

## Meds That Should Not Be Crushed

Crushing pills can improve ease of administration, but some shouldn't be crushed. Crushing **extended-release** meds can result in administration of a large dose all at once. Crushing **delayed-release** meds can alter the mechanism designed to protect the drug from gastric acids or prevent gastric mucosal irritation. Crushing **sublingual or buccal** tabs can alter effectiveness. Crushing pills **based on certain technologies** (i.e., amorphous solid dispersion or nanocrystals) can alter bioavailability.<sup>9</sup> Crushing **bitter-tasting** meds can be unpleasant for the patient. Crushing **irritating or hazardous** meds can be harmful to the individual crushing the meds. (If hazardous meds [e.g., carcinogenic] must be crushed, follow USP Chapter <800> standards in healthcare settings or advising outpatients on proper procedures. Hazardous meds below explicitly state not to crush in the product information. The NIOSH hazardous meds list is at <https://www.cdc.gov/niosh/docs/2016-161/pdfs/2016-161.pdf?id=10.26616/NIOSH PUB2016161>).

*This table has some **common** meds that should not be crushed; many more may not be listed. Brand names are representative and may not be all-inclusive. The most current product labeling for US and Canadian products was used to confirm information, in addition to listed references.*

**Modified-release: Indicates extended-release or delayed-release formulation.<sup>7</sup>**

| <b>Medications That Should Not Be Crushed<sup>1-6,9,10</sup></b> |   |                    |   |
|--|---|--------------------|---|
| <b>Generic Name</b>  | <b>Brand Name</b>                                   | <b>Dosage Form</b> | <b>Comments</b>                                     |
| Acamprosate  | <i>Campral</i>                                      | Tablet             | • Modified-release                                  |
| Acetaminophen  | <i>Tylenol Arthritis Pain Extended-Release (US)</i> | Tablet             | • Modified-release                                  |
| Albuterol  | <i>VoSpire ER (US)</i>                              | Tablet             | • Modified-release                                  |
| Alendronate  | <i>Fosamax</i>                                      | Tablet             | • Irritant (oropharyngeal)                          |
| Alfuzosin  | <i>Uroxatral (US), Xatral (Canada)</i>              | Tablet             | • Modified-release                                  |
| Alprazolam   | <i>Xanax XR (US)</i>                                | Tablet             | • Modified-release                                  |
| Ambrisentan  | <i>Letairis (US), Volibris (Canada)</i>             | Tablet             | • Teratogenic                                       |
| Amoxicillin/Clavulanate  | <i>Augmentin XR (US)</i>                            | Tablet             | • Modified-release<br>• Scored tablets can be split |
| Apremilast   | <i>Otezla (US)</i>                                  | Tablet             | • Antineoplastic                                    |
| Aprepitant   | <i>Emend (US)</i>                                   | Capsule            | • Nanocrystal                                       |
| Aspirin  | <i>Ecotrin</i>                                      | Tablet             | • Modified-release<br>• Irritant (gastric)          |

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| <b>Generic Name</b>  | <b>Brand Name</b>   | <b>Dosage Form</b> | <b>Comments</b>   |
| Aspirin/Dipyridamole   | <i>Aggrenox</i>   | Capsule            | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul> |
| Atomoxetine  | <i>Strattera</i>  | Capsule            | <ul style="list-style-type: none"> <li>• Irritant (ocular)</li> </ul>   |
| Axitinib   | <i>Inlyta</i>   | Tablet             | <ul style="list-style-type: none"> <li>• Antineoplastic</li> </ul>  |
| Belladonna Alkaloids   | <i>Donnatal Extentabs (US)</i>  | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Benzonatate  | <i>Tessalon Perles (US)</i>   | Capsule            | <ul style="list-style-type: none"> <li>• Local anesthetic effect could increase the risk of choking</li> </ul>                      |
| Bisacodyl  | <i>Dulcolax</i>   | Capsule<br>Tablet  | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Irritant (gastric)</li> </ul>                                  |
| Bosutinib  | <i>Bosulif</i>  | Tablet             | <ul style="list-style-type: none"> <li>• Antineoplastic</li> </ul>  |
| Budesonide   | <i>Entocort EC (US),<br/>Entocort (Canada)</i>                                | Capsule            | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul> |
| Budesonide   | <i>Uceris (US)</i>  | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Buprenorphine  | <i>Belbuca (US)</i>   | Film               | <ul style="list-style-type: none"> <li>• Sublingual dosage form</li> </ul>  |
| Bupropion  | <i>Aplenzin (US),<br/>Budeprion SR (US),<br/>Wellbutrin SR, XL,<br/>Zyban</i> | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Cabozantinib   | <i>Cabometyx, Cometriq (US)</i>   | Capsule, Tablet    | <ul style="list-style-type: none"> <li>• Antineoplastic</li> </ul>  |
| Carbamazepine  | <i>Carbatrol (US),<br/>Equetro (US)</i>                                       | Capsule            | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul> |
| Carbamazepine  | <i>Tegretol XR (US),<br/>Tegretol CR (Canada)</i>                             | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Carvedilol   | <i>Coreg CR (US)</i>  | Capsule            | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul> |
| Cefuroxime   | <i>Ceftin</i>   | Tablet             | <ul style="list-style-type: none"> <li>• Bad taste</li> </ul>   |
| Chlorpheniramine Maleate   | <i>Chlor-Trimeton Allergy<br/>12 Hour (US)</i>                                | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Ciprofloxacin  | <i>Cipro</i>  | Tablet             | <ul style="list-style-type: none"> <li>• Bad taste</li> </ul>   |
| Ciprofloxacin  | <i>Cipro XR (US),<br/>Cipro XL (Canada)</i>                                   | Tablet             | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |

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|--|---|--------------------|---|
| <b>Generic Name</b>  | <b>Brand Name</b>                                 | <b>Dosage Form</b> | <b>Comments</b>   |
| Clarithromycin   | <i>Biaxin XL</i>                                  | Tablet             | • Modified-release  |
| Clonidine  | <i>Kapvay (US)</i>                                | Tablet             | • Modified-release  |
| Colestipol   | <i>Colestid</i>                                   | Tablet             | • Modified-release  |
| Cyclobenzaprine  | <i>Amrix (US)</i>                                 | Capsule            | • Modified-release  |
| Cyclophosphamide   | generics  | Capsule<br>Tablet  | • Antineoplastic  |
| Dabigatran   | <i>Pradaxa</i>                                    | Capsule            | • Intact product must be taken to avoid increased exposure                  |
| Dalfampridine  | <i>Ampyra (US)</i>                                | Tablet             | • Modified-release  |
| Darifenacin  | <i>Enablex</i>                                    | Tablet             | • Modified-release  |
| Dasatinib  | <i>Sprycel</i>                                    | Tablet             | • Antineoplastic<br>• Teratogenic   |
| Deferasirox  | <i>Exjade</i>                                     | Tablet             | • Tablet is for oral suspension   |
| Desvenlafaxine   | <i>Pristiq</i>                                    | Tablet             | • Modified-release  |
| Dexlansoprazole  | <i>Dexilant</i>                                   | Capsule            | • Modified-release<br>• Can be opened for administration of intact granules |
| Dexmethylphenidate   | <i>Focalin XR (US)</i>                            | Capsule            | • Modified-release<br>• Can be opened for administration of intact granules |
| Dextroamphetamine  | <i>Dexedrine</i>                                  | Capsule            | • Modified-release  |
| Dextroamphetamine/<br>Amphetamine                                | <i>Adderall XR</i>                                | Capsule            | • Modified-release<br>• Can be opened for administration of intact granules |
| Diclofenac   | <i>Voltaren XR (US),<br/>Voltaren SR (Canada)</i> | Tablet             | • Modified-release  |
| Diclofenac/Misoprostol   | <i>Arthrotec</i>                                  | Tablet             | • Modified-release<br>• Irritant (gastric)<br>• Teratogenic                 |
| Didanosine   | <i>Videx EC</i>                                   | Capsule            | • Modified-release  |
| Diflunisal   | Generics  | Tablet             | • Irritant (gastric)  |

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|--|---|-----------------|--|
| Generic Name   | Brand Name  | Dosage Form     | Comments   |
| Diltiazem  | <i>Cardizem CD,</i><br><i>Cartia XT (US),</i><br><i>Dilacor XR (US),</i><br><i>Dilt-XR (US),</i><br><i>Taztia XT (US),</i><br><i>Tiazac</i> | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules (<i>Taztia XT</i> and <i>Tiazac</i>)</li> </ul> |
| Diltiazem  | <i>Cardizem</i><br><i>Cardizem LA (US),</i><br><i>Tiazac XC (Canada)</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Dimethyl Fumarate  | <i>Tecfidera</i>  | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Disopyramide   | <i>Norpace CR (US)</i>  | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Divalproex   | <i>Depakote Sprinkle (US)</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul>                                      |
| Divalproex   | <i>Depakote (US),</i><br><i>Depakote ER (US),</i><br><i>Epival ECT (Canada)</i>   | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Docusate Sodium  | <i>Colace</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Bad taste</li> </ul>  |
| Donepezil  | <i>Aricept</i><br>(23 mg strength only)   | Tablet          | <ul style="list-style-type: none"> <li>• Intact product must be taken to avoid increased rate of absorption</li> </ul>   |
| Doxazosin  | <i>Cardura XL (US)</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Doxycycline  | <i>Doryx (US),</i><br><i>Aprilon (Canada)</i>   | Capsule, Tablet | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Scored tablets can be split</li> </ul>  |
| Duloxetine   | <i>Cymbalta</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Dutasteride  | <i>Avodart,</i><br><i>Jalyn</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Teratogenic</li> <li>• Irritant (mucous membrane)</li> </ul>  |
| Elbasvir/Grazoprevir                                       | <i>Zepatier (US)</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>   |
| Elexacaftor/Tezacaftor/<br>Ivacaftor                       | <i>Trikafta</i>   | Tablet          | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>   |
| Enzalutamide   | <i>Xtandi</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Antineoplastic</li> </ul>   |
| Ergotamine   | <i>Ergomar (US)</i>   | Tablet          | <ul style="list-style-type: none"> <li>• For sublingual administration</li> </ul>  |
| Erythromycin   | Erythromycin<br>delayed-release   | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul>                                      |

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|--|--|----------------------------------|---|
| Generic Name   | Brand Name                                 | Dosage Form                      | Comments  |
| Erythromycin   | <i>E.E.S.</i>                              | Tablet                           | • Bad taste   |
| Erythromycin   | <i>Ery-Tab</i> (US),<br><i>PCE</i>         | Tablet                           | • Modified-release  |
| Esomeprazole   | <i>Nexium</i>                              | Capsule (US),<br>Tablet (Canada) | • Modified-release<br>• Capsule can be opened for administration of intact granules                 |
| Eszopiclone  | <i>Lunesta</i> (US)                        | Tablet                           | • Bad taste   |
| Etravirine   | <i>Intelence</i>                           | Tablet                           | • Amorphous solid dispersion<br>• Tablet may be dispersed in water<br>• Scored tablets can be split |
| Everolimus   | <i>Afinitor</i><br><i>Zortress</i> (US)    | Tablet                           | • Amorphous solid dispersion<br>• Irritant (mucous membrane)<br>• Teratogenic                       |
| Felodipine   | <i>Plendil</i>                             | Tablet                           | • Modified-release  |
| Fenofibrate  | <i>TriCor</i> (US)                         | Tablet                           | • Nanocrystal   |
| Fentanyl   | <i>Abstral</i>                             | Tablet                           | • Sublingual dosage form  |
| Fentanyl   | <i>Actiq</i> (US)                          | Lozenge                          | • Lozenge should be sucked, not chewed  |
| Fentanyl   | <i>Fentora</i>                             | Tablet                           | • Buccal dosage form  |
| Ferrous Gluconate  | <i>Fergon</i> (US)                         | Tablet                           | • Modified-release<br>• Irritant (gastric)  |
| Ferrous Sulfate  | <i>Feosol</i> (US),<br><i>Feratab</i> (US) | Tablet                           | • Modified-release<br>• Irritant (gastric)  |
| Fesoterodine   | <i>Toviaz</i>                              | Tablet                           | • Modified-release  |
| Fexofenadine/<br>Pseudoephedrine                           | <i>Allegra-D</i>                           | Tablet                           | • Modified-release  |
| Finasteride  | <i>Propecia</i> ,<br><i>Proscar</i>        | Tablet                           | • Teratogenic   |
| Fluoxetine   | <i>Prozac Weekly</i> (US)                  | Capsule                          | • Modified-release  |
| Fluvastatin  | <i>Lescol</i> ,<br><i>Lescol XL</i>        | Capsule, Tablet                  | • Modified-release ( <i>Lescol XL</i> )   |
| Fluvoxamine  | <i>Luvox CR</i> (US)                       | Capsule                          | • Modified-release  |

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|--|--|-------------------|---|
| Generic Name   | Brand Name   | Dosage Form       | Comments  |
| Gabapentin   | <i>Gralise</i> (US),<br><i>Horizant</i> (US)           | Tablet            | • Modified-release  |
| Galantamine  | <i>Razadyne ER</i> (US),<br><i>Reminyl ER</i> (Canada) | Capsule           | • Modified-release  |
| Glecaprevir/Pibrentasvir                                   | <i>Mavyret</i> (US)                                    | Tablet            | • Amorphous solid dispersion  |
| Glipizide  | <i>Glucotrol XL</i> (US)                               | Tablet            | • Modified-release  |
| Guaifenesin  | <i>Mucinex</i> (US)                                    | Tablet            | • Modified-release  |
| Guaifenesin/<br>Dextromethorphan                           | <i>Mucinex DM</i> (US)                                 | Tablet            | • Modified-release  |
| Guaifenesin/<br>Pseudoephedrine                            | <i>Mucinex D</i> (US)                                  | Tablet            | • Modified-release<br>• Scored tablets can be split                               |
| Guanfacine   | <i>Intuniv</i> (US),<br><i>Intuniv XR</i> (Canada)     | Tablet            | • Modified-release  |
| Hydromorphone  | <i>Exalgo</i> (US),<br><i>Jurnista</i> (Canada)        | Tablet            | • Modified-release  |
| Hydroxyurea  | <i>Droxia</i> (US),<br><i>Hydrea</i>                   | Capsule           | • Irritant (cytotoxic)  |
| Hyoscyamine  | <i>Levbid</i> (US)                                     | Capsule<br>Tablet | • Modified-release<br>• Scored tablets can be split                               |
| Ibandronate  | <i>Boniva</i> (US)                                     | Tablet            | • Irritant (oropharyngeal)  |
| Ibuprofen  | <i>Advil</i> ,<br><i>Motrin</i>                        | Tablet            | • Bad taste   |
| Imatinib   | <i>Gleevec</i>   | Tablet            | • Antineoplastic<br>• Irritant (mucous membrane)<br>• Scored tablets can be split |
| Indinavir  | <i>Crixivan</i>  | Capsule           | • Bad taste<br>• Can be opened for administration of intact granules              |
| Indomethacin   | <i>Indocin SR</i> (US)                                 | Capsule           | • Modified-release<br>• Can be opened for administration of intact granules       |
| Isavuconazonium Sulfate                                    | <i>Cresemba</i>  | Capsule           | • High risk of instability or reduced absorption                                  |
| Isosorbide Dinitrate                                       | <i>Dilatrate-SR</i> (US)                               | Capsule           | • Modified-release  |

| Medications That Should Not Be Crushed <sup>1-6,9,10</sup> |   |             |   |
|--|---|-------------|---|
| Generic Name   | Brand Name  | Dosage Form | Comments  |
| Isosorbide Dinitrate                                       | <i>Isordil Sublingual (US)</i>  | Tablet      | <ul style="list-style-type: none"> <li>• Sublingual dosage form</li> </ul>  |
| Isosorbide Mononitrate                                     | <i>Imdur</i>  | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Scored tablets can be split</li> </ul>                                 |
| Isotretinoin   | <i>Absorica (US),<br/>Accutane (Canada),<br/>Amnesteem (US),<br/>Clarus (Canada),<br/>Epuris (Canada)</i> | Capsule     | <ul style="list-style-type: none"> <li>• Irritant (esophageal)</li> <li>• Teratogenic</li> </ul>  |
| Itraconazole   | <i>Sporanox</i>   | Capsule     | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>  |
| Ivacaftor  | <i>Kalydeco</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>  |
| Ivosidenib   | <i>Tibsovo (US)</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>  |
| Lamotrigine  | <i>Lamictal XR (US)</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Lansoprazole   | <i>Prevacid</i>   | Capsule     | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul>         |
| Lansoprazole   | <i>Prevacid SoluTab (US),<br/>Prevacid FasTab (Canada)</i>  | Tablet      | <ul style="list-style-type: none"> <li>• Should be dissolved in the mouth, not chewed</li> </ul>  |
| Lenalidomide   | <i>Revlimid</i>   | Capsule     | <ul style="list-style-type: none"> <li>• Teratogenic</li> </ul>   |
| Levetiracetam  | <i>Keppra</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Bad taste</li> </ul>   |
| Levetiracetam  | <i>Keppra XR (US)</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Levodopa/Carbidopa   | <i>Sinemet CR</i>   | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Scored tablets can be split</li> </ul>                                 |
| Levomilnacipran  | <i>Fetzima</i>  | Capsule     | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Lithium Carbonate  | <i>Lithobid (US),<br/>Lithmax (Canada)</i>  | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |
| Lopinavir/Ritonavir  | <i>Kaletra</i>  | Tablet      | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> <li>• Reduced bioavailability with crushing<sup>8</sup></li> </ul> |
| Loratadine/<br>Pseudoephedrine                             | <i>Claritin-D (US),<br/>Claritin Allergy and Sinus<br/>(Canada)</i>                                       | Tablet      | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>  |

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|--|---|----------------------------------|--|
| Generic Name   | Brand Name  | Dosage Form                      | Comments   |
| Lovastatin   | <i>Altoprev</i> (US)  | Tablet                           | • Modified-release   |
| Lubiprostone   | <i>Amitiza</i> (US)   | Capsule                          | • Stability is compromised   |
| Lumacaftor/Ivacaftor                                       | <i>Orkambi</i>  | Tablet                           | • Amorphous solid dispersion   |
| Memantine  | <i>Namenda XR</i>   | Capsule                          | • Modified-release<br>• Can be opened for administration of intact granules  |
| Mesalamine   | <i>Asacol</i> ,<br><i>Lialda</i> (US)<br><i>Pentasa</i>                                     | Capsule (US),<br>Tablet (Canada) | • Modified-release<br>• Capsules can be opened for administration of intact granules<br>( <i>Delzicol</i> , <i>Pentasa</i> [US]) |
| Mesalamine   | <i>Asacol</i> ,<br><i>Lialda</i> (US)   | Tablet                           | • Modified-release   |
| Metformin  | <i>Fortamet</i> (US),<br><i>Glucophage XR</i> (US),<br><i>Glumetza</i>                      | Tablet                           | • Modified-release   |
| Methylphenidate  | <i>Metadate CD</i> (US),<br><i>Ritalin LA</i> (US),<br><i>Biphentin</i> (Canada)            | Capsule                          | • Modified-release<br>• Can be opened for administration of intact granules  |
| Methylphenidate  | <i>Concerta</i> ,<br><i>Metadate ER</i> (US), <i>Methylin ER</i> (US),<br><i>Ritalin SR</i> | Tablet                           | • Modified-release   |
| Metoprolol Succinate                                       | <i>Toprol-XL</i> (US)   | Tablet                           | • Modified-release<br>• Scored tablets can be split  |
| Metoprolol Tartrate  | <i>Lopressor SR</i> (Canada)  | Tablet                           | • Modified-release   |
| Metronidazole  | <i>Flagyl ER</i> (US)   | Tablet                           | • Modified-release   |
| Minocycline  | <i>Solodyn</i> (US)   | Tablet                           | • Modified-release   |
| Mirabegron   | <i>Myrbetriq</i>  | Tablet                           | • Modified-release   |
| Morphine Sulfate   | <i>Kadian</i>   | Capsule                          | • Modified-release<br>• Can be opened for administration of intact granules  |
| Morphine Sulfate   | <i>MS Contin</i>  | Tablet                           | • Modified-release   |
| Mycophenolate  | <i>CellCept</i>   | Capsule, Tablet                  | • Teratogenic  |
| Mycophenolic Acid  | <i>Myfortic</i>   | Tablet                           | • Modified-release<br>• Teratogenic  |



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|--|--|-----------------|--|
| Generic Name   | Brand Name   | Dosage Form     | Comments   |
| Naproxen   | <i>EC Naprosyn</i> (US),<br><i>Naprelan</i>  | Tablet          | • Modified-release   |
| Nevirapine   | <i>Viramune XR</i>   | Tablet          | • Modified-release   |
| Niacin   | <i>Niaspan</i> ,<br><i>Niaspan FCT</i> (Canada)  | Tablet          | • Modified-release   |
| Nicardipine  | <i>Cardene SR</i> (US)   | Capsule         | • Modified-release   |
| Nicotine   | <i>Nicorette</i> (US)  | Lozenge         | • Should be dissolved in the mouth, not chewed   |
| Nifedipine   | <i>Adalat CC</i> (US),<br><i>Procardia XL</i> (US),<br><i>Adalat XL</i> (Canada)       | Tablet          | • Modified-release   |
| Nilotinib  | <i>Tasigna</i>   | Capsule         | • Antineoplastic<br>• Modified-release<br>• Can be opened for administration of intact granules            |
| Nisoldipine  | <i>Sular</i> (US)  | Tablet          | • Modified-release   |
| Nitroglycerin  | <i>Nitrostat</i>   | Tablet          | • Sublingual dosage form   |
| Olaparib   | <i>Lynparza</i>  | Tablet          | • Amorphous solid dispersion   |
| Omeprazole   | <i>Prilosec</i> (US),<br><i>Prilosec OTC</i> (US),<br><i>Losec</i> (Canada)            | Capsule, Tablet | • Modified-release<br>• Capsule can be opened for administration of intact granules<br>( <i>Prilosec</i> ) |
| Orphenadrine   | <i>Norflex ER</i> (US)   | Tablet          | • Modified-release   |
| Oxybutynin   | <i>Ditropan XL</i>   | Tablet          | • Modified-release   |
| Oxycodone  | <i>OxyContin</i> (US),<br><i>Oxy Neo</i> (Canada),<br><i>Xtampza ER</i> (US)           | Capsule, Tablet | • Modified-release   |
| Oxymorphone  | <i>Opana ER</i> (US)   | Tablet          | • Modified-release   |
| Paliperidone   | <i>Invega</i>  | Tablet          | • Modified-release   |
| Pancreatic Enzymes   | <i>Creon</i> ,<br><i>Pancreaze</i> (US),<br><i>Pertzye</i> (US),<br><i>Zenpep</i> (US) | Capsule         | • Modified-release<br>• Irritant (oral mucosal)<br>• Can be opened for administration of intact granules   |

| Medications That Should Not Be Crushed <sup>1-6,9,10</sup> |   |             |   |
|--|---|-------------|---|
| Generic Name   | Brand Name  | Dosage Form | Comments  |
| Pantoprazole   | <i>Protonix</i> (US),<br><i>Pantoloc</i> (Canada)             | Tablet      | • Modified-release  |
| Paroxetine   | <i>Paxil CR</i>   | Tablet      | • Modified-release  |
| Pazopanib  | <i>Votrient</i>   | Tablet      | • Antineoplastic  |
| Pentoxifylline   | <i>Trental</i> (US)   | Tablet      | • Modified-release  |
| Piroxicam  | <i>Feldene</i> (US)   | Capsule     | • Irritant (oropharyngeal)  |
| Pomalidomide   | <i>Pomalyst</i>   | Capsule     | • Antineoplastic<br>• Teratogenic   |
| Posaconazole   | <i>Noxafil DR</i> (US)<br><i>Posanol</i> (Canada)             | Tablet      | • Amorphous oral dispersion<br>• Modified-release                           |
| Potassium Chloride   | <i>Micro-K</i> (US)   | Capsule     | • Modified-release<br>• Can be opened for administration of intact granules |
| Potassium Chloride   | <i>Klor-Con</i> (US)  | Tablet      | • Modified-release  |
| Praziquantel   | <i>Biltricide</i>   | Tablet      | • Bad taste<br>• Scored tablets can be split                                |
| Propafenone  | <i>Rythmol SR</i> (US)  | Capsule     | • Modified-release  |
| Propranolol  | <i>Inderal LA</i> ,<br><i>InnoPran XL</i> (US)                | Capsule     | • Modified-release  |
| Pseudoephedrine  | <i>Sudafed 12 Hour, 24 Hour</i><br>(US)                       | Tablet      | • Modified-release  |
| Pseudoephedrine/<br>Brompheniramine                        | <i>LoHist 12D</i> (US)  | Tablet      | • Modified-release  |
| Pseudoephedrine/<br>Desloratadine                          | <i>Clarinx D</i> (US)   | Tablet      | • Modified-release  |
| Pseudoephedrine/<br>Fexofenadine                           | <i>Allegra D</i>  | Tablet      | • Modified-release  |
| Pyridostigmine   | <i>Mestinon Timespan</i> (US),<br><i>Mestinon SR</i> (Canada) | Tablet      | • Modified-release  |
| Quetiapine   | <i>Seroquel XR</i>  | Tablet      | • Modified-release  |

| Medications That Should Not Be Crushed <sup>1-6,9,10</sup> |   |                 |   |
|--|---|-----------------|---|
| Generic Name   | Brand Name  | Dosage Form     | Comments  |
| Rabeprazole  | <i>Aciphex</i> (US),<br><i>Aciphex Sprinkle</i> (US),<br><i>Pariet</i> (Canada) | Capsule, Tablet | • Modified-release  |
| Raloxifene   | <i>Evista</i>   | Tablet          | • Bad taste<br>• Teratogenic  |
| Ranolazine   | <i>Ranexa</i> (US)  | Tablet          | • Modified-release  |
| Regorafenib  | <i>Stivarga</i>   | Tablet          | • Amorphous solid dispersion<br>• Antineoplastic                            |
| Risedronate  | <i>Actonel</i>  | Tablet          | • Irritant (oropharyngeal)  |
| Risedronate  | <i>Atelvia</i> (US),<br><i>Actonel DR</i> (Canada)                              | Tablet          | • Modified-release<br>• Irritant (oropharyngeal)                            |
| Risperidone  | <i>Risperdal M</i>  | Tablet          | • Must be allowed to dissolve on the tongue                                 |
| Ritonavir  | <i>Norvir</i>   | Tablet          | • Amorphous solid dispersion  |
| Ropinirole   | <i>Requip XL</i> (US)   | Tablet          | • Modified-release  |
| Sirolimus  | <i>Rapamune</i>   | Tablet          | • Nanocrystal   |
| Solifenacin  | <i>Vesicare</i>   | Tablet          | • Bad taste   |
| Sulfasalazine  | <i>Azulfidine EN-Tabs</i> (US),<br><i>Salazopyrin EN</i> (Canada)               | Tablet          | • Modified-release  |
| Suvorexant   | <i>Belsomra</i> (US)  | Tablet          | • Amorphous solid dispersion  |
| Tacrolimus   | <i>Astagraf XL</i> (US)<br><i>Prograf</i>                                       | Capsule         | • Amorphous solid dispersion  |
| Tamsulosin   | <i>Flomax</i> (US),<br><i>Flomax CR</i> (Canada)                                | Capsule, Tablet | • Modified-release  |
| Tapentadol   | <i>Nucynta ER</i>   | Tablet          | • Modified-release  |
| Temozolomide   | <i>Temodar</i> (US),<br><i>Temodal</i> (Canada)                                 | Capsule         | • Irritant (cytotoxic)  |
| Tezacaftor/Ivacaftor                                       | <i>Symdeko</i>  | Tablet          | • Amorphous solid dispersion  |
| Theophylline   | <i>Theo-24</i> (US)   | Capsule         | • Modified-release<br>• Can be opened for administration of intact granules |
| Theophylline   | Generics  | Tablet          | • Modified-release  |
| Tipranavir   | <i>Aptivus</i>  | Capsule         | • Bad taste   |
| Tolterodine  | <i>Detrol LA</i>  | Capsule         | • Modified-release  |

| Medications That Should Not Be Crushed <sup>1-6,9,10</sup> |   |                 |  |
|--|---|-----------------|--|
| Generic Name   | Brand Name  | Dosage Form     | Comments   |
| Topiramate   | <i>Topamax</i>  | Capsule, Tablet | <ul style="list-style-type: none"> <li>• Bad taste</li> <li>• Capsules can be opened for administration of intact granules</li> </ul>                  |
| Topiramate   | <i>Qudexy XR</i> (US),<br><i>Trokendi XR</i> (US)   | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules (<i>Qudexy XR</i>)</li> </ul> |
| Tramadol   | <i>ConZip</i> (US),<br><i>Ryzolt</i> (US),<br><i>Ultram ER</i> (US),<br><i>Zytram XL</i> (Canada) | Capsule, Tablet | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Trazodone  | Generics  | Tablet          | <ul style="list-style-type: none"> <li>• Bad taste</li> <li>• Scored tablets can be split</li> </ul>   |
| Trazodone  | <i>Oleptro</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Scored tablets can be split</li> </ul>  |
| Valganciclovir   | <i>Valcyte</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Irritant</li> <li>• Teratogenic, carcinogenic</li> </ul>  |
| Valproic Acid  | <i>Depakene</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Irritant (oropharyngeal)</li> </ul>   |
| Vandetanib   | <i>Caprelsa</i>   | Tablet          | <ul style="list-style-type: none"> <li>• Antineoplastic</li> <li>• Irritant</li> </ul>   |
| Vemurafenib  | <i>Zelboraf</i>   | Tablet          | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>   |
| Venetoclax   | <i>Venclexta</i>  | Tablet          | <ul style="list-style-type: none"> <li>• Amorphous solid dispersion</li> </ul>   |
| Venlafaxine  | <i>Effexor XR</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul>                    |
| Verapamil  | <i>Verelan</i> ,<br><i>Verelan PM</i> (US)  | Capsule         | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Can be opened for administration of intact granules</li> </ul>                    |
| Verapamil  | <i>Calan SR</i> (US),<br><i>Covera-HS</i> (US),<br><i>Isoptin SR</i>                              | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> <li>• Scored tablets can be split</li> </ul>  |
| Vismodegib   | <i>Erivedge</i>   | Capsule         | <ul style="list-style-type: none"> <li>• Teratogenic</li> </ul>  |
| Vorinostat   | <i>Zolinza</i>  | Capsule         | <ul style="list-style-type: none"> <li>• Irritant (skin and mucous membrane)</li> </ul>  |
| Zileuton   | <i>Zyflo CR</i> (US)  | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Zolpidem   | <i>Ambien CR</i> (US)   | Tablet          | <ul style="list-style-type: none"> <li>• Modified-release</li> </ul>   |
| Zolpidem   | <i>Intermezzo</i> (US)  | Tablet          | <ul style="list-style-type: none"> <li>• Sublingual dosage form</li> </ul>   |

*Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.*

### **References**

1. McPherson ML. Don't crush that tablet! *Am Pharm*. 1994 May;NS34(5):57-8.
2. Miller D, Miller H. To crush or not to crush? What to consider before giving medications to a patient with a tube or who has trouble swallowing. *Nursing*. 2000 Feb;30(2):50-2.
3. Beckwith MC, Feddema SS, Barton RG, Graves C. A guide to drug therapy in patients with enteral feeding tubes: dosage form selection and administration methods. *Hosp Pharm* 2004;39:225-37.
4. ISMP. Oral dosage forms that should not be crushed. November 2018. <https://www.ismp.org>. (Accessed November 1, 2019).
5. Clinical Pharmacology powered by ClinicalKey. Tampa (FL): Elsevier. 2023. <http://www.clinicalkey.com>. (Accessed January 19, 2023).
6. NIOSH list of antineoplastic and other hazardous drugs in healthcare settings, 2016. <https://www.cdc.gov/niosh/docs/2016-161/pdfs/2016-161.pdf?id=10.26616/NIOSH PUB2016161>. (Accessed January 19, 2023).
7. USP. Nomenclature guidelines. February 1, 2018. Nomenclature Guideline Outline ([uspnf.com](http://uspnf.com)). (Accessed January 19, 2023).
8. Best BM, Capparelli EV, Diep H, et al. Pharmacokinetics of lopinavir/ritonavir crushed versus whole tablets in children. *J Acquir Immune Defic Syndr*. 2011 Dec 1;58(4):385-91.
9. Uttaro E, Pudipeddi M, Schweighardt A, Zhao F. To crush or not to crush: A brief review of novel tablets and capsules prepared from nanocrystal and amorphous solid dispersion technologies. *Am J Health Syst Pharm*. 2021 Feb 19;78(5):389-394.
10. Uttaro E, Zhao F, Schweighardt A. Filling the Gaps on the Institute for Safe Medication Practices (ISMP) Do Not Crush List for Immediate-release Products. *Int J Pharm Compd*. 2021 Sep-Oct;25(5):364-371.

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