Drug Administration and Food

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Introduction: The table below provides an overview of current recommendations for administration of oral drugs with respect to food. This information is not intended to present a comprehensive review; the reader is therefore encouraged to seek additional and confirmatory information.

Adherence to medication regimens can be encouraged by scheduling drug administration to coincide with routine activities such as meal times. Foods and beverages may interact with medications, affecting their bioavailability, metabolism or excretion. While such interactions can influence the effectiveness of a drug by altering the anticipated therapeutic effect, the clinical significance of meals with a most food-drug interactions is not clear (see also Drug Administration and Grapefruit).

The following recommendations for drug administration in relation to food are compiled from product monographs and, where necessary, manufacturers were contacted directly for clarification. The table is not meant to be exhaustive.

The recommendations made in this table are not absolute; clinical judgment must be used in their interpretation. More important is the consistency of drug administration to facilitate adherence and prevent fluctuations in the therapeutic effect of the drug.

Drug Name	Administration	Comments	Empty
5-aminosalicylic acid (EC)	Before MealsDo Not Crush or Chew	Take with a glass of water	Stomach Preferably: As for Empty Stomach (above);
abacavir	With or Without Food		however, may be taken with food if gastric
abacavir/dolutegravir/lamivudine	With or Without Food		upset occurs. With or After
abacavir/lamivudine	With or Without Food		Meals: Taken during or immediately after meals.
abacavir/lamivudine/zidovudine	 With or Without Food 		With or Without Food
abemaciclib	 With or Without Food Do Not Crush or Chew 	Swallow whole; be consistent with timing; see also <i>Drug</i> Administration and Grapefruit	May be given without regard to meals. The notation "be consistent" in the comments
abiraterone	 Empty Stomach Do Not Crush or Chew 	Not to be taken with solid or liquid food; swallow whole with a glass of water	column indicates that the drug should be taken consistently
acamprosate (EC)	 With or Without Food Do Not Crush or Chew 	Be consistent; do not split tablets	with or without food, as presence or absence of food may alter
acarbose	• With or After Meals	Take with first bite of a main meal	 bioavailability. Do Not Crush or Chew:
acebutolol	With or Without Food		Crushing enteric-coated, extended-
acenocoumarol (nicoumalone)	• With or Without Food	Be consistent; avoid abrupt changes in diet to maintain constant vitamin K intake; for vitamin K content of specific foods, see depts.washington.edu/anticoag/home/content/patient-education-0	release, sublingual or buccal formulations
acetaminophen (ER)	Empty Stomach Do Not Crush or Chew		 can render the drug ineffective and/or increase the risk of adverse events and toxicity.
acetaminophen (tablet)	• With or Without Food		Other considerations related to
acetazolamide	With or Without Food	Food decreases GI side effects	crushing include potential

Administration Definitions

Empty

Stomach: 1 hour before or 2 hours after full glass of liquid, usually water.

Before Meals:

Usually 15-30 minutes before meals

Drug Name	Administration	Comments	mucosal irritation or
acetylcysteine	 With or Without Food 		carcinogenic effects.
acitretin	With or After Meals	Food optimizes absorption	Comments: Administration instructions,
acyclovir	With or Without Food		other relevant information.
adefovir	With or Without Food		 Related Links Drug Administration and Grapefruit Body Weight Calculator
afatinib	• Empty Stomach	Food reduces absorption	
alendronate	Before MealsDo Not Crush or Chew	Take in the morning with a glass of plain water only and at least 30 min before any food, beverage or other medication	Renal Function Calculator
alfacalcidol	• With or After Meals	Take with a glass of water or milk	
alfuzosin (ER)	 With or After Meals Do Not Crush or Chew 		
alginic acid	With or Without Food	Chew tablets; follow with drink of water or milk	
aliskiren	With or Without Food	Be consistent; a high-fat meal decreases absorption; see also Drug Administration and Grapefruit	
alitretinoin	With or After Meals		
allopurinol	With or After Meals	Food decreases GI side effects	
almotriptan	With or Without Food		
alogliptin	With or Without Food		
alogliptin/metformin	With or After Meals	Food decreases GI side effects	_
alpha-D-galactosidase	With or After Meals	Swallow, chew or crumble onto food; add only to food cool enough to eat	_
alprazolam	With or Without Food		
aluminum hydroxide	With or Without Food		
amantadine	With or Without Food		
ambrisentan	With or Without Food		
amiloride	• With or After Meals	Food decreases GI side effects; avoid large quantities of potassium-rich foods	
amiodarone	With or Without Food	Be consistent; food decreases GI side effects; see also <i>Drug</i> Administration and Grapefruit	

Drug Name	Administration	Comments
amitriptyline	With or Without Food	
amlodipine	With or Without Food	
amlodipine/telmisartan	With or Without Food	Be consistent
amoxicillin	With or Without Food	
amoxicillin/clavulanic acid	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects
amphetamines, mixed salts (Adderall XR)	With or Without FoodDo Not Crush or Chew	Can sprinkle contents of capsule onto applesauce; do not chew or crush contents
ampicillin	• Empty Stomach	
anagrelide	With or Without Food	
anastrozole	With or Without Food	Take with a glass of water
apalutamide	With or Without FoodDo Not Crush or Chew	Swallow whole
apixaban	With or Without Food	See also Drug Administration and Grapefruit
apremilast	With or Without FoodDo Not Crush or Chew	
aprepitant	With or Without Food	See also Drug Administration and Grapefruit
aripiprazole	With or Without Food	
ASA (EC)	With or Without FoodDo Not Crush or Chew	Take with a glass of water
ASA (IR)	• With or After Meals	Food decreases GI side effects
asenapine	Do Not Crush or Chew	Sublingual; do not eat or drink for 10 min after administration
atazanavir	 With or After Meals Do Not Crush or Chew 	Food enhances absorption; see also <i>Drug Administration and Grapefruit</i>
atenolol	With or Without Food	See also Drug Administration and Grapefruit

Drug Name	Administration	Comments
atomoxetine	 With or Without Food Do Not Crush or Chew 	
atorvastatin	• With or Without Food	See also Drug Administration and Grapefruit
atovaquone	With or After Meals	Food increases bioavailability
atovaquone/proguanil	• With or After Meals	Daily dose should be taken with food or milk; absorption reduced when fasting; may be crushed and mixed with condensed milk just prior to administration
attapulgite, activated (suspension)	With or Without Food	
attapulgite, activated (tablet)	With or Without FoodDo Not Crush or Chew	Take with a glass of water
auranofin	• With or After Meals	
axitinib	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
azathioprine	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects; cytotoxic
azilsartan	• With or Without Food	
azilsartan/chlorthalidone	With or Without Food	
azithromycin (suspension)	With or Without Food	
azithromycin (tablet)	With or Without Food	
baclofen	With or Without Food	
baricitinib	With or Without Food	
bazedoxifene acetate/ conjugated estrogens	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
benazepril	With or Without Food	
benztropine	With or Without Food	Food decreases GI side effects
betahistine	• With or After Meals	Food decreases GI side effects

Drug Name	Administration	Comments
betaine	 With or Without Food 	Dissolve dose in 120–180 mL of water, juice, milk, formula or mix with food for immediate ingestion
bethanechol	• Empty Stomach	Avoid taking with meals; nausea and vomiting may occur soon after eating
bezafibrate (SR)	With or After MealsDo Not Crush or Chew	Take with a glass of water
bicalutamide	With or Without FoodDo Not Crush or Chew	Take with a glass of water
bilastine	• Empty Stomach	May split tablet to facilitate swallowing; take 1 h before or 2 h after food; see also <i>Drug Administration and Grapefruit</i>
bisacodyl (EC)	Empty StomachDo Not Crush or Chew	Take with a glass of water; do not take with milk
bisoprolol	With or Without Food	
bosentan	With or Without Food	
bosutinib	With or After MealsDo Not Crush or Chew	See also Drug Administration and Grapefruit
brexpiprazole	With or Without Food	
brigatinib	With or Without FoodDo Not Crush or Chew	Swallow whole with a glass of water; see also <i>Drug</i> Administration and Grapefruit
brivaracetam	With or Without Food	
bromazepam	With or Without Food	
bromocriptine	With or After Meals	Food decreases GI side effects
budesonide (capsules, controlled ileal-release)	Before MealsDo Not Crush or Chew	Take with a glass of water; see also <i>Drug Administration and Grapefruit</i>
budesonide (DR/ER tablets)	With or After MealsDo Not Crush or Chew	Take in the morning, preferably after breakfast, with a glass of water; see also <i>Drug Administration and Grapefruit</i>
bumetanide	With or Without Food	Be consistent
buprenorphine/naloxone	Do Not Crush or Chew	Sublingual; place under tongue until dissolved; takes 5–10 min for the tablet to dissolve; do not swallow

Drug Name	Administration	Comments
bupropion (SR, XL)	 With or Without Food Do Not Crush or Chew 	
buspirone	With or Without Food	Be consistent; food may increase bioavailability; see also <i>Drug</i> Administration and Grapefruit
cabergoline	With or Without Food	Food decreases GI side effects
cabozantinib	Empty StomachDo Not Crush or Chew	Swallow whole; see also Drug Administration and Grapefruit
calcitriol	• With or Without Food	
calcium salts	• With or After Meals	Food increases absorption
canagliflozin	With or Without Food	Take before the first meal of the day
canagliflozin/metformin	With or After Meals	
candesartan	With or Without Food	
candesartan/ hydrochlorothiazide	With or Without Food	
cannabis (oral)	With or Without Food	Be consistent; see also Drug Administration and Grapefruit
capecitabine	With or After MealsDo Not Crush or Chew	Take with meal or within 30 min after end of a meal; take with a glass of water; cytotoxic
captopril	Before Meals	1 h before meals preferred; may take with food but be consistent
carbamazepine (CR)	 With or After Meals Do Not Crush or Chew 	See also Drug Administration and Grapefruit
carbamazepine (IR)	• With or After Meals	Food decreases GI side effects; see also Drug Administration and Grapefruit
carvedilol	 With or After Meals Do Not Crush or Chew 	Food slows rate of absorption and incidence of orthostatic effects especially during dose titration; take with a glass of water; see also <i>Drug Administration and Grapefruit</i>
cefaclor	With or Without Food	Food decreases GI side effects
cefadroxil	With or Without Food	Food decreases GI side effects
cefixime	With or Without Food	Food decreases GI side effects
cefprozil	With or Without Food	Food decreases GI side effects

Drug Name	Administration	Comments
cefuroxime axetil (suspension)	With or Without Food	Food increases absorption; may add to cold milk, lemonade, apple, orange or grape juice before administration; drink immediately
cefuroxime axetil (tablet)	 With or Without Food Do Not Crush or Chew 	Food increases absorption; take with a glass of water; bitter taste if chewed or crushed
celecoxib	• With or Without Food	
cephalexin	• With or Without Food	Maximum peak levels when taken on an empty stomach
ceritinib	 Empty Stomach Do Not Crush or Chew 	Take at least 2 h before or after food
cetirizine	• With or Without Food	
chloral hydrate	• With or Without Food	Dilute with 120 mL of water or other liquid, e.g., fruit juice, to reduce gastric irritation
chlorambucil	 With or Without Food Do Not Crush or Chew 	Do not divide tablets (cytotoxic)
chloramphenicol	• Empty Stomach Preferably	IV solution can be given orally; bitter taste can be masked by diluting in milk
chlordiazepoxide	• With or Without Food	
chlordiazepoxide/clidinium	Before Meals	Take 30–60 min before meals to maximize absorption
chloroquine	• With or After Meals	Food decreases GI side effects; may be crushed and mixed with flavoured vehicle to mask bitter taste
chlorpheniramine	• With or Without Food	
chlorpromazine	 With or Without Food Do Not Crush or Chew 	Bitter taste if crushed or chewed
chlorthalidone	With or Without Food	Food decreases GI side effects
cholecalciferol	With or Without Food	May mix liquid with formula, fruit juice or other foods
cholera vaccine and traveller's diarrhea (inactivated)	• Empty Stomach	Vaccine is acid labile; avoid food and drink 1 h before and after vaccine administration. Dissolve effervescent granules (sodium hydrogen carbonate) in a glass of water (~150 mL); shake vaccine vial then mix with sodium hydrogen carbonate solution; drink the mixture within 2 h (keep at room temperature)
cholestyramine	• With or After Meals	Mix with water, milk, fruit juice or other noncarbonated beverage; may also be mixed with highly fluid soups or pulpy fruits with high moisture content, e.g., applesauce, crushed pineapple
cilazapril	• With or Without Food	Be consistent

Drug Name	Administration	Comments
cimetidine	 With or Without Food 	Multiple doses—with meals and at bedtime
cinacalcet	 With or After Meals Do Not Crush or Chew 	
ciprofloxacin (IR tablet)	• With or Without Food	Take with a glass of water; food decreases GI side effects; faster absorption on empty stomach; do not take with dairy products alone or within 2 h of calcium intake >800 mg; avoid excessive caffeine intake; see also <i>Drug Administration and Grapefruit</i>
ciprofloxacin (liquid)	With or Without FoodDo Not Crush or Chew	Do not chew the microcapsules; take with a glass of water; food decreases GI side effects; faster absorption on empty stomach; do not take with dairy products alone or within 2 h of calcium intake >800 mg; avoid excessive caffeine intake; see also <i>Drug Administration and Grapefruit</i>
ciprofloxacin (XL tablet)	With or Without FoodDo Not Crush or Chew	Take with a glass of water; food decreases GI side effects; do not take with dairy products alone or within 2 h of calcium intake >800 mg; avoid excessive caffeine intake; see also <i>Drug Administration and Grapefruit</i>
citalopram	With or Without Food	
clarithromycin (IR tablet)	With or Without Food	
clarithromycin (suspension)	With or Without Food	
clarithromycin (XL tablet)	With or After MealsDo Not Crush or Chew	Food increases bioavailability
clindamycin	With or Without Food	Take with a glass of water to avoid esophageal irritation
clobazam	With or Without Food	
clodronate	Empty StomachDo Not Crush or Chew	Check specific product monograph; take at least 1–2 h before or after food; food decreases absorption; avoid concomitant use of milk, antacids or drugs containing calcium, magnesium, iron or aluminum; swallow whole with a glass of water
clofedanol	With or Without Food	
clomipramine	With or Without Food	Food decreases GI side effects; see also <i>Drug Administration</i> and Grapefruit
clonazepam	With or Without Food	
clonidine	With or Without Food	
clopidogrel	With or Without Food	See also Drug Administration and Grapefruit
clorazepate	With or Without Food	
cloxacillin	• Empty Stomach	

Drug Name	Administration	Comments
clozapine	With or Without Food	
cobimetinib	With or Without Food	
codeine	With or Without Food	
codeine (CR tablet)	 With or Without Food Do Not Crush or Chew 	All Codeine Contin strengths may be halved except 50 mg
colchicine	With or Without Food	See also Drug Administration and Grapefruit
colesevelam	• With or After Meals	Take with a meal and liquid
colestipol (granules)	• With or After Meals	Add to water, milk, flavoured drink, juice, carbonated beverage or any other liquid; may also add to hot or cold cereals, soups (avoid chunky soups), yogourt, pudding, cottage cheese or pulpy fruits, e.g., crushed pineapple, pears
colestipol (tablet)	 With or After Meals Do Not Crush or Chew 	Take with a glass of water or any liquid; do not cut
cortisone acetate	• With or After Meals	Food decreases GI side effects
crizotinib	 With or Without Food Do Not Crush or Chew 	See also Drug Administration and Grapefruit
cyclobenzaprine	With or Without Food	
cyclophosphamide	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects; cytotoxic; see also <i>Drug</i> Administration and Grapefruit
cyclosporine (capsule)	 With or Without Food Do Not Crush or Chew 	Be consistent; see also <i>Drug Administration and Grapefruit</i>
cyclosporine (liquid)	• With or Without Food	Be consistent; mix with any room temperature beverage excluding grapefruit juice; be consistent with beverage used; see also <i>Drug Administration and Grapefruit</i>
cyproheptadine	With or Without Food	
cyproterone	• With or After Meals	
dabigatran	With or Without FoodDo Not Crush or Chew	

Drug Name	Administration	Comments
dabrafenib	 Empty Stomach Do Not Crush or Chew 	
daclatasvir	With or Without Food	
dacomitinib	With or Without Food	Be consistent
danazol	With or Without Food	
dantrolene	With or Without Food	
dapagliflozin	With or Without Food	
dapagliflozin/metformin	• With or After Meals	
darifenacin (ER)	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
darunavir	• With or After Meals	
darunavir/cobicistat	• With or After Meals	
dasabuvir	With or After MealsDo Not Crush or Chew	
dasatinib	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
deferasirox	• Empty Stomach	Take at least 30 min prior to first meal of the day; do not swallow whole; completely disperse tablets by stirring in noncarbonated water, orange juice or apple juice only until a fine suspension is obtained; disperse doses of <1 g in 100 mL and doses of >1 g in 200 mL
desipramine	With or Without Food	
desloratadine	With or Without Food	
desloratadine/pseudoephedrine	 With or Without Food Do Not Crush or Chew 	
desmopressin acetate	With or Without Food	
desvenlafaxine	 With or Without Food Do Not Crush or Chew 	

Drug Name	Administration	Comments
dexamethasone	• With or After Meals	Food decreases GI side effects
dexlansoprazole	 With or Without Food Do Not Crush or Chew 	May sprinkle contents of capsule onto applesauce and swallow immediately without chewing
dextroamphetamine (spansules)	 With or Without Food Do Not Crush or Chew 	
dextroamphetamine (tablet)	With or Without Food	
dextromethorphan	With or Without Food	See also Drug Administration and Grapefruit
diazepam	With or Without Food	See also Drug Administration and Grapefruit
diazoxide	With or Without Food	Be consistent
diclofenac	 With or After Meals Do Not Crush or Chew 	Food decreases GI side effects; take with a glass of water or milk; EC or SR dosage forms; local irritation if regular dosage form is crushed or chewed
diclofenac (powder)	• With or After Meals	Completely dissolve powder in 30–60 mL of water and drink immediately; food decreases stomach irritation but delays absorption
dicyclomine	With or Without Food	
didanosine (EC)	 Empty Stomach Do Not Crush or Chew 	Take at least 30 min before a meal or 2 h after eating
dienogest	With or Without Food	See also Drug Administration and Grapefruit
diflunisal	 With or After Meals Do Not Crush or Chew 	Food decreases GI side effects; take with a glass of water or milk
digoxin	With or Without Food	Meals high in bran fibre may reduce amount of drug absorbed
diltiazem (CD or SR)	 With or Without Food Do Not Crush or Chew 	See also Drug Administration and Grapefruit
diltiazem (IR)	Before Meals	See also Drug Administration and Grapefruit
diltiazem (XC)	With or Without FoodDo Not Crush or Chew	Once daily at bedtime; see also <i>Drug Administration and Grapefruit</i>
dimenhydrinate	With or Without Food	

Drug Name	Administration	Comments
dimethyl fumarate (DR)	 With or Without Food Do Not Crush or Chew 	
diphenhydramine	With or Without Food	
dipyridamole	Before Meals	Preferable to take 1 h before meals; may take with milk to reduce GI side effects
dipyridamole (ER)/ ASA (IR)	 With or Without Food Do Not Crush or Chew 	Swallow whole with a glass of water; dipyridamole pellets are extended-release
disopyramide	With or Without Food	
divalproex sodium (EC)	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects
docusate calcium	With or Without Food	Swallow whole with a glass of water
docusate sodium (capsule)	With or Without FoodDo Not Crush or Chew	Swallow whole with a glass of water
docusate sodium (drops/syrup)	With or Without Food	Dilute with milk, fruit juice or infant formula to mask bitter taste
dolutegravir	With or Without Food	
dolutegravir/rilpivirine	• With or After Meals	Take with a meal (does <i>not</i> include meal replacement or protein drink)
domperidone	Before Meals	See also Drug Administration and Grapefruit
donepezil	With or Without Food	
doravirine	With or Without Food	
doravirine-lamivudine-tenofovir	With or Without Food	
doxazosin	With or Without Food	
doxepin (capsule)	With or Without Food	
doxepin (tablet)	• Empty Stomach	Food delays absorption and increases exposure, increasing risk of next-day effects
doxycycline hyclate (capsule, 20 mg)	• Empty Stomach	Take 1 h before morning and evening meal; take with a glass of water to avoid esophageal ulceration; avoid concomitant use of antacids or drugs containing aluminum, calcium, magnesium or iron

Drug Name	Administration	Comments
doxycycline hyclate (capsule/tablet, 100 mg)	• With or After Meals	Food decreases GI side effects; take with a glass of water to avoid esophageal ulceration; avoid concomitant use of antacids or drugs containing aluminum, calcium, magnesium or iron
doxycycline monohydrate (MR capsule)	 Empty Stomach Do Not Crush or Chew 	Take with a glass of water to avoid esophageal ulceration; avoid concomitant use of antacids or drugs containing aluminum, calcium, magnesium or iron
doxylamine/pyridoxine	• With or Without Food	
dronedarone	• With or After Meals	Take with morning and evening meal; see also <i>Drug</i> Administration and Grapefruit
duloxetine (DR capsule)	With or Without FoodDo Not Crush or Chew	Do not sprinkle contents on food or mix with liquids
dutasteride	With or Without FoodDo Not Crush or Chew	
edoxaban	With or Without Food	
efavirenz	Empty StomachDo Not Crush or Chew	Swallow whole with a glass of water preferably at bedtime; capsules may be opened and mixed with applesauce, grape jelly or plain yogourt and administered within 30 min
efavirenz/emtricitabine/ tenofovir	• Empty Stomach	Take with a glass of water preferably at bedtime
elagolix	• With or Without Food	
eletriptan	With or Without FoodDo Not Crush or Chew	Swallow whole with a glass of water
eltrombopag olamine	• With or Without Food	Take at least 4 h before or after dairy products, antacids or mineral supplements
eluxadoline	• With or After Meals	
elvitegravir/cobicistat/ emtricitabine/tenofovir	• With or After Meals	
empagliflozin	• With or Without Food	
empagliflozin/linagliptin	With or Without FoodDo Not Crush or Chew	Can be taken at any time during the day; aim for consistent timing
empagliflozin/metformin	• With or After Meals	
emtricitabine/bictegravir/ tenofovir	• With or Without Food	

Drug Name	Administration	Comments
emtricitabine/darunavir cobicistat/tenofovir	 With or After Meals Do Not Crush or Chew 	Take within 30 min of eating
emtricitabine/rilpivirine/ tenofovir	• With or After Meals	Take with a meal to obtain optimal absorption of rilpivirine; see also <i>Drug Administration and Grapefruit</i>
emtricitabine/tenofovir	With or Without Food	
enalapril	• With or Without Food	
enasidenib	With or Without FoodDo Not Crush or Chew	Swallow whole with a glass of water
entacapone	With or Without FoodDo Not Crush or Chew	
entecavir	• Empty Stomach	Take at least 2 h before or after meals
enzalutamide	With or Without FoodDo Not Crush or Chew	Swallow liquid-filled capsule whole; antiandrogen
eplerenone	With or Without Food	See also Drug Administration and Grapefruit
eprosartan	With or Without Food	Be consistent
ergocalciferol	• With or Without Food	
erlotinib	• Empty Stomach	Take with a glass of water; see also <i>Drug Administration and Grapefruit</i>
ertugliflozin	• With or Without Food	Take in the morning
ertugliflozin/metformin	• With or After Meals	Food decreases GI side effects
ertugliflozin/sitagliptin	• With or Without Food	Take in the morning
erythromycin (base)	 Empty Stomach Preferably Do Not Crush or Chew 	If enteric-coated, do not crush or chew; see also <i>Drug</i> Administration and Grapefruit
erythromycin (stearate)	 Empty Stomach Preferably 	See also Drug Administration and Grapefruit
escitalopram	• With or Without Food	
eslicarbazepine	With or Without Food	

Drug Name	Administration	Comments
esomeprazole (DR capsules)	 Before Meals Do Not Crush or Chew 	Swallow whole with a glass of water before breakfast
esomeprazole (EC tablet)	 With or Without Food Do Not Crush or Chew 	Preferable to take 30 min before meals; may disperse in 120 mL of noncarbonated water—no other liquids should be used as the enteric coating may be dissolved; stir until tablet disintegrates, drink the liquid with the pellets within 30 min, rinse the glass with 120 mL of water and drink; the pellets must not be crushed or chewed
esomeprazole (granules)	With or Without Food	Preferable to take 30 min before meals
estramustine	Empty StomachDo Not Crush or Chew	Swallow whole with a glass of water (cytotoxic); do not take with milk or calcium-containing drugs
estrogens	With or Without Food	Food decreases GI side effects; see also <i>Drug Administration</i> and Grapefruit
ethacrynic acid	With or After Meals	
ethambutol	With or Without Food	Food decreases GI side effects
ethinyl estradiol	With or Without Food	Food decreases GI side effects; see also <i>Drug Administration</i> and Grapefruit
ethopropazine	With or Without Food	
ethosuximide	With or Without Food	Food decreases GI side effects
etidronate	 Empty Stomach Do Not Crush or Chew 	Take at least 2 h before or after a meal; swallow whole with a glass of water; avoid concomitant use of milk, antacids or drugs containing aluminum, calcium, magnesium or iron within 2 h of dosing
etodolac	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
etoposide	 Empty Stomach Do Not Crush or Chew 	Cytotoxic; see also Drug Administration and Grapefruit
etravirine	 With or After Meals Do Not Crush or Chew 	Should be taken following meals; if patient cannot swallow tablets, disperse in 100 mL of cold water until a homogenous, white, cloudy suspension is obtained; drink immediately; rinse glass with water several times; swallow each rinse to ensure entire dose is ingested; see also <i>Drug Administration and Grapefruit</i>
everolimus	 Empty Stomach Preferably Do Not Crush or Chew 	May be taken with a light fat-free meal; decreased absorption with a high-fat meal; see also <i>Drug Administration and Grapefruit</i>
exemestane	• With or After Meals	
ezetimibe	With or Without Food	

Drug Name	Administration	Comments
famciclovir	With or Without FoodDo Not Crush or Chew	Take with a glass of water
famotidine	With or Without Food	Take 15 min before meals for prevention of acid-related symptoms associated with food/beverage consumption
fampridine	With or Without FoodDo Not Crush or Chew	
febuxostat	With or Without Food	
felodipine	With or Without FoodDo Not Crush or Chew	Avoid meals rich in carbohydrate or fat (significantly increase C _{max}); see also <i>Drug Administration and Grapefruit</i>
fenofibrate	• With or After Meals	Food increases absorption
fenofibrate (microcoated)	• With or After Meals	Take with largest meal of the day; food optimizes absorption
fenofibrate (micronized)	• With or After Meals	Take with largest meal of the day; food optimizes absorption
fenofibrate (nanocrystals)	With or Without Food	
fentanyl citrate (sublingual)	Do Not Crush or Chew	Do not eat or drink while tablet dissolving; see also <i>Drug</i> Administration and Grapefruit
ferrous ascorbate	With or Without Food	
fesoterodine	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
fexofenadine	With or Without Food	See also Drug Administration and Grapefruit
fexofenadine/ pseudoephedrine	 Empty Stomach Preferably Do Not Crush or Chew 	High-fat meal decreases absorption; see also <i>Drug</i> Administration and Grapefruit
fidaxomicin	• With or Without Food	
finasteride	With or Without Food	Crushed or broken tablets should not be handled by women who are or may become pregnant
fingolimod	With or Without Food	
flecainide	With or Without Food	
flibanserin	With or Without Food	Take at bedtime; do not take with alcohol due to risk of hypotension and syncope; see also <i>Drug Administration and Grapefruit</i>

Drug Name	Administration	Comments
fluconazole	• With or Without Food	
fludarabine	With or Without FoodDo Not Crush or Chew	Cytotoxic
fludrocortisone	• With or After Meals	
flunarizine	With or Without Food	
fluoxetine	With or Without Food	
flupentixol	With or Without Food	
fluphenazine	With or Without Food	
flurazepam	• With or Without Food	
flurbiprofen (regular)	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
flutamide	With or Without Food	
fluvastatin (regular)	With or Without FoodDo Not Crush or Chew	Be consistent; can be taken at bedtime if once daily
fluvastatin (XL)	With or Without FoodDo Not Crush or Chew	Be consistent; swallow whole with a glass of water
fluvoxamine	With or Without FoodDo Not Crush or Chew	Take with a glass of water; see also <i>Drug Administration and Grapefruit</i>
folic acid	With or Without Food	
fosamprenavir (suspension)	• Empty Stomach	
fosamprenavir (tablet)	• With or Without Food	
fosfomycin	• With or Without Food	Dissolve in 125 mL cold water; take immediately
fosinopril	• With or Without Food	
frovatriptan	• With or Without Food	
furosemide	• With or Without Food	Be consistent

Drug Name	Administration	Comments
gabapentin	With or Without Food	
galantamine (ER)	 With or After Meals Do Not Crush or Chew 	Preferably taken with morning meal
gefitinib	• With or Without Food	
gemfibrozil	Before Meals	Take 30 min before morning and evening meal
glecaprevir/pibrentasvir	 With or After Meals Do Not Crush or Chew 	
gliclazide (regular)	• With or After Meals	
gliclazide (MR)	 With or After Meals Do Not Crush or Chew 	Take with breakfast; 60 mg tablets may be split in half but 30 mg tablets should not be split
glimepiride	• With or After Meals	Take with breakfast or first main meal
glyburide	• With or After Meals	Take with breakfast or first main meal
granisetron	• With or Without Food	
grazoprevir/elbasvir	With or Without Food	See also Drug Administration and Grapefruit
guaifenesin	• With or Without Food	
guanfacine (ER tablet)	 With or Without Food Do Not Crush or Chew 	Do not take with a high-fat meal (increased absorption)
haloperidol	• With or Without Food	
hydralazine	• With or Without Food	
hydrochlorothiazide	With or Without Food	
hydrocodone	• With or Without Food	
hydrocodone/phenyltoloxamine	• With or Without Food	Do not mix suspension with other liquids, as sustained-release properties may be altered
hydrocortisone	• With or After Meals	Food decreases GI side effects
hydromorphone (regular)	With or Without Food	

Drug Name	Administration	Comments
hydromorphone (SR)	 With or Without Food Do Not Crush or Chew 	May sprinkle contents of capsule onto soft food but do not chew the beads
hydroxychloroquine	• With or After Meals	Food decreases GI side effects
hydroxyurea	With or Without FoodDo Not Crush or Chew	Take with a glass of water; may empty contents of capsule into a glass of water and take immediately; do not allow powder onto hands and do not inhale powder; cytotoxic
hydroxyzine	With or Without Food	
ibrutinib	With or Without FoodDo Not Crush or Chew	Do not open capsules; see also <i>Drug Administration and</i> <i>Grapefruit</i>
ibuprofen	With or After Meals	Food decreases GI side effects; take with a glass of water or milk
idelalisib	With or Without Food	
imatinib	• With or After Meals	Food decreases GI side effects; take with a glass of water; if patient cannot swallow tablets, disperse tablet in a glass of water or apple juice; see also <i>Drug Administration and Grapefruit</i>
imipramine	With or Without Food	
indapamide	With or Without Food	
indomethacin	With or After Meals	Food decreases GI side effects; take with a glass of water or milk
irbesartan	With or Without Food	Be consistent
iron salts (capsule/tablet)	 Empty Stomach Preferably Do Not Crush or Chew 	Food, especially dairy products, coffee and tea, decreases absorption and GI side effects
iron salts (liquid)	Empty Stomach Preferably	Dilute dose with water or juice (not milk)
isavuconazole	With or Without FoodDo Not Crush or Chew	Swallow whole
isoniazid	Empty Stomach Preferably	Food decreases absorption
isosorbide dinitrate (regular)	• Empty Stomach	Take with a glass of water

Drug Name	Administration	Comments
isosorbide dinitrate (SL)	With or Without FoodDo Not Crush or Chew	Do not eat or drink while tablet dissolving
isosorbide dinitrate (SR)	With or Without FoodDo Not Crush or Chew	
isosorbide mononitrate	 With or Without Food Do Not Crush or Chew 	Take with a glass of water; may break tablet in half along the scored line
isotretinoin	With or After MealsDo Not Crush or Chew	Food increases bioavailability
itraconazole (capsule)	With or After MealsDo Not Crush or Chew	Take with cola beverage if achlorhydria or on acid secretion suppressor; see also <i>Drug Administration and Grapefruit</i>
itraconazole (liquid)	• Empty Stomach	Swish and swallow; do not rinse after swallowing; see also <i>Drug</i> Administration and Grapefruit
ivabradine	• With or After Meals	See also Drug Administration and Grapefruit
ivacaftor	• With or After Meals	Take with fat-containing food to enhance absorption; see also <i>Drug Administration and Grapefruit</i>
ivacaftor/lumacaftor	• With or After Meals	Take with fat-containing food to enhance absorption; see also <i>Drug Administration and Grapefruit</i>
ivermectin	• Empty Stomach	Take with a glass of water
ixazomib	Empty StomachDo Not Crush or Chew	Be consistent; swallow whole with a glass of water as direct contact with capsule contents may be harmful (by inhalation, ingestion or skin absorption)
ketoconazole	• With or After Meals	Take with cola beverage if achlorhydria or on acid secretion suppressor
ketoprofen (EC or SR)	 Empty Stomach Preferably Do Not Crush or Chew 	Take with a glass of water
ketoprofen (regular)	• With or After Meals	Food decreases GI side effects; take with a glass of water
ketorolac	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk; high-fat meal decreases rate but not extent of absorption
ketotifen (syrup)	• With or Without Food	
ketotifen (tablet)	• With or Without Food	
labetalol	• With or After Meals	Food increases bioavailability

Drug Name	Administration	Comments
lacosamide	• With or Without Food	
lactase (caplet)	With or After MealsDo Not Crush or Chew	Take immediately before meals that contain lactose
lactase (drops)	With or Without Food	Add to milk
lactase (tablet)	• With or After Meals	Take immediately before meals that contain lactose; can be chewed
Lactobacillus rhamnosus	• With or After Meals	Preferably taken with milk or lactose; may add contents of capsule to soft food if unable to swallow
lactulose	With or Without Food	Take with a glass of water; may be diluted in water, juice or milk
lamivudine (liquid)	With or Without Food	
lamivudine (tablet)	With or Without FoodDo Not Crush or Chew	Take with a glass of water
lamivudine/zidovudine	With or Without FoodDo Not Crush or Chew	
lamotrigine (chewable/dispersible tablet)	With or Without Food	Take with a glass of water; may be chewed, dissolved in liquid or swallowed whole; dosing is based on whole tablets; do not divide tablets
lamotrigine (tablet)	With or Without Food	
lansoprazole (DR capsule)	 Before Meals Do Not Crush or Chew 	Take 30 min before breakfast and/or meals; food decreases absorption. Capsules can be opened and the intact granules can be sprinkled onto a tablespoon of applesauce and swallowed immediately; do not chew or crush granules; granules can also be mixed in juice for nasogastric administration (stable for up to 30 min)
lansoprazole (orally disintegrating tablet)	Before MealsDo Not Crush or Chew	Do not swallow intact tablets; place tablet on tongue and swallow when all disintegrated; do not chew granules
lanthanum carbonate	• With or After Meals	Do not swallow intact tablets; chew completely before swallowing; may crush tablets
lapatinib	• Empty Stomach	Take at least 1 h before or after a low-fat meal; see also <i>Drug</i> Administration and Grapefruit
ledipasvir/sofosbuvir	• With or Without Food	
leflunomide	With or Without FoodDo Not Crush or Chew	Be consistent; take with a glass of water

Drug Name	Administration	Comments
letermovir	With or Without FoodDo Not Crush or Chew	
letrozole	With or Without Food	
levetiracetam	• With or Without Food	
levocarnitine (liquid)	• With or After Meals	May mix into drinks or other liquid foods; consume slowly to maximize tolerance
levocarnitine (tablet)	With or Without Food	
levodopa/benserazide	 With or Without Food Do Not Crush or Chew 	Be consistent; food decreases GI side effects; protein-rich foods may decrease levodopa absorption
levodopa/carbidopa (CR)	 With or Without Food Do Not Crush or Chew 	200/50 strength tablets may be halved; food decreases GI side effects; protein-rich foods may decrease levodopa absorption
levodopa/carbidopa (regular)	With or Without Food	Be consistent; food decreases GI side effects; protein-rich foods may decrease levodopa absorption
levodopa/carbidopa/entacapone	 With or Without Food Do Not Crush or Chew 	Be consistent; food decreases GI side effects; protein-rich foods may decrease levodopa absorption
levofloxacin	With or Without Food	Take with a glass of water
levomilnacipran	With or Without Food Do Not Crush or Chew	
levonorgestrel	With or Without Food	
levothyroxine	• With or Without Food	Be consistent; can be crushed and suspended in water or mixed with soft food, e.g., applesauce; however, do not use foods with a large amount of soybean, fibre or iron for administration
linaclotide	 Empty Stomach Do Not Crush or Chew 	Swallow whole at least 30 min before the first meal of the day
linagliptin	With or Without Food	
linagliptin/metformin	• With or After Meals	Food decreases GI side effects
linezolid	With or Without Food	Avoid foods or beverages with high tyramine content
liothyronine	With or Without Food	

Drug Name	Administration	Comments
lisdexamfetamine	• With or Without Food	May dissolve contents of capsule in a glass of water and consume immediately or sprinkle contents of capsule onto soft food, e.g., applesauce
lisinopril	With or Without Food	
lithium salts (regular)	With or Without Food	Food decreases GI side effects
lithium salts (SR)	 With or Without Food Do Not Crush or Chew 	Tablet may be broken in half
lomustine	 With or Without Food Do Not Crush or Chew 	As a single dose—nausea may be minimized if given at bedtime on an empty stomach; cytotoxic
loperamide	With or Without Food	
lopinavir/ritonavir (solution)	• With or After Meals	Food enhances bioavailability
lopinavir/ritonavir (tablet)	With or Without FoodDo Not Crush or Chew	
loratadine (syrup, regular tablet)	With or Without Food	
loratadine (rapid-dissolve tablet)	• Empty Stomach	May be taken without water
loratadine/pseudoephedrine	With or Without FoodDo Not Crush or Chew	
lorazepam	With or Without Food	
lorlatinib	With or Without FoodDo Not Crush or Chew	Swallow whole; be consistent with timing; see also <i>Drug</i> Administration and Grapefruit
losartan	With or Without Food	Be consistent; see also Drug Administration and Grapefruit
lovastatin	• With or After Meals	Take with evening meal; see also <i>Drug Administration and Grapefruit</i>
loxapine	With or Without Food	
L-tryptophan	• With or After Meals	Food decreases GI side effects; best taken with protein-low, carbohydrate-rich snack or meal
lurasidone	 With or After Meals Do Not Crush or Chew 	Take with food (≥350 calories, independent of fat content); see also <i>Drug Administration and Grapefruit</i>

Drug Name	Administration	Comments
macitentan	With or Without Food	
magnesium salts	• With or After Meals	Take with a glass of water
maraviroc	With or Without Food	See also Drug Administration and Grapefruit
mebendazole	With or Without Food	Tablets may be chewed, swallowed whole or crushed and mixed with food
medroxyprogesterone	With or Without Food	
mefenamic acid	With or After Meals	Food decreases GI side effects; take with a glass of water or milk
mefloquine	With or After Meals	Food increases absorption; take with a glass of water; do not chew; may crush and suspend in a small amount of water, milk or other beverage
megestrol	• With or Without Food	
meloxicam	With or Without Food	
melphalan	With or Without FoodDo Not Crush or Chew	Cytotoxic
memantine	With or Without Food	
meperidine (see pethidine)		
mercaptopurine	 Empty Stomach Preferably Do Not Crush or Chew 	Cytotoxic
metformin (regular)	With or After Meals	Food decreases GI side effects
metformin (ER)	With or After MealsDo Not Crush or Chew	Must be taken with food—optimizes absorption and ensures complete release of metformin
methadone	With or Without Food	See also Drug Administration and Grapefruit
methazolamide	With or Without Food	Food decreases GI side effects
methenamine	• With or After Meals	Food decreases GI side effects; avoid excessive intake of alkalinizing foods, e.g., milk products; take with a glass of water
methimazole	With or Without Food	
methocarbamol	With or Without Food	

Drug Name	Administration	Comments
methotrexate	 With or Without Food Do Not Crush or Chew 	Cytotoxic
methotrimeprazine	With or Without Food	
methyldopa	With or Without Food	
methylphenidate (CR capsule)	 With or After Meals Do Not Crush or Chew 	May be sprinkled on soft food; do not crush or chew pellets
methylphenidate (regular)	• With or After Meals	Food increases rate of absorption and reduces GI side effects
methylphenidate (SR or ER tablet)	 With or After Meals Do Not Crush or Chew 	
methylprednisolone	• With or After Meals	See also Drug Administration and Grapefruit
metoclopramide	Before Meals	
metolazone	With or Without Food	
metoprolol (regular)	With or Without Food	Be consistent; food may increase bioavailability
metoprolol (SR)	With or Without FoodDo Not Crush or Chew	
metronidazole (ER)	Empty StomachDo Not Crush or Chew	Food increases rate of absorption
metronidazole (regular)	With or Without Food	Food decreases GI side effects
mexiletine	• With or After Meals	
midodrine	With or Without Food	
midostaurin	With or After MealsDo Not Crush or Chew	Swallow whole with a glass of water; food decreases GI side effects; see also <i>Drug Administration and Grapefruit</i>
mifepristone	With or Without Food	For general use: food decreases GI side effects For medical abortion: swallow with water then, 24–48 h later, take misoprostol; see also <i>Drug Administration and Grapefruit</i>
migalastat	 Empty Stomach Do Not Crush or Chew 	Do not take 2 h before or after food

Drug Name	Administration	Comments
miglustat	With or Without FoodDo Not Crush or Chew	Food decreases rate of absorption but no effect on extent of absorption
mineral oil	• Empty Stomach	Take 2 h before or after meals as it may interfere with digestion and absorption of nutrients and vitamins
minocycline	With or Without Food	Avoid concomitant use of antacids or drugs containing aluminum, calcium, magnesium or iron
minoxidil	With or Without Food	
mirabegron (ER)	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
mirtazapine (RD tablet)	With or Without FoodDo Not Crush or Chew	Rapidly disintegrates on tongue; swallow with saliva; do not split tablets
mirtazapine (tablet)	With or Without FoodDo Not Crush or Chew	Take with a glass of water
misoprostol	With or Without Food	For medical abortion: 24–48 h after taking mifepristone, place misoprostol tablets between the cheek and gums; keep in place for 30 min; swallow any remaining fragments with water
moclobemide	• With or After Meals	No MAOI dietary restrictions as long as taken after meals
modafinil	With or Without Food	
montelukast sodium (chewables)	With or Without Food	
montelukast sodium (granules)	With or Without Food	Can be taken directly in the mouth; may mix granules with a spoonful of cold or room temperature food, e.g., applesauce
montelukast sodium (tablet)	With or Without Food	
morphine (IR capsules)	With or Without FoodDo Not Crush or Chew	If capsules cannot be swallowed whole, mix contents of capsule with soft food or liquids; do not crush or chew capsules as this may cause dangerous adverse events (including death)
morphine (IR tablets)	With or Without FoodDo Not Crush or Chew	
morphine (SR)	With or Without FoodDo Not Crush or Chew	Take with a glass of water; only 200 mg SR tablet (MS Contin) may be halved along scored line; may open SR capsule and sprinkle contents onto soft food, e.g., applesauce; do not chew the pellets
moxifloxacin	With or Without FoodDo Not Crush or Chew	Take with a glass of water

Drug Name	Administration	Comments
mycophenolate (capsule/tablet)	 Empty Stomach Do Not Crush or Chew 	Swallow whole; cytotoxic
mycophenolate (liquid)	• Empty Stomach	Dispense directly into mouth; do not mix with any other liquid before taking
nabilone	With or Without Food	
nabumetone	 With or Without Food Do Not Crush or Chew 	Food decreases GI side effects; take with a glass of water or milk
nadolol	With or Without Food	
naloxegol	 Empty Stomach Do Not Crush or Chew 	Take 1 h before or 2 h after the first meal of the day; see also <i>Drug Administration and Grapefruit</i>
naltrexone	• With or Without Food	
naltrexone/bupropion	 With or After Meals Do Not Crush or Chew 	Take with food; however, <i>do not</i> take with a high-fat meal as this may increase the risk of seizures
naproxen (regular)	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
naproxen (SR)	With or After MealsDo Not Crush or Chew	Take with a glass of water or milk
naproxen/diphenhydramine	With or Without Food	Food delays absorption slightly but may prevent gastric upset
naproxen/esomeprazole	Before MealsDo Not Crush or Chew	Take 30 min before meals
naratriptan	 With or Without Food Do Not Crush or Chew 	Take with a glass of water
nebivolol	With or Without Food	
nelfinavir	• With or After Meals	Food increases absorption; not recommended with acidic food or drink as a bitter taste may develop
neostigmine	With or Without Food	
netupitant/palonosetron	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
nevirapine	• With or Without Food	

Drug Name	Administration	Comments
niacin (ER)	 With or After Meals Do Not Crush or Chew 	Swallow whole after a low-fat snack at bedtime
niacin (regular)	With or Without Food	Take with meals as antihyperlipidemic; food decreases GI side effects
nicoumalone (see acenocoumarol)		
nifedipine (regular)	• With or Without Food	See also Drug Administration and Grapefruit
nifedipine (XL)	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
nilotinib	Empty StomachDo Not Crush or Chew	Swallow whole with a glass of water; must not be taken with food; see also <i>Drug Administration and Grapefruit</i>
nilutamide	Before Meals	Before breakfast
nimodipine	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
nintedanib	With or After MealsDo Not Crush or Chew	Swallow whole with a glass of water; see also <i>Drug</i> Administration and Grapefruit
nitrazepam	With or Without Food	
nitrofurantoin	• With or After Meals	Food increases bioavailability and decreases GI side effects
nitrofurantoin monohydrate (macrocrystals)	With or After MealsDo Not Crush or Chew	Slow-release formulation; do not open capsules
nitroglycerin	With or Without FoodDo Not Crush or Chew	Sublingual; do not crush, chew or swallow
nizatidine	• With or Without Food	
norethindrone	• With or After Meals	Food decreases GI side effects
norfloxacin	• Empty Stomach	Take with a glass of water; do not take with milk; avoid excessive caffeine intake
normethadone/ p-hydroxyephedrine	• With or After Meals	May be mixed with sugar or in any beverage; preferably after breakfast and at bedtime
nortriptyline	With or Without Food	

Drug Name	Administration	Comments
nystatin	With or Without Food	Sparingly absorbed
obeticholic acid	Before Meals	Take 30 min before breakfast
olanzapine (orally disintegrating tablet)	With or Without Food	May stir into 125 mL of water, milk, coffee, orange juice or apple juice; consume immediately
olanzapine (tablet)	 With or Without Food Do Not Crush or Chew 	Take with a glass of water
olaparib	 Empty Stomach Do Not Crush or Chew 	
olmesartan	With or Without Food	
olsalazine	• With or After Meals	Food decreases GI side effects
ombitasvir/paritaprevir/ritonavir	 With or After Meals Do Not Crush or Chew 	
omeprazole (capsule)	 With or Without Food Do Not Crush or Chew 	Preferable to take 30 min before meals
omeprazole (tablet)	 With or Without Food Do Not Crush or Chew 	Preferable to take 30 min before meals
ondansetron	With or Without Food	
orciprenaline	With or Without Food	
orlistat	 With or After Meals Do Not Crush or Chew 	Take up to 1 h after a meal with a glass of water; if meal does not contain fat, dose may be omitted
orphenadrine	With or Without Food	
oseltamivir	With or Without Food	Food decreases GI side effects
osimertinib	 With or Without Food Do Not Crush or Chew 	Take at same time each day with water; see also <i>Drug</i> Administration and Grapefruit
oxazepam	With or Without Food	
oxcarbazepine	With or Without Food	

Drug Name	Administration	Comments
oxtriphylline (liquid/regular)	• Empty Stomach Preferably	Take with a glass of water
oxybutynin (regular)	• With or Without Food	
oxybutynin (XL)	 With or Without Food Do Not Crush or Chew 	Take with a glass of water
oxycodone (regular)	With or Without Food	See also Drug Administration and Grapefruit
oxycodone (SR)	 With or Without Food Do Not Crush or Chew 	See also Drug Administration and Grapefruit
oxycodone/naloxone	 With or Without Food Do Not Crush or Chew 	See also Drug Administration and Grapefruit
palbociclib	 With or After Meals Do Not Crush or Chew 	Take at same time each day; see also <i>Drug Administration and Grapefruit</i>
paliperidone (ER)	 With or Without Food Do Not Crush or Chew 	
palonosetron	With or Without Food	
pancreatic enzymes (capsule with EC granules)	 With or After Meals Do Not Crush or Chew 	Swallow whole with a glass of water with each meal or snack; may open capsule and sprinkle onto soft food, e.g., applesauce; do not chew granules; take immediately after sprinkling
pancreatic enzymes (regular tablet/capsule)	 With or After Meals Do Not Crush or Chew 	Take with each meal or snack; irritating to mucosae and skin
pantoprazole	 With or Without Food Do Not Crush or Chew 	Preferable to take 30 min before meals
paromomycin	• With or After Meals	
paroxetine (CR)	 With or Without Food Do Not Crush or Chew 	
paroxetine (regular)	With or Without FoodDo Not Crush or Chew	

Drug Name	Administration	Comments
pazopanib	 Empty Stomach Do Not Crush or Chew 	See also Drug Administration and Grapefruit
penicillamine	• Empty Stomach	Take with a glass of water; do not take with milk
penicillin V	• With or Without Food	
pentazocine	• With or After Meals	
pentosan polysulfate	• Empty Stomach	Take with a glass of water
pentoxifylline	With or After MealsDo Not Crush or Chew	
pepsin	• With or After Meals	
perampanel	• With or Without Food	
perindopril	• Empty Stomach	
perindopril/amlodipine	• Empty Stomach	Take in morning if possible
perphenazine	• With or Without Food	
pethidine	• With or Without Food	
phenelzine	With or Without Food	Follow MAOI diet; available at medicationinfoshare.com/gallery/mao-inhibitors-food-drug- interactions
phenobarbital	• With or Without Food	Absorption faster on an empty stomach
phenytoin	• With or After Meals	Food decreases GI side effects; do not administer within 2 h of an enteral feeding preparation (decreased bioavailability)
phenytoin (ER capsule)	With or After MealsDo Not Crush or Chew	
phosphates solution	• Empty Stomach	May take up to 30 min before a meal; dilute dose in 120 mL water and follow dose with a glass of water
pilocarpine	With or Without Food	
pimozide	• With or Without Food	See also Drug Administration and Grapefruit
pinaverium	With or After MealsDo Not Crush or Chew	Swallow whole with a glass of water to avoid esophageal irritation; not to be taken in the lying position or just before bed

Drug Name	Administration	Comments
pindolol	• With or After Meals	
pioglitazone	With or Without Food	
pirfenidone	 With or After Meals Do Not Crush or Chew 	Food reduces incidence of dizziness and nausea; see also <i>Drug</i> Administration and Grapefruit
piroxicam	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
pizotifen	With or Without Food	
pomalidomide	 With or Without Food Do Not Crush or Chew 	Capsules should not be opened; cytotoxic; teratogenic
ponatinib	 With or Without Food Do Not Crush or Chew 	
posaconazole	• With or After Meals	Oral suspension; administer with food or nutritional supplement (if cannot tolerate food) to enhance oral absorption
potassium salts (liquid)	• With or After Meals	Potassium chloride—dilute dose with water, citrus fruit juice or citrated soft drink
potassium salts (regular)	• With or After Meals	Food decreases GI side effects
potassium salts (SR capsule)	 With or After Meals Do Not Crush or Chew 	Swallow whole with a glass of water; may sprinkle contents of capsule onto soft food, e.g., applesauce, and swallow without chewing
potassium salts (SR tablet)	 With or After Meals Do Not Crush or Chew 	Take with a glass of water; may break tablet in half for K-Dur; may also disintegrate tablet in half glass of water, stir and swallow immediately, rinse any residue on glass with more water and swallow
pramipexole	With or Without Food	Food decreases GI side effects
prasugrel	With or Without Food	See also Drug Administration and Grapefruit
pravastatin	With or Without Food	
praziquantel	 With or After Meals Do Not Crush or Chew 	Take with a glass of water; tablet may be halved; see also <i>Drug</i> Administration and Grapefruit
prazosin	With or Without Food	
prednisone	With or After Meals	Food decreases GI side effects
pregabalin	With or Without Food	

Drug Name	Administration	Comments
primaquine	 With or Without Food 	Food decreases GI side effects; see also <i>Drug Administration</i> and <i>Grapefruit</i>
primidone	With or Without Food	Food decreases GI side effects
procainamide (regular)	With or Without Food	
procainamide (SR)	With or Without Food Do Not Crush or Chew	
procarbazine	With or Without FoodDo Not Crush or Chew	Capsules should not be opened; cytotoxic; follow MAOI diet available at medicationinfoshare.com/gallery/mao-inhibitors-food- drug-interactions
prochlorperazine	With or Without Food	
propafenone	• With or Without Food	Manufacturer recommends administration with food but bioavailability was not significantly affected by food in multidose studies; see also <i>Drug Administration and Grapefruit</i>
propiverine (capsule)	With or Without FoodDo Not Crush or Chew	
propiverine (tablet)	• Empty Stomach	A high-fat meal increases bioavailability of the tablet; take at least 1 h before meals, especially in patients with renal or mild hepatic impairment
propranolol (LA)	With or Without FoodDo Not Crush or Chew	
propranolol (regular)	With or Without Food	Be consistent; food may increase bioavailability
propylthiouracil	With or Without Food	
prucalopride	With or Without Food	
pseudoephedrine	With or Without Food	
psyllium (powder)	With or Without Food	Take with meals for cholesterol-lowering effect; mix dose into water, juice or other suitable liquid; follow dose with additional glass of liquid
pyrantel	With or Without Food	
pyrazinamide	With or Without Food	
pyridostigmine (regular)	With or Without FoodDo Not Crush or Chew	Tablets may be cut in half; do not crush or chew as may increase side effects

Drug Name	Administration	Comments
pyridostigmine (SR)	With or Without FoodDo Not Crush or Chew	Do not divide
pyridoxine	• With or Without Food	
quetiapine	• With or Without Food	See also Drug Administration and Grapefruit
quetiapine (XR)	With or Without FoodDo Not Crush or Chew	Swallow whole; see also <i>Drug Administration and Grapefruit</i>
quinagolide	• With or After Meals	Given at bedtime with a snack
quinapril	With or Without Food	
quinidine salts (CR)	 With or After Meals Do Not Crush or Chew 	Food decreases GI side effects; take with a glass of water; may be cut in half; see also <i>Drug Administration and Grapefruit</i>
quinidine salts (regular)	• With or After Meals	Food decreases GI side effects; see also <i>Drug Administration</i> and Grapefruit
quinine	With or After MealsDo Not Crush or Chew	Food decreases GI side effects; very bitter taste if crushed or chewed
rabeprazole (EC)	With or Without FoodDo Not Crush or Chew	Preferable to take 30 min before meals
raloxifene	• With or Without Food	
raltegravir	With or Without FoodDo Not Crush or Chew	Bioavailability increased if chewed or crushed; bitter taste
raltegravir (chewable)	• With or Without Food	
ramipril	• With or Without Food	
ranitidine	• With or Without Food	
rasagiline mesylate	With or Without Food	
regorafenib	With or After MealsDo Not Crush or Chew	Take with a low-fat breakfast
repaglinide	Before Meals	See also Drug Administration and Grapefruit

Drug Name	Administration	Comments
ribavirin	 With or After Meals Do Not Crush or Chew 	Cytotoxic
ribociclib	 With or Without Food Do Not Crush or Chew 	Be consistent with timing (preferably in the morning); see also <i>Drug Administration and Grapefruit</i>
riboflavin	• With or Without Food	
rifabutin	• With or Without Food	Food decreases GI side effects
rifampin	• Empty Stomach Preferably	
rifaximin	• Empty Stomach	
rilpivirine	• With or After Meals	See also Drug Administration and Grapefruit
riluzole	• Empty Stomach	Food decreases bioavailability
riociguat	With or Without Food	
risedronate	 Empty Stomach Do Not Crush or Chew 	Take in the morning with a full glass of plain water only and at least 30 min before first food, beverage or other medication
risedronate (DR)	With or After MealsDo Not Crush or Chew	Take in the morning with breakfast and a full glass of plain water
risperidone (liquid)	With or Without Food	Compatible with water, coffee, orange juice and low-fat milk; not compatible with cola or tea
risperidone (orally disintegrating tablet)	Do Not Crush or Chew	Do not split tablets
risperidone (tablet, regular)	With or Without Food	
ritonavir (capsule)	• With or After Meals	
ritonavir (liquid)	• With or After Meals	May mix with chocolate milk or Ensure within 1 h of dosing
rivaroxaban	With or Without Food	See also Drug Administration and Grapefruit
rivastigmine	• With or After Meals	Food decreases GI side effects
rizatriptan (tablet)	With or Without Food	Take with a glass of water
rizatriptan (wafers)	With or Without Food	Place wafer on tongue to dissolve and swallow with saliva

Drug Name	Administration	Comments
roflumilast	With or Without Food	
ropinirole	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects; take with a glass of water; give morning dose without food in severely fluctuating patients to avoid delay in time to take effect
rosiglitazone	With or Without Food	
rosuvastatin	With or Without Food	
rotavirus vaccine, human	With or Without Food	
rufinamide	• With or After Meals	
rupatadine	With or Without Food	See also Drug Administration and Grapefruit
ruxolitinib	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
sacubitril/valsartan	• With or Without Food	
safinamide	With or Without Food	Take with a glass of water; be consistent with timing
salbutamol	With or Without Food	
sapropterin	• With or After Meals	Food increases absorption; may be dissolved in 120–240 mL of water or apple juice and taken within 15 min
saquinavir mesylate	• With or After Meals	Take with a glass of water within 2 h of a meal or substantial snack; see also <i>Drug Administration and Grapefruit</i>
saxagliptin	With or Without Food	See also Drug Administration and Grapefruit
saxagliptin/metformin	With or After Meals	Food decreases GI side effects; see also <i>Drug Administration</i> and Grapefruit
selegiline	With or After Meals	MAOI diet restrictions not required at the recommended dosage level of 10 mg/day
selexipag	With or Without FoodDo Not Crush or Chew	
sennosides	With or Without Food	Take with a glass of water
sertraline	• With or After Meals	Food increases bioavailability; see also <i>Drug Administration and Grapefruit</i>
sevelamer	 With or After Meals Do Not Crush or Chew 	Take immediately prior to or with meals

Drug Name	Administration	Comments
sildenafil	With or Without FoodDo Not Crush or Chew	Take with a glass of water; avoid high-fat meal (decreases absorption); see also <i>Drug Administration and Grapefruit</i>
silodosin	With or After MealsDo Not Crush or Chew	Contents of capsule may be sprinkled onto applesauce and swallowed without chewing; see also <i>Drug Administration and Grapefruit</i>
simethicone	• With or After Meals	
simvastatin	• With or Without Food	Take with evening meal or at bedtime; see also <i>Drug</i> Administration and Grapefruit
sirolimus	With or Without Food	Be consistent; dilute dose with at least 60 mL of water or orange juice; stir vigorously for 1 min and drink; refill the container with at least 120 mL of water or orange juice; stir vigorously again and drink the rinse solution; do not use apple juice, grapefruit juice or other liquids for dilution; see also <i>Drug Administration and Grapefruit</i>
sitagliptin	• With or Without Food	
sitagliptin/metformin	• With or After Meals	Food decreases GI side effects
sitagliptin/metformin (XR)	With or After MealsDo Not Crush or Chew	Food decreases GI side effects
sodium bicarbonate	• With or Without Food	
sodium cromoglycate	Before Meals	Dissolve contents of capsule in warm water
sodium fluoride	• With or Without Food	May be taken with food, but not milk, to reduce GI side effects; preferably taken at bedtime after brushing teeth
sodium oxybate (GHB)	• Empty Stomach	Food decreases bioavailability; first dose taken at bedtime, at least 2 h after last meal; second dose is given 2.5–4 h later
sodium phenylbutyrate	• With or After Meals	Take with each meal or feeding; granules may be swallowed with a drink or sprinkled on a soft food such as applesauce; do not administer by tube, e.g., nasogastric, gastrostomy; an appropriate solution must be prepared by hospital or pharmacy personnel as per product monograph
sofosbuvir	• With or Without Food	
sofosbuvir/velpatasvir	• With or Without Food	
sofosbuvir/velpatasvir/ voxilaprevir	• With or After Meals	
solifenacin	• With or Without Food	See also Drug Administration and Grapefruit
sorafenib	• Empty Stomach	Food decreases bioavailability; take 1 h before or 2 h after meals
sotalol	• Empty Stomach	Preferably 1–2 h before meal

Drug Name	Administration	Comments
spiramycin	With or Without Food	
spironolactone	With or Without Food	Food increases absorption; avoid large quantities of potassium- rich foods
stavudine	With or Without Food	
sterculia gum	With or Without FoodDo Not Crush or Chew	Take with a glass of water; do not chew granules
stiripentol (capsule)	 With or After Meals Do Not Crush or Chew 	Do not open capsules; not to be taken with dairy products, carbonated drinks, fruit juice or caffeine-containing food or drinks; see also <i>Drug Administration and Grapefruit</i>
stiripentol (powder for suspension)	• With or After Meals	Mix with water and drink immediately; not to be taken with dairy products, carbonated drinks, fruit juice or caffeine-containing food or drinks; see also <i>Drug Administration and Grapefruit</i>
sucralfate	• Empty Stomach	Take 1 h before meals
sulfamethoxazole/trimethoprim	With or Without Food	Food decreases GI side effects; take with a glass of water
sulfasalazine (EC)	 With or Without Food Do Not Crush or Chew 	Take with a glass of water
sulfasalazine (regular)	• With or After Meals	Food decreases GI side effects; take with a glass of water
sulfinpyrazone	• With or After Meals	Food decreases GI side effects
sulindac	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
sumatriptan	With or Without FoodDo Not Crush or Chew	Take with a glass of water
sunitinib	With or Without Food	See also Drug Administration and Grapefruit
suvorexant	With or Without Food	Food may slow onset of effect; see also <i>Drug Administration and Grapefruit</i>
tacrolimus	With or Without FoodDo Not Crush or Chew	Be consistent; see also Drug Administration and Grapefruit
tacrolimus (PA, prolonged release)	 Empty Stomach Do Not Crush or Chew 	Swallow whole; be consistent with timing (preferably in the morning); see also <i>Drug Administration and Grapefruit</i>
tadalafil	With or Without Food	See also Drug Administration and Grapefruit

Drug Name	Administration	Comments
tamoxifen	• With or Without Food	
tamsulosin (CR)	With or Without FoodDo Not Crush or Chew	See also Drug Administration and Grapefruit
tapentadol (CR)	With or Without FoodDo Not Crush or Chew	
tapentadol (IR)	With or Without Food	
telbivudine	With or Without Food	
telmisartan	With or Without Food	Be consistent
temazepam	With or Without Food	
temozolomide	Empty StomachDo Not Crush or Chew	May take with food, but administration on empty stomach may decrease incidence of nausea and vomiting; be consistent; swallow whole with a glass of water—do not open capsules (cytotoxic)
tenofovir	With or Without Food	Swallow with plenty of water
tenoxicam	• With or After Meals	Food decreases GI side effects; take with a glass of water or milk
terazosin	With or Without Food	
terbinafine	With or Without Food	Food slightly increases bioavailability
teriflunomide	With or Without Food	
testosterone undecanoate	With or After MealsDo Not Crush or Chew	
tetrabenazine	With or Without Food	Take with a glass of water
tetracycline	• Empty Stomach	Take with a glass of water; do not take with milk
thalidomide	With or Without FoodDo Not Crush or Chew	Capsules should not be opened; cytotoxic; teratogenic
theophylline (liquid)	Empty Stomach Preferably	Take with a glass of water

Drug Name	Administration	Comments
theophylline (SR tablet—except Uniphyl)	 With or Without Food Do Not Crush or Chew 	Be consistent; take with a glass of water
theophylline (Uniphyl)	With or After MealsDo Not Crush or Chew	Take with a glass of water with or shortly after evening meal; tablet may be halved
thiamine	With or Without Food	
thyroid, dessicated	With or Without Food	Be consistent
tiaprofenic acid (regular)	• With or After Meals	Take with a glass of water or milk
ticagrelor	With or Without Food	See also Drug Administration and Grapefruit
timolol	With or Without Food	
tipranavir	• With or After Meals	Avoid aluminum and magnesium based antacids—absorption of tipranavir decreased
tizanidine	With or Without Food	Be consistent; food increases bioavailability
tofacitinib	With or Without Food	See also Drug Administration and Grapefruit
tolbutamide	Before Meals	Short half-life
tolterodine (ER)	 With or Without Food Do Not Crush or Chew 	
tolterodine (regular)	With or Without Food	
tolvaptan	With or Without Food	See also Drug Administration and Grapefruit
topiramate (capsule)	 With or Without Food Do Not Crush or Chew 	May sprinkle contents of capsule onto soft food, e.g., applesauce, swallow without chewing
topiramate (tablet)	With or Without FoodDo Not Crush or Chew	Take with a glass of water
tramadol (regular)	With or Without Food	
tramadol (XL)	With or Without FoodDo Not Crush or Chew	

Drug Name	Administration	Comments
trametinib	 Empty Stomach Do Not Crush or Chew 	
trandolapril	• With or Without Food	
trandolapril/verapamil	 With or After Meals Do Not Crush or Chew 	
tranexamic acid	With or Without Food	
tranylcypromine	With or Without Food	Follow MAOI diet; available at medicationinfoshare.com/gallery/mao-inhibitors-food-drug- interactions
trazodone	• With or After Meals	Food decreases incidence of adverse effects (GI and dizziness)
tretinoin	 With or After Meals Do Not Crush or Chew 	Cytotoxic
triamterene/ hydrochlorothiazide	• With or After Meals	Food decreases GI side effects
triazolam	• With or Without Food	See also Drug Administration and Grapefruit
trifluoperazine	With or Without Food	
trihexyphenidyl	With or Without Food	Food decreases GI side effects
trimebutine	Before Meals	
trimeprazine	• With or After Meals	Food promotes more gradual absorption and decreases incidence of drowsiness
trimethoprim	• With or Without Food	Food decreases GI side effects
trimipramine	With or Without Food	
trospium	• Empty Stomach	Take at least 1h prior to meals; food decreases absorption
tryptophan (see L-tryptophan)		
typhoid vaccine (capsule)	Before MealsDo Not Crush or Chew	Swallow whole 1h before a meal with a cold or lukewarm drink
ulipristal	With or Without Food	See also Drug Administration and Grapefruit
ursodiol	• With or After Meals	
valacyclovir	With or Without Food	

Drug Name	Administration	Comments
valerian root	• With or Without Food	
valganciclovir	 With or After Meals Do Not Crush or Chew 	Food increases bioavailability; cytotoxic
valproic acid	With or Without FoodDo Not Crush or Chew	Food decreases GI side effects; swallow whole with a glass of water; minimize local irritation of mouth and throat
valsartan	With or Without Food	Be consistent
vancomycin	With or Without Food	Not absorbed
vandetanib	With or Without FoodDo Not Crush or Chew	Tablet may be dispersed in 50 mL of non-carbonated water for about 10 min and immediately swallowed; wash any remaining residue with water and swallow; see also <i>Drug Administration</i> <i>and Grapefruit</i>
vardenafil	With or Without Food	High-fat meal decreases rate of absorption by 1 h; see also <i>Drug Administration and Grapefruit</i>
varenicline	With or After Meals	Food decreases GI side effects
vemurafenib	With or Without FoodDo Not Crush or Chew	Be consistent; see also <i>Drug Administration and Grapefruit</i>
venetoclax	 With or After Meals Do Not Crush or Chew 	Take at approximately the same time each day with water and a meal; see also <i>Drug Administration and Grapefruit</i>
venlafaxine (XR)	With or After MealsDo Not Crush or Chew	Swallow whole with a glass of water
verapamil (regular)	With or After Meals	See also Drug Administration and Grapefruit
verapamil (SR)	 With or After Meals Do Not Crush or Chew 	240 mg scored tablet may be halved; see also <i>Drug</i> Administration and Grapefruit
vigabatrin (powder)	With or Without Food	Dissolve in water, juice, milk or formula
vigabatrin (tablet)	With or Without Food	
vilazodone	With or After Meals	See also Drug Administration and Grapefruit
vismodegib	With or Without FoodDo Not Crush or Chew	

Drug Name	Administration	Comments
vitamin A	With or Without Food	
vitamin B ₁₂	• With or Without Food	
vitamin C	• With or After Meals	Take with a glass of water
vitamin D_3 (see cholecalciferol)		
vitamin E	With or Without Food	
voriconazole	• Empty Stomach	Take at least 1 h before or 2 h following meals
vorinostat	• With or After Meals	Drink at least 2 L/day of fluid to prevent dehydration
vortioxetine	With or Without Food	See also Drug Administration and Grapefruit
warfarin	With or Without Food	Avoid abrupt changes in diet to maintain constant vitamin K intake; for vitamin K content of specific foods, see depts.washington.edu/anticoag/home/content/patient-education-0
yohimbine	With or Without Food	Avoid foods or beverages with high tyramine content
zidovudine	With or Without Food	
zinc	• Empty Stomach Preferably	
ziprasidone	• With or After Meals	Administration with food increases absorption; see also <i>Drug</i> Administration and Grapefruit
zolmitriptan (orally dispersible tablet)	With or Without FoodDo Not Crush or Chew	Rapidly dissolves on tongue; may be taken without water; do not split tablets
zolmitriptan (tablet)	With or Without Food	
zolpidem	 Empty Stomach Preferably Do Not Crush or Chew 	Sublingual tablet; food slows onset of effect; do not take within 20 min of a meal
zopiclone	• With or Without Food	
zuclopenthixol	With or Without Food	

Legend:

Empty Stomach = 1 h before or 2 h after meals with a full glass of liquid, usually water; **Before Meals** = usually 15–30 min before meals; **Empty Stomach Preferably** = as for Empty Stomach; however, may be taken with food if gastric upset occurs; **With or After Meals** = taken during or immediately after meals; **With or Without Food** = may be given without regard to meals; the notation "be consistent" in the comments column indicates that the drug should be taken consistently with or without food, as presence or absence of food may alter bioavailability

Abbreviations: CD=controlled-delivery; CR=controlled-release; DR=delayed-release; EC=enteric-coated; ER=extended-release; IR=immediate-release; GI=gastrointestinal; LA=long-acting; MR=modified-release; RD=rapid-dissolve; SL=sublingual; SR=sustained-release; XC=extended-release; XL=extended-release; XR=extended-release.

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