

SPECIAL ORDER  
PHARMACEUTICAL PRODUCTS

# A PRACTICAL GUIDE FOR PRESCRIBERS



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### **Key**

**A** Tablet will disperse in 1-2 minutes.

**B** Tablet will disperse in greater than 2 minutes.

**C** Liquid preparation available.

**D** Dilute reconstituted injection with 30-60ml of water before administering.

**NB** May be significantly more expensive than dissolving tablet

**Produced by NHS North Lancashire Medicines Management Team**

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### Background

Some drugs are currently only available as specials; others are not suitable in all cases for the patient requiring them. This guide aims to give advice around medications that have been ordered as specials in the past.

There are very few dermatological products listed, this is because we would expect combinations to only be used if they appear on the BAD list. Even then we would ask that all involved consider the appropriateness of a product or would it be better to apply two products separately. In addition, dermatological specials are often difficult to track on ePACT.

Medicines are not always available in formulations which are suitable for patients with swallowing difficulties or patients with enteral feeding tubes. The alteration of medication formulations may therefore be necessary.

However, this usually falls outside of the terms of the drug's product licence. When this happens, the manufacturer is no longer responsible for any adverse event or treatment failure. This has implications for the professionals responsible for prescribing, supplying and administering the drugs, as they become liable for any adverse event that the patient may experience.

We would still advise all professionals to check with their insurers that they are covered for prescribing, supplying or administering these unlicensed drugs. Merely quoting PCT guidance does not absolve an individual from the responsibility of unlicensed products or the use of licensed products in an unlicensed manner. Therefore, it is important to ensure that, where a patient is fitted with an enteral feeding tube or a patient with swallowing difficulties requires oral medication, alternative (licensed) routes of administration should be sought first.

***Only if these are not available should medications be given in an unlicensed manner;*** this may include the prescribing of a 'special' liquid product or prescribing a licensed product but directing the patient to take it in an unlicensed manner ***e.g. crushing of tablets***

When deciding whether or not to prescribe a medicine as a special preparation prescribers are asked to consider the following five guiding principles (Appendix iii)

- Clinical need
- Medicines and Products Available (safety, effectiveness, quality and cost of all the options)
- Shared decision (with patient/carer of options available)
- Prescribing Governance (particularly around transfer of responsibility)
- Monitoring and Review

This document provides an A-Z list of drugs where:

- Alternative licensed preparations exist.
- Drugs that can be crushed or dispersed in water (unlicensed route of administration).
- Injections that can be given orally/ enterally (unlicensed route of administration).
- Specials products have been included in the specials tariff – Note, these are still unlicensed and licensed products should be selected first where possible.

**When prescribing alternatives (licensed/ unlicensed) it is important to consider:**

- Dose adjustments that need to be made with alternative liquid/ injection preparations.
- Full dose directions need to be included on the prescription (if applicable) e.g. 'Disperse one tablet in water and take in the morning'.

**If a drug does not appear in the table it implies that there is no alternative but to prescribe the 'special' product - in this case the prescriber should consider the following:**

- *They are prescribing an unlicensed medicine.*
- *That the product, even though prepared in a manufacturing unit, has not been assessed by the Licensing Authority for safety, quality and efficacy (therefore still unlicensed).*
- *That they are directly responsible for the prescribing of these products and that they may be liable for adverse effects or harm resulting from the use of that product.*
- *It is the prescriber's responsibility to decide whether the patient has 'special needs' which a licensed product cannot meet.*
- *Requests to prescribe unlicensed specials by a third party, e.g. secondary care, do not diminish the responsibility of the prescriber.*

## **COMMUNITY PHARMACISTS**

For Community Pharmacists, the PDA has stated that 'Pharmacists have a clear duty of care towards patients in this area: should any problems arise members would need to demonstrate that any decisions taken had the patient's best interests in mind. Citing PCT recommendations or the prescriber's directions as a defence, would not absolve a pharmacist from their own personal professional responsibility towards patient care. The PDA recognises that there will be times where pharmacists acting in their patients best interests may need to consider supplying a medicine in a manner or form which interferes with the integrity of its license; such decisions should only be taken after following a considered professional cognitive process. In so doing and despite going through such a process, the pharmacist will be taking a personal risk and in the event that something goes wrong, they will be held to account for their actions. The PDA would like to give reassurances to its members that where pharmacists act in a responsible and professional manner and decide to make such a supply, the underwriters will continue to provide cover should a problem arise.

## **SPECIALS TARIFF**

Since November 2011 there has been in place a specific specials tariff of frequently ordered special products, this is updated quarterly. If after considering all options it is felt that it is most appropriate to prescribe a special, then it is wise to consult the tariff for the most cost effective formulation to use for the quantity required.

A guide to the tariff detailing the most cost effective ways of prescribing is produced and updated as the tariff is updated and is available from the PCT Medicines Management Teams.

### **Please note:**

**Every effort has been made to ensure the information in this document is current and correct, however errors may have occurred and data for individual drugs may have changed. Where there is any doubt, information should be checked against manufacturers' recommendations, published literature or other specialist sources**

## A-Z List of Quick wins

Drug	Formulation Alternative / Administration Advice
<b>A</b>	
<p><b>Acetazolamide</b></p>	<p>Prescribe <b>Acetazolamide Tablets (non-MR)</b> and label '<i>disperse tablet in water and take...</i>' (A)</p> <p>or</p> <p>Injection may be taken orally or enterally if necessary:</p> <p>Prescribe <b>Acetazolamide (sodium) Injection (powder for reconstitution) (Diamox<sup>®</sup>)</b> (500mg vial) and label according to dose calculated.</p> <p><i>N.B.</i> the reconstituted injection can be stored in a refrigerator for up to 24 hours.</p>
<p><b>Acetylcysteine</b></p>	<p>The injection solution diluted to 50mg/ml can be given orally or enterally.</p> <p>It is very bitter, orange or blackcurrant syrup, orange juice or coco-cola can be used to dilute the injection solution if taken orally.</p>
<p><b>Aciclovir</b></p>	<p>Prescribe licensed <b>Aciclovir Dispersible Tablets. 200mg, 400mg &amp; 800mg strengths available (A*)</b></p> <p>or</p> <p>Prescribe licensed <b>Aciclovir Suspension: 200mg/5mL or 400mg/5mL (C)</b></p>
<p><b>Alendronate</b></p>	<p>For treatment of post menopausal osteoporosis: consider alternative licensed <b>Strontium Ranelate Granules. (Protelos<sup>®</sup>)</b></p> <p>Caution: Alendronic acid tablets should only be crushed and dispersed in water if administered via a feeding tube, NOT orally (very irritant). Once weekly formulation should be used.</p>
<p><b>Alfacalcidol</b></p>	<p>Prescribe licensed <b>Alfacalcidol 2mcg/mL SF Oral Drops 10ml. (C)</b></p> <p><i>N.B.</i> One drop ~ 100 nanograms</p> <p>One-Alpha injection can be administered orally or via a feeding tube. (D)</p>
<p><b>Alfuzosin</b></p>	<p>Prescribe <b>Alfuzosin Tablets (non-MR)</b> and label '<i>crush tablet and disperse in water and take...</i>' (A)</p> <p>Beware of sudden hypotensive effect if giving crushed tablets. Monitor BP and ensure patient is lying down prior to administering the dose.</p> <p>Do not crush slow release preparations.</p>
<p><b>Allopurinol</b></p>	<p>Prescribe <b>Allopurinol Tablets</b> and label '<i>crush tablet, mix with water and take...</i>' (B)</p> <p>APS, CP and Rimapurinol brands are suitable for administration via an 8Fr NG tube.</p>

<b>Alverine</b>	Prescribe <b>Alverine Capsules</b> and label ' <i>open capsule, disperse contents in water and take...</i> ' Content of capsules is very bitter, and might numb the tongue and throat.
<b>Amiloride</b>	Prescribe licensed <b>Amiloride 5mg/5mL SF Oral Solution 150ml (C) (NB)</b> Prescribe <b>Amiloride tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Aminophylline</b>	Convert to theophylline: Slo-Phyllin MR capsules can be opened and pellets can be taken orally or via a tube. Do not crush pellets.
<b>Amiodarone</b>	Prescribe <b>Amiodarone Tablets</b> and label ' <i>disperse tablet in water and take...</i> ' (B) <i>N.B.</i> The tablets have a bitter taste and can be mixed with fruit juice (if not administered via enteral feeding tube).
<b>Amisulpride</b>	Prescribe licensed <b>Amisulpride 100mg/mL SF Solution (Solian®)</b> . (C)
<b>Amitriptyline</b>	Licensed <b>25mg/5ml</b> and <b>50mg/5ml</b> oral solutions available in 150ml pack size. (C) Will flush down a tube when mixed with an equal volume of water. Tablets do not disperse readily but can be crushed and dispersed in water (B)
<b>Amlodipine</b>	Prescribe <b>Amlodipine Tablets</b> and label ' <i>disperse tablet in water and take immediately...</i> ' (B) (solution is light sensitive hence immediate administration) Suitable for administration via an 8Fr NG tube, Or Consider alternative licensed calcium channel blocker: see <b>Verapamil</b> .
<b>Anastrozole</b>	Prescribe <b>Anastrozole Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Antacids</b>	<b><u>Aluminium and magnesium mixtures (C):</u></b> <b>Maalox® SF Suspension</b> <b>Mucogel® SF Suspension</b> <b>Hydrotalcite Suspension</b> ) See BNF section 1.1.1 <b>Asilone® SF Suspension</b> ) for further details on ingredients. <b><u>Antacids containing simeticone (C):</u></b> <b>Maalox Plus® Suspension</b> <b>Altacite Plus® SF Suspension</b>  <i>N.B.</i> for tube users: aluminium containing antacids may interact with feeds leading to the development of a plug.



<b>Arginine</b>	The injection may be given orally
<b>Aripiprazole</b>	Some excipients are insoluble in water and may float to the surface. Crush tablets, mix with water and take immediately. <b>(B)</b>
<b>Ascorbic acid</b>	Effervescent tablets available <b>(A)</b>
<b>Aspirin</b>	Convert enteric coated tablets to dispersible aspirin <b>(A)</b>
<b>Atenolol</b>	<p>Prescribe licensed <b>Atenolol 25mg/5mL SF Syrup (Tenormin<sup>®</sup>) (300ml pack size) (C)</b></p> <p><i>N.B.</i> Syrup contains 40% sorbitol, therefore if diarrhoea develops consider: prescribing <b>Atenolol Tablets</b> and label '<b>crush tablet thoroughly, mix with water and take...</b>' <b>(B)</b></p> <p>Most tablets are film coated, which do not disperse readily in water. Film coat may clog tube.</p>
<b>Atorvastatin</b>	<p>Consider age of patient and if still clinically appropriate:</p> <p>Consider changing to licensed <b>Simvastatin oral suspension</b></p> <p>or</p> <p>Prescribe <b>Atorvastatin Tablets</b> and label '<b>crush tablet and mix with water and take...</b>' <b>(B)</b> (Takes 2-5 minutes to disperse).</p> <p>Resulting solution is not very soluble so tube should be flushed well after administration to avoid blockages.</p> <p>Suitable for administration via an 8Fr NG tube.</p>
<b>Atropine</b>	Injection may be given orally or enterally
<b>Azathioprine</b>	GSK and Generics brand tablets will disperse in 10ml of water. Suitable for administration via an 8Fr NG tube. Although these brands disperse in water, due to <b>cytotoxic nature of the drug it is not generally recommended.</b>
<b>B</b>	
<b>Baclofen</b>	<p>Prescribe licensed <b>Baclofen 5mg/5mL Oral Solution (C)</b></p> <p><i>N.B.</i> Solution contains 38% sorbitol, therefore if diarrhoea develops consider: prescribing <b>Baclofen Tablets</b> and label '<b>crush tablet, mix with water and take...</b>' <b>(B)</b></p>
<b>Balsalazide</b>	Capsules can be opened and sprinkled in water or on food. Capsule contents will stain.
<b>Bendroflumethiazide</b>	<p>Prescribe <b>Bendroflumethiazide Tablets</b> and label '<b>disperse tablets in water and take...</b>' <b>(B)</b></p> <p>Alpharma, APS and CP brands all disperse in 10ml of water.</p> <p>Suitable for administration via an 8Fr NG tube.</p>
<b>Benzhexol</b> (Trihexyphenidyl Hydrochloride)	Prescribe licensed <b>Trihexyphenidyl Hydrochloride syrup 5mg/5ml (C)</b>

<b>Benztropine</b>	Injection may be given orally; it has also been administered enterally, although the manufacturers cannot recommend this.
<b>Betahistine</b>	Prescribe <b>Betahistine Dihydrochloride Tablets</b> and label ' <i>disperse tablet in water and take...</i> ' (B)  Serc brand tablets are very soluble and the tablets can be crushed. Other makes of tablets can be crushed and mixed with water.
<b>Bezafibrate</b>	Prescribe <b>Bezafibrate Tablets (non-MR)</b> and label ' <i>crush tablet, dissolve slowly in water and take...</i> ' (B)  Do not crush MR forms (Bezalip Mono™), change to equivalent dose of normal release tablet and crush (bezafibrate MR 400mg OD equivalent to bezafibrate 200mg TDS).
<b>Bicalutamide</b>	Tablets can be crushed, but are practically insoluble in water.
<b>Bisacodyl Tablets or Liquid/ Rectal Solution</b>	Tablets are enteric coated. Crushed tablets are very irritant <b>use suppositories.</b>  5mg and 10mg suppositories available.
<b>Bisoprolol</b>	Consider alternative licensed beta-blocker preparation: see <b>Atenolol / Propranolol.</b>  or Prescribe <b>Bisoprolol Tablets</b> and label ' <i>crush tablet finely then mix with water and take...</i> ' (B)  Tablets can be dispersed or crushed & dispersed in 10ml of water – some brands may need shaking Suitable for administration via an 8Fr NG tube.
<b>Bromocriptine</b>	Prescribe <b>Bromocriptine Tablets</b> and label ' <i>disperse tablet in water and take...</i> ' (A)  Also, capsules can be opened.
<b>Bumetanide</b>	Prescribe licensed <b>Bumetanide 1mg/5mL Oral Liquid. (150ml pack size) (C) (NB)</b>  Or Prescribe <b>Bumetanide Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Bupropion</b>	Tablets are slow release and should not be crushed (increased risk of adverse effects including seizures).  <i>(Ref. GlaxoSmithKline, Zyban SPCs, Jan 09)</i>
<b>Buspirone</b>	Prescribe <b>Buspirone Tablets</b> and label ' <i>crush tablet and disperse in water and take...</i> ' (B)
<b>C</b>	
<b>Cabergoline</b>	Prescribe <b>Cabergoline Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)



<b>Calcium Folate</b>	<p>Tablets need to be crushed <b>(B)</b></p> <p>Injection may be taken orally or enterally:</p> <p>Prescribe <b>Calcium Folate Injection</b> and label according to dose calculated.<b>(D*)</b></p> <p><i>See BNF section 8.1 for different strengths available.</i></p> <p>*Pharmacia and Mayne brands of injections can be administered orally.</p>
<b>Calcium Resonium</b>	<p>When mixed with water, the resulting paste is too thick to administer via a feeding tube. Rectal route should be used (dose 30g)</p>
<b>Calcium Salts</b>	<p><b>Calcium Gluconate Effervescent Tablets</b></p> <p><b>Cacit® Effervescent Tablets</b></p> <p><b>Calcium-Sandoz® Syrup</b></p> <p><b>Sandocal-400® Effervescent Tablets</b></p> <p><b>Sandocal-1000® Effervescent Tablets</b></p> <p><i>See BNF section 9.5.1.1 for further details on salts.</i></p>
<b>Calcium with Vitamin D</b>	<p><b>Adcal D3® Dissolve Effervescent Tablets</b></p> <p><b>Calceos</b></p> <p><b>Natecal D3</b></p> <p><b>Cacit D3® Granules</b></p> <p><b>Calfovit D3® Powder</b></p> <p><b>Sandocal®+D 600 Effervescent Tablets</b></p> <p><i>See BNF section 9.6.4 for further details on ingredients and salts.</i></p>
<b>Candesartan</b>	<p>Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b>.</p> <p>Or</p> <p>Consider changing to licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar®)</b></p> <p>Or</p> <p>Prescribe <b>Candesartan Tablets</b> and label '<b>crush tablet and mix with water and take...</b>' <b>(B)</b></p>
<b>Captopril</b>	<p>Prescribe <b>Captopril Tablets</b> and label '<b>disperse tablet in water and take...</b>' <b>(B)</b></p> <p>Tablets will disperse in 10ml of water.</p> <p>Squibb and Tillomed brands suitable for administration via an 8Fr NG tube.</p>
<b>Carbamazepine</b>	<p>Prescribe licensed <b>Carbamazepine 100mg/5mL SF Liquid (Tegretol®)</b>. <b>(C)</b> <b>(NB)</b></p> <p>or</p> <p>Prescribe licensed <b>Carbamazepine 125mg Suppositories (Tegretol®)</b>.</p> <p>(Suppositories can be used for 7 days – when changing from oral to suppositories the dose must be increased by 25%)</p>

	<p>or</p> <p>Prescribe <b>Carbamazapine Tablets</b> and label '<b>dissolve tablet and mix with water and take...</b>' (A)</p> <p><i>N.B.</i> Different preparations may vary in bioavailability, avoid unnecessary changes in formulation.</p> <p><i>See BNF section 4.8.1 for further information.</i></p> <p>Feeding tubes:</p> <ul style="list-style-type: none"> <li>- dilute liquid to reduce adherence to feeding tube.</li> <li>- stop feed for one hour before and one to two hours after dose.</li> </ul> <p>Suitable for tube administration if given with an equal volume of water.</p> <p>Non-MR Tegretol brand tablets will disperse in 10ml of water.</p> <p>Resulting solution may block a fine bore tube if care is not taken.</p> <p>DO NOT crush slow release preparations</p>
<b>Carbimazole</b>	<p>Prescribe <b>Carbimazole Tablets</b> and label '<b>crush tablet and disperse in water and take...</b>'</p>
<b>Carvedilol</b>	<p>Prescribe <b>Carvedilol Tablets</b> and label '<b>crush tablet and mix with water and take...</b>' (B)</p> <p>Eucardic brand of tablet will form a suspension with 10ml of water once crushed (may take 5 minutes).</p> <p>APS brand of tablets will disperse in 10ml of water (may take 5 minutes with agitation).</p> <p>Both brands suitable for administration via an 8Fr NG tube.</p> <p>Monitor blood pressure</p>
<b>Celecoxib</b>	<p>Consider using <b>Ibuprofen</b> or an alternative NSAID</p> <p>If still using then:</p> <p>Contents of capsule can be mixed with water, pudding or apple sauce.</p>
<b>Cetirizine</b>	<p>Prescribe licensed <b>Cetirizine oral solution 5mg/5ml</b> (C)</p>
<b>Chloral Hydrate Liquid/ Chloral Mixture</b>	<p>If clinically appropriate Prescribe licensed: <b>Chloral Hydrate 143.3mg/5mL Elixir.</b></p> <p><i>N.B.</i> drug considered less suitable for prescribing - <i>see BNF section 4.1.1</i></p>
<b>Chlordiazepoxide</b>	<p>Prescribe <b>Chlordiazepoxide Capsules</b> and label '<b>open capsule and mix contents with water and take...</b>'</p>
<b>Chlorothiazide</b>	<p>Use an alternative thiazide like diuretic e.g. <b>Chlortalidone</b> or <b>Indapamide</b> as per NICE clinical guideline 127 Hypertension 2011 in preference to a conventional thiazide diuretic such as Bendroflumethiazide.</p> <p>Follow hypertension guidelines to ensure most appropriate medication prescribed.</p>

<b>Chlorphenamine</b>	<p>Prescribe licensed <b>Chlorphenamine Maleate 2mg/5mL Oral Solution (C)</b></p> <p>Or</p> <p>Prescribe <b>Chlorphenamine tablets</b> and label '<b>crush tablet and mix with water and take..</b>' (A)</p> <p>or</p> <p>Injection may be given enterally if necessary:</p> <p>Prescribe <b>Chlorphenamine Maleate 10mg/mL Injection</b> (1mL ampoule) and label according to dose calculated.(D)</p>
<b>Chlorpromazine Hydrochloride</b>	<p>Prescribe licensed <b>Chlorpromazine solution</b>. 25mg/5ml and 100mg/5ml oral solutions available. (C)</p> <p>Suitable for tube administration.</p>
<b>Ciclosporin</b>	<p>Prescribe licensed <b>Ciclosporin 100mg/mL SF Oral Solution (Neoral®)</b>. (C)</p> <p><i>N.B.</i> Prescribe by brand name.</p> <p>Interacts with PVC feeding tubs, so dilute the dose in equal amount of water.</p> <p>Monitor plasma levels.</p> <p>Can be mixed with orange or apple juice to improve taste.</p>
<b>Cimetidine</b>	<p>Prescribe licensed <b>Cimetidine 200mg/5mL Oral Solution</b>. (C)</p> <p>Feeding tubes:</p> <ul style="list-style-type: none"> <li>-Oral solution can be diluted and administered via feeding tube.</li> <li>-Stop enteral feed prior to administration</li> <li>-Flush tube before and after</li> </ul> <p>Injection may be given enterally, however there may be reduced absorption when Cimetidine is administered directly into the jejunum.</p> <p>Effervescent tablets available (A)</p>
<b>Cinnarizine</b>	<p>For nausea, vomiting vertigo, motion sickness, labyrinthine disorders: consider licensed Promethazine HCL preparation: see <b>Promethazine Hydrochloride</b></p> <p>or</p> <p>Prescribe <b>Cinnarizine Tablets</b> and label '<b>disperse tablet in water and take...</b>' (B)</p>
<b>Ciprofloxacin</b>	<p>Prescribe licensed <b>Ciprofloxacin 250mg/5mL Suspension (Ciproxin®)</b>. (do not dilute suspension further) (C) (May be too thick for feeding tubes)</p> <p>or</p> <p>Prescribe <b>Ciprofloxacin Tablets</b> and label '<b>disperse tablet in 30-60mL of sterile water and take...</b>' (B)</p> <p><i>N.B.</i> sterile water is required to avoid iron chelation</p> <p>Feeding tubes:</p> <ul style="list-style-type: none"> <li>- Stop enteral feed 1 hr prior to administration and for 2 hrs after</li> <li>- Flush tube before and after</li> </ul>

<b>Citalopram</b>	<p>Prescribe licensed <b>Citalopram 40mg/mL Oral Drops</b> and label '<b>mix Citalopram oral drops with water before taking...</b>' (C)</p> <p><i>N.B.</i> Four drops (8mg) is equivalent in therapeutic effect to 10mg Citalopram tablets.</p> <p>See BNF section 4.3.3 for further details.</p> <p>Or (B)</p>
<b>Clindamycin</b>	<p>Prescribe <b>Clindamycin Capsules</b> and label '<b>open capsule and mix contents in water and take...</b>'</p> <p>Dalacin-C brand capsules suitable for administration via an 8Fr NG tube.</p>
<b>Clobazam</b>	<p>Prescribe <b>Clobazam Tablets</b> and label '<b>disperse tablet in water and take...</b>'</p> <p><i>(may cause unpleasant taste)</i></p> <p>Suitable for tube administration.</p>
<b>Clomifene</b>	<p>(B)</p> <p>Ref Wockhardt Medical Information</p>
<b>Clomipramine</b>	<p>For depressive illness:</p> <p>Consider alternative licensed tricyclic antidepressant: see <b>Amitriptyline / Imipramine / Lofepramine / Trazodone</b>.</p> <p>Capsules can be opened and contents mixed with water. (A)</p>
<b>Clonazepam</b>	<p>Prescribe <b>Clonazepam Tablets</b> and label as '<b>disperse tablet in at least 30ml of water and take...</b>' (A)</p> <p>Feeding tubes:</p> <p>Dilute with 30-60mL water to reduce binding to the tube.</p> <p>The injection can be administered orally or enterally after dilution with 1ml water for injection (note the excipients include ethanol, glacial acetic acid, benzyl alcohol and propylene glycol)</p>
<b>Clonidine</b>	<p>Prescribe <b>Clonidine Tablets (Catapres®)</b> and label '<b>crush tablet, mix with water and take...</b>' (A – Catapres) (B- Dixarit)</p> <p>or</p> <p>Injection may be taken orally or enterally if necessary:</p> <p>Prescribe <b>Clonidine HCL 150mcg/mL Injection</b> and label according to dose calculated.</p> <p><i>N.B.</i> the injection can be given neat or diluted with water prior to administration to give a suitable dose volume. The injection is tasteless, but if desired it can be mixed with fruit juice at the time of administration.</p> <p>Feeding tubes:</p> <p>Injection can be diluted and administered via feeding tube</p>

<b>Clopidogrel</b>	<p>Prescribe <b>Clopidogrel Tablets</b> and label '<i>disperse tablet in water and take immediately...</i>' (B)</p> <p>Tablets may be crushed and mixed with 10ml of water. (<i>can take one to five minutes to disperse completely</i>)</p> <p>Suitable for administration via an 8Fr NG tube.</p>
<b>Co-amilozone</b>	<p>Prescribe <b>Co-amilozone Tablets</b> and label '<i>crush tablet and dispersed in water and take...</i>' (B)</p>
<b>Co-amoxiclav</b>	<p>Prescribe licensed <b>Co-amoxiclav Oral Suspension: (125/31)/5mL</b> or <b>(250/62)/5mL</b>. (C)</p> <p>Feeding tubes: Dilute to half strength to avoid caking * Dispersible tablets available (A*)</p>
<b>Co-beneldopa</b>	<p>Prescribe licensed <b>Co-beneldopa (62.5 /125) Dispersible Tablets</b>. (A)</p>
<b>Co-careldopa</b>	<p>Consider alternative licensed <b>Co-beneldopa (62.5 /125) Dispersible Tablets</b> or</p> <p>Prescribe <b>Co-careldopa Tablets</b> and label '<i>crush tablet, mix with water and administer...</i>' (A)</p> <p>(Do not disperse slow-release tablets)</p>
<b>Co-codamol</b>	<p>Prescribe licensed <b>Co-codamol Effervescent Tablets</b>. (A)</p>
<b>Codeine</b>	<p>Prescribe licensed <b>Codeine Phosphate 25mg/5mL Syrup</b>. (C)</p> <p>Feeding tubes: Dilute viscous commercial syrup.</p>
<b>Co-dydramol</b>	<p>Prescribe licensed liquid preparations separately: <b>Dihydrocodeine 10mg/5mL Oral Solution</b> and <b>Paracetamol 250mg/5mL Suspension</b></p> <p>or</p> <p>Prescribe licensed <b>Co-codamol Effervescent Tablets</b>.</p>
<b>Colchicine</b>	<p>Prescribe <b>Colchicine Tablets</b> and label '<i>crush tablet, disperse in water and take...</i>' (A)</p>
<b>Colecalciferol</b>	<p>Licensed products also contain calcium: See <b>Calcium with Vitamin D</b>.</p>

<b>Colestyramine</b>	Prescribe <b>Colestyramine Powder</b> .
<b>Co-phenotrope</b>	Prescribe <b>Co-phenotrope Tablets</b> and label ' <i>crush tablet, disperse in water and take...</i> ' (B)
<b>Co-Trimoxazole</b>	Prescribe licensed <b>Co-Trimoxazole 240mg/5ml or Co-Trimoxazole 480mg/5ml (C)</b>
<b>Cyclizine</b>	For nausea, vomiting, vertigo, motion sickness, labyrinthine disorders: Consider licensed Promethazine HCL preparation: see <b>Promethazine Hydrochloride</b> or Prescribe <b>Cyclizine Tablets</b> and label ' <i>crush tablet, disperse in water and take...</i> ' (B) ( <i>crushed tablets have a bitter taste</i> ) Suitable for administration via an 8Fr NG tube. The injection has been given enterally; however the manufacturers have no information on this, and cannot recommend it.
<b>Cyclophosphamide</b>	Injection can be used enterally or to prepare a solution for oral use.
<b>Cyproterone</b>	Prescribe <b>Cyproterone Tablets</b> and label ' <i>disperse tablet in water and take...</i> '
<b>D</b>	
<b>Dantrolene</b>	Prescribe <b>Dantrolene Capsules</b> and label ' <i>open capsule and mix contents with orange juice (to maintain acidity) and take...</i> '
<b>Deferiprone</b>	Prescribe licensed <b>Deferiprone 100mg/mL Oral Solution (Ferriprox®)</b> .
<b>Demeclocycline</b>	Consider alternative licensed tetracycline preparation: see <b>Doxycycline</b> . Or Open capsule and disperse contents in water (B)
<b>Desferrioxamine</b>	Injection can be given orally or via nasogastric tube in 50-100ml water, it has an unpleasant taste.
<b>Desmopressin</b>	Prescribe licensed <b>Desmopressin Sublingual Tablets</b> or Prescribe licensed <b>Desmopressin Acetate Nasal Spray</b> or Prescribe licensed <b>Desmopressin Intranasal Solution</b> .  <i>See BNF section 6.5.2 for details on different strengths available and indications.</i>
<b>Dexamethasone</b>	Prescribe licensed <b>Dexamethasone 2mg/5mL SF Oral Solution (Dexsol®)</b> . (C) The injection can be given orally or enterally



<p><b>Diazepam</b></p>	<p>Prescribe licensed <b>Diazepam 2mg/5mL Oral Solution.(C)</b></p> <p>Feeding tubes: Dilute with 30-60mL water to reduce binding to the tube</p> <p>Suppositories and injections available</p> <p>Injection has been given enterally; however the manufacturers have no information on this and cannot recommend it. Drug loss may occur if diazepam is administered through long PVC tubes as diazepam is significantly adsorbed onto (portex) PVC. Diazepam may also contribute towards blockage of tubes.</p>
<p><b>Diclofenac</b></p>	<p>If at all possible, on safety grounds another NSAID should be chosen. However if diclofenac is to be used then:</p> <p>Prescribe licensed <b>Diclofenac Dispersible Tablets (Voltarol®) (A)</b></p> <p>or</p> <p>Prescribe licensed <b>Diclofenac Suppositories (Voltarol®).</b></p> <p>(Do not crush enteric-coated or slow release tablets)</p>
<p><b>Digoxin</b></p>	<p>Prescribe licensed <b>Digoxin 50mcg/mL Elixir (Lanoxin-PG®). (C)</b></p> <p><i>N.B.</i> Bioavailability is different between tablets and liquids: 62.5mcg tablet = 50mcg <b>Lanoxin-PG® Elixir.</b></p> <p><i>See BNF section 2.1.1 for further information.</i></p> <p><i>N.B.</i> Elixir has high osmolality therefore if diarrhoea develops consider: prescribing <b>Digoxin Tablets</b> and label '<b>crush tablet, mix with water and take...</b>' (B)</p>
<p><b>Dihydrocodeine</b></p>	<p>Prescribe licensed <b>Dihydrocodeine 10mg/5mL Oral Solution. (C)</b></p> <p>No information on suitability via feeding tube.</p>
<p><b>Diltiazem (oral)</b></p>	<p>Prescribe <b>Diltiazem 60mg MR</b> (three times daily formulation only) and label '<b>crush tablet and disperse in water and take...</b>' (B)</p> <p>(<i>N.B.</i> once and twice daily MR preparations should not be crushed. The 60mg MR three times daily formulation is not slow release and can be crushed).</p> <p>Slozem brand capsules may be opened and administered via a feeding tube although pellets may get stuck in smaller tubes.</p> <p>or</p> <p>Consider alternative licensed calcium channel blocker: see <b>Verapamil.</b></p>
<p><b>Diltiazem (topical)</b></p>	<p>If clinically appropriate, i.e. unresponsive to licensed topical nitrates, unlicensed <b>Diltiazem 2% topical Ointment</b> can be prescribed.</p>
<p><b>Dinoprostone</b></p>	<p>Injection may be diluted with water for use enterally or orally</p>

<p><b>Dipyridamole</b></p>	<p>Prescribe licensed <b>Dipyridamole 50mg/5mL Oral Suspension.(C)</b></p> <p>For prevention of vascular events</p> <p><i>(Current evidence only supports m/r preparations for prevention of vascular events)</i></p> <p>Prescribe <b>Dipyridamole MR Capsules</b>, label as:  <b>‘Open capsule and mix granules inside the capsule in soft food or cold liquid, do not chew granules...’</b></p> <p>Injection may be given orally or enterally. Dipyridamole should be given on an empty stomach; therefore enteral feeds should be withheld for one hour before and one hour after dose.</p>
<p><b>Disopyramide</b></p>	<p>Injection can be used enterally. It is very bitter and has a local anaesthetic effect in the mouth and therefore should be used with care if given orally.</p>
<p><b>Docusate</b></p>	<p>Prescribe licensed <b>Docusate Sodium Oral SF Solution (Docusol®): Adult 50mg/5mL / Paediatric 12.5mg/5mL (C)</b></p> <p>or</p> <p>Prescribe licensed <b>Docusate Enema [120mg in 10g] (Norgalax Micro-enema®).</b></p> <p>Feeding tubes:  No information on suitability of liquid to be given via feeding tube.</p>
<p><b>Domperidone</b></p>	<p>Prescribe licensed <b>Domperidone 5mg/5mL Suspension (C)</b></p> <p>or</p> <p>Prescribe licensed <b>Domperidone 30mg Suppositories (Motilium®).</b></p> <p><i>N.B.</i> Suspension contains 70% sorbitol therefore may cause diarrhoea</p>
<p><b>Donepezil</b></p>	<p>Prescribe licensed <b>Donepezil Orodispersible Tablets (Aricept Evess®). (B)</b></p>
<p><b>Dosulepin</b></p>	<p>For depressive illness but not recommended:</p> <p>Consider alternative licensed tricyclic antidepressant: see <b>Amitriptyline / Imipramine/ Lofepramine / Trazodone.</b></p> <p>or</p> <p>Capsules may be opened and dispersed in 30ml of water or sprinkled onto food. <b>(B)</b></p> <p>Cox brand tablets disperse in 10ml of water if shaken for 5 minutes and APS brand tablets can be crushed and dispersed in water.</p> <p>Only suitable for administration via an 8Fr NG tube if film coating completely dissolved.</p>

<b>Doxazosin</b>	<p>Prescribe <b>Doxazosin Tablets (non-MR)</b> and label '<i>disperse tablet in sterile water and take...</i>' (A)</p> <p>APS, Dexcel, Discovery, Generics and Sterwin brand non-MR tablets can be dispersed in 10ml of water.</p> <p>Suitable for administration via an 8Fr NG tube administration.</p> <p>Cardura brand non-MR tablets can be crushed and mixed with sterile water.</p> <p><i>N.B.</i> tablets should be dispersed in sterile (not tap) water.</p> <p>Do not crush modified release tablets. Change to normal release and increase the frequency to BD.</p>
<b>Doxepin</b>	<p>For depressive illness:</p> <p>Consider alternative licensed tricyclic antidepressant: see <b>Amitriptyline / Imipramine / Lofepamine / Trazodone</b>.</p> <p>Or</p> <p>Prescribe <b>Doxepin Capsules</b> and label '<i>open capsule, mix contents with water and take...</i>' (B)</p>
<b>Doxycycline</b>	<p>Prescribe licensed <b>Doxycycline Dispersible Tablets (Vibramycin-D®)</b>. (A*)</p> <p>Do NOT open capsules as the contents are irritant</p>
<b>E</b>	
<b>Enalapril</b>	<p>Consider another ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b>.</p> <p>or</p> <p>Innovace brand tablets are highly soluble in water.</p> <p>Alpharma brand tablets can be crushed/suspended and administered via a PEG/NG tube.</p> <p>Dexcel brand tablets dissolve in 10ml of water in 5 minutes if agitated. Lower strengths disperse more rapidly than the higher strengths. The fine suspension flushes easily down an 8Fr NG tube.</p> <p>Milpharm 10mg tablets disperse in water within 5 minutes to give a fine dispersion that flushes easily via an 8Fr NG tube.</p>
<b>Entacapone</b>	<p>Prescribe <b>Entacapone Tablets</b> and label '<i>disperse tablet in water and take...</i>'</p> <p><i>N.B.</i> will partially disperse in water. May stain orange. Wear gloves. (B)</p>
<b>Ephedrine Drops (nasal congestion)</b>	<p>Prescribe licensed <b>Ephedrine Nasal Drops: 0.5% or 1%, 10ml pack sizes</b></p>
<b>Eplerenone</b>	<p>Tablets can be crushed and mixed in apple sauce (Ref Prizer)</p>

<b>Eprosartan</b>	<p>Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b></p> <p>or</p> <p>Consider changing to licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar®)</b></p> <p>or</p> <p>Prescribe <b>Eprosartan Tablets</b> and label '<i>crush tablet, mix with water and take...</i>'</p>
<b>Ergocalciferol</b>	<p>Licensed <b>Fultium D3</b> is now available in 20microgram strength but prescribers should be aware it does contain peanut oil.</p> <p>or</p> <p>Nutritional supplement ProD3 is available in a variety of strengths; it also comes in a liquid form and is peanut and soya free.</p> <p>or</p> <p>Prescribe licensed supplements with calcium: see <b>Calcium with Vitamin D.</b></p>
<b>Escitalopram</b>	<p>Consider alternative licensed selective serotonin re-uptake inhibitors: see <b>Citalopram / Fluoxetine / Paroxetine.</b></p> <p>Licensed <b>Cipralext drops 10mg/ml and 20mg/ml</b> are available, however not first line choice in depression.(C)</p> <p>Or</p> <p>Tablets can be crushed and dispersed in water, orange or apple juice. Bitter taste. To be taken immediately. (Ref. Lundbeck Medical Information) (B)</p>
<b>Esomeprazole</b>	<p>Prescribe licensed <b>Lansoprazole Orodispersible Tablets (Zoton Fastabs®).</b> Can be dispersed in small amounts of water and administered by an oral syringe or nasogastric tube.</p> <p>NB when it dissolves it leaves pellets which should not be crushed</p> <p>Esomeprazole is available as granules, make up with water according to instructions and use within 30mins, can be administered through nasogastric or gastric tube.</p>
<b>Ethambutol</b>	<p>Prescribe <b>Ethambutol Tablets</b> and label '<i>crush tablet, mix with water and take...</i>' (B)</p>
<b>Etidronate Disodium</b>	<p>Stop enteral feed 2 hours before and after administration. Flush tube before and after. (B)</p>
<b>Ezetimibe</b>	<p>Consider age of patient and if still clinically appropriate; consider alternative lipid modifying drug.</p> <p>Or</p> <p>Prescribe <b>Ezetimibe Tablets</b> and label '<i>crush tablet, mix with water and take...</i>' (B)</p>
<b>F</b>	
<b>Felodipine</b>	<p>MR tablets should not be crushed:</p> <p>Consider alternative licensed calcium channel blocker: see <b>Verapamil</b></p> <p>or</p> <p>Consider unlicensed alternatives see: <b>Amlodipine / Diltiazem.</b></p>

<b>Ferrous Sulphate</b>	<p>Convert to licensed Ferrous Fumarate preparations:</p> <p>Prescribe licensed <b>Ferrous Fumarate 140mg (45mg iron) /5mL Syrup (Fersamal®)</b></p> <p>or</p> <p>Prescribe licensed <b>Ferrous Fumarate SF 140mg (45mg iron)/ 5mL Syrup (Galfer®)</b>.</p> <p><i>N.B.</i> Ferrous sulphate 200mg = Ferrous Fumarate 7mL (140mg/5mL) oral syrup.</p>
<b>Finasteride</b>	<b>(B)</b> Wear gloves – Not to be handled by women who are or might be pregnant
<b>Flavoxate</b>	<b>(B)</b> Tablets are very hard to crush
<b>Flecainide</b>	<p>Prescribe <b>Flecainide Tablets</b> and label '<b>crush tablet, mix with sterile (not tap) water and take...</b>' <b>(A)</b></p> <p>(May have local anaesthetic effect)</p> <p>Injection has been administered enterally undiluted. This should only be used in emergency situations, and the patient should be monitored for clinical/adverse effects. If giving via enteral feeding tube, always flush with deionised water, and do not mix with alkali solutions, sulphate, phosphate, or chloride ions. Do not mix this drug with other medications prior to administration.</p>
<b>Fluconazole</b>	<p>Prescribe licensed <b>Fluconazole suspension 50mg/5ml or 200mg/5ml (C)</b></p> <p>Or</p> <p>Capsule can be opened and contents mixed with water.</p>
<b>Fludrocortisone</b>	<p>Prescribe <b>Fludrocortisone Tablets</b> and label '<b>dissolve tablet in water and take...</b>' <b>(A)</b></p> <p>Tablets will dissolve in 10ml of water within 2 minutes.</p> <p>Suitable for administration via an 8Fr NG tube.</p> <p>Generics brand tablets suitable for administration via an 8Fr NG tube</p>
<b>Flunarizine HCl Capsules/Tablets</b>	If using for migraine prophylaxis select another treatment, Flunarizine is not marketed or licensed in the UK.
<b>Fluoxetine</b>	Prescribe licensed <b>Fluoxetine 20mg/5mL Liquid. (C)</b>
<b>Flupentixol</b>	Prescribe <b>Flupentixol Tablets</b> and label ' <b>dissolve tablet in water and take...</b> ' <b>(B)</b>
<b>Fluvastatin</b>	<p>Consider age of patient and if still clinically appropriate:</p> <p>Consider changing to licensed <b>Simvastatin oral suspension</b></p> <p>or</p> <p>Open capsules and disperse in water. Do not open slow-release capsules</p>
<b>Fluvoxamine</b>	Consider alternative licensed selective serotonin re-uptake inhibitors: see <b>Citalopram / Fluoxetine / Paroxetine.</b>

<b>Folic Acid</b>	Prescribe licensed <b>Folic Acid Syrup: 2.5mg/5mL</b> or <b>400micrograms/5mL (C)</b> Or Prescribe <b>Folic acid Tablets</b> and label 'dissolve tablet in water and take...' (B)
<b>Formaldehyde Solution</b>	0.75% gel commercially available as Veracur from Typharm.
<b>Fosinopril</b>	Consider changing to another ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b> .
<b>Furosemide</b>	Prescribe licensed <b>Furosemide SF Oral Solution: 20mg/5mL</b> or <b>40mg/5mL</b> or <b>50mg/5mL.(C)</b> Suitable for NG tube administration. Or Prescribe <b>Furosemide Tablets</b> and label ' <i>dissolve tablet in water and take...</i> ' (A)
<b>Fusidic Acid</b>	See <b>Sodium Fusidate</b>
<b>G</b>	
<b>Gabapentin</b>	Prescribe <b>Gabapentin Capsules</b> and label ' <i>open capsule and dissolve the contents in water and take ...</i> ' <b>Solution must be administered immediately.</b> Neurontin brand capsules suitable for administration via an 8Fr NG tube. <i>N.B. caution advised on this unlicensed route in epileptic patients.</i>
<b>Glibenclamide</b>	Prescribe <b>Glibenclamide Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Gliclazide</b>	Prescribe <b>Gliclazide Tablets (non-MR)</b> and label as ' <i>crush tablet and mix with orange juice and take...</i> ' N.B. Can take five minutes for tablet to completely disperse. Monitor blood glucose levels.
<b>Glipizide</b>	Prescribe <b>Glipizide Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> '
<b>Glucose 25% in Glycerol Nose drops</b>	If required, prescribe as <b>Glycerdex</b> 10ml pack size
<b>Glyceryl Trinitrate (topical)</b>	Prescribe as <b>Glyceryl Trinitrate 0.2% ointment</b> . However it is preferable to prescribe a licensed product where possible. Licensed 0.4% Rectal Ointment (Recotgesic ®) is blacklisted on some RAG lists, check prior to prescribing.
<b>Glycopyrronium Bromide</b>	Injection solution may be taken orally or enterally if necessary: Prescribe <b>Glycopyrronium Bromide 200mcg/mL Injection</b> (1mL / 3mL ampoule) and label according to dose calculated. Or Tablets disperse in water (B) Suitable for administration via an 8Fr NG tube.



<b>Griseofulvin</b>	<p>Prescribe licensed <b>Griseofulvin 125mg/5ml oral suspension sugar free (100ml) (C)</b></p> <p>For fungal infections trial licensed topical preparation first: <b>Griseofulvin 400mcg/metered Spray (Grisol AF®).</b></p> <p>Tablets are not soluble in water</p>
<b>H</b>	
<b>Haloperidol</b>	<p>Prescribe licensed <b>Haloperidol Oral SF Liquid: 1mg/mL or 2mg/mL.(C)</b></p> <p>Or</p> <p>Open capsule and disperse contents in water <b>(B)</b></p>
<b>Hydralazine</b>	<p>Prescribe <b>Hydralazine Tablets</b> and label '<i>dissolve tablet in water and take...</i>' <b>(B)</b></p> <p>Reconstituted injection may be given orally or enterally if necessary: Prescribe <b>Hydralazine 20mg/2mL Injection</b> (powder for reconstitution) (Apresoline®) (2mL ampoule) and label according to dose calculated.</p>
<b>Hydrocortisone</b>	<p>Prescribe <b>Hydrocortisone Tablets</b> and label '<i>crush tablet finely and mix with water to form a suspension and take...</i>' (insoluble tablet)</p> <p>The Efcortisol® injection may be given orally or enterally. It contains significant amounts of phosphate.</p> <p>If suppositories required Colofoam 125mg per application is available from Meda</p>
<b>Hydroxycarbamide (Hydroxyurea)</b>	<b>Cytotoxic Drug:</b> should not be crushed/ dissolved in primary care.
<b>Hydroxychloroquine</b>	<b>(B)</b>
<b>Hydroxyzine</b>	<p>Prescribe licensed <b>Hydroxyzine syrup 10mg/5ml (C)</b></p> <p>Or</p> <p>Prescribe <b>Hydroxyzine Tablets</b> and label '<i>dissolve tablet in water and take...</i>' <b>(B)</b></p>
<b>Hyoscine butylbromide</b>	<p>Do not crush tablet, but will dissolve in greater than 2 minutes <b>(B)</b></p> <p>Injection solution may be used orally or enterally if necessary: Prescribe <b>Hyoscine Butylbromide 20mg/mL Injection</b> (1mL ampoule) and label according to dose calculated. <b>(D)</b></p> <p><i>N.B.</i> Once opened: contents of ampoule may be stored in a refrigerator for up to 24 hours.</p>

<p><b>Hyoscine Hydrobromide</b></p>	<p>Prescribe <b>Hyoscine Patch</b> (Scopoderm® TTS).</p> <p>or</p> <p>Prescribe Hyoscine hydrobromide chewable tablets 150micrograms, 300micrograms (Kwells or Joyrides).</p> <p>Injection solution may be given orally. It has also been used enterally.</p>
<p><b>Hypromellose Eye Drops</b></p>	<p>Prescribe licensed <b>Hypromellose 0.3% Eye Drops</b>.</p> <p>or</p> <p>0.5% and 1% eye drops available.</p> <p>or</p> <p>0.32% single use eye drops available.</p>
<p><b>I</b></p>	
<p><b>Ibuprofen</b></p>	<p>Prescribe licensed <b>Ibuprofen 100mg/5ml Suspension (pack sizes 100ml, 150ml, 500ml) (C)</b></p> <p>or</p> <p>Prescribe licensed <b>Ibuprofen 600mg/sachet Effervescent Granules</b>.</p> <p>or</p> <p><b>(B*)</b></p> <p>* Do not crush enteric-coated preparations</p>
<p><b>Imipramine HCL</b></p>	<p>For depressive illness:</p> <p>Prescribe alternative licensed tricyclic antidepressant: see <b>Amitriptyline/Lofepamine/Trazodone</b></p> <p>or</p> <p>Prescribe licensed <b>Imipramine oral solution 25mg/5ml (C)</b></p> <p>or</p> <p>Prescribe <b>Imipramine Tablets</b> and label '<b>Crush tablet, disperse in water and take...</b>' <b>(B)</b></p>
<p><b>Indapamide</b></p>	<p><b>(B)</b> Do not crush slow release formulations, change to normal release (1.gmg SR daily is equivalent to 2,5mg daily).</p>
<p><b>Indometacin</b></p>	<p>Prescribe licensed <b>Indometacin 100mg Suppositories</b></p> <p>or</p> <p>Consider alternative licensed non-steroidal anti-inflammatory drug: see <b>Ibuprofen/Diclofenac</b>, (although diclofenac should be avoided if possible.)</p>
<p><b>Irbesartan</b></p>	<p>Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b></p> <p>or</p> <p>Consider changing to licensed <b>Losartan oral suspension 12.5mg/5ml</b></p> <p>or</p> <p>Prescribe <b>Irbesartan Tablets</b> and label '<b>crush tablet, disperse in water and take...</b>' <b>(B)</b></p> <p>Practically insoluble in water. Crush tablets and give with water or in food.</p>

<b>Isoniazid</b>	<p>Celltech brand tablets can be crushed. <b>(B)</b></p> <p>Tablets will disperse when shaken in 10ml of water to form a fine white dispersion that flushes via an 8Fr NG tube without blockage.</p>
<b>Isosorbide Dinitrate</b>	<p>Prescribe <b>Isosorbide Dinitrate Tablets (non-MR)</b> and label '<i>crush tablet, disperse in water and take...</i>'</p>
<b>Isosorbide Mononitrate</b>	<p>Prescribe <b>Isosorbide Mononitrate Tablets (non-MR)</b> and label '<i>crush tablet, disperse in 20mL of water for five minutes and take immediately...</i>' <b>(B)</b></p> <p>Suitable for administration via an 8Fr NG tube.</p> <p>or</p> <p>Consider changing to licensed <b>GTN Patch / Spray</b>.</p> <p>Do not crush slow release formulations. Change to normal release preparations and increase frequency to BD. Monitor blood pressure.</p>
<b>K</b>	
<b>Ketamine</b>	<p>Diluted injection can be given orally. It should be mixed with a flavoured soft drink to mask the bitter flavour.</p>
<b>L</b>	
<b>Labetalol</b>	<p>Consider alternative licensed beta-blocker preparation: see <b>Atenolol / Propranolol</b></p> <p>Or</p> <p>Prescribe <b>Labetalol Tablets</b> and label '<i>Crush tablet, disperse in water and take...</i>' <b>(B)</b></p> <p>or</p> <p>Injection may be taken orally or enterally if necessary:</p> <p>Prescribe <b>Labetalol HCL 5mg/mL Injection</b> (20mL ampoule) and label according to dose calculated.</p> <p><i>N.B.</i> Injection taken orally can be given with fruit juice or squash to disguise bitter taste <b>(D)</b></p>
<b>Lacidipine</b>	<p>Consider alternative licensed calcium channel blocker: see <b>Verapamil</b></p> <p>or</p> <p>Consider unlicensed alternatives see: <b>Amlodipine / Diltiazem / Nimodipine</b>.</p>
<b>Lactulose</b>	<p>Lactulose can be diluted with water to ease administration; however diluted solution must be used immediately.</p>
<b>Lamotrigine</b>	<p>Prescribe licensed <b>Lamotrigine Dispersible Tablets</b>.</p>
<b>Lansoprazole</b>	<p>Prescribe licensed <b>Lansoprazole Orodispersible Tablets (Zoton Fastab®)</b>.</p> <p>Fast-Tabs can either be swallowed whole, allowed to dissolve in the mouth or can be dissolved in 10ml of water if necessary.</p> <p>Suitable for administration via an 8Fr NG tube.</p>
<b>Lercanidipine</b>	<p>Tablets do not dissolve in water. They can be broken into pieces and taken with food.</p> <p>Consider an alternative (<b>Amlodipine</b>)</p>

<b>Levamisole</b>	Consider switching to mebendazole tablets which are commercially available Alternatively, the tablets can be crushed and mixed with water <b>(B)</b>
<b>Levetiracetam</b>	Prescribe licensed <b>Levetiracetam 100mg/mL SF Oral Solution (Keppra®)</b> . <b>(C)</b> Solution available is bitty and can clog tubes. Tablets can be crushed and dispersed in water or sprinkled on food. Taste bitter. <b>(B)</b> Tablets can be given rectally ( <i>Ref. UCB Pharma</i> )
<b>Levofloxacin</b>	<b>(B)</b> Stop enteral feed prior to administration (1 hour before and 2 hours after). Flush tube before and after. Do not use low doses.
<b>Levomepromazine</b>	Prescribe <b>Levomepromazine Maleate 25mg Tablets</b> and label ' <b>disperse tablet in water and take...</b> ' <b>(A)</b> (Nozinan brand tablets disperse within 2 minutes when placed in 10ml of water to give a coarse dispersion. Some of the larger particles break up when drawn into a syringe. The dispersion flushes via an 8Fr NG tube without blockage although it may block finer tubes.) or The 25mg/ml injection may be administered orally if necessary Prescribe <b>Levomepromazine HCL 25mg/mL Injection</b> (1mL ampoule) and label according to dose calculated. <b>(D)</b> or Consider alternative antipsychotic drug: see <b>Haloperidol / Chlorpromazine / Promazine / Sulpiride / Trifluoperazine</b> . Injection has also been given enterally; note that excipients degrade to products which theoretically may induce asthma attacks when given enterally.  No reports of attacks ever having been induced this way have been recorded by the manufacturers and the risk is considered to be small.
<b>Levothyroxine</b>	Prescribe licensed <b>Levothyroxine 25micrograms/ml, 50micrograms/5ml or 100micrograms/5ml oral solution</b> . (see note in BNF relating to this) <b>(C) (NB)</b> or Prescribe <b>Levothyroxine Tablets</b> and label ' <b>crush tablet, mix with water and take...</b> ' Tablets can be crushed and dispersed in 10ml of water if shaken for 3-5 minutes. Suitable for administration via an 8Fr NG tube.
<b>Lidocaine Gel</b>	For surface anaesthesia: Prescribe <b>Lidocaine 5% Ointment</b> or Prescribe <b>EMLA cream</b> (lidocaine 2.5%). <b>Instillagel 2%</b> available from <b>Clinimed</b> .
<b>Lisinopril</b>	Prescribe <b>Lisinopril Tablets</b> and label as ' <b>disperse tablet in water and take...</b> ' <b>(A)</b> Ranbaxy brand suitable for administration via an 8Fr NG tube.

<p><b>Lithium</b></p>	<p>Prescribe as Lithium Citrate:</p> <p>Prescribe licensed <b>Lithium Citrate Oral Solution (Li-Liquid®): 509mg/5mL (Li-5.4mmol/5mL) or 1.018g/5mL (Li- 10.8mmol/5mL)</b></p> <p>or</p> <p>Prescribe licensed <b>Lithium Citrate 520mg/5mL (Li- 5.4mmol/5mL) Liquid (Priadel®). (C)</b></p> <p><i>N.B.</i> Preparations vary widely in bioavailability, changing the preparation requires the same precautions as initiation of treatment.</p> <p>Lithium carbonate 200mg = lithium citrate 509mg.</p> <p><i>N.B.</i> Prescribe by brand name.</p> <p>Tablets are slow release, so liquid preparations may have to be given more frequently. Monitor plasma lithium levels.</p> <p><i>See BNF section 4.2.3 for further information.</i></p>
<p><b>Lofepamine</b></p>	<p>Prescribe licensed <b>Lofepamine HCL 70mg/5mL Oral Suspension.(C)</b></p> <p>Suspension mixes well with an equal volume of water which reduces flushing resistance.</p> <p>Gamanil brand tablets are film coated but can still be crushed.</p>
<p><b>Loperamide</b></p>	<p>Prescribe licensed <b>Loperamide 1mg/5mL SF Syrup.(C)</b></p> <p>Or</p> <p>Open capsule and disperse contents in water <b>(B)</b></p>
<p><b>Loprazolam</b></p>	<p><u>NOT 1<sup>st</sup> line choice</u></p> <p>For short term use only.</p> <p>If still appropriate:</p> <p>Consider alternative licensed hypnotic see: <b>Temazepam / Nitrazepam.</b></p>
<p><b>Loratadine</b></p>	<p>Prescribe licensed <b>Loratadine syrup 5mg/5ml (C)</b></p>
<p><b>Lorazepam</b></p>	<p><u>NOT 1<sup>st</sup> line choice</u></p> <p>For short term use only</p> <p>If still appropriate:</p> <p>Consider alternative licensed anxiolytic see: <b>Diazepam</b></p> <p>or</p> <p>Prescribe <b>Lorazepam Tablets</b> and label '<b>crush tablet, mix with water and take...</b>' <b>(A)</b></p> <p>Both the tablets and the injection may be used sublingually.</p>

<p><b>Lormetazepam</b></p>	<p><u>NOT 1<sup>st</sup> line choice</u></p> <p>For short term use only</p> <p>If still appropriate:</p> <p>Consider alternative licensed hypnotic see: <b>Temazepam / Nitrazepam</b></p> <p>or</p> <p>Prescribe <b>Lormetazepam Tablets</b> and label '<i>disperse tablet in water and take...</i>'</p>
<p><b>Losartan</b></p>	<p>Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b></p> <p>Or</p> <p>Prescribe licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar<sup>®</sup>)</b></p> <p>or</p> <p>Prescribe <b>Losartan Tablets</b> and label '<i>crush tablet, mix with water and take...</i>'</p>
<p><b>M</b></p>	
<p><b>Magnesium Glycerophosphate Tablets/Liquid</b></p>	<p>Prescribe <b>Magnaphate chewable tablets 97.2mg</b> (scored may be split)</p> <p>Or</p> <p>Prescribe <b>Magnaspartate oral powder 2433mg/6.5g sachet</b></p>
<p><b>Mebeverine</b></p>	<p>Prescribe licensed <b>Mebeverine HCL 50mg/5mL Oral Suspension.(C)</b></p> <p>Colofac MR capsules may be opened and the contents placed on a spoon and taken immediately. The granules must not be chewed.</p> <p>Dicycloverine 10mg/5ml syrup may be substituted.</p>
<p><b>Medroxyprogesterone</b></p>	<p>Prescribe <b>Medroxyprogesterone Tablets</b> and label '<i>crush tablet, disperse in water and take...</i>' (B)</p> <p><i>N.B.</i> Can take five minutes for tablet to completely disperse.</p> <p>Depo-Provera<sup>®</sup> has been used orally, although little data are available on this.</p>
<p><b>Megestrol acetate</b></p>	<p>Prescribe <b>Megestrol Acetate Tablets</b> and label '<i>crush tablet, disperse in water and take...</i>' (B)</p> <p><i>N.B.</i> Can take five minutes for tablet to completely disperse.</p>
<p><b>Mefenamic Acid</b></p>	<p>Prescribe licensed <b>Mefenamic Acid 50mg/5mL Suspension. (C)</b></p>
<p><b>Melatonin Capsules/Tablets</b></p>	<p>Circadin 2mg prolonged release tablets are licensed in UK for short-term treatment of primary insomnia characterised by poor quality of sleep in patients who are aged 55 or over.</p> <p>It is preferable to use a licensed product for unlicensed indication rather than an unlicensed product therefore this should be the first choice.</p> <p>Prescribe as <b>Circadin 2mg Prolonged release tablets</b></p> <p>Do not crush these tablets.</p>



<b>Melatonin Liquid</b>	<p>No licensed liquid alternatives known.</p> <p>Melatonin immediate –release capsules (1mg, 2mg, 2.5mg, 3mg, 5mg and 10mg) are available as batch- prepared products. They can be opened and mixed with water for administration orally or via a feeding tube.</p>
<b>Meloxicam</b>	<p>Prescribe licensed <b>Meloxicam 7.5mg Tablets (Mobic®)</b> which may be dispersed in water. <b>(A)</b></p> <p>or</p> <p>Consider alternative licensed non-steroidal anti-inflammatory drug: see <b>Ibuprofen / Indometacin</b></p> <p><i>N.B.</i> Meloxicam suppositories are no longer available.</p>
<b>Memantine</b>	<p>Prescribe licensed <b>Memantine HCL 5mg/actuation (10mg/ml) oral solution (Ebixa®)</b>.</p> <p><i>N.B.</i> 5mg per actuation. Solution should be dosed onto a spoon or into a glass of water. <b>(C)</b></p>
<b>Menadiol</b>	<p>Prescribe <b>Menadiol Sodium Phosphate Tablets</b> and label '<i>crush tablet, mix with water and take...</i>'</p>
<b>Menthol in Aqueous Cream</b>	<p>Prescribe as <b>Arjun Cream</b> (Available in 0.5% 500g, 1% 100g, 500g &amp; 2% 500g)</p>
<b>Mesalazine</b>	<p>Prescribe licensed <b>Mesalazine Granules (Pentasa®)</b>. <b>(C)</b></p> <p><i>N.B.</i> granules should be placed on tongue and washed down with water or orange juice without chewing. Granules are modified release and will contain small particles so may not be suitable for enteral feeding tubes.</p> <p>Do not crush Asacol™ Tablets, they are enteric coated</p> <p><i>N.B.</i> The delivery characteristics of oral mesalazine preparations may vary; these preparations should not be considered interchangeable – therefore take care if switching to granules from another formulation.</p> <p>Rectal preparation are also available.</p>
<b>Metformin</b>	<p>Prescribe licensed <b>Metformin Oral Powder: 500mg/1000mg (Glucophage®)</b></p> <p>or</p> <p>Prescribe licensed <b>Metformin 500mg/5mL SF Oral Solution (Metsol®)</b>. <b>(C)</b></p> <p>Glucophage brand tablets can be crushed.</p> <p>Tablets do not disperse well in water owing to their size, but they do crush easily and disperse in water to form a fine suspension that flushes easily via an 8Fr NG tube.</p>
<b>Methadone Hydrochloride Liquid</b>	<p>1mg/ml and 5mg/ml oral solutions available in both ordinary and sugar free.</p> <p>The Clear and sugar free clear formulations are both unlicensed specials, and therefore should be avoided in preference to the licensed formulations unless clear clinical need to prescribe them.</p> <p>Note that the clear sugar free formulation is sought after and is more prone to abuse.</p>

<b>Methotrexate</b>	<p><b>Cytotoxic Drug:</b> Wear gloves; handle with care: tablets should not be crushed/dissolved in primary care.</p> <p>Injection may be diluted in water and administered orally; an extended expiry can be given if a preservative is used.</p> <p>Prescribe <b>Methotrexate Injection</b> and label according to dose calculated.</p> <p><i>N.B.</i> absorption from injection gives similar plasma concentration to tablet formulation.</p> <p><i>See BNF section 8.1.3 and 10.1.3 for different strengths available.</i></p>
<b>Methyldopa</b>	Prescribe <b>Methyldopa Tablets</b> and label ' <i>disperse tablet in water and take...</i> ' (B)
<b>Methylprednisolone</b>	Prescribe <b>Methylprednisolone Tablets</b> and label ' <i>disperse tablet in water and take...</i> '
<b>Methylprednisolone sodium succinate</b>	The manufacturers are aware that Solu-Medrone® injection has been administered orally, but no further information available.
<b>Metoclopramide.</b>	<p>Prescribe licensed <b>Metoclopramide 5mg/5mL Oral Solution.</b>(C)</p> <p>Or</p> <p>Prescribe <b>Metoclopramide Tablets</b> and label '<i>disperse tablet in water and take...</i>' (B)</p> <p>The injection has been used enterally.</p>
<b>Metolazone</b>	Prescribe <b>Metolazone Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Metoprolol</b>	<p>Consider alternative licensed beta-blocker preparation: see <b>Atenolol / Propranolol</b></p> <p>or</p> <p>Prescribe <b>Metoprolol Tablets (non-MR)</b> and label '<i>crush tablet, mix with water and take...</i>' (B)</p> <p><i>(will disperse slowly)</i></p> <p>Do not crush slow release formulations.</p>
<b>Metronidazole</b>	<p>200mg/5ml suspension available. (C)</p> <p>Flagyl S brand liquid suitable for administration via an NG tube when diluted with an equal volume of water.</p> <p>Alpharma brand tablets may be crushed and mixed with water.</p> <p>Suitable for administration via an 8Fr NG tube.</p> <p>500mg and 1g suppositories available.</p>

<p><b>Midazolam</b></p>	<p><b>Buccolam</b> is now a licensed form of Midazolam for buccal administration in children.</p> <p>Because it is better to prescribe a licensed medication for an unlicensed indication it is preferable to consider prescribing this for adults also over an unlicensed product.</p> <p>It should be noted that because it contains the hydrochloride salt of Midazolam rather than the maleate salt used by some unlicensed products, buccolam is half the strength of some of these products and so caution is advised when changing patients' medication.</p> <p>Injection can be given orally. The injection has a bitter taste so should be diluted with apple or blackcurrant juice, raspberry or cherry syrup, chocolate sauce or cola.</p>
<p><b>Minocycline</b></p>	<p>Consider alternative licensed tetracycline preparation: see <b>Doxycycline</b>.</p>
<p><b>Minoxidil</b></p>	<p>(A)</p>
<p><b>Mirtazepine</b></p>	<p>Prescribe licensed <b>Mirtazepine Orodispersible Tablets (Zispin Soltab®)</b>. (A)</p> <p>Soltabs melt on the tongue. They also disperse in water.</p> <p>Or</p> <p>Mirtazepine oral solution 15mg/ml (C)</p>
<p><b>Misoprostol</b></p>	<p>Poor stability. Consider changing to ranitidine or lansoprazole.</p> <p>Or</p> <p>(A)</p>
<p><b>Monteleukast</b></p>	<p>Prescribe <b>Monteleukast Chewable Tablets</b> and label '<i>disperse tablet in water and take...</i>' (A)</p> <p>Unstable in water, so give immediately.</p>
<p><b>Morphine Hydrochloride (Controlled Drug)</b></p>	<p>No alternatives known. See Morphine Sulphate.</p>
<p><b>Morphine Sulphate (Controlled Drug)</b></p>	<p>Prescribe licensed <b>Morphine Sulphate Oral Solution (Oramorph®): 10mg/5mL or 100mg/5mL (C)</b></p> <p>or</p> <p>Prescribe licensed <b>Morphine Sulphate Suspension</b> (=sachets of granules to mix with water) (MST Continus®)</p> <p><i>See BNF chapter 'Prescribing in Palliative Care' for advice on transfer from MR to oral solution of morphine.</i></p> <p>or</p> <p>Prescribe <b>Zomorph® Capsules (or MXL® capsules)</b> and label '<i>open capsule and mix in water and take...</i>' (do not crush contents)</p>

<b>Moxonidine</b>	Prescribe <b>Moxonidine Tablets</b> and label ' <i>crush tablet finely, disperse in water and take...</i> ' (A)
<b>Multivitamins</b>	(C*) *Abidec (contains arachis oil ) and Dalivit drops available. Or (B)
<b>Mycophenolate mofetil</b>	Reconstituted injection solution has been used enterally with a dextrose 5% flush before and after administration.  Care should be taken when handling the powder (teratogenic risk) Contamination should be removed promptly by washing with soap and water (eyes – plain water)  Do not crush tablets – teratogenic.
<b>N</b>	
<b>Naftidrofuryl</b>	Prescribe <b>Naftidrofuryl Capsules</b> and label ' <i>open capsule and disperse contents in water and take...</i> '  <i>N.B.</i> Risk of oesophageal stricture if used orally in patients with swallowing difficulties – to avoid this, the patient should drink 4-5 glasses of water after each dose.
<b>Naproxen</b>	Prescribe alternative licensed non-steroidal anti-inflammatory drug: see <b>Ibuprofen / Indometacin</b> . or Prescribe <b>Naproxen Tablets (non-EC)</b> and label ' <i>crush tablet, disperse in water and take...</i> ' (B)  <i>N.B.</i> Can take five minutes for tablet to completely disperse. Do not crush slow release or enteric coated formulations Suppositories are available.
<b>Nefopam</b>	(B)
<b>Nicardipine</b>	Prescribe <b>Nicardipine Capsules (non-MR)</b> and label ' <i>open capsule, disperse contents in orange juice and take...</i> ' or Consider alternative licensed calcium channel blocker: see <b>Verapamil</b> or Consider unlicensed alternatives: see <b>Amlodipine / Diltiazem / Nimodipine</b> .
<b>Nicorandil</b>	Prescribe <b>Nicorandil Tablets</b> and label ' <i>crush tablet, mix with water to form a suspension and take immediately...</i> ' (A)  <i>N.B.</i> tablets are hygroscopic - use with care in enteral feeding tube as may cause blockage.

<b>Nifedipine</b>	<p>Consider alternative licensed calcium channel blocker: see <b>Verapamil</b></p> <p>Or</p> <p>Crush or disperse Adalat Retard™ tablets in water and use immediately as light sensitive. <b>(B)</b></p> <p>Do not crush Adalat LA™ tablets – convert to equivalent dose of Adalat Retard™</p> <p>or</p> <p>Consider unlicensed alternatives see: <b>Amlodipine / Diltiazem / Nimodipine.</b></p>
<b>Nimodipine</b>	<p>Prescribe <b>Nimodipine Tablets</b> and label '<i>crush tablet, mix with water and take immediately...</i>' <b>(B)</b></p> <p><i>N.B.</i> Solution is light sensitive hence immediate administration.</p>
<b>Nitrazepam</b>	<p>For short term use only / if still appropriate:</p> <p>Prescribe licensed <b>Nitrazepam 2.5mg/5mL Oral Suspension.(C)</b></p>
<b>Nitrofurantoin</b>	<p>Prescribe licensed <b>Nitrofurantoin 25mg/5mL Oral Suspension.(C)(NB)</b></p> <p>Suitable for administration via an 8Fr NG tube when diluted with an equal volume of water.</p> <p>Alpharma and APS brand tablets will disperse in 10ml of water if shaken for 5 minutes.</p> <p>Suitable for administration via an NG tube.</p> <p>Do not crush slow release formulations</p>
<b>Nizatidine</b>	<p>Open capsule and disperse contents in liquid <b>(B)</b></p> <p>Consider alternative licensed H<sub>2</sub>-receptor antagonist: see <b>Ranitidine / Cimetidine.</b></p>
<b>Norethisterone</b>	<b>(B)</b>
<b>Nortriptyline</b>	<p>For depressive illness:</p> <p>Consider alternative licensed tricyclic antidepressant: see <b>Amitriptyline / Imipramine / Lofepamine / Trazodone.</b></p>
<b>Nystatin</b>	<p>Prescribe licensed <b>Nystatin 100 000units/mL Oral Suspension</b></p> <p>or</p> <p>Prescribe licensed <b>Amphotericin 10mg Lozenges (Fungilin®).</b></p>
<b>O</b>	
<b>Ofloxacin</b>	<p>Consider switch to Ciprofloxacin (needs Microbiologist approval)</p> <p><b>(B)</b></p>
<b>Olanzapine</b>	<p>*Prescribe licensed <b>Olanzapine Orodispersible Tablet (Velotab®)</b> and label '<i>disperse tablet in water and take...</i>' <b>(A*)</b></p> <p>**Dissolve in water, apple and orange juice, milk or coffee. Wear gloves as very irritant to skin. Protect eyes (<i>Ref.Lilly</i>) <b>(B**)</b></p>

<b>Olmesartan</b>	Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b> . Or Consider changing to licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar®)</b>
<b>Olsalazine</b>	Capsule contents can be dissolved in WARM water. Contents stain. <b>(B)</b>
<b>Omeprazole (Adult)</b>	Consider alternative licensed <b>Lansoprazole Orodispersible Tablet (Zoton Fastab®)</b> or Prescribe licensed <b>Omeprazole Dispersible Tablets (Losec MUPS®)</b> . Mups tablets disperse in water but the solution may block fine bore feeding tubes. Tablets may be suspended in a small amount of fruit juice or yoghurt after gentle mixing. Tablets must not be crushed or chewed. Contents of capsules may be dispersed in 10ml of 8.4% Sodium Bicarbonate solution and given via either an NG, duodenal or jejunal tube.
<b>Omeprazole (Paediatric)</b>	Prescribe licensed <b>Omeprazole Dispersible Tablets (Losec MUPS®)</b> .
<b>Ondansetron</b>	Prescribe licensed <b>Ondansetron 4mg/5mL SF Syrup</b> or Prescribe licensed <b>Ondansetron 4mg Oral Lyophilisates (Zofran Melt®)</b> or Prescribe licensed <b>Ondansetron 16mg Suppositories</b> .  Injection has been used enterally; This may be preferable for administration via enteral tubes terminating in the jejunum as the syrup contains sorbital. The injection is acidic, so flush well before and after each dose to prevent precipitation of the drug when giving via enteral feeding tube. It is stable in apple juice.
<b>Orphenadrine</b>	Prescribe licensed <b>Orphenadrine hydrochloride 50mg/5ml solution (C)</b> Or <b>(B)</b>
<b>Oseltamivir</b>	Prescribe licensed <b>Oseltamivir suspension 60mg/5ml (C)</b> Or Capsules can be opened and contents mixed with sweetened food product (chocolate syrup, honey, sugar dissolved in water, dessert toppings, sweetened condensed milk, apple sauce or yogurt) to mask the bitter taste. The mixture should be taken immediately ( <i>Roche Ltd</i> )
<b>Oxcarbazepine</b>	Prescribe licensed <b>Oxcarbazepine 300mg/5mL (Trileptal®)</b> .
<b>Oxprenolol</b>	<b>(B)</b> Do not crush slow release preparations



<b>Oxybutynin</b>	<p>Prescribe licensed <b>Oxybutynin HCL 2.5mg/5mL Elixir (Ditropan®) (C)</b> however supply problems at present time.</p> <p>or</p> <p>If side effects not tolerated with oral oxybutynin: Prescribe licensed <b>Oxybutynin 36mg Patch (releasing 3.9mg/24hours) (Kentera®)</b>.</p> <p>Non-MR tablets disperse in 10ml of water. Suitable for administration via an 8Fr NG tube.</p>
<b>Oxycodone (Controlled Drug)</b>	<p>Prescribe licensed: <b>Oxycodone HCL SF Liquid: 5mg/5mL (Oxynorm®) (C)</b></p> <p>Or <b>Oxycodone HCL SF Liquid 10mg/mL (Concentrate) (OxyNorm®).(C)</b></p> <p>Feeding tubes: No information on suitability via feeding tube.</p>
<b>Oxytetracycline</b>	<p>Consider alternative licensed tetracycline preparation: see <b>Doxycycline</b>.</p> <p>Or <b>(B)</b></p>
<b>P</b>	
<b>Pancreatic Enzymes</b>	<p>Open capsule (Creon™, Nutrizyme™) and disperse contents in water. Granules must not be crushed <b>(B)</b></p>
<b>Pantoprazole</b>	Not suitable for crushing, see: <b>Lansoprazole</b> .
<b>Papaveretum Injection</b>	15.4mg injection commercially available.
<b>Paracetamol</b>	<p>Sterwin brand <b>500mg soluble tablets</b> effervesce in 10ml of water and are suitable for administration via an 8Fr NG tube. <b>(A)</b></p> <p><b>120mg/5ml</b> and <b>250mg/5ml oral solutions</b> available. <b>(C)</b></p> <p><b>60mg, 125mg</b> and <b>250mg suppositories</b> available.</p>
<b>Paroxetine</b>	<p>Prescribe licensed <b>Paroxetine 10mg/5mL Oral Suspension (Seroxat®)</b>. <b>(C)</b></p> <p>or <b>(B)</b></p>
<b>Penicillamine</b>	<b>(B)</b>
<b>Penicillin</b>	<p><b>(C)</b></p> <p>Stop enteral feed prior to administration. Flush tube before and after. Avoid low doses.</p>
<b>Pentazocine</b>	Injection mixed with orange juice immediately before administration has been given enterally.
<b>Pergolide</b>	<b>(B)</b>

<p><b>Perindopril Erbumine</b></p>	<p>Tablets can be dispersed in 10ml of water within 2-5 minutes.  Suitable for administration via an 8Fr NG tube  Or  Consider changing to another ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b>.</p>
<p><b>Pethidine (Controlled Drug)</b></p>	<p>Injection may be taken orally or enterally if necessary:  Prescribe <b>Pethidine HCL Injection: 50mg/mL</b> or <b>10mg/mL</b> (1mL/2mL; 5mL/10mL) and label according to dose calculated.</p>
<p><b>Phenelzine</b></p>	<p>Prescribe <b>Phenelzine Tablets</b> and label '<b>crush tablet, disperse in water and take immediately...</b>' (B)  <i>(Unstable in water hence immediate administration).</i>  Consider an alternative</p>
<p><b>Phenobarbital</b></p>	<p>Prescribe licensed <b>Phenobarbital 15mg/5mL Elixir (C)</b>  <b>(contains 38% alcohol so do not use 15mg/5ml in children due to high alcoholic content).</b>  Phenobarbital tablets may be crushed and mixed with water.  <i>N.B. for therapeutic purposes Phenobarbital and Phenobarbital sodium may be considered equivalent in effect.</i>  <i>See BNF section 4.8.2 for further information.</i></p>
<p><b>Phenobarbitone sodium</b></p>	<p>15mg/5ml elixir available.  Tablets may be crushed and mixed with water.</p>
<p><b>Phenytoin</b></p>	<p>Prescribe licensed <b>Phenytoin 30mg/5mL Suspension</b>.  <i>N.B. Bioavailability is different between forms: 100mg capsule = 90mg (15mL) syrup.</i>  <i>See BNF section 4.8.2 for further information.</i>  Feeding tubes:  - Convert to once daily dose  - Stop feed for two hours before and after administration (flush tube with 60mL)  - Dilute dose with 30-60mL water, flush tube after administration.  -Monitor plasma concentration.   Also available are chewable tablets (Infatabs®) which contain 50mg Phenytoin (not Phenytoin sodium – therefore take care when changing to products containing this)  see BNF section 4.8.1 for more information.</p>
<p><b>Phytomenadione</b></p>	<p>Konakion® MM Paediatric Injection is licensed for oral use (but not for enteral use):  Prescribe <b>Konakion® MM Paediatric 10mg/mL Injection</b> (0.2mL ampoule) and label according to dose calculated. (D)  Flush well after each dose if giving via enteral feeding tube.</p>

<b>Pimozide</b>	(B)
<b>Pioglitazone</b>	Tablets are relatively insoluble. Crush (B)
<b>Piroxicam</b>	Dispersible tablets available. Dissolve in at least 50ml of water as very irritant. Do not crush capsules (A)
<b>Pizotifen</b>	Prescribe licensed <b>Pizotifen elixir 250micrograms/5ml (C)</b>
<b>Potassium</b>	Sando K™ effervescent tablets available (A) Kay-Cee-L™ syrup available (C)
<b>Potassium Permanganate Topical Solution</b>	400microgram Permitabs® for solution available from Alliance. Dissolved in 4 litres of water provides a 0.01% (1 in 10000) solution
<b>Pramipexole</b>	Prescribe <b>Pramipexole Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B) Light sensitive, give immediately (Ref. Boehringer Ingelheim Ltd)
<b>Pravastatin</b>	Consider age of patient and if still clinically appropriate: Prescribe <b>Pravastatin Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B) Or Consider switching to alternative liquid statin e.g. Simvastatin.
<b>Prazosin</b>	Prescribe <b>Prazosin Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Prednisolone (Oral)</b>	Prescribe licensed <b>Prednisolone 5mg Soluble Tablets. (A)</b>
<b>Prednisolone Sodium Phosphate Eye Drops</b>	No alternative if strength below 0.5% has been prescribed/dictated by eye specialist.
<b>Pregabalin</b>	Open capsule and dissolve contents in water. Bitter taste. (Ref. Pfizer)
<b>Primidone Oral Suspension</b>	Tablets will disperse in 10ml of water. Suitable for administration via an 8Fr NG tube.
<b>Prochlorperazine</b>	Prescribe licensed <b>Prochlorperazine syrup 5mg/5ml (C)</b> Buccal tablets and suppositories available.
<b>Procyclidine</b>	Prescribe licensed <b>Procyclidine SF Syrup: 2.5mg/5mL or 5mg/5mL (Arpicolin®). (C)</b> Or (B)
<b>Promazine</b>	Prescribe licensed <b>Promazine Oral Solution: 25mg/5mL or 50mg/5mL.</b>

<b>Promethazine Hydrochloride</b>	Prescribe licensed <b>Promethazine HCl 5mg/5mL Elixir (Phenergan®)</b> . (C) or (B) or (D)
<b>Propranolol</b>	Prescribe licensed <b>Propranolol HCl Oral Solution: 5mg/5mL or 10mg/5mL or 50mg/5mL (Syprol®)</b> .  Suitable for administration via an 8Fr NG tube if mixed with an equal volume of water.  Do not crush slow release preparations (B) If converting from SR, give the total daily dose in 2 to 3 divided doses.  Inderal brand tablets will disperse in 10ml of water if shaken continuously.  The Injection has been given enterally; it has been mixed in raspberry syrup when given orally. However there is little information available on this, so it is not recommended.
<b>Propylthiouracil</b>	(A)
<b>Pyrazinamide</b>	(B) Stop enteral feed half an hour before and after administration.
<b>Pyridostigmine</b>	(B) Stop enteral feed prior to administration Flush tube before and after.
<b>Pyridoxine</b>	Tablets will disintegrate within 5 minutes when mixed with 10ml of water.
<b>Q</b>	
<b>Quetiapine</b>	Prescribe <b>Quetiapine Tablets (non-MR)</b> and label ' <i>mix crushed tablet with yoghurt and take...</i> ' (B) <i>(Not soluble)</i> .  <i>(Ref. AstraZenica)</i>
<b>Quinine Sulphate/ Bisulphate/ HCL/</b>	No alternatives known. Quinine should not be routinely used for the treatment of nocturnal leg cramps.  Quinine should only be considered when cramps are painful or frequent <b>and</b> when other treatable causes have been ruled out and when non-pharmacological measures have not worked.  Treatment should be stopped after 4 weeks if there is no improvement.

<b>R</b>	
<b>Raltegravir</b>	(B) (Ref. MSD Medical Information)
<b>Ramipril</b>	Prescribe <b>Ramipril Capsules</b> and label ' <i>open capsule, disperse contents in water and take...</i> ' (B) (N.B. Ramipril tablets can also be crushed).  Monitor blood pressure
<b>Ranitidine</b>	Prescribe licensed <b>Ranitidine Effervescent Tablets (B)</b> or Prescribe licensed <b>Ranitidine 75mg/5mL Oral Solution.(C)</b>  Injection may be given enterally.
<b>Rifabutin</b>	Contents of capsule can be emptied in small amount of water and flavoured. (B)
<b>Rifampicin</b>	Prescribe licensed <b>Rifampicin 100mg/5mL Syrup (Rifadin®). (C) (pack size 120ml)</b> Do not open capsules. Risk of contact sensitization
<b>Rifater/Rifanah</b>	Use liquid form of each component separately (rifampicin, isoniazid and pyrazinamide). Rifater™ and Rifanah™ sachets can be imported via BR Pharma
<b>Riluzole</b>	Prescribe <b>Riluzole Tablets</b> and label ' <i>mix crushed tablet with yoghurt and take...</i> ' (B)  Tablets can be crushed and given in a spoonful of sugar, food puree or yogurt. Crushed tablets can have an anaesthetic effect on the tongue.
<b>Risedronate</b>	For treatment of post menopausal osteoporosis: consider alternative licensed <b>Strontium Ranelate Granules</b> or containing calcium carbonate and colestiferol: Prescribe licensed <b>Actonel® Combi Granules.</b>
<b>Risperidone</b>	Prescribe licensed <b>Risperidone Orodispersible Tablets (B)</b> or Prescribe licensed <b>Risperidone 1mg/mL Liquid. (pack size 100ml) (C)</b>
<b>Ropinirole</b>	(B)
<b>S</b>	
<b>Salbutamol</b>	Prescribe licensed <b>Salbutamol oral solution 2mg/5ml (C)</b> Do not crush slow release tablets

<b>Selegiline</b>	<p>Prescribe licensed <b>Selegiline liquid 10mg/5ml (C)</b></p> <p>Oral lyophilisates available for buccal administration <b>(B)</b></p>
<b>Senna</b>	<p>Prescribe licensed <b>Senna syrup 7.5mg/5ml (C)</b></p> <p>Or <b>(B)</b></p>
<b>Sertraline</b>	<p>Consider alternative licensed selective serotonin re-uptake inhibitors: see <b>Citalopram / Fluoxetine / Paroxetine</b></p> <p>or</p> <p>Prescribe <b>Sertraline Tablets</b> and label '<i>disperse tablet in water and take immediately...</i>' or label '<i>crush tablet, mix with food and take immediately...</i>' <b>(B)</b></p> <p>Poorly soluble in water. Take immediately after crushing, maybe better in yoghurt.</p> <p>Has an anaesthetic effect on the tongue.</p>
<b>Sildenafil</b>	<p>Tablets can be crushed and dispersed in water.</p>
<b>Simvastatin</b>	<p>Consider age of patient and if still clinically appropriate:</p> <p>Prescribe licensed <b>Simvastatin oral suspension sugar free 20mg/5ml or 40mg/5ml</b></p> <p>Zocor, CP Pharma, Dexcel, Ratiopharma and Ranbaxy brand tablets all disperse in 10ml of water.</p> <p>Simzal brand tablets may be crushed and mixed with water.</p> <p>Suitable for administration via an 8Fr NG tube.</p>
<b>Sodium Bicarbonate</b>	<p>100ml pack size of 1mmol/ml (8.4% w/v) preservative free oral solution available. Prescribe as <b>SodiBic</b></p> <p>500mg capsules and 600mg tablets available</p> <p>Capsules can be opened and contents mixed with water. <i>Ref. Focus Pharmaceuticals Ltd.</i></p> <p>Injection may be taken orally or enterally if necessary:</p> <p>Prescribe <b>Sodium Bicarbonate Injection (Minijet®): 4.2% / 8.4%</b> (10mL/50mL syringe) and label according to dose calculated.</p> <p><i>See BNF section 9.2.2 for further information</i></p>
<b>Sodium Chloride Eye Drops</b>	<p><b>Minims saline 0.9% preservative free</b> available.</p>

<b>Sodium Chloride Nebuliser Solution</b>	Check with Specialist - 6% nebs are available commercially.
<b>Sodium Chloride</b>	100ml pack sizes of 1mmol/ml (5.85%w/v) and 5mmol/ml (29.25% w/v) preservative free oral solutions are available. Prescribe as <b>SodiClor</b> . Injection may be given orally or enterally
<b>Sodium Cromoglycate Eye drops</b>	2% eye drops are commercially available.
<b>Sodium Fusidate/ Fusidic Acid</b>	Prescribe licensed <b>Fusidic Acid 250mg/5mL Suspension</b> <i>N.B.</i> 500mg sodium Fusidate tablets are approximately equivalent to 750mg Fusidic acid suspension
<b>Sodium phenylbutyrate</b>	Injection may be given orally
<b>Sodium Valproate</b>	Prescribe licensed <b>Sodium Valproate 200mg/5mL SF Oral Solution (Orlept®) or SF Liquid (Epilim®) or Syrup (Epilim®)</b> . (C) or (B) Do not crush slow release tablets. Monitor plasma levels
<b>Solifenacin</b>	(A) <i>Ref. Astellas Pharma</i>
<b>Sotalol</b>	Consider alternative licensed beta-blocker preparation: see <b>Atenolol / Propranolol</b> or Prescribe <b>Sotalol Tablets</b> and label ' <b>crush tablet, mix with water and take...</b> ' (B)
<b>Spirolactone</b>	Prescribe licensed <b>Spirolactone Tablets</b> and label ' <b>crush tablet, disperse in water and take immediately...</b> ' (B) <i>N.B.</i> Can take five minutes for tablet to completely disperse. Suitable for administration via an 8Fr NG tube.
<b>Stalevo™</b>	(B) Tastes bitter and forms an orange dye which may stain. Can be mixed with orange, apple or tomato juice, honey, jam or yoghurt. ( <i>Ref. Orion pharma</i> )
<b>Sucralfate</b>	Prescribe licensed Sucralfate suspension 1g/5ml (C) or Crushed tablets may be dispersed in water (A) Stop enteral feed at least 1h prior to administration and for 1h after. Flush tube before and after.
<b>Sulfasalazine</b>	Prescribe licensed <b>Sulfasalazine 250mg/5mL Suspension (Salazopyrin®)</b> (C) or Prescribe licensed <b>Sulfasalazine 500mg Suppositories (Salazopyrin®)</b> . or (B) Do not crush enteric-coated or slow release tablets

<b>Sulpiride</b>	Prescribe licensed <b>Sulpiride 200mg/5mL Oral Solution (Sulpor®).(C)</b> or <b>(B)</b>
<b>T</b>	
<b>Tacrolimus</b>	Prescribe licensed <b>Modigraf® Granules for Oral Suspension</b>  <i>N.B.</i> Prescribe by brand (switching from another formulation requires careful therapeutic monitoring)
<b>Tamoxifen</b>	Prescribe licensed <b>Tamoxifen Citrate 10mg/5mL Oral Solution.(C)</b> or <b>(B)</b> Wear a mask if crushing tablets
<b>Tamsulosin</b>	Prescribe <b>Tamsulosin Capsules</b> and label ' <i>open capsule and dissolve the contents in water and take...</i> ' Capsules can be opened and modified release granules mixed with water (not crushed). The mixture should be given immediately.
<b>Telmisartan</b>	Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b> or Prescribe licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar®)</b> or Irbesartan Tablets and label 'crush tablet, disperse in water and take...' <b>(B)</b> Practically insoluble in water. Crush tablets and give with water or in food.
<b>Temazepam</b>	Prescribe licensed <b>Temazepam 10mg/5mL Oral SF Solution.(C)</b> or <b>(B)</b> <b>Schedule 3 controlled drug</b>
<b>Temozolomide</b>	Capsules can be opened and contents mixed with 30g apple sauce or apple juice. Appropriate precautions against toxic dust are recommended: wearing gloves and mask. (Ref. Schering Plough Ltd.)
<b>Terbinafine HCL</b>	Tablets may be crushed and dispersed in water.
<b>Tetracycline</b>	Consider alternative licensed tetracycline preparation: see <b>Doxycycline</b> .
<b>Theophylline</b>	<b>(C)</b> To convert to liquid, divide the total daily dose by 3 and administer TDS. Stop enteral feed at least 1h prior to administration and for 2h after. Flush tube before and after. Monitor levels.
<b>Thiamine</b>	Prescribe <b>Thiamine Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' <b>(B)</b>



<b>Tizanidine HCL</b>	<p>Consider changing to licensed <b>Baclofen oral soln 5mg/5ml or liq sf 5mg/5ml</b></p> <p>Tablets can be crushed and dispersed in 10ml of water but must be administered immediately.</p> <p>Zanaflex brand tablets may be crushed and mixed with water and are then suitable for administration via an 8Fr NG tube.</p>
<b>Tocopheryl acetate chewable tablets</b>	500mg/5ml alpha tocopheryl acetate suspension is commercially available.
<b>Tolbutamide</b>	Prescribe <b>Tolbutamide Tablets</b> and label ' <i>crush tablet, mix with water and take...</i> ' (B)
<b>Tolterodine</b>	<p>Consider alternative licensed <b>Oxybutynin HCl 2.5mg/5mL Elixir (Ditropan®)</b> however supply problems at present.</p> <p>or</p> <p>Prescribe <b>Tolterodine Tablets</b> and label '<i>disperse tablet in water and take...</i>' (A)</p>
<b>Topiramate</b>	<p>Prescribe licensed <b>Topiramate Sprinkle Capsules</b>. (B)</p> <p>"Sprinkle capsules" can be opened and contents mixed with soft food. Tablets do not disperse readily in water as they are film-coated, but will disintegrate if shaken in 10ml of water for 5 minutes.</p>
<b>Tramadol</b>	<p>Prescribe licensed <b>Tramadol Orodispersible Tablets (Zamadol Melt®)</b> (A)</p> <p>or</p> <p>Prescribe licensed <b>Tramadol Soluble Tablets</b>.</p> <p>Capsules can be opened</p> <p>Sachets available</p>
<b>Trandopril</b>	<p>Consider changing to another ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b>.</p> <p>Open capsules and disperse contents in water. Consider changing to lisinopril liquid.</p>
<b>Tranexamic acid</b>	<p>Prescribe <b>Tranexamic Acid Tablets</b> and label '<i>crush tablet, dissolve in water and take...</i>', (can take 2-5 minutes to dissolve) (B)</p> <p>or</p> <p>Injection may be taken orally or enterally immediately after dilution if necessary:</p> <p>Prescribe <b>Tranexamic Acid 100mg/mL Injection</b> (5mL ampoule) and label according to dose calculated.</p> <p>Keep opened injection no longer than 24 hours in the fridge.</p>
<b>Trazodone</b>	<p>Prescribe licensed <b>Trazodone 50mg/5mL SF Liquid</b>. (pack size 120ml)</p> <p>(C)</p> <p>Capsules can be opened.</p>

<b>Tretinoin Cream</b>	Prescribe licensed <b>Tretinoin GEL (Retin-A®): 0.025% or 0.01%</b> .
<b>Trifluoperazine</b>	Prescribe licensed <b>Trifluoperazine 1mg/5mL SF Syrup (Stelazine®) (C)</b> or Prescribe licensed <b>Trifluoperazine 5mg/5mL Oral Solution</b> . Capsules can be opened
<b>Trimethoprim</b>	Prescribe licensed <b>Trimethoprim suspension 50mg/5ml (C)</b> <b>(B)</b> Avoid crushing – risk of 3 <sup>rd</sup> party exposure to the powder.
<b>Trimipramine</b>	For depressive illness: Consider alternative licensed tricyclic antidepressant: see <b>Amitriptyline / Imipramine / Lofepramine / Trazodone</b> .
<b>U</b>	
<b>Ursodeoxycholic acid</b>	Prescribe licensed <b>Ursodeoxycholic Acid 250mg/5mL SF Suspension (Ursofalk®). (250ml pack size) (C)(NB)</b> or <b>(B)</b>
<b>V</b>	
<b>Valproate Semisodium</b>	Gastro-resistant tablets should not be crushed. If half tablet dose needed, take after food to minimise GI adverse effects.
<b>Valsartan</b>	Consider changing to an ACE inhibitor: see <b>Lisinopril / Ramipril / Captopril</b> Or Consider changing to licensed <b>Losartan oral suspension 12.5mg/5ml (Cozaar®)</b> or Prescribe <b>Valsartan Capsules</b> and label ' <i>open capsule, disperse contents in water and take immediately...</i> '  Monitor blood pressure.
<b>Vancomycin</b>	Injection is licensed for the oral or nasogastric administration for the treatment of staphylococcal enterocolitis and pseudomembranous colitis due to Clostridium difficile.  Prescribe <b>Vancomycin HCL Injection (powder for reconstitution)</b> and label according to dose calculated.  <i>N.B.</i> after reconstitution the selected dose may be diluted in 30mL of water. Common flavouring syrups may be added to the solution at the time of administration.  The expiry of the reconstituted injection depends upon the brand. Indications for Vancomycin injection and enteral Vancomycin are different. Do not switch to the alternative route except on specialist advice.

<b>Venlafaxine</b>	<p>For major depression consider alternative licensed <b>Mirtazepine Orodispersible Tablets (Zispin Soltab®)</b></p> <p>or</p> <p>Prescribe <b>Venlafaxine Tablets (non-MR)</b> and label '<i>crush tablet, mix with water and take...</i>' (B)</p> <p>Suitable for administration via an 8Fr NG tube.</p> <p>Tablets are water-soluble. MR capsules can be opened and sprinkled onto soft food.</p>
<b>Verapamil</b>	<p>Prescribe licensed <b>Verapamil 40mg/5mL Oral Solution. (Pack size 150ml)</b> (C)</p> <p>Or</p> <p>(B) Do not crush slow release preparations. If changing from a slow release preparation, divide the dose into 3 equal daily doses.</p> <p>Injection may be given orally or enterally.</p> <p>Give on an empty stomach; withhold enteral feeds for one hour before and one hour after each dose.</p>
<b>Vigabatrin</b>	Sachets available (A)
<b>Vitamin B Compound</b>	(B)
<b>Vitamin C</b>	(C)
<b>W</b>	
<b>Warfarin</b>	<p>Prescribe licensed <b>Warfarin 5mg/ml oral suspension (150ml pack size)</b></p> <p>Or</p> <p>Prescribe Warfarin tablets and label '<i>crush tablet, mix with water and take...</i>' (B)</p> <p>N.B. Assess patient ability to crush in each case</p> <p>Stop enteral feed at least 2h prior to administration and for 2h after. Flush tube before and after. Monitor INR closely.</p>
<b>Z</b>	
<b>Zalepon</b>	<p>For short term use only / if still appropriate:</p> <p>Consider alternative licensed hypnotic see: <b>Temazepam / Nitrazepam.</b></p>
<b>Zinc and Salicylic Acid</b>	Proprietary preparation, Lassar's Paste, available.
<b>Zinc</b>	Effervescent tablets available (A)
<b>Zolpidem</b>	<p>For short term use only / if still appropriate:</p> <p>Consider alternative licensed hypnotic see: <b>Temazepam / Nitrazepam.</b></p>
<b>Zopiclone</b>	<p>For short term use only / if still appropriate:</p> <p>Consider alternative licensed hypnotic see: <b>Temazepam / Nitrazepam.</b></p> <p>(B) crushed tablets have bitter taste.</p>

## Appendix i

### General Guidelines Administration of Drugs Via Feeding Tubes

Administering drugs via feeding tubes is an unlicensed activity. There is little published data and most recommendations are theoretical and/or based on local policy. An alternative **licensed option** is therefore always preferable e.g. rectal or parenteral formulations.

#### Types of Feeding Tubes

There are several types of feeding tubes. (*N.B.* These can be further classified according to lumen size, number of lumen and length of use).

Nasogastric ( <i>NG</i> )	Inserted into the stomach via the nose
Nasojejunal ( <i>NJ</i> )	Inserted into the jejunum via the nose
Percutaneous endoscopic gastrostomy ( <i>PEG</i> )	Inserted into the stomach via the abdominal wall
Percutaneous endoscopic jejunostomy ( <i>PEJ</i> )	Inserted into the jejunum via the abdominal wall
Percutaneous endoscopic gastrojejunostomy ( <i>PEGJ</i> )	Inserted into the jejunum via the abdominal wall and through the stomach

#### General Guidelines for Administration

The following should be considered when giving drugs via feeding tubes:

	Ensure route of administration has been specified
	Ensure the siting of the tube has been medically confirmed
	Oral syringes (i.e. a syringe to which a needle cannot be attached) should be used to prevent accidental parenteral administration.
	Stop the infusion of a feed when administering drugs. Refer to ' <i>Drug Interactions</i> ' for further guidance.
	Flush the tube slowly with at least 15mL of water (sterile water if jejunal tube) using either a 30mL or 50mL oral syringe.
	Administer each drug separately (by gravity flow) as a sediment free liquid. Flush in between and afterwards with at least 15mL of water (sterile water if jejunal tube) using either a 30mL or 50mL oral syringe.
	Monitor clinical response if <ul style="list-style-type: none"> <li>• Changing from modified release to normal release preparations</li> <li>• A drug has a narrow therapeutic index</li> <li>• The bio-availability of the drug differs between tablet and liquid.</li> </ul>
	Do not administer bulk-forming laxatives because they block the tubes; use an enteral feed with a high-fibre content instead
	Do not add drugs to feeds; this increases the risk of incompatibility, microbial contamination, tube blockage and underdosing or overdosing if the feed rate is altered.
<b>Also consider:</b>	
Size of lumen	Narrow lumen tubes are more likely to block, particularly with thick

	oral syrups; dilute with 30-60mL of water before administration.
Number of lumens	Ensure correct lumen is used with multilumen tubes; do not use an aspiration gastric decompression port for drug administration.
Function of tube	Drugs should not be administered by tube if it is on free-drainage or suction

### Choosing a Suitable Formulation

Commercially available oral solutions/ suspensions/ syrups are not always suitable for administration into feeding tubes because:

Problem	Reason	Preventive measures that can be taken
<b>Osmotic diarrhoea</b>	Due to high osmolarity and sorbitol content	Osmolarity can be reduced in some preparations by diluting with as much as much water as practical.
<b>Altered bioavailability and/or pharmacokinetics</b>	When converting from tablets to oral solution, e.g. digoxin and Phenytoin or from modified release preparations to oral solution.	The dose and/or frequency may need to be changed according to clinical response
<b>Tube blockage/caking</b>	Caused by high viscosity preparations e.g. co-amoxiclav	Minimise by diluting with 30-60mL water or use suspensions rather than syrups.
<b>Clumping of the feed</b>	Particularly if the formulation is acidic, i.e. pH<4	Find alternative route / preparation if possible Dilute the drug as much as possible to minimise drug-feed contact and flush with 30-60mL of water
<b>Binding to the Plastic Tubing</b>	<i>e.g.</i> Carbamazepine, clonazepam, diazepam, Phenytoin	Dilute the drug with at least 30-60mL water and flush well.

### Tablets/capsules

Many tablets and capsule contents will disperse completely when crushed and mixed with water, even though they are not marketed as dispersible.

- Do not administer crushed tablets or capsule contents which have not completely dispersed in water; sediment increases the risk of blocking the tube.
- The liquid contents of some capsules can be drawn out with a syringe, but should be administered immediately in case of light sensitivity.

### Injections

This is generally an expensive option and should therefore be considered only for the short term.

- Before administering an injectable formulation via a feeding tube, check osmolarity. Many injections are hypertonic and therefore unsuitable.
- Some injections may also contain additives unsuitable for oral administration. *E.g.* polyethylene glycol in amiodarone.
- All injections should be further diluted with 30-60mL of water before administration.

## Drug Interactions

A number of specific drug interactions can occur when drugs are administered via feeding tubes. The most important clinically are with drugs with a narrow therapeutic range such as digoxin, phenytoin or warfarin.

Interaction	Preventative Measure
<b>Drug/enteral feed incompatibilities affecting drug absorption</b> <i>e.g. carbamazepine, ciprofloxacin, hydralazine, phenytoin, theophylline, warfarin</i>	Stop the feed for one hour before and one to two hours after administering the drug ( <i>for phenytoin two hours before and after</i> ). Dilute the drug as much as possible, and flush with 30-60mL of water.
<b>Drugs requiring administration on an empty stomach</b> <i>e.g. penicillins, ketoconazole, tetracyclines.</i>	Balance risk of reduced absorption against practicality of stopping feed for one hour before and after each dose. Consider alternative route/drug.
<b>Drug-feed indirect interaction</b> <i>E.g. Warfarin and vitamin K in feed.</i>	Monitor INR and adjust anticoagulant dose if necessary
<b>Drug-drug direct interaction</b> <i>e.g. iron or zinc and ciprofloxacin</i>	Alter drug timings

## Unblocking Tubes

Do not use guidewire for unblocking a tube because of the danger of perforation. Various agents have been used to unblock tubes:

- Warm water
- Soda water
- Cola
- Pineapple juice
- Cranberry juice
- Pancreatin granules removed from capsule
- Meat tenderiser (contains papain, a mixture of proteolytic enzymes)
- CloggZapper® (a commercial powder for breaking up food formula clogs in enteral feeding devices)

Please note: their use is based on anecdote. Acidic solutions *e.g.* cranberry juice and carbonated drinks could make the situation worse by causing feed coagulation.



# Choosing medicines for patients unable to take solid oral dosage forms

Selecting suitable formulations for adult patients with swallowing difficulties or feeding tubes.

## A stepwise approach is suggested:

### STEP 1

#### Use a licensed medicine in a suitable formulation.

For example:

- Licensed liquid preparation
- Soluble tablets
- Powders or granules for suspension

In order to use a licensed medicine, consider switching to a different agent in the same class, or to a different route of administration.

For example, consider:

- Fluoxetine liquid (licensed preparation) as an alternative to sertraline tablets
- Aspirin dispersible tablets instead of clopidogrel tablets.
- HRT patches instead of tablets

#### Consider the patient's method of feeding:

Patients on liquid feeds may take oral liquid medicines, dispersible tablets or solid preparations dispersed in water. For patients on thickened fluids, liquid medicines can be mixed with products like *Thick and Easy*.

Patients on soft-food diets may be able to swallow crushed tablets or the contents of capsules given with food.

Patients with enteral feeding tubes may have oral medicines given by this route.

#### Why licensed status matters

To be granted a licence a medicine must meet quality standards and be shown to be safe and effective. Licensed medicines usually come with a patient information leaflet and are considered the safest choice.

Special-order medicines are unlicensed and are not required to meet the same standards as licensed medicines. Prescribers take greater responsibility when using them.

*In many cases a licensed preparation will be available that meets the patient's needs.*

#### Cost

Special-order medicines are often considerably more expensive than licensed medicines. They may have short shelf-lives compared with licensed alternatives and may need fridge storage.

For example, bendroflumethiazide liquid is 60 times more expensive than tablets:

- 28 doses of 2.5mg tablets costs about £1
- 30 doses of 2.5mg/5ml liquid (150ml) costs more than £65.

Bendroflumethiazide tablets can be dispersed in water for administration orally or via feeding tubes.

### STEP 2

#### Consider using a licensed medicine in an unlicensed manner, for example by dispersing tablets in water or by opening capsules.

For example:

- Ramipril capsules can be opened and the contents mixed with water.
- Bendroflumethiazide tablets can be dispersed in water.

Both examples are suitable for administration orally or via a feeding tube.

Not all medicines are suitable for administration in this way and it is important to check beforehand. See over for where to get advice.

As before, consider switching to a different agent or route of administration in order to use a licensed product.

### STEP 3

#### In situations where there is no suitable licensed option, consider using a 'special'.

Special-order ('special') liquid medicines are unlicensed and expensive. They should only be prescribed if there is no licensed medicine that meets the patient's needs.

#### Is it needed?

If the patient is taking medicines that aren't needed or aren't working, stop or change them.

*Care staff should only give licensed medicines in an unlicensed way if there is a written direction in the patient's care plan.*

*Practical directions are overleaf.*

Licensed medicines should be used where possible.

Special-order medicines are unlicensed and expensive and should only be prescribed if necessary.



## Practical directions

*Always check beforehand if a tablet is suitable for dispersing or crushing, or if a capsule is suitable for opening.*

- **Crushing or dispersing tablets**

Many immediate-release tablets can be dispersed in water without crushing; some medicines need to be crushed first. Some tablets (e.g. modified-release) are not suitable for crushing.

For medicines that are suitable for crushing, crush using a tablet crusher, a pestle and mortar or between two metal spoons.

Only crush medicines one at a time; do not crush all the patient's medicines together. Crushing or dispersing should only be performed immediately before administration.

- **Opening capsules**

Some hard gelatin capsules can be opened and their contents mixed with water or administered with food. Some capsules are too small to manipulate. Capsules should only be opened immediately before administration.

- **Giving medicines in liquids or soft food**

Some capsule contents or crushed tablets can be given with a small amount of cold liquid or cold soft food such as a teaspoon of yoghurt or jam. Use a small amount of food to ensure the full dose is taken; if taken with a meal, add medicine to the first mouthful of food.

Crushed tablets or capsule contents may taste very bitter to patients taking them orally. Mask the taste by giving with strong flavours such as blackcurrant.

Medicines should only be administered in food with the patient's knowledge and consent. Hiding medicines in food is considered 'covert administration' and is only condoned in certain circumstances.

- **Giving medicines via feeding tubes**

Feeding tubes should be flushed with water before and after each medicine is administered. If a liquid medicine is thick or syrupy, dilution may be required. Some patients are fluid restricted and that needs to be taken into account.

When administering crushed tablets or opened capsules via a feeding tube, add the powder to 15-30ml water and mix well. Draw into a 50ml oral syringe and administer. If you have used a mortar or tablet crusher, rinse this with water and administer the rinsings also.

Suggested protocol for administering medicines via feeding tubes:

1. Stop the feed (leaving a feeding break if necessary).
2. Flush the tube with 30ml water.
3. Prepare the first medicine for administration, and give it.
4. Flush with 10ml water.
5. Repeat stages 3 and 4 with subsequent medicines.
6. Flush with 30ml water.
7. Re-start the feeding (leaving a feeding break if necessary).

*Care staff may only administer medicines in an unlicensed manner on the instruction of the prescriber.*

*A written direction to crush or disperse tablets or to open capsules should be documented in the patient's care plan.*

## Where can I get advice?

- **Medicines Management and Medicines Information pharmacists**

For advice on choosing appropriate dosage forms or to check if tablets or capsules can be dispersed, crushed or opened and dispersed, contact your Medicines Management team or UKMi medicines information centre.

Contact details for UKMi medicines information centres are available at [www.ukmi.nhs.uk](http://www.ukmi.nhs.uk). Click on the map then search for your local or regional centre.

- **Medicines Q&A**

This leaflet accompanies a *Medicines Q&A* document which provides further information and lists options available in several therapeutic areas for adult patients with swallowing difficulties or feeding tubes. Access it online See Appendix 2 references.

- **Reference texts**

See Appendix 2

*Only prescribe special-order medicines if there is no suitable licensed medicine available that meets the patient's needs.*

*It may be appropriate to use a licensed medicine in an unlicensed way.*

## **Appendix iii: Prescribing Specials: a quick checklist for prescribers**

### **1. Establish a clinical need**

*Prescribers should be vigilant when they are prescribing a Special, or asking another professional to administer one. In general Specials should only be prescribed when the patient has an individual clinical need which cannot be met by a licensed medicine of established efficacy, quality and stability.*

Does the patient need a medicine? Is it essential for this patient?

Is there a licensed preparation which could meet the patient's needs, for example soluble tablets, liquid formulations, or patches?

What are all the unlicensed alternatives? Is local guidance available?

### **2. Identify medicines and preparations**

The risks and benefits of using a Special will differ for different patient groups, different medicines and in different individual clinical circumstances. Prescribers need to take into account the safety, effectiveness, quality and cost effectiveness of all the options available to patients.

What is the rationale for using an unlicensed medicine? Is there evidence or accepted practice to support usage?

Is the dose critical? Is the patient a child? Does the medicine have a narrow therapeutic window? Is there a requirement to specify the exact formulation?

What is the best value-for-money? Is there any local guidance?

### **3. Make a shared decision with the patient or carer**

Prescribers should discuss treatment options with patients and carers and ensure that they are aware of the implications and practicalities of each option.

What are the practical implications of prescribing? What is the shelf-life? How often will prescriptions be needed? How long does it take to obtain?

Will the patient be taking the medicine themselves or will it be administered? Are there any implications for the choice of product?

### **4. Ensure prescribing governance**

Prescribers should understand the rationale for using a Special and the practical implications of prescribing before initiating, transferring, or taking over responsibility for prescribing.

If initiating prescribing, how long is the patient expected to need this medicine?

If asking someone to continue prescribing, are communications with the new prescriber optimised?

If continuing the prescribing of a Special, do prescribers know the formulation and source of the initial supply? Is there a need to ensure consistency of dose by specifying the formulation?

### **5. Ensure ongoing monitoring and review**

Prescribers should have systems in place to ensure the need for the Special is regularly reviewed, both in terms of the continued need for a Special product and in the context of the need for a medicine overall.

How often will the patient be reviewed?

Who will do the review?

## **Appendix iv: MHRA Risk Hierarchy for the use of unlicensed medicines**

### **Risk Hierarchy for the use of unlicensed medicines**

- An unlicensed product should not be used where a product available and licensed within the UK could be used to meet the patient's special need.
- Although the MHRA does not recommend "off label" (outside of the licensed indications) use of products, if the UK licensed product can meet the clinical need, even "off-label", it should be used in preference to an unlicensed product. Licensed products available in the UK have been assessed for quality safety and efficacy. If used "off-label" some of this assessment may not apply, but much will still be valid. This is a better risk position than in the use of an unassessed, unlicensed product. The fact that the intended use is outside of the licensed indications is therefore not a reason to use an unlicensed product. It should be understood that the prescriber's responsibility and potential liability are increased when prescribing off-label.
- If the UK product cannot meet the special need, then another (imported) medicinal product should be considered, which is licensed in the country of origin.
- If none of these options will suffice, then a completely unlicensed product may have to be used, for example, UK manufactured "specials", which are made in GMP inspected facilities, but which are otherwise unassessed (GMP inspection of specials manufacturers is not product specific). There may also be other products available which are unlicensed in the country of origin.
- The least acceptable products are those that are unlicensed in the country of origin, and which are not classed as medicines in the country of origin (but are in the UK). Hence, for example, the use of melatonin products from the USA, where melatonin products are classed as supplements, not pharmaceuticals and may not be made to expected standards of pharmaceutical GMP should be avoided whenever possible.

## References

British National Formulary 62, September 2011.

British National Formulary for Children 2009.

Medication and Enteral Feeding Guidelines, Calderdale and Huddersfield NHS Foundation Trust. Accessed 30.07.2009 from [http://www.formulary.cht.nhs.uk/Guidelines/MMC/062b\\_MedEnt\\_IndivDrugs.htm](http://www.formulary.cht.nhs.uk/Guidelines/MMC/062b_MedEnt_IndivDrugs.htm)

White R, Bradnam V. Handbook of Drug Administration via Enteral Feeding Tubes. Accessed 15.07.2009 via [www.medicinescomplete.com](http://www.medicinescomplete.com)

Smyth J, editor. The NEWT Guidelines. North East Wales NHS Trust; 2006.

Royal College of Paediatrics and Child Health. Medicines for Children, 2nd edition, 2003. London: RCPCH Publications Limited.

Electronic Medicines Compendium. Accessed from <http://emc.medicines.org.uk/>

Medicines Q&As, Q&A 175.2 Which injections can be given enterally? UKMi Nov 2011 accessed from [www.nelm.nhs.uk](http://www.nelm.nhs.uk)

NEEMMC Guidelines for crushing tablets  
<http://www.northeastsexpct.nhs.uk/guidelines/NEEMMC%20GUIDELINES%20FOR%20TABLET%20CRUSHING%20April%202010%202.pdf>

### **UKMI Therapeutic options for patients unable to take solid oral dosage forms.**

<http://www.nelm.nhs.uk/en/NeLM-Area/Evidence/Medicines-Q--A/Therapeutic-options-for-patients-unable-to-take-solid-oral-dosage-forms/>

### **Appendix i**

Guy's and St. Thomas' NHS Foundation Trust / Royal Brompton and Harefield NHS Trust, Guideline for the Intragastric/Intrajejunal Administration of Drugs. 2005.

Administering Drugs Via Feeding Tubes. Accessed 23.11.2011 <http://www.palliativedrugs.com/view-legacy-newsletter?&nlid=28>

Nottingham City Hospital/ Nottingham Healthcare NHS Trusts, 1999. Care of a patient receiving jejunal feeding, Nurse Practice Guidelines.

Adams D, 1994. Administration of drugs through jejunostomy tube, British Journal of Intensive Care, 4. pp10-17.

Thomson FC *et al*, 2000. Enteral and parenteral nutrition. Hospital Pharmacist, 7. pp155-164.

Cousins DH and Upton DR, 1997. Medication errors, Pharmacy in Practice, 7. pp597-598.

Cousins DH and Upton DR, 1998. Medication errors, Pharmacy in Practice, 8. pp209-210.

Engle KK and Hannawa TE, 1999. Techniques for administering oral medications to critical care patients receiving continuous enteral nutrition, American Journal of Health-System Pharmacists, 56. pp1441-1444.

Gilbar PJ, 1999. A guide to drug administration in palliative care (review), Journal of Pain and Symptom Management, 17. pp197-207.

Naysmith M and Nicholson J, 1998. Nasogastric drug administration, Professional Nurse, 13(7). pp424-427.

Charnjeet Sud, Prescribing Support Pharmacist, NHS Waltham Forest. Page 30 of 30 (Updated: February 2010)

Beckwith MC *et al*, 1997. Guide to drug therapy in patients with enteral feeding tubes: dosage form

selection and administration methods, Hospital Pharmacist, 32. pp57-64.

Mitchell JF, 1998. Oral dosage forms that should not be crushed: 1998 update, Hospital Pharmacist, 33. pp399-415.

Bengmark S, 1988. Progress in perioperative enteral tube feeding, Clinical Nutrition, 17. pp145-152.

Brennan-Krupp K and Heximer B, 1998. Going with the flow, Nursing, 28(4). p54-55.

Shaw JE, 1994. A worrying gap in knowledge. Nurses' knowledge of enteral feeding practice, Enteral Feeding, July. pp656-666.

Stockley IH, 1996. Drug Interactions (4e). The Pharmaceutical Press, London.

## **Appendix ii**

UKMi. Medicines Q&A 294.2: Therapeutic options for patients unable to take solid oral dosage forms. January 2011.

Available online at:

[www.nelm.nhs.uk/en/NeLM-Area/Evidence/Medicines-Q--A/Therapeutic-options-for-patients-unable-to-take-solid-oral-dosage-forms/](http://www.nelm.nhs.uk/en/NeLM-Area/Evidence/Medicines-Q--A/Therapeutic-options-for-patients-unable-to-take-solid-oral-dosage-forms/)

White R and Bradnam V. Handbook of drug administration via enteral feeding tubes, 2<sup>nd</sup> edition. Pharmaceutical Press; 2010.

Smyth J. The NEWT Guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties, 2<sup>nd</sup> edition. Wrexham: North East Wales NHS Trust; 2010.

## **Appendix iii**

NPC National Prescribing centre (provided by NICE) Prescribing Specials Five guiding Principles July 2011

[http://www.npc.co.uk/improving\\_safety/prescribing\\_specials/resources/5\\_guiding\\_principles\\_V2.pdf](http://www.npc.co.uk/improving_safety/prescribing_specials/resources/5_guiding_principles_V2.pdf)

## **Appendix iv**

Summary report for importation of unlicensed medicines

<http://www.mhra.gov.uk/home/groups/is-lic/documents/websitesresources/con076006.pdf>