U.S. FOOD & DRUG ADMINISTRATION

Assessing the Effects of Food on Drugs in INDs and NDAs
Clinical Pharmacology Considerations Final Guidance

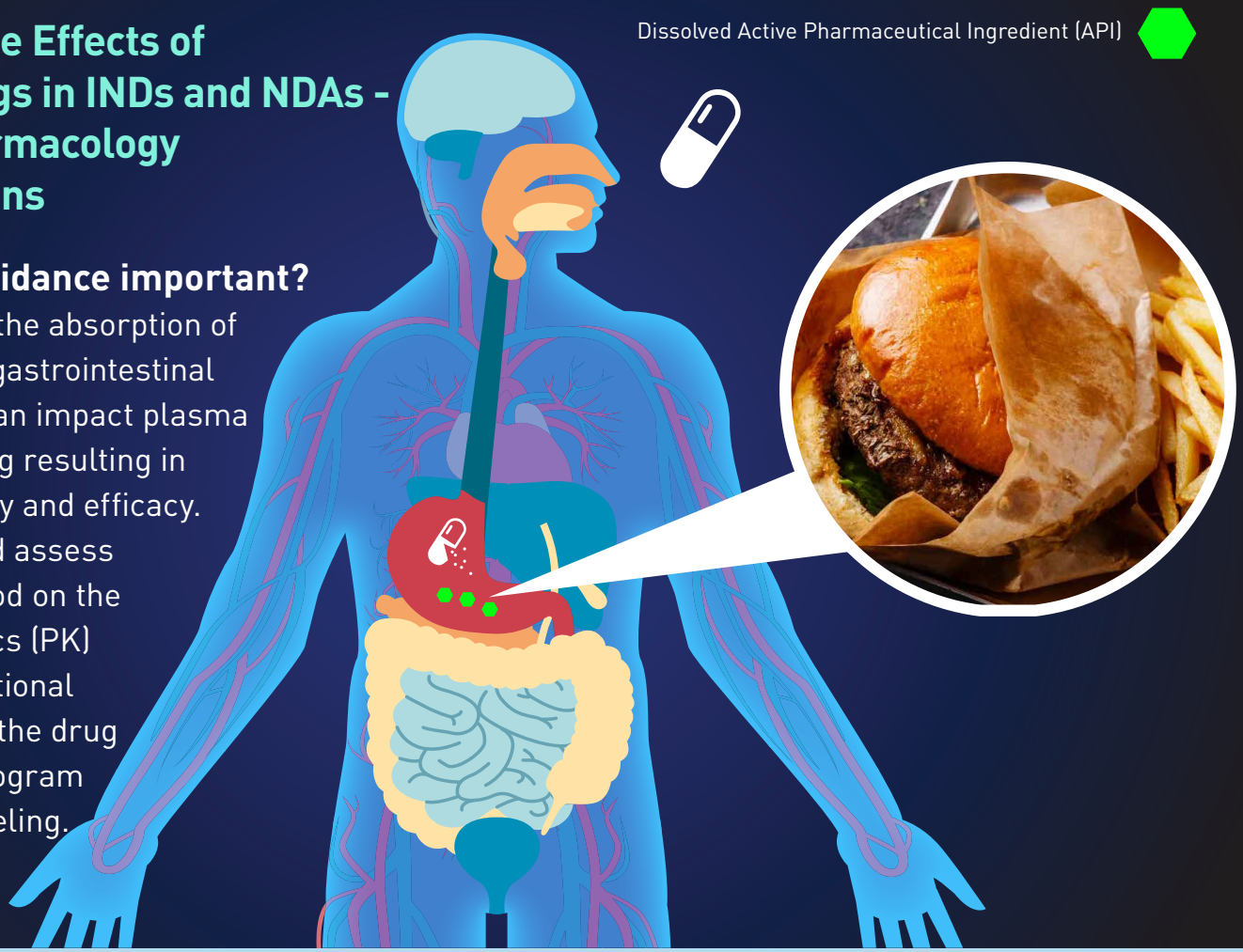
What Is Covered in This Guidance?

A final guidance has been issued providing recommendations on the conduct of food effect (FE) studies for orally administered drug products.

Assessing the Effects of Food on Drugs in INDs and NDAs - Clinical Pharmacology Considerations

Why is this guidance important?

Food can affect the absorption of drugs from the gastrointestinal (GI) tract. This can impact plasma levels of the drug resulting in changes in safety and efficacy. Sponsors should assess the effects of food on the pharmacokinetics (PK) of oral investigational drugs to inform the drug development program and product labeling.



Guidance Snapshots are a communication tool and are not a substitute for the guidance document.

To learn more about assessing the effects of food on drugs, read the guidance:

https://www.fda.gov/regulatory-information/search-fda-guidance-documents/assessing-effects-food-drugs-inds-and-ndas-clinical-pharmacology-considerations

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WHAT

The guidance provides general considerations for designing FE studies, as well as recommendations for data analysis and labeling.

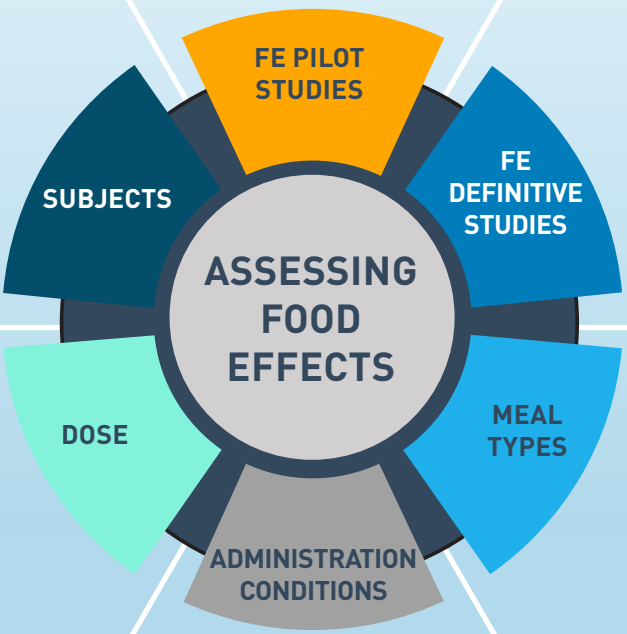
WHY

Food can have a significant impact on the safety or efficacy of orally administered drug products. In some cases, food can be used to improve tolerability of a drug that causes GI discomfort. Well-conducted FE studies can inform how, when, and why drugs should or should not be administered with food.

WHEN

Sponsors should assess the effect of food on the PK of a new drug early in its development to guide the overall drug development program and final product labeling. Sponsors should test the effect of food on a new drug in clinical trials before conducting the pivotal safety and efficacy trials to provide informed decisions regarding dosing with respect to food.

ASSESSING FOOD EFFECTS



FE PILOT STUDIES

Conduct a pilot study to provide a preliminary assessment of the effect of a high-fat meal on the systemic exposure of the drug.

FE DEFINITIVE STUDIES

Use a randomized, balanced, single-dose, two-treatment (i.e., fed versus fasted), two-period, crossover design.

MEAL TYPES

Conduct an FE study with a high-fat meal for all orally administered drugs. When a significant FE is observed with a high-fat meal, evaluation of other meal types—such as a low-fat meal—can be performed to further inform labeling.

ADMINISTRATION CONDITIONS

Incorporate specific fasting and fed recommendations, including meal content, timing, and water restrictions, into study design.

DOSE

Use the clinically recommended dose in the pivotal FE study; when several doses of a drug that exhibit linear PK will be marketed, use the highest clinically recommended dose unless safety concerns necessitate a lower dose.

SUBJECTS

Conduct FE studies in an adequate number of healthy subjects, unless precluded by safety concerns, to sufficiently characterize the food effect.

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Background About the Guidance

This guidance finalizes draft guidance issued in February 2019. It revises and replaces the part of the 2002 FDA guidance titled Food-Effect Bioavailability and Fed Bioequivalence Studies. Information on fed bioequivalence studies to be submitted in abbreviated new drug applications (ANDAs) is now found in the FDA guidance for industry titled Bioequivalence Studies with Pharmacokinetic Endpoints for Drugs Submitted Under an ANDA. Specific recommendations concerning fed comparability trials are now described in the FDA guidance for industry titled Bioavailability Studies Submitted in NDAs or INDs — General Considerations.

Guidance Recommendations Apply Throughout the Drug Development Timeline

During Clinical Development: Food-drug interactions can have a significant impact on the safety and efficacy of a drug. These effects can be manifested in different ways. Assessing the effect of food on the absorption of an orally administered drug contributes to the optimization of the safety and efficacy of the product and helps provide adequate instructions for drug administration in relation to food. During new drug development, FE studies are conducted to determine if, and to what extent, food impacts the systemic exposure of the drug; whether food changes the variability of the systemic exposure of the drug; and if the effect of food is different across meals with varying fat or caloric contents.

Guidance Recap Podcast – Hear Highlights Straight From FDA Staff

Speakers: Vikram Arya, PhD, FCP, Associate Director for Therapeutic Review in the Division of Infectious Disease Pharmacology, and Brian Booth, PhD, Director of the Division of Cancer Pharmacology I.

Click here to listen | **Click here to read transcript**

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To see additional Guidance Snapshots, check out the pilot program:
https://www.fda.gov/drugs/guidances-drugs/guidance-snapshot-pilot