful treatment is made. I certify that I have read and fully understand the authorization for medical and/or surgical treatment, the reason for why such medical and/or surgical treatment is considered necessary, as well as its advantages and possible complications, if any. I also assume financial responsibility for all charges incurred to this patient(s). I agree to pay 75% of the estimated cost at the time of admission. Additional deposits will be required if additional care or procedures are required. I further agree to pay the balance of the charges when this patient(s) is released.

Procedural billing is inclusive up to and including the estimated duration of hospitalization. There will be additional expenses if hospitalization extends beyond the specified duration. I have read, understand, and agree to accept the conditions of this treatment plan.

Thank you for entrusting us with your pet's care.

High Total	<b>B6</b>
Low Total	
75% Deposit	



Cummings School of  
Veterinary Medicine

Healing Animals. Helping Humans. Transforming Global Health.

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6  
B6 Canine  
B6 Years Old Female (Spayed) Chihuahua  
Multi

### Cardiology Appointment Report

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6, CVT

Student: B6

**Presenting Complaint:** PDA

**Concurrent Diseases:** pruritus and alopecia

**General Medical History:** B6 was adopted this winter. Since that time she has had intermittent coughing. She has been to her regular veterinarian a number of times. On B6 she had CBC/Chem, ProBNP and chest radiographs. Blood work was within normal limits with the exception of a mild eosinophilia. Chest radiographs showed a right sided cardiac enlargement, mixed pulmonary infiltrate and mild tracheal collapse. On B6 and echo was done. It showed a PDA, mild left ventricular dilation and decreased left ventricular contractility. Also mild tricuspid and mitral regurgitation. Recommended they go to Tufts.

Since the course of doxycycline she has not been coughing any more. B6 has been exercise restricted at the recommendation of the veterinarian but the owner does not feel as though she has a decreased activity level. No c/s/v/d since March but does occasionally reverse sneeze.

**Diet and Supplements:** Blue buffalo dry food, limited ingredient small breed. ~1/4 c BID. Sometimes cooked chicken.

**Cardiovascular History:**

Prior CHF diagnosis? No

Prior ATE? No

Prior arrhythmia? No

Cough? Yes, in March. Thought it was infectious. Resolved on doxycycline

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Prior heart murmur? Yes, II-III/VI systolic

# B6

**Muscle condition:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss  | <input type="checkbox"/> Marked cachexia   |

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- |                                 |  |
|---------------------------------|--|
| <input type="checkbox"/> None   | <input type="checkbox"/> IV/VI           |
| <input type="checkbox"/> I/VI   | <input checked="" type="checkbox"/> V/VI |
| <input type="checkbox"/> II/VI  | <input type="checkbox"/> VI/VI           |
| <input type="checkbox"/> III/VI |  |

Murmur location/description: continuous murmur cranially with small palpable thrill, further caudally systolic murmur

**Jugular vein:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of neck | <input type="checkbox"/> Top 2/3 <sup>rd</sup> of neck |
| <input type="checkbox"/> Middle 1/3 of neck            |  |

**Arterial pulses:**

- |  |   |
|--|---|
| <input type="checkbox"/> Weak              | <input type="checkbox"/> Bounding         |
| <input type="checkbox"/> Fair              | <input type="checkbox"/> Pulse deficits   |
| <input type="checkbox"/> Good              | <input type="checkbox"/> Pulsus paradoxus |
| <input checked="" type="checkbox"/> Strong | <input type="checkbox"/> Other:           |

**Arrhythmia:**

- |  |                                      |
|--|--------------------------------------|
| <input type="checkbox"/> None                        | <input type="checkbox"/> Bradycardia |
| <input checked="" type="checkbox"/> Sinus arrhythmia | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Premature beats             |                                      |

**Gallop:**

- |  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | <input type="checkbox"/> Pronounced |
| <input checked="" type="checkbox"/> No | <input type="checkbox"/> Other:     |
| <input type="checkbox"/> Intermittent  |                                     |

**Pulmonary assessments:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Eupneic | <input type="checkbox"/> Pulmonary crackles |
|---|---|



- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Wheezes
- Upper airway stridor

Abdominal exam: normal

- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

PDA

**Differential Diagnoses:**

PDA

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**B6**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**Assessment and recommendations:**

Today's echocardiogram confirmed the presence of a PDA. A PDA is a blood vessel connecting the aorta and pulmonary artery which should close off at birth. If the vessel does not close this can cause a volume overload in the left side of the heart and can lead to congestive heart failure (when fluid accumulates in the lungs as a result of the high pressure within the vessels). Untreated, this ultimately leads to congestive heart failure. B6 also has a small amount of mitral valve regurgitation and some mild enlargement of her heart, but does not appear close to heart failure at this time.

**Final Diagnosis:**

PDA

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2

- C
- D

M-Mode

- IVSd
- LVIDd
- LVPWd
- IVSs
- LVIDs
- LVPWs
- %FS
- Ao Diam
- LA Diam
- LA/Ao
- Max LA

B6

- cm
- cm
- cm
- cm
- cm
- cm
- %
- cm
- cm
- 
- cm

M-Mode Normalized

- IVSdN
- LVIDdN
- LVPWdN
- IVSsN
- LVIDsN
- LVPWsN
- Ao Diam N
- LA Diam N

B6

- {0.29 - 0.52} !
- {1.35 - 1.73} !
- {0.33 - 0.53}
- {0.43 - 0.71}
- {0.79 - 1.14} !
- {0.53 - 0.78}
- {0.68 - 0.89} !
- {0.64 - 0.90} !

2D

- SA LA
- Ao Diam
- SA LA / Ao Diam

B6

- cm
- cm

Doppler

- MR Vmax
- MR maxPG
- MV E Vel
- MV DecT
- MV A Vel
- MV E/A Ratio
- E'
- A'
- E/E'
- PV Vmax
- PV maxPG
- AV Vmax
- AV maxPG
- TR Vmax

B6

- m/s
- mmHg
- m/s
- ms
- m/s
- 
- m/s
- m/s
- 
- m/s
- mmHg
- m/s
- mmHg
- m/s

TR maxPG  
PDA Systolic  
PDA Systolic PG  
PDA Diastolic  
PDA Diastolic PG

B6

mmHg  
m/s  
mmHg  
m/s  
mmHg

## Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address:

B6

Patient ID: B6

**Attending Cardiologist:**

John E. Bush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

Student: B6 V17

Cardiology Technician: B6 CVT, VTS (Cardiology)

Admit Date: B6

Discharge Date: B6

**Diagnoses:**

1. B6

2 - Chronic valvular disease with mild mitral and tricuspid regurgitation.

**Procedures:**

B6

Bloodwork results within normal parameters both before and after surgery

Heartworm antigen blood test: Negative

**General summary:**

Thank you for bringing B6 to Tufts Cardiology department for repair of her patent ductus arteriosus (PDA) with an amplatz canine ductal occluder. An amplatz canine ductal occluder was put into the abnormal vessel to stop blood flow through the PDA. This device was implanted by gaining access to the abnormal vessel through the femoral artery in her left inguinal area. The morning of the surgery a basic bloodwork panel was performed to ensure that her values were within normal parameters and she was okayed for anesthesia. The surgery to place the amplatz occluder in her PDA went smoothly and B6 recovered uneventfully from anesthesia. Post operative basic bloodwork continued to be normal. She looks very bright and alert and is doing great. We rechecked a brief ultrasound on her heart the day after surgery, which showed that the device is in the correct location within the PDA and there is no residual flow.

B6 echocardiogram showed some thickening and degeneration of her mitral and tricuspid valves. This problem with the heart valve is a common one in dogs, due to aging changes to the valve that result in thickening and a subsequent leak of the valve. We recommend monitoring of these changes over time.

**Monitoring at home:**

Please monitor B6 for any signs of lethargy, weakness, shortness of breath, inappetence or collapse. If B6

experiences a sudden increase in breathing effort, this could indicate that the device has dislocated, thus [B6] should be brought in to a veterinarian immediately for an x-ray on her chest to check the position of the device

#### Patient Care Instructions:

- 1. EXERCISE:** Complete exercise restriction is critical for the next 14 days. [B6] should not be allowed to jump in or out of the car and access to stairs should be limited during this time. Please leash walk [B6] up stairs at a slow pace or carry her. Exercise should also be limited to short leash walking only for at least 1 month in order to prevent dislodgement of the [B6]. After the first month then a bit more exercise is OK but she should not exceed moderate exercise - no vigorous running/jumping, no tug-of-war, and try to prevent her from jumping up in the air (vertical body position) for the next several weeks.
- 2. INCISION:** [B6] has some sutures in her left groin area. Any mild swelling over the incision site should resolve over the next 10-12 days. Observe the incision for any increasing swelling, redness, heat or discharge. If you notice any problems with the incision please return to Tufts. It is critical that she remain exercise restricted in order to prevent a seroma formation (pocket of fluid) at the femoral incision site. If [B6] begins to lick or chew at the incision then she will need to wear an e collar.
- 3. RESPIRATORY MONITORING:** Please observe [B6] respiratory effort, especially over the coming 14 days. If [B6] suddenly has an increased effort in her breathing or her gums turn pale pink to blue please see a veterinarian immediately.
- 4. SUTURE REMOVAL:** [B6] has sutures in her left groin region which should be removed in 10-14 days. This can be done here or with your primary care veterinarian.

#### Recheck Visits:

[B6] needs to be seen either by us or your primary care veterinarian in 10-14 days to remove her sutures from her left groin. If you would like to come here, please call or email (508 887 4696 or [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu)) to schedule this appointment. We recommend a cardiology exam and echocardiogram in 2-3 months to check the location of the [B6]. [B6], the size and pressures of her heart and the amount of valvular regurgitation. We will likely want to recheck the ultrasound of her heart periodically thereafter.

Thank you for allowing us to participate in [B6] care. She is such a sweet and adorable girl!

Please visit our HeartSmart website for more information  
<http://vet.tufts.edu/heartsmart/>

---

Case [B6]

Owner [B6]

Discharge Instructions

**B6**

Patient ID: B6

B6

Canine

B6 Years Old Female (Spayed)

Chihuahua

Multi BW: Weight (kg) 2.91

### Cardiology Inpatient

Date: B6

Weight: Weight (kg) 2.91

#### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

#### Cardiology Resident:

**B6**

#### Presenting complaint and important concurrent diseases:

B6 is a 6 year old SF Chihuahua presenting for surgical occlusion of her PDA.

B6 was adopted this winter and taken to her primary care vet a number of times. On B6 she had a CBC/chem within normal limits except for a mild eosinophilia. She had a ProBNP which was negative. She had chest radiographs which showed a right sided cardiac enlargement, mixed pulmonary infiltrates and mild tracheal collapse. On B6 she had an echo done by a vet at B6 Animal Hospital. It showed a PDA, mild left ventricular dilation, decreased left ventricular contractility with mitral and tricuspid regurgitation. She was referred to Tufts. We performed an echo on B6 which confirmed the PDA and valvular regurgitation.

The plan for today is to occlude her PDA. First we will try the Amplatz device because it has the best success rate but because B6 is so small, we may end up using coil embolization.

**\*STOP - remainder of form to be filled out by Cardiology\***

**B6**

#### Muscle condition:

Normal

Mild muscle loss

Moderate cachexia

Marked cachexia

#### Cardiovascular Physical Exam

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI

- IV/VI
- V/VI
- VI/VI

Murmur location/description: cranial continuous murmur, caudal holosystolic murmur

Jugular vein:

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3 of neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

**B6**

**Assessment and recommendations:**

PDA occlusion went well and patient recovered well from anesthesia. No residual flow though PDA. The turbulence in the left PA branch is suspected to be secondary to compression by the ductus, the ACDO device, or both. It is unclear whether this turbulence was present before surgery given the flow turbulence that was caused by the PDA. Suture removal in 1-2 weeks. Recheck echo in 2-3 months.

**Final Diagnosis:**

PDA, ACDO occlusion B6

**Heart Failure Classification Score:**

**ISACHC Classification:**

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II            |                               |

**ACVIM CHF Classification:**

- |  |                            |
|--|----------------------------|
| <input type="checkbox"/> A             | <input type="checkbox"/> C |
| <input type="checkbox"/> B1            | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 |                            |

Pre PDA Occlusion - B6

Doppler

TR Vmax

TR maxPG

PDA Systolic

PDA Systolic PG

**B6**

m/s  
mmHg  
m/s  
mmHg



Cardiology

Liaison: 508-887-4696

**B6**

**B6**

Female (Spayed)

Canine Chihuahua Multi

ID: **B6**

**Interventional Procedure Form**

**Date of Procedure:**

**B6**

**Interventional Procedure:**

PDA - ACDO

**Clinicians involved in procedure:**

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

**Cardiology Resident:**

**B6**

**Cardiology Technician:**

**B6**

CVT, VTS (Cardiology)

**Imaging used (check all):**

- Fluoroscopy in radiology  
 C-arm

**Location of procedure:**

- Radiology  
 Medical procedures area  
 Surgical Suite

**Total contrast administered (ml): 10ml.**

**Interventional procedure performed:**

- Cardiac Procedure  
 Respiratory procedure  
 Liver procedure

**Logistics detail**

**Anesthesia or sedation:**

- General anesthesia  
 Awake animal  
 Sedation  
 More info:

**Recumbency:**

- Dorsal  
 Ventral  
 Right lateral  
 Left lateral

**Vessel or Organ Access:**

- Sheath introducer  
 Direct visual access  
 Cut down or open access, left femoral artery

**Materials used:**

**Catheters:**

Cook medical flexor Check-flu performer  
introducer 4F x 75cm

**Guidewires**  
Cook Medical fixed core wire guide;  
straight 0.035" x 180cm

**ACDO**  
Infiniti Medical ACDO 3mm

**Key Diagnostic and Procedural Findings:**

The left femoral artery was accessed via direct cut-down. A 4F sheath introducer (catheter) was inserted with the aid of a 0.035" x 180cm straight guidewire, contrast material was injected to confirm size and location of the PDA. PDA measured 1.29mm. Pressure in the PA was measured at 32mmHg. A 3mm ACDO was deployed within the PDA, and occlusion was confirmed with contrast injection. The femoral artery was ligated. The incision site was closed routinely. Recovery from anesthesia was routine.

## Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:** John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

Student: B6 V17

Cardiology Technician: B6 CVT, VTS(Cardiology)

Discharge Date: B6

**Diagnoses:**

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device
2. Thrombus (blood clot) formation suspected to be in the coronary sinus
3. Mild chronic valvular disease

**Clinical Findings:**

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment of her heart disease. B6 was bright and alert. On physical examination today, B6 was bright and alert. She had a grade 2-3 out of 6 heart murmur loudest on the left side. B6 physical exam was otherwise normal.

B6 echocardiogram today showed that the Amplatz occluder remains in place and is completely occluding the PDA, which is great news. Her left ventricle remains somewhat enlarged, but normal for a post-operative PDA occlusion. The device appears to be causing a persistent mild obstruction to flow in the left pulmonary artery, which is not causing a clear problem, and there was mild thickening of the heart valves with very mild mitral regurgitation, which is not clinically significant at this time.

However, at around the location of the coronary sinus (a structure within the heart that drains the blood flow to the heart muscle) we observed a new thrombus (blood clot). Because the exact anatomic location of the clot was unclear, we recommended placing an intravenous catheter and performing a "bubble study", which helps show on ultrasound the flow of blood through the area of the clot. The bubble study showed that there was no flow from the right side of the heart to the site of the clot, meaning that the clot is likely not in the pulmonary artery (which would have been very concerning due to the direct risk of the clot moving to the lungs).

Given the formation of a clot without any clear relationship to the Amplatz device, we are concerned there may be an underlying disease process that may predispose B6 to form inappropriate blood clots. We therefore recommended blood be drawn, which we submitted for a complete blood count (CBC) and chemistry. We also collected a urine sample to

submit for urinalysis. When we receive the results of the bloodwork and urinalysis, we will give you a call, and further diagnostic testing may be indicated.

We discussed that there are several medications we could try to prevent formation of blood clots. The medication we are sending B6 home with today is B6.

We will want to take another look at B6 in 2-4 weeks, and may recommend an ultrasound of her abdomen, or other blood tests depending on the results of today's blood tests.

**Monitoring at Home:**

Please continue to monitor B6 for any signs of lethargy, coughing, weakness, or breathlessness. If B6 experiences any sudden increase in breathing effort, she would need to be evaluated by an emergency veterinarian. Given her predisposition to forming clots, we would be most concerned if she had an acute episode of respiratory distress which may indicate migration of a clot to the lungs.

**Exercise Restriction:**

Please keep B6 as calm as possible to reduce her risk of a blood clot dislodging. Leash walks are fine, but avoid having her running around for long periods, jumping, or playing roughly.

**Diet Suggestions:** B6 may continue her normal diet.

**Recommended Medications:**

**B6**

**Recheck Visits:** A recheck visit should be scheduled in 2-4 weeks. At this visit we may recommend an abdominal ultrasound or other blood tests, as well as a repeat echocardiogram to re-assess the size and appearance of B6 blood clot. At that time, we may recommend changing her medication or performing other diagnostic tests.

---

Case: B6

Owner: B6

Discharge Instructions

### Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:** B6 CVT, VTS(Cardiology)

**Discharge Date:** B6

B6 came in today for bloodwork to check her coagulation. The coagulation test does not show an increased predisposition to clot formation, therefore we do not need to adjust her medication at this stage. The dot looked smaller compared to last week which is great news!

**B6**

The number for B6 is B6

**Recheck Visits:**

A recheck is scheduled for

B6 with B6

We are happy to hear B6 is doing well and things have improved today.

**Kind Regards**

B6 CVT, VTS (Cardiology)  
[cardiovet@tufts.edu](mailto:cardiovet@tufts.edu)

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

**Prescription Refill Disclaimer:**

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

---

Case: B6

Owner: B6

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

**B6**

Patient ID: **B6**

**B6**

Canine

**B6** years Old Female (Spayed) Chihuahua

Multi

## Cardiology Appointment Report

Date: **B6**

### Attending Cardiologist:

John E. Bush, DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

**B6**

### Cardiology Technician:

**B6**

CVT, VTS (Cardiology)

Student: **B6** V'17

### Presenting Complaint:

Recheck 3 months post-op PDA occlusion

### Concurrent Diseases:

Ear infection

### General Medical History:

Referred in **B6** for PDA. Surgically corrected with ACDO in **B6**. Also diagnosed with chronic valvular disease with mild mitral and tricuspid regurgitation. Owner reports doing well at home, no medical concerns - no coughing or exercise intolerance. Good appetite.

### Diet and Supplements:

Halo - kibble

Wellness - soft food

### Cardiovascular History:

Prior CHF diagnosis? No

Prior ATE? No

Prior arrhythmia? No

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Prior heart murmur? Yes - V/VI basilar

# B6

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: left apical systolic

**Jugular vein:**

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**



- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

Heart murmur (grade II/VI)

**Differential Diagnoses:**

CVD (mitral regurgitation) vs functional vs DCM vs congenital

**Diagnostic plan:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile     |
| <input type="checkbox"/> Chemistry profile         | <input type="checkbox"/> Thoracic radiographs |
| <input type="checkbox"/> ECG                       | <input type="checkbox"/> NT-proBNP            |
| <input type="checkbox"/> Renal profile             | <input type="checkbox"/> Troponin I           |
| <input type="checkbox"/> Blood pressure            | <input type="checkbox"/> Other tests:         |

B6

**Assessment and recommendations:** PDA is completely occluded at this time and the dilated appearance of the LV is likely WNL for post-operative PDA occlusion. The significance and etiology of the large thrombus visualized within the coronary sinus is uncertain. On review of prior echocardiographic images it is suspected that a small thrombus was present in this structure even prior to PDA surgery. The PDA was already causing some turbulent flow in the LMPA via compression prior to the ACDO and I wonder whether it was/is also causing some compression of a persistent left cranial vena cava and resulting in altered flow with resultant thrombus in the coronary sinus. Minimum database, UPC, TEG and cTnI, as well as 6 lead ECG were all unremarkable. [ B6 ] Thrombus actually appeared smaller after just 1 week of clopidogrel therapy. Recommend continuing this dose until recheck echo on 11/9, then consider decreasing dose for chronic therapy to 1-2 mg/kg SID.

**Final Diagnosis:**

Coronary sinus thrombosis of uncertain etiology and significance  
 Completely occluded PDA  
 Mild MMVD

**Heart Failure Classification Score:**

ISACHC Classification:

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II            |                               |

ACVIM Classification:

- A
- B1
- B2

- C
- D

## Discharge Instructions

### Patient

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

### Owner

Name: B6

Address: B6

Patient ID: B6

### Attending Cardiologist:

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVCP

B6

### Cardiology Resident:

B6

Student: B6, V17

Cardiology Technician: B6, CVT, VTS (Cardiology)

Discharge Date: B6

### Diagnoses:

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device
2. Thrombus (blood clot) formation in the coronary sinus
3. Mild chronic valvular disease

### Clinical Findings:

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment of her previously diagnosed coronary sinus thrombus. On physical examination today, B6 heart murmur was unchanged and some occasional arrhythmia (premature beats) was heard. Her exam was otherwise normal.

B6 echocardiogram today showed that the Amplatz occluder remains in place completely occluding her PDA. Measurements of the coronary sinus clot compared to the previous echo showed the clot size was about the same. She still has a small leak at her mitral valve and is occasionally having premature beats originating from the upper chambers of her heart, but these do not require any medical therapy at this point. Since B6 will continue chronic use of the B6 we will decrease the dose slightly to B6 by mouth once per day.

### Monitoring at Home:

Please continue to monitor B6 for any signs of lethargy, coughing, weakness, or breathlessness. If B6 experiences any sudden increase in breathing effort, she would need to be evaluated by an emergency veterinarian.

### Exercise Restriction:

Leash walks and play are fine, but avoid having her running around for long periods, jumping, or playing roughly.

### Diet Suggestions:

B6 may continue her normal diet.

**Renowned Medications:**

**B6**

**Recheck Visits:**

**B6** should return in 3 months for a recheck echocardiogram and ECG.

This is scheduled for: **Wednesday, B6** at 10:00AM with: **B6**

Please email **B6** at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) know if you need to reschedule.

Thank you for bringing **B6** in today - she was such a good girl, as usual, and it was a pleasure to see you both!

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*To ensure your pet food is in stock, please call 7-10 days in advance at 508-887-4629. Alternatively, foods can be ordered through [www.chewy.com](http://www.chewy.com) or [www.petfooddirect.com](http://www.petfooddirect.com)*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: **B6**

Owner: **B6**

Discharge Instructions

**B6**

Patient ID: **B6**  
**B6** Canine  
**B6** Years Old Female (Spayed) Chihuahua  
Multi

**Cardiology Appointment Report**

Date: **B6**

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

**Cardiology Resident:**

**B6**

**Cardiology Technician:**

**B6**, CVT, VTS(Cardiology)

Student: **B6**, V17

**Presenting Complaint:**

Recheck coronary sinus thrombus diagnosed **B6**

**Concurrent Diseases:**

Coronary sinus thrombosis of uncertain etiology and significance

Completely occluded PDA

Mild MMVD

**General Medical History:**

Referred in **B6** for PDA. Surgically corrected with ACDO in **B6**. Also diagnosed with chronic valvular disease with mild mitral and tricuspid regurgitation. Doing well at home, no C/S/V/D, eating/drinking well. No dyspnea or increased effort.

**Diet and Supplements:**

Halo - kibble

Wellness - soft food

**Cardiovascular History:**

Prior CHF diagnosis? No

Prior ATE? Yes (coronary sinus thrombus diagnosed **B6**)

Prior arrhythmia? No

Cough? No

Shortness of breath or difficulty breathing? No

Syncopal or collapse? No  
Sudden onset lameness? No  
Exercise intolerance? No  
Prior heart murmur? Yes

# B6

## Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

## Cardiovascular Physical Exam:

### Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: left base

### Jugular vein:

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

### Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

### Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

### Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

### Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam: WNL**

- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

**Problems:**

Recheck previously diagnosed coronary sinus thrombus

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

**Assessment and recommendations:** Coronary sinus thrombus is still present and remains similar in size. Atrial premature beats were seen and a period of atrial bigeminy was noted on initial auscultation. B6 is doing well clinically and no antiarrhythmics are needed at present. Recommend continuing B6. Recheck brief echo/ECG in 3 months; recheck chem profile in 6 months.

**Final Diagnosis:** PDA completely occluded with ACDO; Coronary sinus thrombosis; Mild MMVD

**Heart Failure Classification Score:**

**ISACHC Classification:**

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2
- C
- D

**B6**

Patient ID: **B6**

**B6** Canine

**B6** Years Old Female (Spayed) Chihuahua

Multi

### Cardiology Appointment Report

Date: **B6**

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

**Cardiology Resident:**

**B6**

**Cardiology Technician:**

**B6**

Student: **B6** V17

**Presenting Complaint:**

Recheck coronary sinus thrombus diagnosed **B6** recheck **B6**

**Concurrent Diseases:**

Coronary sinus thrombosis of uncertain etiology and significance

Completely occluded PDA **B6**

Hx of mild mitral and tricuspid valve regurgitation

**General Medical History:**

Doing well at home. No v/d/s/c. Eating/drinking normally and well for her. No respiratory concerns (coughing, dyspnea, increased effort). O has not concerns.

**Diet and Supplements:**

Halo - dry food

Wellness - soft food

**Cardiovascular History:**



Prior CHF diagnosis? No

Prior ATE? Yes (coronary sinus thrombus diagnosed  looked similar )

Prior arrhythmia? Premature

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Prior heart murmur? Yes

# B6

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI midcardiac
- IV/VI
- V/VI
- VI/VI

**Murmur location/description:**

**Jugular vein:**

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

**Arterial pulses:**

- Weak
- Fair, left
- Good, right
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent

- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

**Problems:**

Recheck previously diagnosed coronary sinus thrombus

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

**B6**

**Doppler findings:**

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**Blood Pressure (mmHg):**

**ECG findings:**

**Radiographic findings:**

**Assessment and recommendations:**

**Final Diagnosis:**

**Heart Failure Classification Score:**

**ISACHC Classification:**

- Ia
- Ib
- II
- IIIa
- IIIb

**ACVIM Classification:**

- A
- B1
- B2
- C
- D

**M-Mode**

IVSd	<b>B6</b>	om
LVIDd		om
LVPWd		om
IVSs		om
LVIDs		om
LVPWs		om
%FS		%
Ao Diam		om
LA Diam		om
LA/Ao		
Max LA		om

**M-Mode Normalized**

IVSdN	<b>B6</b>	(0.29 - 0.52) !
LVIDdN		(1.35 - 1.73)
LVPWdN		(0.33 - 0.53)
IVSsN		(0.43 - 0.71)
LVIDsN		(0.79 - 1.14) !
LVPWsN		(0.53 - 0.78)
Ao Diam N		(0.68 - 0.89)
LA Diam N		(0.64 - 0.90)

**2D**

IVSd	<b>B6</b>	om
LVIDd		om
LVPWd		om
EDV(Teich)		ml
IVSs		om
LVIDs		om
LVPWs		om
ESV(Teich)		ml
EF(Teich)		%

%FS  
SV(Teich)

B6

%  
ml

Doppler  
MV E Vel  
MV DecT  
MV A Vel  
MV E/A Ratio  
E'  
A'  
E/E'

B6

m/s  
ms  
m/s  
  
m/s  
m/s

## Discharge Instructions

### Patient

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

### Owner

Name: B6

Address: B6

Patient ID: B6

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVFP

B6

### Cardiology Resident:

B6

Student: B6 17

### Cardiology Technician:

B6

Admit Date: B6 9:58:56 AM

Discharge Date: B6

### Diagnoses:

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device: B6
2. Thrombus (blood clot) formation in the coronary sinus, diagnosed 10/13/2016
3. Mild chronic mitral valvular disease

### Clinical Findings:

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment for her previously diagnosed coronary sinus thrombus. On physical examination today, B6 was bright, alert, and responsive. Her vital parameters (heart rate, respiratory rate, and temperature) were all within normal limits. Her heart murmur was graded a III/VI, which is the same as it was last visit. Her physical examination was otherwise unremarkable.

Today, we performed an echocardiogram (ultrasound of the heart) that showed that her Amplatz occluder remains in place and is well occluding her PDA. The coronary sinus clot is still present but is smaller in size than noted on previous echocardiograms. There is still mild mitral valve regurgitation (small leak in her mitral valve of the left heart). No additional medications are necessary at this time.

### Monitoring at Home:

Please continue to monitor B6 for any signs of lethargy, coughing, weakness, or breathlessness. If B6 experiences any sudden increase in breathing effort, she would need to be evaluated by an emergency veterinarian.

If B6 is going to have a dental procedure at her primary care veterinarian, we would recommend keeping her on antibiotic coverage at the time of surgery and post-operatively.

**Diet Suggestions:**

No diet changes are necessary at this time.

**Exercise Recommendations:**

Leash walks and play are fine, but avoid having her running around for long periods, jumping, or playing roughly.

**Recommended Medications:**

**B6**

**Recheck Visits:** A recheck visit for an ECG and echocardiogram are recommended in 6 months. We scheduled a recheck appointment for B6 on Thursday B6 at 2:30pm.

If you have any concerns prior to that time (eg weak, lethargic, trouble breathing, exercise intolerance), please have her seen by a veterinarian.

Thank you for bringing B6 to see us today! She is a pleasure to work with and such a great girl!

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

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**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: B6

Owner: B6

Discharge Instructions

### Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

Student: B6

**Cardiology Technician:**

B6

Date: B6

**Diagnoses:**

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device, B6
2. Thrombus (blood clot) formation in the coronary sinus, diagnosed B6
3. Mild chronic mitral valvular disease

**Clinical Findings:**

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment for her previously diagnosed coronary sinus thrombus. On physical examination today, B6 was bright, alert, and responsive. Her vital parameters (heart rate and respiratory rate) were all within normal limits. Her heart murmur was the same as it was at her last visit. Her physical examination was otherwise unremarkable.

Today, we performed an echocardiogram (ultrasound of the heart) that showed that her Amplatz occluder remains in place and is well occluding her PDA. The coronary sinus clot is still present but is smaller and less well defined than noted on previous echocardiograms. There is still mildly decreased contractile function in the left side of the heart, which we will continue to monitor in the future. There is still mild mitral valve regurgitation (small leak in her mitral valve of the left heart).

Please continue to give B6 her B6 ice she appears to be tolerating it very well.

**Monitoring at Home:**

Please continue to monitor B6 for any signs of lethargy, coughing, weakness, or breathlessness. If B6 experiences any sudden increase in breathing effort, she would need to be evaluated by an emergency veterinarian.

**Diet Suggestions:**

No diet changes are necessary at this time.

**Exercise Recommendations:**

Leash walks and play are fine, but avoid having her running around for long periods, jumping, or playing roughly.

**Recommended Medications:**

**B6**

**Recheck Visits:** A recheck visit for an ECG and echocardiogram are recommended in 6 months. Please call 508 887 4696 to schedule this appointment.

If you have any concerns prior to that time (eg weak, lethargic, trouble breathing, exercise intolerance), please have her seen by a veterinarian.

Thank you for bringing **B6** to see us today! She is so sweet and we are glad that she is doing well!

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: **B6**

Owner: **B6**

Discharge Instructions



B6

Patient ID: B6  
B6 Canine  
B6 Years Old Female (Spayed) Chihuahua  
Multi

### Cardiology Appointment Report

Date: B6

**Attending Cardiologist:**

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 V18

**Presenting Complaint:**

Recheck coronary sinus thrombus diagnosed B6

**Concurrent Diseases:**

Coronary sinus thrombosis of uncertain etiology and significance

Completely occluded PDA B6

Hx of mild mitral and tricuspid valve regurgitation

**General Medical History:**

Doing very well. Eating and drinking well. No coughing, breathing hard, decrease in energy.

**Diet and Supplements:**

Solid Gold

**Cardiovascular History:**

Prior CHF diagnosis? No

Prior ATE? Yes (coronary sinus thrombus diagnosed B6)

Prior arrhythmia? Premature beats

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No  
Exercise intolerance? No  
Prior heart murmur? Yes - III/VI

# B6

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: III/VI, left apical murmur

**Jugular vein:**

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3<sup>rd</sup> of neck

**Arterial pulses:**

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- No
- Intermittent
- Pronounced
- Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Pulmonary crackles
- Wheezes

- Marked dyspnea
- Normal BV sounds

- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

**Problems:**

Recheck previously diagnosed coronary sinus thrombus

PDA occluded with ACDO

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests

**B6**

**Assessment and recommendations:**

Patient continues to do very well at home. The previously noted thrombus is still present, but appears smaller and less distinct, although the cavity in which it was present is still noted. LV contractile function remains reduced, and LV cavity is mildly dilated. If LV cavity dilation progresses then pimobendan may be recommended, or consider submitting NTproBNP for additional information. Continue clopidogrel and recheck in 6 months, or sooner if clinical signs occur such as increased RR/RE, cough, lethargy, or collapse.

**Final Diagnosis:**

Coronary sinus thrombosis of uncertain etiology and significance (r/o LA aneurysm or other LA communication like a tear in the LA wall at MV annulus)

Completely occluded PDA  
Mild MMVD

**Heart Failure Classification Score:**

ISACHC Classification:

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II            |                               |

ACVIM Classification:

- |  |                            |
|--|----------------------------|
| <input type="checkbox"/> A             | <input type="checkbox"/> C |
| <input type="checkbox"/> B1            | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 |                            |

M-Mode

IVSd	<b>B6</b>	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
%FS		%

M-Mode Normalized

IVSdN	<b>B6</b>	{0.29 - 0.52} !
LVIDdN		{1.35 - 1.73} !
LVPWdN		{0.33 - 0.53}
IVSsN		{0.43 - 0.71}
LVIDsN		{0.79 - 1.14} !
LVPWsN		{0.53 - 0.78}

2D

SA LA	<b>B6</b>	cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml

Doppler

MV E Vel	<b>B6</b>	m/s
MV DecT		ms

MVA Vel  
MV E/A Ratio  
E'  
A'  
E/E'  
PV Vmax  
PV maxPG

B6

m/s  
m/s  
m/s  
m/s  
mmHg

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY  
Cardiology Liaison: 508-887-4696

**B6**

Patient ID: **B6**  
**B6** Canine  
**B6** Years Old Female (Spayed)  
Chihuahua  
Multi BW: Weight (kg) 3.86

## Cardiology Consultation

Date: **B6**  
Weight: Weight (kg) 3.86  
Patient location:  
Requesting Clinician: **B6**

### Attending Cardiologist:

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

**B6**

### Thoracic radiographs available for review?

- Yes - in SS
- Yes - in PACS
- No

### Presenting complaint and important concurrent diseases:

### Current medications and doses:

### Key indication for consultation: (murmur, arrhythmia, needs fluids, etc.):

### Questions to be answered from the Consult:

### Is your consult time-sensitive? (e.g., anesthesia today, owner waiting, trying to get biopsy today)

- Yes (explain)
- No

**\*STOP - remainder of form to be filled out by Cardiology\***

---

### Physical Examination

Heart rate:  
MM Color and CRT:

Respiratory rate:  
BCS (1-9):

Muscle condition:

- Normal
- Mild muscle loss

- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam**

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI

- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of neck
- Middle 1/3 of neck

- Top 2/3 of neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong

- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

Abdominal exam:

- Normal
- Hepatomegaly

- Abdominal distension
- Mild ascites

**Echocardiogram Findings:**

**General/2-D findings:**

**Doppler findings:**

**Mitral inflow:**

- |   |                                       |
|---|---------------------------------------|
| <input type="checkbox"/> Summated           | <input type="checkbox"/> Pseudonormal |
| <input type="checkbox"/> Normal             | <input type="checkbox"/> Restrictive  |
| <input type="checkbox"/> Delayed relaxation |                                       |

**Blood Pressure (mmHg):**

**ECG findings:**

**Radiographic findings:**

**Assessment and recommendations:**

**Treatment plan:**

**Final Diagnosis:**

**Heart Failure Classification Score:**

**ISACHC Classification:**

- |                             |                               |
|-----------------------------|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II |                               |

**ACVIM CHF Classification:**

- |                             |                            |
|-----------------------------|----------------------------|
| <input type="checkbox"/> A  | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input type="checkbox"/> B2 |                            |



## Discharge Instructions

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

Student: B6 V18

**Cardiology Technician:**

B6

Admit Date: B6

**Diagnoses:**

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device, B6
2. Thrombus (blood clot) formation in the coronary sinus, diagnosed B6 stable/less discrete
3. Mild chronic mitral valvular disease

**Clinical Findings:**

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment for her previously diagnosed coronary sinus thrombus and previously occluded PDA. On physical examination today, B6 was bright, alert, and slightly nervous. Her vital parameters (heart rate and respiratory rate) were all within normal limits. Her heart murmur sounded the same as her last visit. Her physical examination was otherwise unremarkable.

Today, we performed an echocardiogram (ultrasound of the heart) that showed that her Amplatz occluder remains in place and is occluding her PDA as it should be. The coronary sinus clot that was previously noted was less obvious today when compared to her previous exams, which is great news! There is still mildly decreased contractile function in the left side of the heart, and there is still mild mitral valve regurgitation (small leak in her mitral valve of the left heart), but these findings are very stable compared to her last exam.

Because B6 has been doing so well on her B6 we would like to continue this medication for now.

**Monitoring at Home:**

Please continue to monitor B6 for any signs of lethargy, coughing, weakness, or breathlessness. If B6 experiences any sudden increase in breathing effort, she would need to be evaluated by an emergency veterinarian.

**Diet Suggestions:**

No diet changes are necessary at this time.

**Exercise Recommendations:**

Leash walks and play are fine, but avoid having her running around for long periods, jumping, or playing roughly.

**Recommended Medications:**

**B6**

**Recheck Visits:** A recheck visit for an echocardiogram are recommended in 9-12 months. Please call 508 887 4696 to schedule this appointment.

If you have any concerns prior to that time (eg weak, lethargic, trouble breathing, exercise intolerance), please let us know or have her seen by a veterinarian.

Thank you for bringing **B6** to see us today! She was a perfect girl as always, and we are glad that she is doing well!

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case **B6**

Owner: **B6**

Discharge Instructions

B6

Patient ID: B6  
B6 Canine  
B6 Years Old Female (Spayed) Chihuahua  
Multi

### Cardiology Appointment Report

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

Student: B6 V18

**Presenting Complaint:**

Recheck exam

**Concurrent Diseases:**

History of PDA occlusion with ACDO: B6

History of thrombus of the coronary sinus: B6

History of mild chronic valvular disease

**General Medical History:**

O reports that B6 is doing well at home. there was an increase in coughing in the beginning of February, and she saw the rDVM. Since then coughing has resolved. O thinks that chest radiographs were performed at that time, however, we do not have these on record. Bloodwork performed at that visit was within normal limits, BUN high normal (30). Coughing has now resolved after taking away a toy that she was eating.

**Cardiovascular History:**

Prior CHF diagnosis? no

Prior ATE? Thrombus to coronary sinus: B6

Prior arrhythmia? hx of premature beats

Cough? Had been coughing more at rDVM visit (2/10) but this has decreased since then

Shortness of breath or difficulty breathing? none per owner

Syncope or collapse? no  
Sudden onset lameness? no  
Exercise intolerance? no  
Prior heart murmur? yes Grade III/VI

# B6

**Cardiac Physical Examination:**

# B6

**Muscle condition:**

- |   |  |
|---|--|
| <input type="checkbox"/> Normal                                 | <input type="checkbox"/> Moderate cachexia |
| <input checked="" type="checkbox"/> Mild muscle loss (hind end) | <input type="checkbox"/> Marked cachexia   |

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- |  |                                |
|--|--------------------------------|
| <input type="checkbox"/> None                | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI                | <input type="checkbox"/> V/VI  |
| <input checked="" type="checkbox"/> II/VI to | <input type="checkbox"/> VI/VI |
| <input checked="" type="checkbox"/> III/VI   |                                |

Murmur location/description: III/VI left apical, systolic murmur

**Jugular vein:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of neck | <input type="checkbox"/> Top 2/3 <sup>rd</sup> of neck |
| <input type="checkbox"/> Middle 1/3 of neck            |  |

**Arterial pulses:**

- |   |   |
|---|---|
| <input type="checkbox"/> Weak               | <input type="checkbox"/> Bounding         |
| <input type="checkbox"/> Fair               | <input type="checkbox"/> Pulse deficits   |
| <input checked="" type="checkbox"/> Good RH | <input type="checkbox"/> Pulsus paradoxus |
| <input type="checkbox"/> Strong             | <input type="checkbox"/> Other:           |

**Arrhythmia:**

- |  |                                      |
|--|--------------------------------------|
| <input type="checkbox"/> None                        | <input type="checkbox"/> Bradycardia |
| <input checked="" type="checkbox"/> Sinus arrhythmia | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Premature beats             |                                      |

**Gallop:**

- |  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | <input type="checkbox"/> Pronounced |
| <input checked="" type="checkbox"/> No | <input type="checkbox"/> Other:     |
| <input type="checkbox"/> Intermittent  |                                     |

**Pulmonary assessments:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Eupneic (panting) | <input type="checkbox"/> Pulmonary crackles |
|---|---|

- Mild dyspnea
- Wheezes
- Marked dyspnea
- Upper airway stridor
- Normal BV sounds (with some referred upper airway noise)

**Abdominal exam:**

- Normal
- Mild ascites
- Hepatomegaly
- Marked ascites
- Abdominal distension

**Problems:**

History of PDA: occluded with ACDO July 2016  
 History of coronary sinus thrombus October 2016  
 Mild degenerative mitral valve disease

**Diagnostic plan:**

- Echocardiogram
- Dialysis profile
- Chemistry profile
- Thoracic radiographs
- ECG
- NT-proBNP
- Renal profile
- Troponin I
- Blood pressure
- Other tests:

**B6**

**Mitral inflow:**

- Summated
- Pseudonormal
- Normal
- Restrictive
- Delayed relaxation

**B6**

**Assessment and recommendations:**

Patient continues to do well at home. The previously noted thrombus is still present, but appears smaller and less distinct. LV contractile function remains reduced, and LV cavity is mildly dilated, but stable compared to previous exam. If LV cavity dilation progresses then B6 may be recommended, or consider submitting NTproBNP for additional information. Continue B6 and recheck in 9-12 months, or sooner if clinical signs occur such as increased RR/RE, cough, lethargy, or collapse.

**Final Diagnosis:**

Coronary sinus thrombosis of uncertain etiology and significance (r/o LA aneurysm or other LA communication like a tear in the LA wall at MV annulus)

Occluded PDA  
 Mild MMVD  
 Mild PHT

**Heart Failure Classification Score:**

**ISACHC Classification:**

- |  |                               |
|--|-------------------------------|
| <input type="checkbox"/> Ia            | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II            |                               |

**ACVIM Classification:**

- |  |                            |
|--|----------------------------|
| <input type="checkbox"/> A             | <input type="checkbox"/> C |
| <input type="checkbox"/> B1            | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 |                            |

M-Mode

IVSd	<b>B6</b>	om
LVIDd		om
LVPWd		om
IVSs		om
LVIDs		om
LVPWs		om
%FS		%
Ao Diam		om
LA Diam		om
LA/Ao		
Max LA		om
EPSS		om

M-Mode Normalized

IVSdN	<b>B6</b>	{0.29 - 0.52} !
LVIDdN		{1.35 - 1.73}
LVPWdN		{0.33 - 0.53}
IVSsN		{0.43 - 0.71}
LVIDsN		{0.79 - 1.14} !
LVPWsN		{0.53 - 0.78}
Ao Diam N		{0.68 - 0.89}
LA Diam N		{0.64 - 0.90} !

2D

SA LA	<b>B6</b>	om
Ao Diam		om
SA LA / Ao Diam		
IVSd		om
LVIDd		om
LVPWd		om
EDV(Teich)		ml
IVSs		om
LVIDs		om

LVPWs  
ESV(Teich)  
EF(Teich)  
%FS  
SV(Teich)

B6

cm  
ml  
%  
%  
ml

Doppler  
MV E Vel  
MV DecT  
MV A Vel  
MV E/A Ratio  
PV Vmax  
PV maxPG  
PR Vmax  
PR maxPG  
TR Vmax  
TR maxPG

B6

m/s  
ms  
m/s  
  
m/s  
mmHg  
m/s  
mmHg  
m/s  
mmHg

**Radiology Request & Report**

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6 DVM (Cardiology)

Student:

Date of exam: B6

Patient Location: Ward/Cage: Cardio

Weight (kg) 3.40

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

**Sedation**

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: DV and right lateral chest

Presenting Complaint and Clinical Questions you wish to answer:  
increased coughing, mild heart disease. But do not suspect CHF.

Pertinent History: PDA occluded B6

Findings:

Conclusions:

Radiologists

Primary:

Reviewing:

Dates

Reported:

Finalized:



## Discharge Instructions

### Patient

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

### Owner

Name: B6

Address: B6

Patient ID: B6

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

### Cardiology Resident:

B6

### Cardiology Technician:

B6

Date: B6

### Diagnoses:

1. History of patent ductus arteriosus (PDA) occluded with Amplatz canine ductal occluder (ACDO) device, B6
2. Thrombus (blood clot) formation in the coronary sinus, diagnosed B6 stable/less discrete
3. Mild chronic mitral valvular disease
4. Reduced contractile function (either related to previous PDA or related to early cardiomyopathy potentially related to diet)
5. Mild pulmonary hypertension (increased blood pressure in the lungs, suspected to be related to primary lung disease)

### Clinical Findings:

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck appointment for her previously diagnosed coronary sinus thrombus and previously occluded PDA. On physical examination today, B6 was bright, alert, and slightly nervous. Her vital parameters (heart rate and respiratory rate) were all within normal limits. Her heart murmur sounded the same as her last visit. Her physical examination was otherwise unremarkable.

Today, we performed an echocardiogram (ultrasound of the heart) that showed that her Amplatz occluder remains in place and is occluding her PDA as it should be. The coronary sinus clot that was previously noted was about the same as at her last exam, which is great news! There is still mildly decreased contractile function in the left side of the heart, and there is still mild mitral valve regurgitation (small leak in her mitral valve of the left heart). B6 contractile function is somewhat worse than it has been in the past, and we discussed that certain diets have been associated with this problem. B6 was enrolled in a study about dogs with cardiomyopathy, and we submitted some blood work today though the study. We will call you with the blood work results tomorrow or the next day. One of the blood tests is called an NTproBNP test, and if her value comes back markedly elevated we may want to consider starting a medication called pimobendan.

Chest radiographs today showed that B6 trachea did not look compressed, which is good news. She had an area of mild irregularity on one view, but on other views her lungs looked clear. For now we recommend avoiding any airway

irritants such as perfume, smoke, or other aerosols. A mild amount of weight loss can also help with her breathing.

Because [B6] has been doing so well on her [B6] we would like to continue this medication for now.

**Monitoring at Home:**

Please continue to monitor [B6] for any signs of lethargy, coughing, weakness, or breathlessness. If [B6] experiences an increase in breathing rate or effort, she should be evaluated by a veterinarian.

**Diet Suggestions:**

Please gradually transition to the Royal Canin Early Cardiac food. Once you let Dr Freeman know the size of your food scoop she will provide recommendation of how much to feed. In the mean time you can just replace a few kibbles of her current food with the new food. Please email [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) with the cup size information.

**Recommended Medications:**

**B6**

**Recheck Visits:** A recheck visit is scheduled for Friday, [B6] at 4PM. At this visit we will recheck her echocardiogram and submit some blood work. If you could bring a small stool sample to this visit, that would be great. This visit will be covered under the study. Another recheck for the study will be performed 6 months from now.

Thank you for entrusting us with [B6] care. She is such a sweet girl! Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

---

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*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

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**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

---

Case: [B6]

Owner: [B6]

Discharge Instructions

**Radiology Request & Report**

**Patient**

Name: B6

Species: Canine

Multi Female (Spayed) Chihuahua

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6 DVM (Cardiology)

Student:

Date of exam: B6

Patient Location: Ward/Cage: cardio

Weight (kg) 3.40

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

**Sedation**

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: Left lateral chest

Presenting Complaint and Clinical Questions you wish to answer:  
increased coughing, mild heart disease. But do not suspect CHF.

Pertinent History: PDA occluded B6

Findings:

**B6**

# B6

## Conclusions:

- Mild to moderate generalized cardiomegaly consistent with previous PDA. There is no evidence of left atrial enlargement or cardiac decompensation.
- The changes superimposed with the right 6th intercostal space described on the DV view are most likely the result of superimposed normal structures.
- Dorsal tracheal membrane redundancy is of unknown clinical significance. A dynamic airway disease is possible. Consider airway sampling and tracheoscopy.

## Radiologists

Primary: B6 DVM

Reviewing:

## Dates

Reported: B6

Finalized:

B6

Patient ID: B6  
B6 Canine  
B6 Years Old Female (Spayed) Chihuahua  
Multi

### Cardiology Appointment Report

Date: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

**Presenting Complaint:** Here for routine recheck. Doing well at home. Gag like cough started a few months ago, becoming more frequent. After drinking water and playing. Eating/ drinking normally. N V/D. Is on HW prev.

**General Medical History:** PDA occluded B6

**Diet and Supplements:** Solid Gold Wee Bites. Started on lower fat grain free version yesterday.

**Cardiovascular History:**

- Prior CHF diagnosis? N
- Prior heart murmur? Y
- Prior ATE? N
- Prior arrhythmia? N
- Monitoring respiratory rate and effort at home? Y
- Cough? Y gage like, like she is trying to get something out
- Shortness of breath or difficulty breathing? N
- Syncope or collapse? N
- Sudden onset lameness? N
- Exercise intolerance? N

B6

# B6

## Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

## Cardiovascular Physical Exam:

### Murmur Grade:

- None
- I/VI
- II/VI to
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: systolic left apical

### Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

### Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

### Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

### Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

### Pulmonary assessments:

- Eupneic/mild increased RE
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Mild pulmonary crackles/referred upper airway noises
- Wheezes
- Upper airway stridor

### Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

### Problems:

History of PDA: occluded with ACDO: B6

History of coronary sinus thrombus

Mild degenerative mitral valve disease

Coughing (r/o pulmonary disease, tracheal collapse, CHF)

**Diagnostic plan:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile                    |
| <input type="checkbox"/> Chemistry profile         | <input checked="" type="checkbox"/> Thoracic radiographs +/- |
| <input type="checkbox"/> ECG                       | <input checked="" type="checkbox"/> NT-proBNP +/-            |
| <input type="checkbox"/> Renal profile             | <input type="checkbox"/> Troponin I                          |
| <input type="checkbox"/> Blood pressure            | <input type="checkbox"/> Other tests:                        |

**B6**

**Mitral inflow:**

- |   |                                       |
|---|---------------------------------------|
| <input type="checkbox"/> Summated           | <input type="checkbox"/> Pseudonormal |
| <input checked="" type="checkbox"/> Normal  | <input type="checkbox"/> Restrictive  |
| <input type="checkbox"/> Delayed relaxation |                                       |

**B6**

**Assessment and recommendations:**

Echocardiogram shows stable occlusion of the PDA and stable coronary sinus thrombus, but there is progressive reduction in LV contractile function and progressive dilation of the LV cavity. Patient was enrolled in the DCM study so BNP, troponin, taurine, CBC and chemistry were submitted. Recommend gradual transition from current diet to RC Early Cardiac or another well established company. Recommend a mild amount of weight loss, especially given the increased coughing and concern for possible chronic pulmonary disease. Recommend avoiding airway irritants and monitoring for triggers of cough. A course of  could be considered if cough worsens. The LV dilation is enough to warrant starting  but in the absence of LA enlargement we would wait to start unless the BNP is markedly elevated. Continue  Rerecheck echo and blood work via the study in 3 and 6 months.

**Final Diagnosis:**

Coronary sinus thrombosis of uncertain etiology and significance (r/o LA aneurysm or other LA communication like a tear in the LA wall at MV annulus)

Occluded PDA

Mild MMVD

Mild PHT (slightly worse today compared to previous exam)

Reduced LV contractile function (r/o dietary cardiomyopathy, early primary DCM, residual LV dysfunction related to longstanding PDA)

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	<b>B6</b>	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm

M-Mode Normalized

IVSdN	<b>B6</b>	(0.290 - 0.520)
LVIDdN		(1.350 - 1.730) !
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710)
LVIDsN		(0.790 - 1.140) !
LVPWsN		(0.530 - 0.780)
Ao Diam N		(0.680 - 0.890) !
LA Diam N		(0.640 - 0.900)

2D

SALA	<b>B6</b>	cm
Ao Diam		cm



SALA / Ao Diam  
IVSd  
LVIDd  
LVPWd  
EDV(Teich)  
IVSs  
LVIDs  
LVPWs  
ESV(Teich)  
EF(Teich)  
%FS  
SV(Teich)  
LV Major  
LV Minor  
Sphericity Index  
LVld LAX  
LVAd LAX  
LVEDV A-L LAX  
LVEDV MOD LAX  
LVls LAX  
LVAs LAX  
LVESV A-L LAX  
LVESV MOD LAX  
HR  
EF A-L LAX  
LVEF MOD LAX  
SV A-L LAX  
SV MOD LAX  
CO A-L LAX  
CO MOD LAX

B6

cm  
cm  
cm  
ml  
cm  
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ml  
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ml  
cm  
cm  
cm  
ml  
ml  
ml  
cm  
cm  
ml  
ml  
ml  
ml  
BPM  
%  
%  
ml  
ml  
l/min  
l/min

Doppler  
MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV Dec Slope  
MV A Vel  
MV E/A Ratio  
E'  
E/E'  
A'  
AV Vmax  
AV maxPG  
PV Vmax  
PV maxPG  
PR Vmax  
PR maxPG  
TR Vmax  
TR maxPG

B6

m/s  
mmHg  
m/s  
ms  
m/s  
m/s  
m/s  
m/s  
m/s  
mmHg  
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mmHg  
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mmHg  
m/s  
mmHg  
m/s  
mmHg

**Best Available Copy**



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Veterinary Medicine

*Healing Animals. Helping Humans. Transforming Global Health.*

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-8739  
<http://vetmed.tufts.edu/>

**B6**

**B6** Female (Spayed)  
Canine Chihuahua Multi  
**B6**

**B6**

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

**B6** DVM, DACVIM (Cardiology)



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**B6**

Female (Spayed)

Canine Chihuahua Multi

**B6**

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**B6**

**B6**

Female (Spayed)

Canine Chihuahua Multi

**B6**

**B6**

Dear **B6**

Thank you for referring **B6** with their pet **B6**.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

**B6**

DVM, DACVIM (Cardiology)



**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

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Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**B6**

Female (Spayed)

Canine Chihuahua Multi

**B6**

**B6**

Dear **B6**

Thank you for referring **B6** with their pet **B6**.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

**B6**

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

**B6** Female (Spayed)  
Canine, Chihuahua Multi  
**B6**

**B6**

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**B6**

**B6**

Female (Spayed)

Canine Chihuahua Multi

**B6**

**B6**

Dear **B6**

Thank you for referring **B6** with their pet **B6**.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

**B6** DVM (Cardiology)

**From:** Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>  
**To:** Jones, Jennifer L  
**Sent:** 3/15/2019 12:47:08 PM  
**Subject:** 03-MRx summary cc-258

**B6** 6 FS Chihuahua at time of illness (currently 9)

**B6** eosinophilia, proBNP neg, xrad: R cardiomeg, mixed pulm infiltr, mild tracheal collapse

echo: PDA, mild LV dil, LV hypokinesis, MR, TR

**B6** echo: confirmed PDA, valve regurg

adopted this winter and since has intermittent cough; since tx **B6** = no cough; occ reverse sneeze; eats Blue Buffalo dry LI small breed, sometimes cooked chicken L to R PDA w/ Gr V cont murmur, concurrent dz is pruritis and alopecia

BP: 70

Echo: mild LV dil, mild LV hypokinesis, PDA, 2+ MR, mild MV thick, +1 TR, tr AR

**B6** surgery-PDA occlusion

PE-Gr V/VI cont murmur, PMI L cranial, small palpable thrill, sys murmur cd L apex, jug bottom 1/3

Post-op echo: LV subj smaller than before PDA closure but similar msr to prior exam, turbulence in L PA branch, PDA occluded

Labs: 4Dx neg, Big 4 wnl, HW neg

**B6** murmur Gr III/VI sys L basilar, Big 4 wnl, some minor bleeding based on dec PCV/TS

**B6** recheck heart disease; eating Wellness Soft food and Halo kibble

PE: Gr II-III/VI PMI L

Echo-thrombus at coronary sinus, PDA occluded, dil LV enl but normal for post-op PDA occlusion, LV hypokinesis, device causing persist mild obstruction to flow of L pulm a, mild thick heart valves, Tr PI, tr MR, LA normal size

Labs NP **B6** o, rest nsf, proteinuria w/ US **B6** /UPC wnl

Troponin 0.03 = wnl, TEG-some increase to one parameter

Tx clopidogrel

**B6** murmur unchanged, occ arrhythmia; doing maintenance ear drops for prior OE that resolved

Brief Echo: unchanged clot size, small MR, occ premature beats from Upper chambers;

APCs and pd of Atrial bigeminy

Dec dose of clopidogrel

**B6** unchanged diet, Brief echo-persistent thrombus but smaller size, mild MR

**B6** Echo persistent thrombus, small size, less well defined; still mild dec contrxn LV, mild MR; dil LV w/ hypokinesis-stable, +1 MR, tr PR

ECG-140 bpm, sinus arrhythmia

**B6** inc cough at beginning of Feb, BUN 30, cough resolved after taking away toy she was eating; Labs wnl per O

PE: mild mm loss, HR 140 bpm

Echo: dil LV w/ hypokinesis (stable), thrombus-less well defined than prev, +1 MR, tr PR, tr TR

ECG-sinus arrhyth

**B6** inc cough; eats Solid Gold Wee Bites, started on Lower fat GF version yesterday

Xrads: mild-mod gen'd cardiomeg VHS 11.25, poss pulm infiltr R cd lung field only DV

Echo: dil LV cavity w/ progressive hypokinesis, persistent thrombus-less well defined, 1-2+ MR, +1 PR,

**B6**

ECG-nsr

Tau Davis: **B6** WB

Recc diet change

Hx PDA surgery: **B6** at 6 yr old, proBNP at time norm

**Jennifer L. A. Jones, DVM**

Veterinary Medical Officer

U.S. Food & Drug Administration

Center for Veterinary Medicine

Office of Research

Veterinary Laboratory Investigation and Response Network (Vet-LIRN)

8401 Muirkirk Road, G704

Laurel, Maryland 20708

new tel: 240-402-5421

fax: 301-210-4685

e-mail: [jennifer.jones@fda.hhs.gov](mailto:jennifer.jones@fda.hhs.gov)

Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



---

**From:** [REDACTED] B6  
**To:** Nemser, Sarah  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] B6 11:51:01 PM  
**Subject:** RE: Necropsy authorization

Hi Sarah,  
No worries – hope you're feeling better! I was in touch with Dr. Jones today and have everything sorted out.  
Appreciate you following up though!  
Sincerely,  
[REDACTED] B6

---

**From:** Nemser, Sarah [mailto:Sarah.Nemser@fda.hhs.gov]  
**Sent:** [REDACTED] B6 4:49 PM  
**To:** [REDACTED] B6  
**Cc:** Jones, Jennifer L  
**Subject:** RE: Necropsy authorization

Hi [REDACTED] B6  
I was [REDACTED] B6 today – sorry I missed your email.

I am including Dr. Jennifer Jones, who coordinates all of our DCM cases.  
I'm very sorry to hear about [REDACTED] B6

Could you forward the medical records to Dr. Jones for initial review so we can understand the case in more detail?

Thanks,  
Sarah

Sarah Nemser M.S.

Vet-LIRN Network Coordinator

tel: 240-402-0892

fax: 301-210-4685

sarah.nemser@fda.hhs.gov

---

**From:** [REDACTED] B6  
**Sent:** [REDACTED] B6 12:01 PM  
**To:** Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>  
**Subject:** Necropsy authorization

Hi Sarah,  
I left a message on your number this morning but figured I would also follow up with an email. Dr. Josh Stern gave us your contact information. We have a nutrition mediated DCM case, diagnosed at UC Davis that will be euthanized this afternoon. [REDACTED] B6 is in CHF and isn't responding to treatment. She is a [REDACTED] B6 yrold, FS, Golden Retriever. The owner is willing to submit the body/tissues towards research on this condition. [REDACTED] B6 is out of the office today. Please give me a call at your earliest convenience to discuss next steps [REDACTED] B6  
Sincerely,  
[REDACTED] B6

**B6**

**B6**

 Like us on  
Facebook

Find us on Yelp 

---

**From:** Guag, Jake </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E13AD3C7A7C5484C80E1D9CF9D1A15DE-JGUAG>  
**To:** clinpath@tufts.edu  
**CC:** Jones, Jennifer L  
**Sent:** 5/7/2019 7:50:10 PM  
**Subject:** Necropsy procedures for Dr. Freeman  
**Attachments:** 800.267-Vet-LIRN Rapid Necropsy-DCM-v7.pdf

Hi Dr. Lisa Freeman,

Attached is please find the necropsy procedure.  
Please provide us the estimates for the cost.  
Dr. Jones will contact you tomorrow.

Thank you,  
Jake

Jake Guag, MPH, CPH  
Biologist (FDA/CVM/OR/Vet-LIRN)  
8401 Muirkirk Road  
Laurel, Maryland 20708  
Email: [jake.guag@fda.hhs.gov](mailto:jake.guag@fda.hhs.gov)  
Tel: 240-402-0917



---

**From:** Guag, Jake </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E13AD3C7A7C5484C80E1D9CF9D1A15DE-JGUAG>  
**To:** Freeman, Lisa  
**CC:** Jones, Jennifer L  
**Sent:** 5/7/2019 8:05:25 PM  
**Subject:** RE: Necropsy procedures for Dr. Freeman  
**Attachments:** 800.267-Vet-LIRN Rapid Necropsy-DCM-v7.pdf

**From:** Guag, Jake  
**Sent:** Tuesday, May 7, 2019 3:50 PM  
**To:** [clinpath@tufts.edu](mailto:clinpath@tufts.edu)  
**Cc:** Jones, Jennifer L <[Jennifer.Jones@fda.hhs.gov](mailto:Jennifer.Jones@fda.hhs.gov)>  
**Subject:** Necropsy procedures for Dr. Freeman

Hi Dr. Lisa Freeman,

Attached is please find the necropsy procedure.  
Please provide us the estimates for the cost.  
Dr. Jones will contact you tomorrow.

Thank you,  
Jake

Jake Guag, MPH, CPH  
Biologist (FDA/CVM/OR/Vet-LIRN)  
8401 Muirkirk Road  
Laurel, Maryland 20708  
Email: [jake.guag@fda.hhs.gov](mailto:jake.guag@fda.hhs.gov)  
Tel: 240-402-0917

**From:** [REDACTED] **B6**  
**To:** Jones, Jennifer L  
**CC:** Peloquin, Sarah  
**Sent:** [REDACTED] **B6** 6:54:52 PM  
**Subject:** Re: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Dr Jones,

Thank you for the information regarding shipment of samples from [REDACTED] **B6**  
I have 3 jars of tissues in formalin.

The jars contain the following tissue samples:

- 1) Heart - washed to remove clots, weighed, and placed in formalin. Weight of heart 207 grams
- 2) Liver- Removed 2 sections of liver and placed in formalin
- 3) Mass- at heart base. I have sent this as well. Was not normal structure in appearance and opted to include in submissions

Total weight of 3 specimens is 1 pound 9 ounces

Thank you

**B6**

[REDACTED] **B6**

----- Original Message -----

**From:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**To:** [REDACTED] **B6**  
**Cc:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** 5/9/2019 7:08:13 AM  
**Subject:** 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good morning Dr. [REDACTED] **B6**

Thank you for submitting your consumer complaint to FDA. I'm sorry to hear about [REDACTED] **B6** illness and death. I spoke with Dr. Lisa Freeman about the case earlier this week, and she mentioned you were collecting tissues from [REDACTED] **B6** jr.

We will send you 2 boxes with the materials to collect the fixed and frozen samples. You will reuse the boxes we send and package the samples per the instructions in the box.

- Please send me the approximate weight of the following individual groups:
  - Fixed tissues in the jars
  - Frozen tissues

We will use this information to make prepaid shipping labels for you. You'll affix the prepaid shipping label to the box and call UPS for a pick-up on Monday-Wednesday.

I attached a copy of our network procedures. They explain how Vet-LIRN operates and how veterinarians help with our case investigations. An owner friendly version is also attached.

For more information, please also visit our open access article in JAVMA that explains the FDA Animal Food Concern Reporting process. It's free and located here: <https://avmajournals.avma.org/doi/pdf/10.2460/javma.253.5.550>

Thank you again,  
Jen

**Jennifer L. A. Jones, DVM**

Veterinary Medical Officer  
U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Office of Research  
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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



---

**From:** [REDACTED] B6  
**To:** Jones, Jennifer L  
**CC:** Peloquin, Sarah  
**Sent:** 5/13/2019 4:36:46 PM  
**Subject:** Re: 800.267-FDA Case Investigation for [REDACTED] B6 }-297)

Good Morning,

I am confirming that you received my previous email regarding the pathology samples. I am also wondering about the status of the boxes for them.

Thank you

[REDACTED] B6

[REDACTED] B6

[REDACTED] B6

----- Original Message -----

**From:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**To:** [REDACTED] B6  
**Cc:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** [REDACTED] B6 7:08:13 AM  
**Subject:** 800.267-FDA Case Investigation for [REDACTED] B6 }cc-297)

Good morning [REDACTED] B6

Thank you for submitting your consumer complaint to FDA. I'm sorry to hear about [REDACTED] B6 illness and death. I spoke with Dr. Lisa Freeman about the case earlier this week, and she mentioned you were collecting tissues from [REDACTED] B6

We will send you 2 boxes with the materials to collect the fixed and frozen samples. You will reuse the boxes we send and package the samples per the instructions in the box.

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Concern Reporting process. It's free and located here: <https://avmajournals.avma.org/doi/pdf/10.2460/javma.253.5.550>

Thank you again,  
Jen

**Jennifer L. A. Jones, DVM**

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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



**From:** Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>  
**To:** [REDACTED] **B6**  
**CC:** Peloquin, Sarah  
**Sent:** 5/13/2019 4:59:45 PM  
**Subject:** RE: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good afternoon Dr. [REDACTED] **B6**  
I received your email, and the boxes are being shipped today.  
Thank you for your help,  
Jen

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** [REDACTED] **B6**  
**Sent:** Monday, May 13, 2019 12:37 PM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Cc:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Subject:** Re: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good Morning,

I am confirming that you received my previous email regarding the pathology samples. I am also wondering about the status of the boxes for them.

Thank you

**B6**

**B6**

----- Original Message -----

**From:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**To:** [REDACTED] **B6**

Cc: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>

Sent: [B6] 7:08:13 AM

Subject: 800.267-FDA Case Investigation for [B6] (cc-297)

Good morning Dr. [B6]

Thank you for submitting your consumer complaint to FDA. I'm sorry to hear about [B6] illness and death. I spoke with Dr. Lisa Freeman about the case earlier this week, and she mentioned you were collecting tissues from [B6]

We will send you 2 boxes with the materials to collect the fixed and frozen samples. You will reuse the boxes we send and package the samples per the instructions in the box.

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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



---

**From:** Tufts Veterinary Clinical Nutrition Service <vetnutrition@tufts.edu>  
**To:** Jones, Jennifer L; Guag, Jake  
**CC:** [REDACTED]  
**Sent:** [REDACTED] 1:08:54 PM  
**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing her [REDACTED] to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] Jake – could you send him shipping materials? His email is

[REDACTED]

Thanks very much  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University



**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** Guag, Jake  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] 1:29:25 PM  
**Subject:** RE: [REDACTED]

Hey Jake, Jen and I had discussed this previously, and [REDACTED]

**B5**

[REDACTED]

This is not definitive. [REDACTED]

**B5**

**B5**

Jen, we'll discuss when you get back, and can talk to Dave if you haven't already.

Thank you!

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Guag, Jake  
**Sent:** [REDACTED] 9:23 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** FW: [REDACTED]

Hi Sarah,

I got an email from Tufts. Since Jen is [REDACTED] could you please follow up this?

I don't have detail info, so searched [REDACTED] and found info in [REDACTED]

**B6**

**B6**

[REDACTED] (I think it is related to this case but not guarantee)

I can ship the shipping materials, but need to know

1. If we will follow up this
2. If so, which samples (fix or frozen) they will collect and what is size/weight of the samples.
3. If we need to ship formalin to the Vet, etc

Thanks  
Jake

**From:** Tufts Veterinary Clinical Nutrition Service <vetnutrition@tufts.edu>  
**Sent:** [REDACTED] 9:09 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** [REDACTED]  
**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

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shipping materials? His email is

**B6**

Thanks very much  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

---

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**To:** Peloquin, Sarah  
**Sent:** [REDACTED] 1:25:37 PM  
**Subject:** FW: [REDACTED]

Dear Sarah

Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate

Thanks

Lisa

**From:** Tufts Veterinary Clinical Nutrition Service  
**Sent:** [REDACTED] 9:09 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** [REDACTED] tufts.edu>  
**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing he [REDACTED] to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] Jake – could you send him shipping materials? His email is

[REDACTED]

Thanks very much

Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

---

**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** Freeman, Lisa  
**CC:** Jones, Jennifer L; Guag, Jake  
**Sent:** [REDACTED] 1:51:05 PM  
**Subject:** RE: [REDACTED] B6

Hi Lisa!

I hope you've been well. Jake also forwarded your email to me—thank you for following up with us.

If possible, the body and/or samples could be held frozen until next week. I'll discuss with Jen when she gets back, since I'm unsure where we are with our post-mortem samples. I'll make sure we follow up with you.

Thanks again, and have a great weekend!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] B6 9:26 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Subject:** FW: [REDACTED] B6

Dear Sarah  
Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate  
Thanks  
Lisa

**From:** Tufts Veterinary Clinical Nutrition Service  
**Sent:** [REDACTED] B6 9:09 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** [REDACTED] B6  
**Subject:** [REDACTED] B6

Dear Jennifer and Jake  
I just heard from [REDACTED] B6 the primary care vet for [REDACTED] B6. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing her [REDACTED] B6 to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] B6 Jake – could you send him shipping materials? His email is

[REDACTED] B6

Thanks very much  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor

Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

---

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L; Guag, Jake  
**Sent:** [REDACTED] 1:54:22 PM  
**Subject:** RE: [REDACTED] B6

Hi Sarah

Can they be frozen at -20? I'm sure the primary care vet doesn't have a -80 freezer

Thanks

Lisa

**From:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** [REDACTED] B6 [REDACTED] 9:51 AM  
**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] B6

Hi Lisa!

I hope you've been well. Jake also forwarded your email to me—thank you for following up with us.

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Thanks again, and have a great weekend!

Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] B6 [REDACTED] 9:26 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Subject:** FW: [REDACTED] B6

Dear Sarah

Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate

Thanks

Lisa

**From:** Tufts Veterinary Clinical Nutrition Service  
**Sent:** [REDACTED] B6 [REDACTED] 9:09 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** [REDACTED] B6  
**Subject:** [REDACTED] B6

Dear Jennifer and Jake

I just heard from [REDACTED] B6 the primary care vet for [REDACTED] B6. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing he [REDACTED] B6 to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] B6 Jake – could you send him shipping materials? His email is

**B6**

Thanks very much  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

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**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** Freeman, Lisa  
**CC:** Jones, Jennifer L; Guag, Jake  
**Sent:** [REDACTED] 1:56:16 PM  
**Subject:** RE: [REDACTED] **B6**

Yes, -20 degrees should be fine.

Thanks, Lisa!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] 9:54 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] **B6**

Hi Sarah  
Can they be frozen at -20? I'm sure the primary care vet doesn't have a -80 freezer  
Thanks  
Lisa

**From:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** [REDACTED] 9:51 AM  
**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] **B6**

Hi Lisa!

I hope you've been well. Jake also forwarded your email to me—thank you for following up with us.

If possible, the body and/or samples could be held frozen until next week. I'll discuss with Jen when she gets back, since I'm unsure where we are with our post-mortem samples. I'll make sure we follow up with you.

Thanks again, and have a great weekend!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] 9:26 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Subject:** FW: [REDACTED] **B6**

Dear Sarah  
Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate



Thanks  
Lisa

**From:** Tufts Veterinary Clinical Nutrition Service

**Sent:** [REDACTED] 9:09 AM

**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>

**Cc:** Weeks, Kelsey Marie <Kelsey.Weeks@tufts.edu>

**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing her [REDACTED] to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] Jake – could you send him shipping materials? His email is

[REDACTED]

Thanks very much  
Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
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Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

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**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L; Guag, Jake  
**Sent:** [REDACTED] 2:01:16 PM  
**Subject:** RE: [REDACTED]

Hi Sarah

Just to clarify – all of the tissue in the freezer or some in the freezer and some in formalin?

Thanks

Lisa

**From:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** [REDACTED] 9:56 AM  
**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED]

Yes, -20 degrees should be fine.

Thanks, Lisa!

Sarah

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**Subject:** RE: [REDACTED]

Hi Sarah

Can they be frozen at -20? I'm sure the primary care vet doesn't have a -80 freezer

Thanks

Lisa

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**Sent:** [REDACTED] 9:51 AM  
**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED]

Hi Lisa!

I hope you've been well. Jake also forwarded your email to me—thank you for following up with us.

If possible, the body and/or samples could be held frozen until next week. I'll discuss with Jen when she gets back, since I'm unsure where we are with our post-mortem samples. I'll make sure we follow up with you.

Thanks again, and have a great weekend!

Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer

tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] B6 [REDACTED] 9:26 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Subject:** FW: [REDACTED] B6 [REDACTED]

Dear Sarah

Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate

Thanks

Lisa

**From:** Tufts Veterinary Clinical Nutrition Service  
**Sent:** [REDACTED] B6 [REDACTED] 9:09 AM  
**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** [REDACTED] B6 [REDACTED]  
**Subject:** [REDACTED] B6 [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] B6 [REDACTED] the primary care vet for [REDACTED] B6 [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing he [REDACTED] B6 [REDACTED] to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] B6 [REDACTED] Jake – could you send him shipping materials? His email is

[REDACTED] B6 [REDACTED]

Thanks very much

Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

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**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** Freeman, Lisa  
**CC:** Jones, Jennifer L; Guag, Jake  
**Sent:** [REDACTED] 3:49:16 PM  
**Subject:** RE: [REDACTED] B6

Hi Lisa,

The tissues can be collected in the same way as [REDACTED] formalin and frozen). Then the vet should hold the tissues until next week, and we could send the boxes to him then.

I'll email him to clarify as well.

Thanks!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] 10:01 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] B6

Hi Sarah  
Just to clarify – all of the tissue in the freezer or some in the freezer and some in formalin?  
Thanks  
Lisa

**From:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Sent:** [REDACTED] 9:56 AM  
**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] B6

Yes, -20 degrees should be fine.

Thanks, Lisa!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>  
**Sent:** [REDACTED] 9:54 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Subject:** RE: [REDACTED] B6

Hi Sarah

Can they be frozen at -20? I'm sure the primary care vet doesn't have a -80 freezer

Thanks

Lisa

**From:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>

**Sent:** [REDACTED] 9:51 AM

**To:** Freeman, Lisa <Lisa.Freeman@tufts.edu>

**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>

**Subject:** RE: [REDACTED]

Hi Lisa!

I hope you've been well. Jake also forwarded your email to me—thank you for following up with us.

If possible, the body and/or samples could be held frozen until next week. I'll discuss with Jen when she gets back, since I'm unsure where we are with our post-mortem samples. I'll make sure we follow up with you.

Thanks again, and have a great weekend!

Sarah

**Sarah Peloquin, DVM**

Veterinary Medical Officer

tel: 240-402-1218

**From:** Freeman, Lisa <Lisa.Freeman@tufts.edu>

**Sent:** [REDACTED] 9:26 AM

**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>

**Subject:** FW: [REDACTED]

Dear Sarah

Got an out of office message from Jennifer so updating you so you can hopefully help to facilitate

Thanks

Lisa

**From:** Tufts Veterinary Clinical Nutrition Service

**Sent:** [REDACTED] 9:09 AM

**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>

**Cc:** [REDACTED]

**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing her [REDACTED] to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED] Jake – could you send him shipping materials? His email is

[REDACTED]

Thanks very much

Lisa

Lisa M. Freeman, DVM, PhD, DACVN

Board Certified Veterinary Nutritionist™

Professor

Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

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**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** [REDACTED] B6  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] B6 3:59:32 PM  
**Subject:** 800.267-FDA Case Investigation for [REDACTED] B6 (cc-297)

Good morning [REDACTED] B6

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [REDACTED] B6 will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from [REDACTED] B6 as you did for [REDACTED] B6 (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [REDACTED] B6

Let me know if you have any additional questions.

Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: sarah.peloquin@fda.hhs.gov



**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** Guag, Jake  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] 4:05:13 PM  
**Subject:** RE: [REDACTED]

Update—I spoke to RR, and [REDACTED] at least as far as I know), she said to go ahead and collect these samples. I emailed the vet to collect them in the same way he did for [REDACTED], and we can send him a box next week.

I couldn't find the necropsy cost from the last dog, so I'll just submit a PO for the same amount as the last one.

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Peloquin, Sarah  
**Sent:** [REDACTED] 9:29 AM  
**To:** Guag, Jake <Jake.Guag@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** RE: [REDACTED]

Hey Jake, Jen and I had discussed this previously, and [REDACTED]  
[REDACTED] This is not definitive--I'm not sure [REDACTED]

[REDACTED]

Jen, we'll discuss when you get back, and can talk to Dave if you haven't already.

Thank you!

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Guag, Jake  
**Sent:** [REDACTED] 9:23 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** FW: [REDACTED]

Hi Sarah,

I got an email from Tufts. Since Jen is [REDACTED] could you please follow up on this?

I don't have detail info, so searched [REDACTED] and found info [REDACTED]

[REDACTED]

[REDACTED] (I think it is related to this case but not guarantee)

I can ship the shipping materials, but need to know

1. If we will follow up this
2. If so, which samples (fix or frozen) they will collect and what is size/weight of the samples.
3. If we need to ship formalin to the Vet, etc

Thanks



Jake

**From:** Tufts Veterinary Clinical Nutrition Service <vetnutrition@tufts.edu>

**Sent:** [REDACTED] 9:09 AM

**To:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>

**Cc:** [REDACTED]

**Subject:** [REDACTED]

Dear Jennifer and Jake

I just heard from Dr. [REDACTED] the primary care vet for [REDACTED]. She is the dog from the household in which at least 3 dogs were affected with diet-associated DCM. This was the first case from the household which was identified when she came in for congestive heart failure.

The owners contacted him and said they will be bringing her in today to be euthanized for worsening heart failure. He's volunteered to get heart and liver samples as he did from [REDACTED]. Jake – could you send him shipping materials? His email is

[REDACTED]

Thanks very much

Lisa

Lisa M. Freeman, DVM, PhD, DACVN  
Board Certified Veterinary Nutritionist™  
Professor  
Cummings School of Veterinary Medicine  
Friedman School of Nutrition Science and Policy  
Tufts Clinical and Translational Science Institute  
Tufts University

**From:** [redacted] **B6**  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L  
**Sent:** [redacted] **B6** 4:49:59 PM  
**Subject:** Re: 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Sarah,  
Thank you for the assistance.

I am able to preserve the tissue however you would like. Frozen or formalin or both. In rereading the emails from [redacted] **B6** I see that there was mention of both. I am not sure that I have the rapid necropsy document. Perhaps you could send that to me again?

Thanks

[redacted] **B6**

**B6**

[redacted] **B6**

----- Original Message -----

**From:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**To:** [redacted] **B6**  
**Cc:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**Sent:** [redacted] **B6** 11:59:32 AM  
**Subject:** 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Good morning [redacted] **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [redacted] **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from [redacted] **B6** as you did for [redacted] **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [redacted] **B6**

Let me know if you have any additional questions.

Thank you!

Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**

*Veterinary Medical Officer*

U.S. Food & Drug Administration

Center for Veterinary Medicine

Veterinary Laboratory Investigation and Response Network (Vet-LIRN)

tel: 240-402-1218

fax: 301-210-4685

e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



This email has been checked for viruses by AVG antivirus software.  
[www.avg.com](http://www.avg.com)

---

**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** [B6] DVM  
**CC:** Jones, Jennifer L  
**Sent:** [B6] 5:02:50 PM  
**Subject:** RE: 800.267-FDA Case Investigation for [B6] (cc-297)  
**Attachments:** 02-Vet-LIRN-NetworkProceduresVets-12.22.2015.pdf; 03-Vet-LIRN-NetworkProceduresOwners-12.22.2015.pdf; 800.267-Vet-LIRN Rapid Necropsy-DCM-v7.pdf

Hi Dr. [B6]

I've attached the rapid necropsy document—my apologies, I thought that you already had it. Some additional information is below:

For the necropsy, please collect the heart, **intact**, and place directly in formalin. The rapid necropsy document provides additional instructions about what samples to take and how to store them.

- After you complete the necropsy, we will send you 2 boxes to collect the samples (1 for fixed tissue, 1 for frozen tissue). The boxes will have prepaid shipping labels.
  - I'll need to know *the final weight of each sample set (e.g. weight of all fixed tissue in formalin, weight of all frozen tissue)* before we can ship the boxes to you.
  - You may place multiple fixed samples in the same jar, but please label accordingly.
  - The frozen samples must be placed in sealable bags or containers.
- After you receive the boxes, you'll reuse the boxes, package the tissues according to the instructions, affix the prepaid labels to the boxes, and call UPS for the pick-up.
  - *Please return ship the samples to us on a Monday-Wednesday only.*
- After the necropsy is performed, **please send me a copy of the invoice for the necropsy charge**, and our business office will call back with our VISA information to reimburse the hospital directly.

I've cc'd Dr. Jones to these emails to keep her in the loop.

Thank you very much for your help with these cases!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** [B6]  
**Sent:** [B6] 12:50 PM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: 800.267-FDA Case Investigation for [B6] (cc-297)

Sarah,  
Thank you for the assistance.

I am able to preserve the tissue however you would like. Frozen or formalin or both. In rereading the emails from [B6] I see that there was mention of both. I am not sure that I have the rapid necropsy document. Perhaps you could send that to me again?

Thanks

**B6**

**B6**

----- Original Message -----

From: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>

To: **B6**

Cc: "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>

Sent: **B6** 1:59:32 AM

Subject: 800.267-FDA Case Investigation for **B6** (cc-297)

Good morning Dr. **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from **B6** as you did for **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for **B6**

Let me know if you have any additional questions.

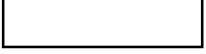
Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



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[www.avg.com](http://www.avg.com)





# Network Procedures for Veterinary Laboratory Investigation and Response Network Case Investigations

## Network Procedures for Owners

The purpose of this Network Procedure is to help you, the owner, understand how the Veterinary Laboratory Investigation and Response Network (Vet-LIRN) Program Office conducts case investigations (follow up to consumer complaints).

The following items are explained below:

- General Introduction
- Billing
- Step by Step Process
- Types of Services and Tests

### 1. General Introduction:

#### 1.1. What is the goal of the case investigation?

The goal of the case investigation is to determine if the product is causing your pet's illness. Our case investigation MAY NOT provide a definitive diagnosis for your pet's illness, although we may rule out several other potential reasons for your pet's illness.

#### 1.2. What is the focus of a case investigation?

Most case investigations focus on diagnostic samples (such as blood, urine or tissue from the pet), although we occasionally request and test pet food samples.

#### 1.3. What is my veterinarian's role during the case investigation?

Your veterinarian helps our investigation into FDA- regulated products by providing information about your pet's medical history and by obtaining any diagnostic samples like blood, urine or tissue.

#### 1.4. What will Vet-LIRN ask of me during a case investigation?

We may ask that your veterinarian perform certain tests or services or provide diagnostic samples to FDA or a Vet-LIRN cooperating laboratory.



## Network Procedures for Veterinary Laboratory Investigation and Response Network Case Investigations

### 1.5. Will Vet-LIRN pay for tests or services requested?

Yes, we will pay veterinarians or laboratories *for tests or services requested by Vet-LIRN* and approved through our government purchasing system. We cannot, however, reimburse owners for tests already performed or not specifically requested by Vet-LIRN. We recommend that you discuss with your veterinarian which tests and services will be billed to you and which will be covered by Vet-LIRN. For instance, Vet-LIRN may request that your veterinarian perform a urinalysis on your pet while he or she is hospitalized. Vet-LIRN will pay for the collection and testing of the sample, but would not cover the cost of your pet's stay in the hospital.

### 1.6. Is the information received in the consumer complaint confidential?

Generally, the information received in the consumer complaint is not kept confidential. In most cases, only protected personal information (such as names and addresses) is withheld in an effort to prevent the complaint from being traced back to the individual who submitted it.

## 2. Billing:

### 2.1. Will Vet-LIRN pay for bills related to the case investigation?

Vet-LIRN will cover the cost of services and testing that we specifically request. You should understand that Vet-LIRN *CANNOT* reimburse owners for any veterinary bills. Services *MUST* be pre-authorized and paid directly to the veterinarian.

### 2.2. Will Vet-LIRN pay for testing that was not requested by Vet-LIRN?

No, we will only pay for testing that we request and authorize.

### 2.3. Will Vet-LIRN pay for treatments or private cremation?

No, we cannot pay for treatment or cremation.





## **Network Procedures for Veterinary Laboratory Investigation and Response Network Case Investigations**

### **2.4. If I allow my veterinarian to submit my pet's body for testing, will I be able to have back his or her remains?**

Each Vet-LIRN member laboratory has its own procedures for handling remains. Some Vet-LIRN member laboratories offer private cremation services for a fee payable directly to the laboratory. We advise you to discuss directly with the member laboratory the possibilities and costs for obtaining your pet's remains after examination are complete.

### **3. Step by Step Process:**

#### **Vet-LIRN will do the following during a case investigation:**

- 3.1. Assign a case number which **MUST** be included in all correspondences
- 3.2. Discuss the case with you and your veterinarian
- 3.3. Request medical records from your veterinarian
- 3.4. Coordinate with your veterinarian and you to obtain and submit samples for testing
- 3.5. Provide results to your veterinarian who will discuss the results with you.

#### **Vet-LIRN requests that:**

- 3.6. Any follow-up veterinary visits related to the investigation are reported to Vet-LIRN
- 3.7. Additional laboratory reports are reported to Vet-LIRN by your veterinarian.

### **4. Types of Services and Tests:**

#### **4.1. What may a veterinary examination include once the case investigation is started?**

A veterinary examination may include:

- an office visit and physical examination to assess your animals current health
- collection of clinical samples from your animal (blood, urine, feces).

#### **4.2. Will your animal be tested more than once?**



## **Network Procedures for Veterinary Laboratory Investigation and Response Network Case Investigations**

It is possible that Vet-LIRN may request additional tests or examinations depending on results from initial testing.

### **4.3. Will Vet-LIRN need to conduct a necropsy in the event of an animal death?**

Yes, if you are willing, we may request that your veterinarian or another Vet-LIRN cooperating laboratory to conduct a necropsy to collect samples for testing. The samples collected may be tested right away or may be held for future testing or archiving. If the veterinarian completes the necropsy then the remains will be handled according to the veterinarian's normal procedures. If a Vet-LIRN cooperative laboratory completes the necropsy the remains are usually disposed of by that laboratory. Vet-LIRN cannot pay for private cremation. You are welcome to discuss normal procedures with the laboratory.

### **4.4. Will Vet-LIRN ask for a food sample?**

Our main focus is on testing diagnostic tissue or fluid samples from the animal, but we may need to test the food. Please hold all food samples once the consumer complaint is submitted. If needed, we will make arrangements to collect the food.

### **4.5. What are some general tests that Vet-LIRN may request?**

General tests that we may request include, but are not limited to:

- Hematology
- Microbial cultures
- Urinalysis
- Fecal examination
- Necropsy/Histology/Toxicology

### **4.6. Will I get results from Vet-LIRN requested tests?**

Results of testing on your animal's diagnostic tissue or fluid samples will be forwarded to your veterinarian who will be asked to share the results with you.

## Rapid necropsy for Vet-LIRN's Case Investigation into Canine Dilated Cardiomyopathy (DCM) 2018

### Prior to Necropsy:

1. Contact Vet-LIRN if you think you have a case of DCM to request authorization for payment to conduct a necropsy.
2. Submit a pet food report through the FDA Safety Reporting Portal. (<https://www.safetyreporting.hhs.gov>)
3. Refrigerate the body if the necropsy can be done in 1 day, otherwise freeze the body.

### Necropsy

4. Photograph any lesions – place a tag with the dog's name in each picture.
5. Record any gross findings in detail
  - a. Describe location, number, size, color, and texture.
  - b. Photograph the heart *in situ*.
6. Sampling and **FIXING** (10% neutral buffered formalin, 10:1 NBF to tissue):
  - a. Heart – Weigh it (remove clots first) – place in NBF without cutting
  - b. Eye (#1, record OD or OS) inject with NBF, and place in NBF
  - c. Lungs – Weigh lungs, then fix the perihilar region and caudo-dorsal
  - d. Muscles – sample gastrocnemius and abdominal muscle, labelling each.
  - e. Organs sample:
    - i. Ileum
    - ii. Pancreas
    - iii. Liver
    - iv. Gall bladder
    - v. Spleen
    - vi. Kidney (1/2 of each)
    - vii. Adrenal
    - viii. Thyroid
  - f. Sample any tissues with gross lesions.
7. Sampling for **FROZEN TISSUES**
  - a. Eye (#2, record OD or OS)
  - b. Liver (4x4 cm section – state size or weight)
  - c. Skeletal muscle-gastrocnemius and abdominal muscle
  - d. Kidney (1/2 of each)
  - e. Fat (abdominal)If available:
  - f. small intestinal contents and feces (for bile acids)
  - g. Whole blood and/or Plasma
  - h. Urine

### Sample Shipping to Vet-LIRN:

8. Vet-LIRN will send you 2 boxes – one for fixed samples, one for frozen samples.
  - a. The boxes will contain packaging instructions and a prepaid shipping label.
  - b. Vet-LIRN will need to know the final weights of both the collective frozen and fixed tissues, separately.
  - c. Call UPS to schedule box pick-up ONLY FOR Monday through Wednesday.

### Reimbursement:

9. Submit an invoice (email or fax: 301-210-4685) for the necropsy charges.

### Histopathology-**to be done by FDA:**

10. Vet-LIRN will send histopathology results to the veterinarian to share with the owner.

**From:** [REDACTED] **B6**  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] **B6** :22:20 PM  
**Subject:** Re[2]: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Sarah,  
Thank you for sending the attachments. I had the first 2 however the rapid necropsy had been missing previously.  
In looking through it, I realize that I had previously only sent the heart and liver in NBF.  
I know this is a dumb question, but I need to be sure.... I assume that the FDA preference is to have all of the sampling listed under #6 and #7?  
I want to be as helpful as possible and previously was told to only send the heart and liver.

[REDACTED] **B6**  
[REDACTED] **B6**

[REDACTED] **B6**

----- Original Message -----

**From:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**To:** [REDACTED] **B6**  
**Cc:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**Sent:** [REDACTED] **B6** :02:50 PM  
**Subject:** RE: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Hi [REDACTED] **B6**

I've attached the rapid necropsy document—my apologies, I thought that you already had it. Some additional information is below:

For the necropsy, please collect the heart, **intact**, and place directly in formalin. The rapid necropsy document provides additional instructions about what samples to take and how to store them.

- After you complete the necropsy, we will send you 2 boxes to collect the samples (1 for fixed tissue, 1 for frozen tissue). The boxes will have prepaid shipping labels.
  - I'll need to know *the final weight of each sample set (e.g. weight of all fixed tissue in formalin, weight of all frozen tissue)* before we can ship the boxes to you.
  - You may place multiple fixed samples in the same jar, but please label accordingly.
  - The frozen samples must be placed in sealable bags or containers.

- After you receive the boxes, you'll reuse the boxes, package the tissues according to the instructions, affix the prepaid labels to the boxes, and call UPS for the pick-up.
  - Please return ship the samples to us on a Monday-Wednesday only.
- After the necropsy is performed, **please send me a copy of the invoice for the necropsy charge**, and our business office will call back with our VISA information to reimburse the hospital directly.

I've cc'd Dr. Jones to these emails to keep her in the loop.

Thank you very much for your help with these cases!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** [redacted] **B6**  
**Sent:** [redacted] **B6** 12:50 PM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Sarah,  
Thank you for the assistance.  
I am able to preserve the tissue however you would like. Frozen or formalin or both. In rereading the emails from [redacted] **B6** I see that there was mention of both. I am not sure that I have the rapid necropsy document. Perhaps you could send that to me again?

Thanks

[redacted] **B6**  
[redacted] **B6**

[redacted] **B6**

----- Original Message -----

**From:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**To:** [redacted] **B6**  
**Cc:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**Sent:** [redacted] **B6** 11:59:32 AM  
**Subject:** 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Good morning [redacted] **B6**,

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [redacted] **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples

from [B6] as you did for [B6] e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [B6]

Let me know if you have any additional questions.

Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



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[www.avg.com](http://www.avg.com)

**From:** Peloquin, Sarah </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8607F880DF2B494AA639E6D9A3874132-SARAH.PELOQ>  
**To:** [REDACTED] B6  
**CC:** Jones, Jennifer L  
**Sent:** [REDACTED] B6 5:31:27 PM  
**Subject:** RE: Re[2]: 800.267-FDA Case Investigation for [REDACTED] B6 (cc-297)

H [REDACTED] B6

Not a dumb question—yes, our preference is to collect all of the samples listed in the document if possible. We examine all of the tissues (both gross and histo) to look for patterns.

However, we understand that in practice, taking the time to obtain the samples is not always feasible. Or sometimes all tissues aren't available. So even if we aren't able to collect all of the tissues, the intact heart is still very useful. As a reminder, FDA will reimburse your hospital for your time performing the necropsy/sample collection.

I hope this clears some things up. I'm sorry for any confusion.

Thanks!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** [REDACTED] B6  
**Sent:** [REDACTED] B6 1:22 PM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re[2]: 800.267-FDA Case Investigation for [REDACTED] B6 (cc-297)

Sarah,  
Thank you for sending the attachments. I had the first 2 however the rapid necropsy had been missing previously.  
In looking through it, I realize that I had previously only sent the heart and liver in NBF.  
I know this is a dumb question, but I need to be sure..... I assume that the FDA preference is to have all of the sampling listed under #6 and #7?  
I want to be as helpful as possible and previously was told to only send the heart and liver.

[REDACTED] B6  
[REDACTED] B6

**B6**

----- Original Message -----

From: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>

To: **B6**

Cc: "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>

Sent: **B6** 1:02:50 PM

Subject: RE: 800.267-FDA Case Investigation for **B6** (cc-297)

Hi **B6**

I've attached the rapid necropsy document—my apologies, I thought that you already had it. Some additional information is below:

For the necropsy, please collect the heart, **intact**, and place directly in formalin. The rapid necropsy document provides additional instructions about what samples to take and how to store them.

- After you complete the necropsy, we will send you 2 boxes to collect the samples (1 for fixed tissue, 1 for frozen tissue). The boxes will have prepaid shipping labels.
  - I'll need to know *the final weight of each sample set (e.g. weight of all fixed tissue in formalin, weight of all frozen tissue)* before we can ship the boxes to you.
  - You may place multiple fixed samples in the same jar, but please label accordingly.
  - The frozen samples must be placed in sealable bags or containers.
- After you receive the boxes, you'll reuse the boxes, package the tissues according to the instructions, affix the prepaid labels to the boxes, and call UPS for the pick-up.
  - *Please return ship the samples to us on a Monday-Wednesday only.*
- After the necropsy is performed, **please send me a copy of the invoice for the necropsy charge**, and our business office will call back with our VISA information to reimburse the hospital directly.

I've cc'd Dr. Jones to these emails to keep her in the loop.

Thank you very much for your help with these cases!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

From: **B6**

Sent: **B6** 12:50 PM

To: Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>

Cc: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: Re: 800.267-FDA Case Investigation for **B6** (cc-297)

Sarah,  
Thank you for the assistance.

I am able to preserve the tissue however you would like. Frozen or formalin or both. In rereading the emails from **B6** see that there was mention of both. I am not sure that I have the rapid necropsy document. Perhaps you could send that to me again?



Thanks

B6

**B6**

**B6**

----- Original Message -----

From: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>

To: **B6**

Cc: "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>

Sent: **B6** 11:59:32 AM

Subject: 800.267-FDA Case Investigation fo **B6** (cc-297)

Good morning **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from **B6** as you did for **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for **B6**

Let me know if you have any additional questions.

Thank you!

Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**

*Veterinary Medical Officer*

U.S. Food & Drug Administration

Center for Veterinary Medicine

Veterinary Laboratory Investigation and Response Network (Vet-LIRN)

tel: 240-402-1218

fax: 301-210-4685

e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



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**From:** [redacted] **B6**  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L  
**Sent:** 6/11/2019 1:22:25 PM  
**Subject:** Re: 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Good morning,  
Weights for the samples from [redacted] **B6** are as follows:  
Frozen tissue is 6 ounces  
Refrigerated samples (urine and small intestinal fluid) 2 ounces  
Formalin fixed samples 2 pounds 6 ounces

Thank you

[redacted] **B6**

[redacted] **B6**

[redacted] **B6**

[redacted] **B6**

----- Original Message -----

**From:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**To:** [redacted] **B6**  
**Cc:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**Sent:** [redacted] **B6** 11:59:32 AM  
**Subject:** 800.267-FDA Case Investigation for [redacted] **B6** (cc-297)

Good morning [redacted] **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [redacted] **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from [redacted] **B6** as you did for [redacted] **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [redacted] **B6**

Let me know if you have any additional questions.

Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



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[www.avg.com](http://www.avg.com)

**From:** Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>  
**To:** [B6] DVM  
**CC:** Peloquin, Sarah; 'Guag, Jake \* (Jake.Guag@fda.hhs.gov)'  
**Sent:** 6/13/2019 3:01:47 PM  
**Subject:** RE: 800.267-cc-297-FDA Case Investigation for [B6] (cc-297)

Thank you, [B6]  
We'll ship the box, and it should arrive before close of business Monday. Jake will send you a copy of the tracking when it ships.

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** [B6]  
**Sent:** Tuesday, June 11, 2019 9:22 AM  
**To:** Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
**Cc:** Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
**Subject:** Re: 800.267-FDA Case Investigation for [B6] (cc-297)

Good morning,  
Weights for the samples from [B6] are as follows:  
Frozen tissue is 6 ounces  
Refrigerated samples (urine and small intestinal fluid) 2 ounces  
Formalin fixed samples 2 pounds 6 ounces

Thank you

[B6]

[B6]

[B6]

----- Original Message -----

From: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>

To: [REDACTED] **B6**

Cc: "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>

Sent: [REDACTED] **B6** 11:59:32 AM

Subject: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good morning [REDACTED] **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [REDACTED] **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from [REDACTED] **B6** as you did for [REDACTED] **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [REDACTED] **B6**

Let me know if you have any additional questions.

Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



---

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[www.avg.com](http://www.avg.com)

**From:** [redacted] **B6**  
**To:** Peloquin, Sarah  
**CC:** Jones, Jennifer L  
**Sent:** 8/26/2019 10:15:53 PM  
**Subject:** Re: 800.267-cc-297-FDA Case Investigation for [redacted] **B6** (cc-297)  
**Attachments:** [redacted] **B6** invoice Autopsy.pdf

Sarah,  
I have attached the invoice for [redacted] **B6** necropsy. Thank you for the reminder.

Best

[redacted] **B6**

[redacted] **B6** DVM  
[redacted] **B6**

[redacted] **B6**

----- Original Message -----

**From:** "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
**To:** [redacted] **B6**  
**Cc:** "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
**Sent:** 8/15/2019 9:08:36 AM  
**Subject:** 800.267-cc-297-FDA Case Investigation for [redacted] **B6** (cc-297)

Good morning [redacted] **B6**

Please send us the invoices for [redacted] **B6** necropsies at your earliest convenience (by email or fax to 301-210-4685). We want to make sure we reimburse your hospital for these costs.

Thank you!  
Sarah

**Sarah Peloquin, DVM**  
Veterinary Medical Officer  
tel: 240-402-1218

**From:** Jones, Jennifer L  
**Sent:** Friday, June 14, 2019 9:10 AM  
**To:** [redacted] **B6**

**Subject:** RE: Re[2]: 800.267-cc-297-FDA Case Investigation for [B6] cc-297)

Absolutely. We will send a copy of the results as soon as they are read.

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421



**From:** [B6]  
**Sent:** Friday, June 14, 2019 8:55 AM  
**To:** Jones, Jennifer L <[Jennifer.Jones@fda.hhs.gov](mailto:Jennifer.Jones@fda.hhs.gov)>  
**Subject:** Re[2]: 800.267-cc-297-FDA Case Investigation for [B6] (cc-297)

Thank you Jennifer. I did receive an email from Jake.

Also, I believe that I read I should get a copy of the pathology results. Is this correct? I am interested in the results from [B6]

Thank you again.  
I appreciate the work you all are doing for this.

[B6]

[B6] DVM

[B6]

[B6]

----- Original Message -----

**From:** "Jones, Jennifer L" <[Jennifer.Jones@fda.hhs.gov](mailto:Jennifer.Jones@fda.hhs.gov)>  
**To:** [B6]  
**Cc:** "Pelouquin, Sarah" <[Sarah.Pelouquin@fda.hhs.gov](mailto:Sarah.Pelouquin@fda.hhs.gov)>; "Guag, Jake" <[Jake.Guag@fda.hhs.gov](mailto:Jake.Guag@fda.hhs.gov)>  
**Sent:** 6/13/2019 11:01:47 AM  
**Subject:** RE: 800.267-cc-297-FDA Case Investigation for [B6] (cc-297)

Thank you, [B6]  
We'll ship the box, and it should arrive before close of business Monday. Jake will send you a copy of the tracking when it ships.

Jennifer Jones, DVM  
Veterinary Medical Officer  
Tel: 240-402-5421





From: [REDACTED] **B6**  
Sent: Tuesday, June 11, 2019 9:22 AM  
To: Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>  
Cc: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>  
Subject: Re: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good morning,  
Weights for the samples from [REDACTED] **B6** are as follows:  
Frozen tissue is 6 ounces  
Refrigerated samples (urine and small intestinal fluid) 2 ounces  
Formalin fixed samples 2 pounds 6 ounces

Thank you

[REDACTED] **B6**

[REDACTED] **B6** DVM  
[REDACTED]

**B6**

[REDACTED] **B6**

----- Original Message -----

From: "Peloquin, Sarah" <Sarah.Peloquin@fda.hhs.gov>  
To: [REDACTED] **B6**  
Cc: "Jones, Jennifer L" <Jennifer.Jones@fda.hhs.gov>  
Sent: [REDACTED] **B6** 11:59:32 AM  
Subject: 800.267-FDA Case Investigation for [REDACTED] **B6** (cc-297)

Good morning [REDACTED] **B6**

I'm filling in on the DCM case investigation for Dr. Jennifer Jones this week. Dr. Lisa Freeman informed me that [REDACTED] **B6** will be euthanized—I'm sorry to hear this. If you are willing, please collect the same samples from [REDACTED] **B6** as you did for [REDACTED] **B6** (i.e. intact heart in formalin; and if possible, fixed/frozen tissues as described in the rapid necropsy document).

Dr. Jones will return at the end of next week, and we will send you boxes then for shipment.

Please send me the approximate weights of the samples, as you did for [REDACTED] **B6**

Let me know if you have any additional questions.

Thank you!  
Dr. Sarah Peloquin

**Sarah K. Peloquin, DVM**  
*Veterinary Medical Officer*

U.S. Food & Drug Administration  
Center for Veterinary Medicine  
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)  
tel: 240-402-1218  
fax: 301-210-4685  
e-mail: [sarah.peloquin@fda.hhs.gov](mailto:sarah.peloquin@fda.hhs.gov)



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[www.avg.com](http://www.avg.com)

**All Medical Records**

Client:  
Address:

**B6**

Patient: **B6**  
Breed: English Bulldog  
DOB: **B6**

Species: Canine  
Sex: Male  
(Neutered)

**Referring Information**

**B6**

Client: **B6**  
Patient:

**Initial Complaint:**

**Initial Complaint:**

**Initial Complaint:**

**Initial Complaint:**

Client: B6  
Patient:

---

**Initial Complaint:**

Scanned Record

---

**Initial Complaint:**

Cardiology DCM study - will come fasted - u/f samples

**SOAP Text Feb 1 2019 11:50AM - Rush, John**

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**Disposition/Recommendations**

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Client:  
Patient:

**B6**

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Client: **B6**  
Patient:

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**Foster Hospital for Small Animals**

55 Willard Street  
North Grafton, MA 01536  
(508) 839-5395

Client:	<b>B6</b>
Veterinarian:	
Patient ID:	<b>B6</b>
Visit ID:	

Patient:	<b>B6</b>
Species:	Canine
Breed:	English Bulldog
Sex:	Male (Neutered)
Age:	<b>B6</b> Years Old

**Lab Results Report**

Accession ID:			
Test	Results	Reference Range	Units



Client: **B6**  
Patient: **B6**

**IDEXX Hematology 1/24/19**



**B6**

PET OWNER: **B6**  
SPECIES: Canine  
BREED:  
GENDER: Male  
AGE: 8 Years  
PATIENT ID: **B6**

**B6**

LAB ID: 2302815220  
ORDER ID: 38459535  
COLLECTION DATE: 1/23/19  
DATE OF RECEIPT: 1/24/19  
DATE OF RESULT: 1/24/19

IDEXX Services: Senior Profile with Fecal Dx™ Profile, Giardia, Lab 4Dx® Plus and Reflex Quant C6® and UPC Select, SAMPLE/TEST INFO NEEDED, Cardiotest® proBNP-Canine Add-on\*

**Hematology**

1/24/19 (Order Received)  
1/24/19 11:05 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
RBC	<b>B6</b>	5.39 - 8.7 M/ $\mu$ L
Hematocrit		38.3 - 56.5 %
Hemoglobin		13.4 - 20.7 g/dL
MCV		59 - 76 fL
MCH		21.9 - 26.1 pg
MCHC		32.6 - 39.2 g/dL
% Reticulocyte		%
Reticulocytes		10 - 110 K/ $\mu$ L
Reticulocyte Hemoglobin		22.3 - 29.6 pg
WBC		4.9 - 17.6 K/ $\mu$ L
% Neutrophils		%
% Lymphocytes		%
% Monocytes		%
% Eosinophils		%
% Basophils		%
Neutrophils		2.94 - 12.67 K/ $\mu$ L
Lymphocytes		1.06 - 4.95 K/ $\mu$ L
Monocytes		0.13 - 1.15 K/ $\mu$ L
Eosinophils		0.07 - 1.49 K/ $\mu$ L
Basophils		0 - 0.1 K/ $\mu$ L
Platelets	143 - 448 K/ $\mu$ L	
Remarks	Slide reviewed microscopically. <b>B6</b>	SLIDE REV...

Client: **B6**  
Patient:

**IDEXX Hematology 1/24/19**



**B6**

PET OWNER:

**B6**

DATE OF RESULT: **1/24/19**

LAB ID: 2302815220

**Chemistry**



1/24/19 (Order Received)  
1/24/19 11:05 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
Glucose		63 - 114 mg/dL
IDEXX SDMA		0 - 14 µg/dL
Creatinine		0.5 - 1.5 mg/dL
BUN		9 - 31 mg/dL
BUN: Creatinine Ratio		
Phosphorus		2.5 - 6.1 mg/dL
Calcium		8.4 - 11.8 mg/dL
Sodium		142 - 152 mmol/L
Potassium		4.0 - 5.4 mmol/L
Na: K Ratio		28 - 37
Chloride		108 - 119 mmol/L
TCO2 (Bicarbonate)		13 - 27 mmol/L
Anion Gap		11 - 26 mmol/L
Total Protein		5.5 - 7.5 g/dL
Albumin		2.7 - 3.9 g/dL
Globulin		2.4 - 4.0 g/dL
Albumin: Globulin Ratio		0.7 - 1.5
ALT		18 - 121 U/L
AST		16 - 55 U/L
ALP		5 - 160 U/L
GGT		0 - 13 U/L
Bilirubin - Total		0.0 - 0.3 mg/dL
Bilirubin - Unconjugated		0.0 - 0.2 mg/dL
Bilirubin - Conjugated		0.0 - 0.1 mg/dL
Cholesterol		131 - 345 mg/dL
Amylase		337 - 1,469 U/L
Lipase		138 - 755 U/L
Creatine Kinase		10 - 200 U/L

**B6**

**B6**



Client: **B6**  
Patient: **B6**

**IDEXX Hematology 1/24/19**



**B6**      PET OWNER: **B6**      DATE OF RESULT: **1/24/19**      LAB ID: 2302815220

**Chemistry (continued)**

TEST	RESULT	REFERENCE VALUE
Hemolysis Index	<b>B6</b>	
Lipemia Index	<b>B6</b>	
Cardiopet pro BNP - Canine		0 - 900 pmol/L

**B6**

**Endocrinology**

1/24/19 (Order Received)  
1/24/19 11:05 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
Total T4	<b>B6</b>	1 - 4 µg/dL

**B6**

**Serology**

1/24/19 (Order Received)  
1/24/19 11:05 AM (Last Updated)

TEST	RESULT
Heartworm Antigen	<b>B6</b>

Client: **B6**  
Patient:

**IDEXX Hematology 1/24/19**



 **B6**      PET OWNER: **B6**      DATE OF RESULT: **1/24/19**      LAB ID: 2302815220

**Serology (continued)**

TEST	RESULT
Ehrlichia canis / ewingii	<b>B6</b>
Lyme (Borrelia burgdorferi)	
Anaplasma phagocytophilum / platys	

**B6**

**Other**



1/24/19 (Order Received)  
1/24/19 11:05 AM (Last Updated)

TEST	RESULT
More Information Needed	A urine sample was not received. The remainder of requested testing has been performed. Thank you.
	A fecal specimen was not received. The remainder of requested testing has been performed. Thank you.

Client: **B6**  
 Patient: **B6**

cbc and profile 2/1/19

**Cummings School of Veterinary Medicine**

Clinical Pathology Laboratory  
 200 Westboro Road  
 North Grafton, MA 01536

Name/DOB: <b>B6</b>	Sex: CM	Provider: Dr. John Rush
Patient ID: <b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM	Breed:	
Approval date: 2/1/2019 12:57 PM		

TEST NAME	RESULT	RANGE	UNITS	REFERENCE RANGE
	IN RANGE	OUT OF RANGE		

**CBC, Comprehensive, Sm Animal (Research) CSTCYR**

WBC (ADVIA)	<b>B6</b>			4.40-15.10
RB C (Advia)				5.80-8.50
Hemoglobin (ADVIA)				13.3-20.5
Hematocrit (Advia)				39-55
MCV (ADVIA)				64.5-77.5
MCH (ADVIA)				21.3-25.9
CHCM				
MCHC (ADVIA)				31.9-34.3
RDW (ADVIA)		<b>B6</b>		11.9-15.2
Platelet Count (Advia)				173-486
Mean Platelet Volume (Advia)				8.29-13.20
02/01/19 12:12 PM	<b>B6</b>			
Platelet Crit		<b>B6</b>	<b>B6</b>	0.129-0.403
02/01/19 12:12 PM	<b>B6</b>			
PDW	<b>B6</b>			
Reticulocyte Count (Advia)		<b>B6</b>		0.20-1.60
Absolute Reticulocyte Count (Advia)				14.7-113.7
CHr				
MCVr				
Comments (Hematology)	<b>B6</b>			

**Microscopic Exam of Blood Smear (Advia) CSTCYR**

Seg Neuts (%)	<b>B6</b>		43-86
Lymphocytes (%)			7-47
Monocytes (%)			1-15
Eosinophils (%)			0-16
Seg Neutrophils (Abs) Advia			2.800-11.500
Lymphs (Abs) Advia			1.00-4.80
Mono (Abs) Advia			0.10-1.50
Eosinophils (Abs)			0.00-1.40

Sample ID: 1902010102/1  
 This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
 Patient:

cbc and profile 2/1/19

**Cummings School of Veterinary Medicine**

Clinical Pathology Laboratory  
 200 Westboro Road  
 North Grafton, MA 01536

Name/DOB: <b>B6</b>	Sex: CM	Provider: Dr. John Rush
Patient ID: <b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM	Breed:	
Approval date: 2/1/2019 12:57 PM		

TEST NAME	RESULT	RANGE	UNITS	REFERENCE RANGE
	IN RANGE	OUT OF RANGE		

**Microscopic Exam of Blood Smear (Advia) (cont'd)** CSTCYR

**B6**

**Research Chemistry Profile - Small Animal (Cobas)** SMACHUNSKI

Glucose Urea Creatinine Phosphorus Calcium 2 Magnesium 2+ Total Protein Albumin Globulins A/G Ratio Sodium Chloride Potassium tCO2(Bicarb) AGAP NA/K Total Bilirubin Alkaline Phosphatase GGT ALT AST Creatine Kinase Cholesterol Triglycerides Amylase Osmolality (calculated)	<b>B6</b>	<b>B6</b>	<b>B6</b>	67-135 8-30 0.6-2.0 2.6-7.2 9.4-11.3 1.8-3.0 5.5-7.8 2.8-4.0 2.3-4.2 0.7-1.6 140-150 106-116 3.7-5.4 14-28 8.0-19.0 29-40 0.10-0.30 12-127 0-10 14-86 9-54 22-422 82-355 30-338 409-1250 291-315
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Sample ID: 1902010102/2  
 END OF REPORT (Final)

Reviewed by: \_\_\_\_\_  
 Page 2

Client: **B6**  
Patient:

**NT-proBNP 2/1/19**

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: ENGLISH\_BULLDOG  
Gender: MALE NEUTERED  
Age: 8Y

Date: 02/01/2019  
Requisition #: 438225  
Accession #: **B6**  
Ordered by: RUSH

IDEXX VetConnect 1-888-433-9987  
**TUFTS UNIVERSITY**  
200 WESTBORO RD  
NORTH GRAFTON, Massachusetts 01536  
508-839-5395  
Account: **B6**

**CARDIOPET proBNP - CANINE**

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	<b>B6</b>	0 - 900 pmol/L		<b>B6</b>	

**Comments:**

**B6**

Client: **B6**  
Patient:

**CBC/CHEM**



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: <b>B6</b>	Sex: CM	Provider: Dr. John Rush
Patient ID: <b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM	Breed:	
Approval date: 2/1/2019 12:57 PM		

**CBC, Comprehensive, Sm Animal (Research)**

CSTCYR		Ref. Range/Males
WBC (ADVIA)	<b>B6</b>	4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)		39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
CHCM		
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)		173-486 K/uL
Mean Platelet Volume (Advia)	8.29-13.20 fl	
02/01/19 12:12 PM	<b>B6</b>	
Platelet Crit	<b>B6</b>	0.129-0.403 %
02/01/19 12:12 PM		
PDW	<b>B6</b>	
Reticulocyte Count (Advia)		0.20-1.60 %
Absolute Reticulocyte Count (Advia)		14.7-113.7 K/uL
CHr	<b>B6</b>	
MCVr		
Comments (Hematology)		

**Microscopic Exam of Blood Smear (Advia)**

CSTCYR		Ref. Range/Males
Seg Neuts (%)	<b>B6</b>	43-86 %
Lymphocytes (%)		7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs) Advia		2.800-11.500 K/uL
Lymphs (Abs) Advia		1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
WBC Morphology		
RBC Morphology		

**Research Chemistry Profile - Small Animal (Cobas)**

Sample ID: 1902010102/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
Patient:

**CBC/CHEM**



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: CM	Provider: Dr. John Rush
Patient ID:	<b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:		Species: Canine	Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM		Breed:	
Approval date: 2/1/2019 12:57 PM			

**Research Chemistry Profile - Small Animal (Cobas) (cont'd)**

		Ref. Range/Males
SMACHUNSKI	<b>B6</b>	
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT	14-86 U/L	
AST	9-54 U/L	
Creatine Kinase	22-422 U/L	
Cholesterol	82-355 mg/dL	
Triglycerides	30-338 mg/dl	
Amylase	409-1250 U/L	
Osmolality (calculated)	291-315 mmol/L	

Sample ID: 19020101022  
REPRINT: Orig. printing on 2/1/2019 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

Client: **B6**  
Patient: **B6**

**Taurine level**

**B6**

**B5**

**B6**

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA 015369

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: 508-887-4267 Tax ID: \_\_\_\_\_

Patient Name: **B6** Species: CANINE

Breed: English Bulldog Owner's Name: **B6**

Current Diet: Wellness Core

Sample type:  Plasma  Whole Blood  Urine  Food  Other \_\_\_\_\_

Test:  Taurine  Complete Amino Acids  Other: \_\_\_\_\_

**Taurine Results** (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: \_\_\_\_\_ Food: \_\_\_\_\_

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	<b>80-120</b>	<b>&gt;40</b>	<b>300-600</b>	<b>&gt;200</b>
Dog	<b>60-120</b>	<b>&gt;40</b>	<b>200-350</b>	<b>&gt;150</b>

\* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.



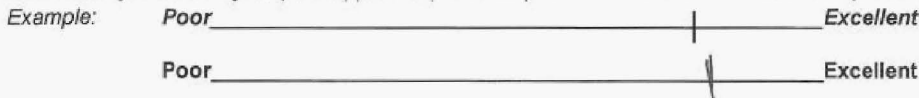
Client: **B6**  
 Patient: **B6**

**Diet history 2/1/19**

**CARDIOLOGY DIET HISTORY FORM**  
 Please answer the following questions about your pet.

Pet's name: **B6** Owner's name: **B6** Today's date: **02-01-19**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)



2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)  
 Eats about the same amount as usual     Eats less than usual     Eats more than usual  
 Seems to prefer different foods than usual     Other \_\_\_\_\_

3. Over the last few weeks, has your pet (check one)  
 Lost weight     Gained weight     Stayed about the same weight     Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Wellness Core Canned chicken	wet	4 oz	7x/day	Dec 2015
Wellness Core fish	dry	1/4 cup	2x/day	Dec 2015
Wellness Core	treat	3 pcs	1x/day	11
(See <b>B6</b> for exact brands/formulas)				

\*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)?  Yes  No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Antioxidants	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Multivitamin	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Fish oil	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?  
 I do not give any medications  
 I put them directly in my pet's mouth without food  
 I put them in my pet's dog/cat food  
 I put them in a Pill Pocket or similar product  
 I put them in foods (list foods): \_\_\_\_\_

**CHANGING DIET TO ROYAL CANIN EARLY ON DIET**

Client: **B6**  
Patient:

**Troponin 2/1/19**



Gastrointestinal Laboratory  
Dr. J.M. Steiner  
Department of Small Animal Clinical Sciences  
Texas A&M University  
4474 TAMU  
College Station, TX 77843-4474



Website User ID: clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

Dr. Freeman  
Tufts University-Clinical Pathology Lab  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

Phone: 508 887 4669  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name:  
Species: Canine  
Date Received: Feb 12, 2019

**B6**

GI Lab Accession **B6**

Test	Result	Control Range	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤0.06	02/12/19

**B6**

Comments:

Client: **B6**  
Patient:

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**Troponin 2/1/19**

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**Important  
Notices:**

**Internal Medicine Conference**

**Join us for a unique continuing education event in Phuket, Thailand Oct 7th - 11th, 2019. For details see <http://texasimconference.tamu.edu>**

**Ongoing studies**

**Cobalamin Supplementation Study-** Dogs and cats with cobalamin deficiency with normal PLI, and either normal or low (consistent with EPI) TLI to compare the efficacy of oral vs parenteral cobalamin supplementation. Contact Dr. Chang at [chchang@cvm.tamu.edu](mailto:chchang@cvm.tamu.edu) for further information.

**Chronic Pancreatitis with Uncontrolled Diabetes Mellitus-** Seeking dogs with chronic pancreatitis and uncontrolled diabetes mellitus for enrollment into a drug trial (medication provided at no cost). Contact Dr. Sue Yee Lim at [slim@cvm.tamu.edu](mailto:slim@cvm.tamu.edu) or Dr. Sina Marsilio at [smarsilio@cvm.tamu.edu](mailto:smarsilio@cvm.tamu.edu)

**Dogs with Primary Hyperlipidemia-** Prescription diet naive dogs newly diagnosed with primary hyperlipidemia are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at [ylawrence@cvm.tamu.edu](mailto:ylawrence@cvm.tamu.edu) for more information.

**Dogs with Chronic Pancreatitis-** Dogs with chronic pancreatitis (cPLI >400 µg/L) and hypertriglyceridemia (>300 mg/dl) are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at [ylawrence@cvm.tamu.edu](mailto:ylawrence@cvm.tamu.edu)

**Chronic enteropathies in dogs-** Please fill out this brief form <http://tinyurl.com/ibd-enroll> to see if your patient qualifies.

**Feline Chronic Pancreatitis-** Cats with chronic pancreatitis for more than 2 weeks and fPLI >10 µg/L are eligible for enrollment into a treatment trial investigating the efficacy of prednisolone or cyclosporine. Please contact Dr. Yamkate for further information at [pyamkate@cvm.tamu.edu](mailto:pyamkate@cvm.tamu.edu).

**We can not accept packages that are marked "Bill Receiver"**

**Use our preprinted shipping labels to save on shipping. Call 979-862-2861 for assistance. The GI Lab is not here to accept packages on the weekend. Samples may be compromised if you ship for arrival on Saturday or Sunday or if shipped via US Mail.**

---

**GI Lab Contact Information**

Phone: (979) 862-2861

Fax: (979) 862-2864

Email: [gilab@cvm.tamu.edu](mailto:gilab@cvm.tamu.edu)

[vetmed.tamu.edu/gilab](http://vetmed.tamu.edu/gilab)

Client: B6

Patient: B6

---

**Vitals Results**

<b>B6</b>	11:00:04 AM	Weight (kg)
<b>Patient History</b>		
<b>B6</b>	03:52 PM	Appointment
	08:05 AM	UserForm
	08:05 AM	UserForm
	10:37 AM	UserForm
	10:38 AM	UserForm
	10:44 AM	Purchase
	11:00 AM	Vitals
	12:03 PM	UserForm
	12:50 PM	Appointment
	12:58 PM	Prescription
	12:08 PM	Patient Merge
	04:32 PM	Purchase
	04:32 PM	Purchase

**B6**



**B6**

B6

B6

Male (Neutered)

Canine English Bulldog Brown/White

Patient ID: B6

## STANDARD CONSENT FORM

---

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name:

Date: 2/1/2019

Owner's address:

**B6**

*01-02-19*  
Date

**If the individual admitting the animal is someone other than the legal owner,  
please complete the portion below:**

The owner of the animal  has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above.

\_\_\_\_\_  
Authorized Agent - Please Print

\_\_\_\_\_  
Agent's Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Date

\_\_\_\_\_  
Town/City                      State                      Zip

**B6**

Patient ID: B6

B6

Canine

B6 Years Old Male (Neutered) English

Bulldog

Body Weight: Weight (kg) 0.00

## **Brachycephalic Consent Form**

### ***Anesthesia, Sedation and Hospitalization***

Brachycephalic is a term for "short-nosed". Several dog breeds may experience difficulty breathing due to the shape of their head, muzzle and throat. Shorter nosed dogs include English Bulldogs, French Bulldogs, Pugs, Boston Terriers and many other breeds. The shorter than average nose and face in proportion to their body size can cause problems for these breeds at times. Owners with brachycephalic breeds must pay extra attention to their animals during exercise, heat and while obtaining veterinary care.

#### ***Overview***

The purpose of this form is to inform you of the risks associated with anesthesia/sedation and occasionally hospitalization, which are inherent for dogs with shorter noses (brachycephalic). Not all of these problems may apply to your dog, but these are part of the brachycephalic syndrome. Please discuss any specific concerns with your attending veterinarian.

#### ***Respiratory problems***

Brachycephalic dogs have a shortened skull, resulting in a compressed nasal passage and abnormal throat anatomy. The abnormal upper airway anatomy causes increased negative pressure while taking a breath, leading to inflammation, deformation of throat tissues, and obstruction of breathing. We encourage corrective surgery in moderate to severely affected dogs.

#### ***Cooling problems***

As dogs cool by panting, dogs with narrowed airways may have difficulty cooling themselves. This may be made worse by anxiety or stress.

#### ***Stomach and intestinal problems***

Brachycephalic dogs may swallow a lot of air which can lead to increased vomiting or regurgitation, and this could lead to pneumonia. If possible, we pre-treat brachycephalic dogs with medications to reduce stomach acids, and to promote stomach emptying.

#### ***Restraint challenges***

Due to their airway, and in some bulldogs, their intrinsic personality as "tough" dogs, it may be difficult to restrain them safely. This is a particularly significant problem with more aggressive dogs. We



occasionally need to sedate them, or ask family members to help with some routine procedures to avoid unnecessary stress on the patient.

### *Sedation and anesthesia*

While sedation and anesthesia are commonly performed in brachycephalic breeds, especially bulldogs, recovery from anesthesia may be more difficult for these patients due to a narrowed airway. We have our anesthesia team very closely involved in sedation and anesthesia of brachycephalic breeds especially bulldogs. They have found that careful monitoring is essential to a good outcome. In fact, many dog owners travel some distance in order to ensure that a Tufts board-certified anesthesiologist is present during anesthesia or sedation to minimize the risk of complications.

**We consider brachycephalic dogs a high risk population. Please be sure you talk with your doctor about the following:**

1. Any medical and/or surgical treatment alternatives for your pet
2. Sufficient details of this consent form and how they apply to your dog
3. How fully your pet might respond or recover and how long it could take
4. The most common complications and how serious they might be

I grant permission for my pet to undergo general anesthesia/sedation/hospitalization at Tufts Foster Hospital for Small Animals at the Cummings School of Veterinary Medicine.

I am aware that my pet has physical characteristics that make anesthesia and sedation more challenging and possibly more risky than for the average dog with a longer nose.

I am aware that brachycephalic breeds, such as the English and French bulldog, Boston Terrier, Pug, and Pekingese have a shortened skull, resulting in a compressed nasal passage and abnormal throat anatomy. The abnormal upper airway anatomy causes increased negative pressure while taking a breath, leading to inflammation, deformation of throat tissues, and obstruction of breathing.

I am aware that if my brachycephalic pet undergoes sedation or general anesthesia the potential complications include partial or complete airway obstruction during recovery and regurgitation/vomiting which could lead to aspiration pneumonia/respiratory distress. With airway surgery, death has been reported as a rare complication in <3% of cases.

I am aware that anesthetizing or sedating a brachycephalic animal for any reason can lead to the development of significant complications as described in this document.

**Please answer YES or NO to the following questions:**

**My pet has demonstrated difficulty breathing, exercise intolerance, and/or collapse episodes.**

YES       NO

My pet has demonstrated difficulty eating, such as gagging, vomiting, and regurgitation.

YES       NO

My pet is receiving or has recently received a non-steroidal anti-inflammatory drug (e.g., Rimadyl)

YES       NO

Your signature indicates that you have read and understand the above information and give your consent for treatment.

Owner signature

Date: 2/1/2019

**B6**

Cardiology Liaison: 508-887-4696

## Discharge Instructions

**Patient**

B6

Species: Canine

Brown/White Male (Neutered) English

Bulldog

Birthdate: B6

**Owner**

Name: B6

Address: B6

Patient ID: B6

**Attending Cardiologist:**

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

**Cardiology Resident:**

B6

**Cardiology Technician:**

B6

**Veterinary Nutritionist : Dr. Lisa Freeman**

Student: B6

Admit Date: B6 10:36:11 AM

Discharge Date: B6

**Diagnoses:** Arrhythmogenic right ventricular cardiomyopathy (ARVC) with marked right heart enlargement, ventricular premature depolarizations, and left ventricular dysfunction; possible component of diet-related cardiomyopathy

**Clinical findings:** B6 has been diagnosed with a primary heart muscle disease called arrhythmogenic right ventricular cardiomyopathy (ARVC). This disease is common in bulldogs and is characterized by replacement of the normal heart muscle by fat and/or scar tissue which may result in serious ventricular arrhythmias (abnormal heart rhythms originating from the lower chamber of the heart), cardiac enlargement and congestive heart failure, or both. Dogs with ARVC may experience syncope (fainting) or sudden death as the result of ventricular arrhythmia. Though we cannot reverse the changes in the heart muscle, we can control the heart disease with medical management.

The following diagnostic test results were obtained today:

**ECG findings:** The ECG shows a number of premature ventricular contractions (VPCS) originating from the right ventricle.

**Echocardiogram findings:** The right ventricle is moderate to markedly enlarged. The left ventricle is mildly dilated with the left ventricular free wall thinned. There is reduced vigor of contraction of the left ventricle. The left atrium is mildly to moderately enlarged. The right atrium is moderately to markedly enlarged. There is some mitral and tricuspid valve regurgitation. The hepatic veins are markedly distended.

**Monitoring at home:** Please monitor for any signs of lethargy, weakness, pale gums, cough, shortness of breath, inappetence, or collapse. If a collapsing episode is noted, please check your dog's gum color and try to get a sense of whether the heart rate is slow or fast. If you have an iPhone or Android smartphone device, you may want to explore the

option of purchasing the Kardia Mobile device which will allow you to monitor the heart rate and rhythm at home ([www.alivecor.com](http://www.alivecor.com)). If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

**B6** may also benefit from wearing a Holter EKG, which is a harnessed EKG that he would wear for 24 hours. We can place that here, and send him home for the 24 hours duration. He would then return here the next day where we can remove the Holter and analyze his heart rhythm to fully assess his arrhythmia. Call if you decide to do this test.

#### Recommended Medications:

# B6

**Diet suggestions:** Dogs with ARVC may benefit from the addition of omega-3 fatty acids (fish oil) to the diet. Diets such as the Royal Canin Boxer or Early Cardiac diet, or Hill's j/d have ample fish oil and may not require much (or any) additional supplementation. Additional information on supplements such as fish oil or other supplements that you might have questions about may be found on the Tufts HeartSmart web site: (<http://vet.tufts.edu/heartsmart/diet/>).

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.
- We recommend switching **B6** to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Pet Foodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

#### Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

#### Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

We recommend slowly introducing one of the diets on the above list as follows: 25% of the new diet mixed with 75% old diet for 2-3 days, then 50:50, etc.

Hopefully you can find a diet on the list that **B6** will enjoy!

If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

**Exercise recommendations:** Generally we recommend limited activity for dogs with heart disease – Leash walk only is ideal. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are not recommended as these activities may result in worsened arrhythmia or even sudden death.

**Recheck visits:** We would like to recheck **B6** in 3 months, at which point we can discuss additional medications and

treatments as needed (such as antiarrhythmics). We will likely recommend recheck ECGs every 3 months, or you can purchase the AliveCor and send us an ECG about once a month.

Thank you for entrusting us with [B6] care. Please contact our Cardiology liaison at (508)-887-4696 or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) for scheduling and non-emergent questions or concerns. Please visit our HeartSmart website for more information

Please visit our HeartSmart website for more information  
<http://vet.tufts.edu/heartsmart/>

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**Prescription Refill Disclaimer:**

*For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.*

**Ordering Food:**

*Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.*

**Clinical Trials:**

*Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: [vet.tufts.edu/cvmc/clinical-studies](http://vet.tufts.edu/cvmc/clinical-studies)*

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Case: [B6]

Owner: [B6]

Discharge Instructions

# Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

**B6**

Patient ID:

Canine

Years Old Male (Neutered) English Bulldog  
Brown/White

## Cardiology Appointment Report Enrolled in DCM Study

Date: 2/1/2019

### Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

**B6**

### Cardiology Resident:

### Cardiology Technician:

**B6**

Student:

**Presenting Complaint:** Here for possible entry to DCM study. Half-sister  came in last month for CHF.  had high proBNP on bloodwork.

### Concurrent Diseases:

on IDEXX panel.

History of  trauma when young.

### General Medical History:

Had  as puppy, had a  -O says seen at Tufts.

Sedentary lifestyle, but healthy. Half-sister  here last month in CHF, which is what started concerns for DCM.

Fasted today.

Had reason for concern of DCM based on diet and sister, came in based on NTproBNP level.

### Diet and Supplements:

Grain free diet- Wellness Core. Chicken and Turkey wet food 4oz BID. Fish dry food 1/4 cup BID.

No supplements or treats.

### Cardiovascular History:

**B6**

# B6

**Current Medications Pertinent to CV System:**

Medication:

## B6

**Cardiac Physical Examination:**

# B6

**Muscle condition:**

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

**Cardiovascular Physical Exam:**

**Murmur Grade:**

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

**Murmur location/description:**

**Jugular vein:**

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

**Arterial pulses:**

- Weak - obese and difficult to palpate
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

**Arrhythmia:**

- None
- Sinus arrhythmia
- Premature beats infrequent
- Bradycardia
- Tachycardia

**Gallop:**

- Yes
- Pronounced

- No
- Intermittent

Other:

**Pulmonary assessments:**

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

**Abdominal exam:**

- Normal
- Hepatomegaly
- Abdominal distension mostly adipose tissue?
- Mild ascites
- Marked ascites

**Problems:**

Related dog with DCM  
Has a high NT-proBNP

**Differential Diagnoses:** DCM vs other

**Diagnostic plan:**

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: Study bloodwork

**Echocardiogram Findings:**

B6

**B6**

B6

**Mitral inflow:**

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

**B6**

**Assessment and recommendations:**

Findings are consistent with ARVC with concurrent LV dysfunction which is either related to ARVC or could have a component of diet-related cardiomyopathy. There was not enough arrhythmia seen today to clearly trigger antiarrhythmic therapy, but a 24 hour Holter monitor could be performed for a better assessment of arrhythmia burden, or Alivecor tracings could be evaluated serially. Recommend starting B6 B6 Recommend switching the diet. Dog was enrolled in the DCM study, and troponin, NTproBNP, taurine levels, CBC/Chem were submitted via the study. Recheck echo, ECG, and blood work in



3, 6, and 9 months for the study. Discussed pros and cons of starting antiarrhythmic treatment today, or ACEi - owner leaning toward fewer drugs at this stage.

**Final Diagnosis:**

ARVC with LV dysfunction (possible component of diet associated cardiomyopathy)

**Heart Failure Classification Score:**

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	<b>B6</b>	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
TAPSE		cm

M-Mode Normalized

IVSdN	<b>B6</b>	(0.290 - 0.520) !
LVIDdN		(1.350 - 1.730)
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710)
LVIDsN		(0.790 - 1.140)
LVPWsN		(0.530 - 0.780) !
Ao Diam N		(0.680 - 0.890) !
LA Diam N		(0.640 - 0.900) !

2D

SALA  
Ao Diam  
SALA / Ao Diam  
IVSd  
LVIDd  
LVPWd  
EDV(Teich)  
IVSs  
LVIDs  
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LV Major  
LV Minor  
Sphericity Index  
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LVEDV A-L LAX  
LVEDV MOD LAX  
LVls LAX  
LVAs LAX  
LVESV A-L LAX  
LVESV MOD LAX  
HR  
EF A-L LAX  
LVEF MOD LAX  
SV A-L LAX  
SV MOD LAX  
CO A-L LAX  
CO MOD LAX

Doppler

MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV Dec Slope  
MV A Vel  
MV E/A Ratio  
E'  
E/E'  
A'  
S'  
AV Vmax  
AV maxPG  
PV Vmax  
PV maxPG  
TR Vmax

**B6**

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TR maxPG

B6

mmHg

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

**B6**

Foster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5395  
Fax (508) 839-7951  
<http://vetmed.tufts.edu/>

B6  
B6 Male (Neutered)  
Canine English Bulldog  
Brown/White  
B6

2/12/2019

Dear B6

Thank you for referring B6 with their pet B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

John Rush DVM, DACVIM (Cardiology), DACMECC