



The 510(k) Program

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**A Premarket Notification [510(k)]
is one of the major pathways for
bringing a device to market.**



Learning Objectives

1. To understand medical device classifications and how classifications apply to 510(k)s
2. To understand what a 510(k) is, when it is required and the different types of 510(k) submissions
3. To understand the content of a 510(k) and what should be submitted to the FDA
4. To understand the 510(k) submission process including how and when the FDA will communicate with submitters regarding their 510(k)
5. To understand 510(k) decisions and what they mean

Presentation Outline

- **Device Classification As It Relates to 510(k)s**
- Overview of 510(k) Program
- Content of a 510(k)
- 510(k) Submission Process
- 510(k) Decisions

Medical Device Classifications

- Class I = Low Risk Devices
 - Subject to general controls
 - Most, but not all, class I devices are exempt from premarket notification [510(k)]

- **Class II = Moderate Risk Devices**
 - **Subject to general and special controls**
 - **Most, but not all, Class II devices require a premarket notification [510(k)]**

- Class III = High Risk Devices
 - Subject to general controls and premarket approval

Product Codes

- Three letter codes
- Used by FDA to identify and track similar medical devices
- Used by 510(k) submitters to search for a predicate device(s)
- Found on most 510(k) clearance letters

References

- Guidance – Medical Device Classification Product Codes:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm285317.htm>
- Product Classification Database:
<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPCD/classification.cfm>

Example: Product Classification Database

Device	Pump, Infusion
Regulation Description	Infusion pump.
Regulation Medical Specialty	General Hospital
Review Panel	General Hospital
Product Code	FRN
Premarket Review	<u>Office of Device Evaluation (ODE)</u> Division of Anesthesiology, General Hospital Control, and Dental Devices (DAGRID) General Hospital Devices Branch (GHDB)
Submission Type	510(k)
Regulation Number	<u>880.5725</u>
Device Class	2
Total Product Life Cycle (TPLC)	<u>TPLC Product Code Report</u>
GMP Exempt?	No





What do you do if you cannot determine the appropriate device classification?

513(g) Program

513(g) Program Reminders

- There is a 513(g) User Fee.
- FDA responses to requests for information about the regulatory requirements applicable to a particular device DO NOT constitute FDA clearance or approval for distribution of that particular device in the U.S.

References

- Guidance – FDA and Industry Procedures for Section 513(g) Requests for Information under the Federal Food, Drug, and Cosmetic Act:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm209841.htm>
- Guidance – User Fees for 513(g) Requests for Information:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm209852.htm>

Presentation Outline

- Device Classification As It Relates to 510(k)s
- **Overview of 510(k) Program**
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- A 510(k) is:**
- A Premarket Notification
 - Section 510(k) of Federal FD&C Act
 - 21 CFR 807 Subpart E
 - It is a marketing clearance application
 - 510(k)s are “cleared”
 - Allows FDA to determine Substantial Equivalence

- A 510(k) is not:**
- A Form
 - Establishment Registration
 - Device Listing
 - Premarket Approval (PMA)

What is Substantial Equivalence (SE)?

- Demonstration that a new device, as compared to a predicate device, has...
 - the same intended use **and**
 - the same technological characteristics,
 - **Or** differences in technological characteristics do not raise different questions regarding safety and effectiveness.

What is a Predicate Device?

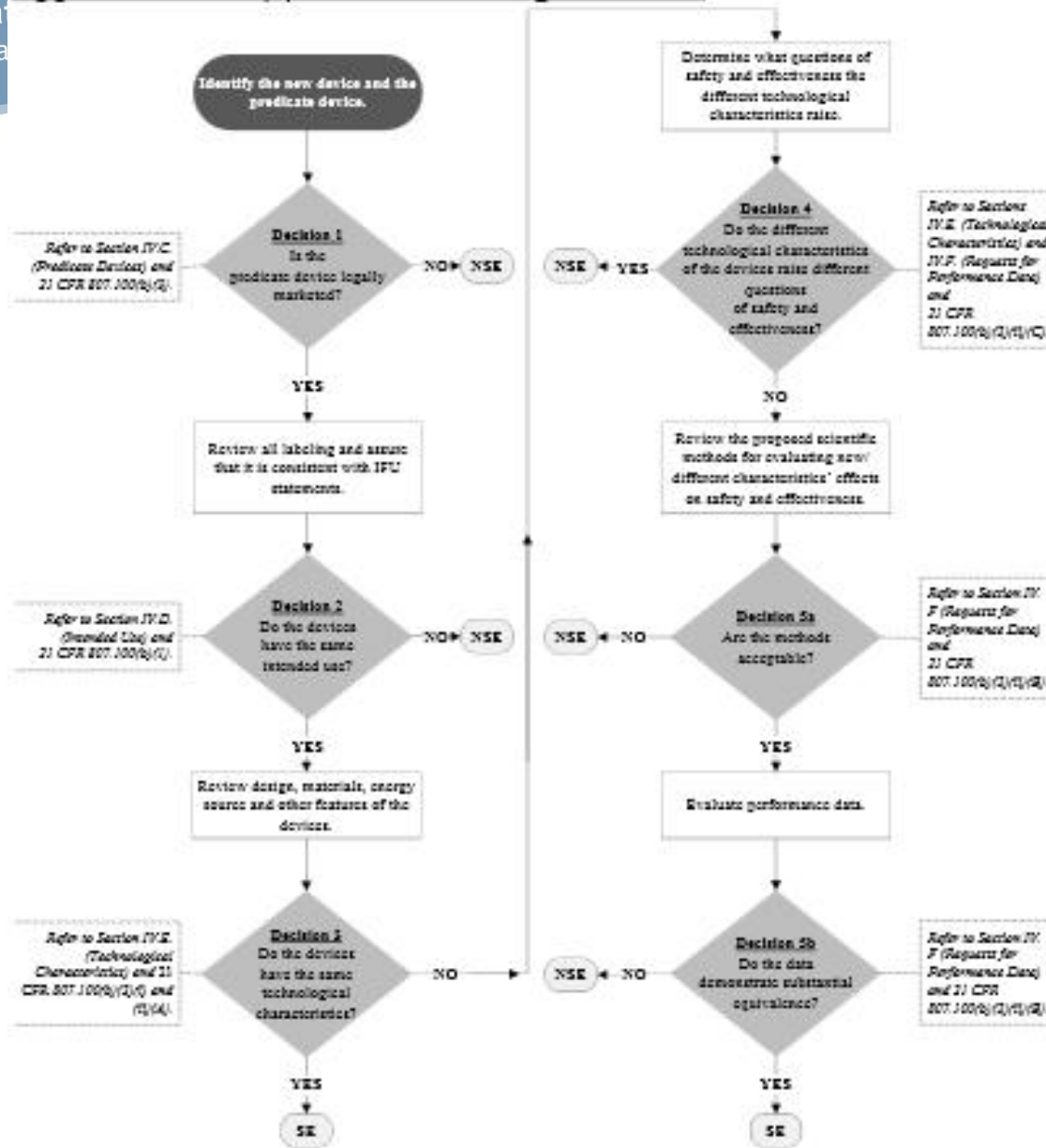
- A legally marketed device, previously cleared through the 510(k) process mainly, that is used for comparison to a new device for the purpose of determining substantial equivalence (21 CFR 807.92(a)(3)).

References

- Premarket Notification (510k):
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HowtoMarketYourDevice/PremarketSubmissions/PremarketNotification510k/default.htm>
- Guidance: The 510(k) Program: Evaluating Substantial Equivalence in Premarket Notifications [510(k)]:
<http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM284443.pdf>
- CDRH Learn Webinar “The 510(k) Program Guidance: Evaluating Substantial Equivalence in Premarket Notifications” [8/15/2014] (Under the Header “How to Market Your Device”):
<http://www.fda.gov/Training/CDRHLearn/default.htm>
- How to Find and Effectively Use Predicate Devices:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarketnotifications/premarketnotification510k/ucm134571.htm>



510(k) Decision- Making Flow Chart



SE = "Substantially Equivalent"
NSE = "Not Substantially Equivalent"
IFU = "Instructions For Use"

Establishing Substantial Equivalence

Decision Points From Flowchart

1. Is the predicate device legally marketed?
2. Do the devices have the same intended use?
3. Do the devices have the same technological characteristics?
4. Do the different technological characteristics of the devices raise different questions of safety and effectiveness?
5. Two Parts:
 - a) Are the methods acceptable?
 - b) Do the data demonstrate substantial equivalence?

When is a 510(k) Typically Required?

- Introducing a device to the market for the first time
- Changing the indications for use of a previously cleared device
- Making significant modification(s) to a previously cleared device

References

- Is a new 510(k) required for a modification to the device?:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/premarketnotification510k/ucm134575.htm>
- Guidance - Deciding When to Submit a 510(k) for a Change to an Existing Device (K97-1):
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm080235.htm>

Types of 510(k) Submissions

Traditional 510(k)
Abbreviated 510(k)
Special 510(k)

Traditional 510(k)

- Required elements (21 CFR 807.87)
- Relies on the demonstration of substantial equivalence
- **The Traditional 510(k) method can be used under any circumstance.** The Abbreviated 510(k) and Special 510(k) methods can only be used if certain criteria are met.

Abbreviated 510(k)

- Required elements (21 CFR 807.87)
- Relies on the use of guidance documents, special controls, and recognized standards
- Under certain conditions, sponsors may not need to submit test data in an Abbreviated 510(k).

Special 510(k)

- Required elements (21 CFR 807.87)
- Device modification to manufacturer's own legally marketed device
- Modification does NOT affect the intended use or fundamental scientific technology
- No data is evaluated by FDA



References

- How to Prepare a Traditional 510(k):
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/premarketnotification510k/ucm134572.htm>
- How to Prepare An Abbreviated 510(k):
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/premarketnotification510k/ucm134574.htm>
- How to Prepare A Special 510(k):
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/premarketnotification510k/ucm134573.htm>
- 510(k) Screening Checklist:
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HowtoMarketYourDevice/PremarketSubmissions/PremarketNotification510k/ucm071360.htm>
- 510(k) Forms:
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HowtoMarketYourDevice/PremarketSubmissions/PremarketNotification510k/ucm070202.htm>

What do you do if...

You have a low or moderate risk device with no identifiable predicate device?

Consider de novo

Presentation Outline

- Device Classification As It Relates to 510(k)s
- Overview of 510(k) Program
- **Content of a 510(k)**
- 510(k) Submission Process
- 510(k) Decisions



Content of a 510(k)

- Medical Device User Fee Cover Sheet (Form FDA 3601)
- CDRH Premarket Review Submission Cover Sheet
- 510(k) Cover Letter
- **Indications for Use Statement**
- **510(k) Summary** or 510(k) Statement
- Truthful and Accuracy Statement
- Class III Summary and Certification
- Financial Certification or Disclosure Statement
- **Declarations of Conformity and Guidance Documents**
- Executive Summary
- **Device Description**
- **Substantial Equivalence Discussion**
- **Proposed Labeling**
- Sterilization and Shelf Life
- Biocompatibility
- Software
- Electromagnetic Compatibility and Electrical Safety
- **Performance Testing – Bench**
- **Performance Testing – Animal**
- **Performance Testing – Clinical**
- Other

Intended Use and Indications for Use

- **Intended Use:** General purpose of the device or its function, and encompasses the indications for use
 - **Indications for Use:** As defined in 21 CFR 814.20(b)(3)(i), describes the disease or condition the device will diagnose, treat, prevent, cure, or mitigate, including a description of the patient population for which the device is intended.
- Must be consistent throughout your 510(k), including the indications for use statement, proposed labeling, etc.
- Recommended Format for Indications for Use Statement (Form FDA 3881)
 - Identify prescription use and/or over-the-counter use

510(k) Summary

- High level discussion of the content within the 510(k)
- Must include elements in 21 CFR 807.92
- Must include sufficient detail to provide an understanding of the basis for a determination of substantial equivalence
- FDA will verify the accuracy and completeness of the 510(k) Summary information during the 510(k) review
- [Guidance – The 510\(k\) Program: Evaluating Substantial Equivalence in Premarket Notifications \[510\(k\)\], Appendix B. The 510\(k\) Summary Document Requirements](#)

FDA Recognized Consensus Standards (Declarations of Conformity)

- Voluntary program
- Used to simplify and streamline the 510(k) review process
- Sponsors can only declare conformance to FDA recognized consensus standards
- Must document extent of conformance in 510(k) application (Form FDA 3654 - Standards Data Report for 510(k)s)

References

- Guidance – Recognition and Use of Consensus Standards:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm077274.htm>
- Guidance - Frequently Asked Questions on Recognition of Consensus Standards:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm074973.htm>
- Recognized Consensus Standards Database:
<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm#>
- Standards Data Form (Form FDA 3654):
<http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM081667.pdf>

FDA Guidance Documents

- Represents FDA's current thinking on a topic
- May be device specific or general
- Does not create or confer any rights for or on any person and does not operate to bind FDA or the public
- Alternative approaches may be used if the approach satisfies the requirements of the applicable statutes and regulations
- FDA Guidance Document Database:
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/default.htm>

Example: Product Classification Database



Recognized Consensus Standards

- [ISO 7886-2 First edition 1996-05-15 Sterile hypodermic syringes for single use - Part 2: Syringes for use with power-driven syringe pumps](#)
- [ISO 26825 First edition 2008-08-15 Anaesthetic and respiratory equipment - User-applied labels for syringes containing drugs used during anaesthesia - Colours, design and performance](#)
- [ISO 23908 First edition 2011-06-11 Sharps injury protection - Requirements and test methods - Sharps protection features for single-use hypodermic needles, introducers for catheters and needles used for blood sampling](#)
- [ISO 9626 First edition 1991-09-01 Stainless steel needle tubing for the manufacture of medical devices \[Including: Amendment 1 \(2001\)\]](#)



Guidance Documents

- [Guidance for Industry and FDA Staff - Total Product Life Cycle: Infusion Pump - Premarket Notification \[510\(k\)\] Submissions **Text**](#)
- [Guidance on the Content of Premarket Notification \[510\(k\)\] Submissions for External Infusion Pumps](#)

Device Description

- Within a 510(k) the device description should include:
 - Overall description of the device design (e.g. physical specifications, dimensions, design tolerances, engineering drawings, figures, etc.)
 - Materials (e.g. list all patient contacting components)
 - Energy sources
 - Other key technological features

Substantial Equivalence Discussion

- Substantial Equivalence is defined in section 513(i) of the FD&C Act
- Utilize [510\(k\) Decision-Making Flowchart](#)
- 510(k) review standard is comparative (i.e. new device compared to predicate device)
 - Multiple predicate devices are ok under certain circumstances
 - Split predicates are inconsistent with 510(k) regulatory standard
 - Reference devices may be used to support scientific methodology or standard reference values. Reference devices are not predicate devices

Labeling

- Comply with Device Labeling Requirements (21 CFR 801)
- Copies of all proposed labels, labeling, package inserts, service manuals, instructions for use, advertising and/or promotional materials
- The directions for use should include a specific intended use statement and any warnings, contraindications, or limitations
- Labeling submitted should be **final draft**
- Copies of labeling for the predicate device is recommended
- Introduction to Medical Device Labeling:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/overview/deviceLabeling/default.htm>

Performance Testing

- Bench, Animal, or Clinical
- Necessary performance tests depend on the complexity of the device and its intended use and indications
- Consider FDA Guidance Documents
- Consider comparative testing to demonstrate substantial equivalence
- Include: test methods, acceptance criteria and test results for review

Performance Testing - Clinical

- Not all 510(k)s require clinical data.
- Clinical data may be requested in the following situations:
 1. New or Modified Indications for Use – Same Intended Use
 2. Significant Technological Differences
 3. Non-clinical Testing Methods are Limited or Inappropriate Because of the Indications for Use or Device Technology

Key Considerations

- Information is complete and organized
 - Include a table of contents
 - Use tabs and paginate properly
 - Utilize tables and graphs appropriately and effectively
 - Use visual aids whenever possible
- Clearly identify basic 510(k) requirements (e.g. 510(k) Summary, Indications for Use Form, etc.)
- Be consistent throughout the submission
- Follow current applicable guidance documents and device specific checklists

References

- Content of a 510(k):
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HowtoMarketYourDevice/PremarketSubmissions/PremarketNotification510k/ucm142651.htm>
- 510(k) Format Tips:
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HowtoMarketYourDevice/PremarketSubmissions/PremarketNotification510k/ucm142648.htm>

Pre-Sub for a 510(k)

- Guidance: Requests for Feedback on Medical Device Submissions: The Pre-Submission Program and Meetings with Food and Drug Administration Staff
- Method to obtain FDA feedback prior to submission of your 510(k); typically for unique situations (e.g. need for clinical data)
- Submit a formal written request to the FDA
- Request either a formal written response, meeting, or teleconference to address their concerns, questions, etc.
- Subject to eCopy requirements

References

- Guidance – Requests for Feedback on Medical Device Submissions: The Pre-Submission Program and Meetings with Food and Drug Administration Staff:
<http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM311176.pdf>
- CDRH Learn Webinar – Pre-Submissions and Meetings with FDA Staff [2/28/2014]:
<http://www.fda.gov/Training/CDRHLearn/default.htm>

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Submission to FDA

- You must submit **two copies** of your 510(k)
- One of your two copies must be submitted in an electronic format (i.e. eCopy)
- FDA does NOT return the 510(k) submission after review
- Where do you mail your 510(k)?

Food and Drug Administration
Center for Devices and Radiological Health
Document Control Center (DCC) - WO66-G609
10903 New Hampshire Avenue
Silver Spring, Maryland 20993-0002

- Addresses for Submissions:

<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/ucm135103.htm>

eCopy Program

- Valid eCopy is a requirement for Premarket Submissions
- An eCopy is defined as an exact duplicate of the paper submission, created and submitted on a compact disc (CD), digital video disc (DVD), or a flash drive
- An eCopy is accompanied by a paper copy of the signed cover letter and the complete paper submission
- Questions regarding eCopy requirements or responses to eCopy holds should be sent to CDRH-eCopyinfo@fda.hhs.gov
- eCopy Program for Medical Device Submissions:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/ucm370879.htm>

510(k) User Fees

- 510(k) Submissions are subject to user fees.
- User Fees must be received on or before the time the application is submitted.
- FDA will not accept the 510(k) for filing if the fee is not paid.
- There is a standard user fee and a small business reduced user fee.

References

- Premarket Notification [510(k)] Review Fees:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarketsubmissions/premarketnotification510k/ucm134566.htm>
- Guidance for Industry and Food and Drug Administration Staff - User Fees and Refunds for Premarket Notification Submissions (510(k)s):
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm345277.htm>
- Guidance – FY2015 Medical Device User Fee Small Business Qualification and Certification:
<http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/Organization/MDUFAIII/UCM314389.pdf>



510(k) Submission Process

Important Notes:

- Days are Calendar Days
- The timeline is based on the MDUFA III Performance Goals
- This timeline has been simplified

Day 1: FDA receives 510(k) submission.



By Day 7

FDA sends **Acknowledgement Letter**.

OR

FDA sends **Hold Letter** if unresolved issues with User Fee and/or eCopy.



By Day 15

FDA conducts **Acceptance Review**.

FDA informs submitter if 510(k) is accepted for **Substantive Review** or placed on **RTA Hold**.



By Day 60

FDA conducts **Substantive Review**.

FDA communicates via a **Substantive Interaction** to inform the submitter that the FDA will either proceed with **Interactive Review** or that the 510(k) will be placed on hold and **Additional Information** is required.



By Day 90

FDA sends final **MDUFA Decision** on 510(k).



By Day 100

If MDUFA Decision is not reached by Day 100, FDA provides **Missed MDUFA Decision Communication** that identifies outstanding review issues.

References

- 510(k) Submission Process:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarket submissions/premarketnotification510k/ucm070201.htm>
- Guidance – Types of Communication During the Review of Medical Device Submissions - Guidance for Industry and Food and Drug Administration Staff:
<http://www.fda.gov/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm341918.htm>
- Guidance - FDA and Industry Actions on Premarket Notification (510(k)) Submissions: Effect on FDA Review Clock and Goals:
<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm089735.htm>

510(k) Submission Process

Timeline of Communication during 510(k) Review

Day 1: FDA receives 510(k) submission.



By Day 7

FDA sends Acknowledgement Letter.

OR

FDA sends Hold Letter if unresolved issues with
User Fee and/or eCopy.

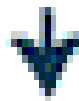


510(k) Submission Process

By Day 15

FDA conducts **Acceptance Review**.

FDA informs submitter if 510(k) is accepted for **Substantive Review** or placed on **RTA Hold**.



Refuse to Accept (RTA) Policy

- Guidance – Refuse to Accept Policy for 510(k)s:
<http://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm315014.pdf>
- Is the 510(k) submission administratively complete for substantive review?
- Early Review – 15 calendar days from receipt
- Necessary elements and content of a complete 510(k) submission
- FDA clock begins on the date of receipt when the 510(k) is “accepted for review”

510(k) Submission Process

By Day 60

FDA conducts **Substantive Review**.

FDA communicates via a **Substantive Interaction** to inform the submitter that the FDA will either proceed with **Interactive Review** or that the 510(k) will be placed on hold and **Additional Information** is required.



Substantive Interaction

FDA Notification that:

1. The 510(k) will not be placed on hold and outstanding deficiencies will be resolved via **Interactive Review, or**
2. The 510(k) is being placed on hold via an **Additional Information** request which identifies the outstanding deficiencies that need to be addressed before substantive review can continue.

Interactive Review

- Informal interaction between FDA and submitters during the review of 510(k) submissions
- Benefits: Prevent unnecessary delays; Reduce the overall time to decision; Ensure that FDA's concerns are clearly communicated; Minimize the number of review cycles; and Ensure timely responses from submitters
- Interactive review requests do not stop the FDA clock
- ***NOTE***: Interactive Review correspondence is not subject to eCopy requirements unless submitted through the Document Control Center (DCC)

Additional Information (AI) Requests

- **Why is additional information requested?**
 - Testing data required to demonstrate equivalence
 - Reviewer has questions regarding labeling, wording, etc.

- **How is additional information requested?**
 - AI requests are sent via email
 - AI responses are subject to eCopy requirements

- **How does this affect the submission review times?**
 - Clock stops when submission is officially placed on hold
 - 180 days for a complete response to be received to DCC

510(k) Submission Process

By Day 90

FDA sends final MDUFA Decision on 510(k).



MDUFA III Performance Goals

510(k) Submission Type	FDA Review Days
Traditional and Abbreviated	90
Special	30

- MDUFA III Performance Goals:
<http://www.fda.gov/downloads/MedicalDevices/NewsEvents/WorkshopsConferences/UCM295454.pdf>

510(k) Submission Process

By Day 100

If MDUFA Decision is not reached by Day 100, FDA provides **Missed MDUFA Decision Communication** that identifies outstanding review issues.

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510(k) Decisions

SE Decision



Device to Market

NSE Decision



Resubmit another 510(k) with new data, PMA, de novo or reclassification petition

Why might you receive a NSE Decision?

1. There is no predicate device
2. Your device has a NEW intended use
3. Your device has different technological characteristics compared to the predicate device and raises different questions regarding safety and effectiveness
4. You did not demonstrate that your device is at least as safe and effective as the predicate

What Happens After a Device is Cleared?

- The following are posted on the FDA's [public 510\(k\) database](#):
 - SE Letter
 - Indications for Use Form
 - 510(k) Summary (if provided instead of 510(k) Statement)

*NOTE: For [510\(k\) Statements](#), submitters must make available all information included in this premarket notification on safety and effectiveness within 30 days of request by any person (21 CFR 807.93).

Summary

1. The appropriate classification for a device will indicate whether or not 510(k) clearance is required before the device can be legally marketed.
2. The 510(k) review standard is comparative i.e. substantial equivalence must be demonstrated for a new device compared to a legally marketed predicate device.
3. A 510(k) should contain all the content necessary to demonstrate the safety and effectiveness of the new device compared to the predicate device.
4. FDA will communicate with submitters during the review of their 510(k)s based on specified performance goals.
5. A 510(k) which is found substantially equivalent can then be legally marketed in the U.S.

Providing Industry Education

1. CDRH Learn – Multi-Media Industry Education

- over 80 modules - videos, audio recordings, power point presentations, software-based “how to” modules
- accessible on your portable devices: <http://www.fda.gov/Training/CDRHLearn>

2. Device Advice – Text-Based Education

- comprehensive regulatory information on premarket and postmarket topics: <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance>

3. Division of Industry and Consumer Education (DICE)

- If you have a question - Email: DICE@fda.hhs.gov
- Phone: 1(800) 638-2014 or (301) 796-7100 (Live Agents 9am – 4:30 pm EST)
- **Web Homepage:** <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/ContactUs--DivisionofIndustryandConsumerEducation/default.htm>



Thank You