

**Medicines Optimisation Team Guidance on Possible Alternatives to Unlicensed Specials**

To search within spreadsheet hold Control and press F, then type word or phrase in search box

Prescribers assume greater liability when using specially-ordered unlicensed pharmaceutical products, or 'Unlicensed Specials', which are not required to meet the same standards as licensed preparations. They are hugely more expensive than licensed medicines and there is currently no limit on prices – average cost per item is over £100, and could be much higher.

- Licensed medicines should be prescribed wherever possible. They are manufactured to rigorous standards and have been assessed for safety, efficacy and stability.
- For patients unable to take a solid oral medication, a stepwise approach is recommended to select a suitable alternative, as set out in Box 1 (Right)

The spreadsheet on the following pages consolidates advice and guidance on possible alternatives to Unlicensed Specials referenced from several NHS organisations (listed at the bottom). This information is provided to support prescribers in making their clinical decisions about care for specific patients, and should not be seen as anything more than offering alternatives for consideration.

**Liability for prescribing selections remains with the prescriber.**

- In the few situations where the patient's needs cannot be met by licensed medicines, the use of an unlicensed special may be considered.
- The continuing need for an unlicensed special should be regularly reviewed. Swallowing difficulty may have been resolved or clinical need changed so that liquid medicines are no longer necessary.
- Patients and /or their representatives should be made aware of the unlicensed nature of specials and associated risks and disadvantages, as set out below

**Disadvantages of Unlicensed Specials**

- Sourcing from a range of manufacturers may result in variability of formulation and hence increase the risk of side effects.
- Unlicensed Specials may require refrigerated storage, and/or have short expiry dates - sometimes as low as 7 days. In each case, prescribe a suitable amount to minimise wastage.
- Unlicensed Specials are not readily available and may take several days to be obtained.
- Few unlicensed products are price controlled and there may be a wide variation in cost.

**Although a list of commonly prescribed Specials is now included in the Drug Tariff, they are still Unlicensed.**

**Check the presentation carefully as prices of solution and suspension vary – usually, solution is cheaper.**

**Useful Clinical Resources**

These resources provide clinical context around issues to consider when providing safe pharmaceutical care of patients with swallowing difficulties:

[2018 Webinar via Specialist Pharmacy Services website \(click here\)](#)

[2011 Pharmaceutical Journal Article \(click here\)](#)

**Practical Information**

On how to crush tablets and open capsules for patients with swallowing difficulty see Tab 3 (How to...)

Box 1. Consideration of need for Unlicensed Special		
	Adjustment to address patient need	Example
1	Review continuing need for treatment	Consider discontinuing any non-essential treatment
2	Review need for liquid presentation	Can patient take other medication as tablets or capsules?
3	Use alternative licensed formulation of same medicine	Licensed liquid medication, patches, dispersible or orodispersible tablet
4	Switch to alternative therapeutic agent in the same class	A suitable licensed preparation may be available
5	Consider unlicensed use of licensed medicine, in accordance with guidance	Dispersing tablets in water Crushing tablets or opening capsules
<b>Include clear instructions in labelling directions, when recommending unlicensed use</b>		

Box 2. How to identify a special on practice systems:	
EMIS Web	When a unlicensed special is added a warning screen will appear advising the prescriber that this is an unlicensed medicine.
Vision	Click F3 with cursor in drug name box to bring up 'select drug' window. Select a drug from menu; double clicking on 'packs' in green in list on lower half of screen may show the text 'special order product'.

Box 3. Key to shading and links in Special Preparations Spreadsheet	
<a href="http://www.medicines.org.uk/emc/">http://www.medicines.org.uk/emc/</a>	Manufacturers data
<a href="http://www.ppa.org.uk/ppa/edt_intro.htm">http://www.ppa.org.uk/ppa/edt_intro.htm</a>	Prescription Pricing Authority
<a href="http://www.covwarkformulary.nhs.uk/">http://www.covwarkformulary.nhs.uk/</a>	C&W APC Netformulary
<a href="https://www.rcophth.ac.uk/">https://www.rcophth.ac.uk/</a>	Royal College of Ophthalmology
<a href="http://www.bnf.org/bnf/index.htm">http://www.bnf.org/bnf/index.htm</a>	BNF
<a href="http://newtguidelines.com">http://newtguidelines.com</a>	New Guidelines
<a href="https://www.medicinescomplete.com/mc/tubes/current/">https://www.medicinescomplete.com/mc/tubes/current/</a>	Handbook of Drug Administration via enteral feeding tubes

**References**

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- K. PrescQIPP Bulletin: Sodium chloride (SPORT-List). B186, Sept 18, 2.0
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## General Directions for altering formulations of medicines (from <http://newtguidelines.com> )

### Dispersible / effervescent tablets - in patients with swallowing difficulties

Put the tablet in a beaker of water (sometimes a large volume is required - see individual monographs for details), and wait for the dispersal / effervescent reaction to finish. The patient should drink the solution immediately, and the beaker should then be rinsed with water and this should be drunk also to ensure the whole dose is given.

### Tablets suitable for crushing - swallowing difficulties

Prepare the tablet as follows:

1. Crush the tablet with a pestle and mortar, a tablet crusher, or between two metal spoons.
2. Add the powder to 15-30mL of water and mix well.
3. Draw up the solution into an oral syringe.
4. Administer the dose to the patient.
5. Rinse out the mortar / tablet crusher with water and administer this also.

### **DON'T**

- . crush tablets in plastic containers as the drug may adhere to the plastic.
- . use boiling water to dissolve tablets as it may affect bioavailability.
- . leave oral medicines unattended in syringes.
- . administer any medicine that you have not prepared yourself.

### Hard gelatin capsules - swallowing difficulties

Prepare the capsule as follows:

1. Gently ease open the capsule to release the powder.
2. Tip the powder into a beaker - be sure to obtain all the powder.
3. Mix the powder with 15-30mL of water.
4. Draw up the solution in an oral syringe.
5. Administer the solution to the patient.
6. Rinse the beaker with water, and administer this also.

### Soft gelatin capsules e.g. nifedipine - swallowing difficulties

#### *Method one*

1. Pinprick one end of the capsule with an ENFit enteral needle.
  2. Drain out the contents with an enteral syringe.
  3. Remove the needle from the syringe.\*
  4. Dilute if necessary (see individual monographs for advice).
- \* Take great care when using needles to prepare doses for oral / enteral administration.

Some of the drug may adhere to the soft gelatin capsule, resulting in a smaller dose than intended being given.

#### *Method two*

1. Dissolve capsule in 15-30mL of warm (not hot) water.
2. Remove undissolved gelatin.
3. Draw up the solution in an oral syringe.
4. Administer the solution to the patient.

<http://newtguidelines.com>

Special Preparations List including Possible Alternatives to unlicensed specials				To search list, hold Control and press F, then type in word or phrase
BNF Name	Legacy BNF Chapter	Suggested options (for references see key to shading on Intro tab)		Other information
Acetazolamide oral liquid (most frequently prescribed strength is 50mg/ml)	11.6	Standard release tablets disperse in water in around 5 mins	NB. MR preparations will not disperse	
		Acetazolamide 250mg/5ml oral suspension (unlicensed special)	See also Ophthalmic Special Order Products Guidance	
Acetylcysteine (oral)	BNFC 3.7	Licensed alternative mucolytic available - carbocysteine	NB Carbocysteine is licensed from age 2 upwards (Mucodyne Paediatric® syrup)	APC: N-Acetylcysteine is not recommended for the unlicensed indication of idiopathic pulmonary fibrosis due to lack of evidence to support its use.
		NACSYS 600mg effervescent tablets available for £5.50 for 30 tabs. Licensed as mucolytic in respiratory disorders for adults. Could use off-label in children.		
		Parvolex injection may be used orally - taste may be bitter		
		Sachets in BNFC (A-CYS 200mg or Flumucil 200mg available for import) as mucolytic for prevention of distal intestinal obstruction syndrome	Review requirement for unlicensed preparations regularly - Very expensive. Consider NACSYS for adults used off-label.	
Acetylcysteine 0.5% Eye drops	11.8	Probable error, check if 5% w/v intended (Ilube®)		
		Acetylcysteine PF 5% and 10% eye drops in (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	Fixed price PF acetylcysteine eye drops 5% and 10% in NHS Scotland, £40.95 and £57.33 per 10ml respectively.
Albendazole	5.5.2	Only available as unlicensed special or Import on named patient basis	Review requirement for unlicensed preparations regularly - Very expensive	Albendazole used for treatment of cysts caused by Echinococcus granulosus and alveolar echinococcosis due to E. multilocularis, hookworms, cutaneous larva migrans and Strongyloides stercoralis
		Mebendazole suspension licensed for hookworms		Mebendazole is preferred treatment for threadworm and ascaris (roundworm)
Alfentanil	15.1.4	Licensed ampoules available- 500mg/ml in 2ml and 10ml ampoule and 5mg/ml in 2ml and 10ml ampoule	Not for routine GP prescribing.	
Alfuzosin	7.4.1	The standard film coated tablets can be crushed and dispersed in water for administration. The MR tablets should not be crushed.	Convert MR preparations to standard release tablets. Due to risk of hypotension do not make direct conversion, start at 2.5mg TDS (2.5mg BD in elderly patients) and increase as tolerated.	Non formulary. Consider switching to doxazosin 1mg/5ml oral solution if patient has hypertension and BPH (with GP agreement)
Alendronic Acid	6.6.1	Binosto 70mg effervescent tablets or Alendronic acid 70mg/100ml oral solution unit dose S/F by Rosemont - licensed	Review requirement for expensive liquid formulation regularly	Note large dose volume of liquid (~100ml) needed to give either product. Must be able to sit up for 30 mins for either.
Allopurinol	10.1.4	100mg tablets disperse in water in 1 minute	Light-sensitive - give immediately.	Patients with manual dexterity issues may struggle to crush the 300mg tablets well. Crushed tabs can be mixed with yoghurt
		300mg tablets - crush well before dispersing in water		
		Allopurinol 100mg/5ml oral suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Aluminium Acetate Ear Drops	12.1.1	Consider Acetic Acid Spray 2%	A proprietary preparation containing acetic acid 2% is available (EarCalm® spray)	
Amiloride	2.2.3	Amiloride (Rosemont) 5mg/5ml Oral Solution- licensed	Non-formulary, consider alternative diuretics.	
Amiodarone	2.3.2	Dissolves in water without crushing within 5 minutes. CBitter taste - can be mixed with fruit juice (except grapefruit) or jam	Give immediately after dissolving/ crushing	
		Amiodarone 100mg/5ml or 50mg/5ml oral suspension (unlicensed special)	Use only if tablets cant be crushed	
Amisulpride	4.2.1	Amisulpride solution 100mg/ml (Solian®) - licensed	Unlicensed special is lower strength - low doses can be given more accurately using this.	
		Amisulpride 25mg/5ml (unlicensed special)		
Amitriptyline	4.3.1	Amitriptyline oral solution 25mg/5ml - licensed	Via enteral tubes absorption may be decreased by high fibre feeds.	Oral solutions are expensive  One case report of therapeutic levels following buccal administration of a crushed tablet suggests this as a possible option
		Amitriptyline oral solution 50mg/5ml - licensed		
		Amitriptyline oral solution 10mg/5ml - licensed		
		Tablets can be crushed and dispersed		
Amlodipine	2.6.2	Amlodipine oral solution 1mg/ml		Oral solutions cost £75
		Amlodipine oral solution 2mg/ml		
		Most tablets disperse in water in 1-5 minutes	Light-sensitive - give immediately	
Amphotericin 0.15% PF eye drops multidose	11.8	Not suitable for primary care prescribing - Specialist use only		
Apixaban	2.8.2	The tablet can be crushed and mixed with a small amount of water or soft food (e.g. apple juice or puree) for administration - licensed		
Ascorbic acid	9.6.3	Tablets are chewable, or can be crushed and dispersed in water	Note: 1g effervescent tablets not allowed on FP10. Consider asking pt to buy OTC product.	Check indication, blacklisted when prescribed with iron (lack of evidence).
Atenolol	2.4	Atenolol oral Solution 5mg/ml - licensed		
		Tablets can be crushed and mixed with water for administration.		
Atorvastatin	2.12	Consider licensed alternative simvastatin 20mg/5ml oral suspension SF	Dose conversion needed if changing atorvastatin to simvastatin.	
		Consider licensed alternative simvastatin 40mg/5ml oral suspension SF		
		Consider licensed atorvastatin chewable tablets 5mg, 10mg, 20mg or 40mg	Republished: July 2019 Version: 4.2 Not to be used for commercial purposes	
Atropine eye drops PF	11.6	Minims Atropine Sulphate PF 1% Vistatropine 1.0% eye drops	See also Ophthalmic Special Order Products Guidance	
Atropine sulphate liquid	1.2	Consider alternative licensed liquid - dicycloverine 600mcg tablets (licensed) can be crushed and dispersed in water		
Azathioprine	8.2.1	Azathioprine 50ml/5ml suspension (unlicensed special)	CYTOTOXIC – handle with care. Imuran tablets disperse in 10 mL water within 5 minutes, to give a pale yellow milky dispersion - if doing this must do so in a syringe (closed system).	
Beclometasone dipropionate 0.0025% in white soft paraffin (WSP)	13	Contact Medicines Optimisation Team for advice		
Betamethasone 0.1% Ointment in WSP - Ointment	13	Contact Medicines Optimisation Team for advice	Medicines Optimisation Team may be able to liaise with dermatology and consider whether licensed alternatives may be considered on a case-by-case basis.	
Betamethasone 0.1% Ointment in Coal Tar Solution 6% in WSP - Ointment	13	Betamethasone 0.1% Ointment in Coal Tar Solution 5% in WSP may be a more readily available and less expensive special product.		
Bendroflumethiazide	2.2.1	Tablets disperse readily in water in 1-5 minutes		Bendroflumethiazide is 2nd line on netformulary.
		Consider alternative licensed diuretic - furosemide	Furosemide likely to be more cost effective	
		Bendroflumethiazide 2.5mg/5ml suspension (unlicensed special)		
Betahistine	4.6	The tablets can be crushed and dispersed in water		
Bisacodyl	1.6.2	Consider bisacodyl suppositories 5mg; 10mg	Tablets have an enteric coating, do not crush as it has an irritant effect on the stomach	
		Consider licensed alternatives such as docusate sodium oral soln or micro-enema, senna syrup, sodium picosulphate elixir		
		Bisacodyl 2.5mg/5ml oral suspension (unlicensed special) Bisacodyl 2.74mg/ml rectal solution (unlicensed special)	Review requirement for unlicensed preparations regularly - oral liquid is very expensive	

Bisoprolol	2.4	Consider alternative licensed liquid - atenolol The lower strength bisoprolol tablets will dissolve in 1-5 minutes without crushing. The higher strength tablets should be crushed finely before mixing with water	Cardicor® will disintegrate rapidly in 10ml water to form a fine white suspension (C) if giving via enteral feeding tube, flush well after each dose to avoid blocking tube.	Bisoprolol 2.5mg/5ml oral solution is the most cost effective liquid special of bisoprolol.
Caffeine Citrate liquid	BNFC 3.5.1	Caffeine citrate oral solution 10mg/ml available from Martindale and 20mg/ml ampoule for infusion and oral administration from Chiesi.		Indication is usually; treatment of primary apnoea of premature newborns. Would be recommended by hospital.
Calcium Carbonate	9.5.1	Effervescent tablets are available e.g. Cacit®, Sandocal® Calcium-Sandoz® syrup (calcium 108.3mg or 2.7mmol/5ml)	Chewable tablets are also available in various calcium salts and strengths - Check BNF	Cacit® provides 500mg calcium or Ca2+ 12.5mmol. Sandocal® 1000 tablets provides 1g calcium or Ca2+ 25mmol.
Calcium with coledalciferol (D3)	9.5.1	Effervescent tablets: Adcal D3 Dissolve®, Calfovit D3®, Sandocal + D3®	Check BNF for strengths	<a href="#">Check adult and paediatric vitamin D prescribing guidance.</a>
Captopril	2.5.5	Tablets disperse in water in 1-5 minutes.	If giving via enteral feeding tube, flush well after each dose as fine powder sediment may be left. Give on an empty stomach. Withhold enteral feeds for at least half an hour before and half an hour after each dose	Captopril absorbed in proximal small intestine. Captopril absorption decreased by concomitant food or milk. Monitor BP if concerned.
		Tablets can be given sublingually as divided doses e.g. 25mg bd becomes 12.5mg qds. Monitor BP		
		Captopril oral solution 25 mg/5 ml Noyada®	Expensive - review requirements regularly	
		Captopril 5mg/5ml Noyada®		
Carbamazepine	4.8.1	Carbamazepine liquid S/F 100mg/5ml (Tegretol® or Ranbaxy)	0.5ml of liquid gives a 10mg dose	Suppositories much more expensive than liquid (£120-140.00 vs. <£10)
		Carbamazepine chewable tabs 100mg/5ml (Tegretol®)	Convert MR dose to total daily dose and increase frequency	
		Carbamazepine 125mg or 250mg suppositories (Tegretol®)	May cause rectal irritation	
Carbimazole	6.2.2	The tablets can be crushed and dispersed in water 5mg and 20mg tablets are available	Do not halve for lower dose as active ingredient is in core of tablet.	
		Carbimazole 10mg/5ml oral suspension (unlicensed special)	Expensive	
Carnitine solution	9.8.1	Liquid forms available as Carnitor Oral Single Dose 1g or 30% paediatric oral solution		
		Carnitor 1g chewable tablets available.		
Carvedilol	2.4	Consider alternative licensed liquid - atenolol Tablets disperse in water in 1-5 minutes	Give immediately	If administered directly into the jejunum (i.e. through an NJ, PEJ, or PEGJ tube), monitor for increased systemic effects.
Cefuroxime eye drops	11.8	Not suitable for primary care prescribing - Specialist use only		
Chloral Hydrate	4.1.1	Chloral hydrate elixir 143.3mg/5ml (Welldorm®) -licensed		Non formulary - No convincing evidence that its useful in the elderly as hypnotic. Chloral hydrate is now mainly used for sedation during diagnostic (painless) procedures such as imaging in children [i.e. in hospital]. Review if used in primary care.
		Consider alternative licensed product which is available as liquid or tablets that can be crushed for same indication. 500mg/5ml or 1g/5ml mixture (unlicensed special)	Seek specialist advice for product recommendation if needed. Unlicensed specials may be more cost effective than Welldorm® liquid	
Chlortalidone	2.2.1	Consider alternative licensed diuretic - indapamide, bendroflumethiazide, furosemide		
		50mg tablets can be crushed and dispersed in water <a href="#">Bendroflumethiazide disperses readily in water.</a>		
Chlorothiazide	2.2.1	Non-formulary status, check rationale for prescribing		
		Chlorothiazide 250mg/5ml oral suspension (unlicensed special)	Most cost effective option if liquid required.	
		Chlorothiazide 250mg/5ml oral solution (unlicensed special)		
		Chlorothiazide 150mg/5ml oral suspension (unlicensed special)		
		Chlorothiazide 25mg/5ml liquid special (unlicensed special)		
Ciclosporin eye drops/ointment (varying strengths)	11.8	Chlorothiazide tablets 250mg - imported	Tablets disperse in water in <1 minute	
		Ciclosporin unpreserved eye drops 0.1% (Ikervis®) available as 0.3ml unit doses [preservative free but contains lanolin]	See also Ophthalmic Special Order Products Guidance	
		Ciclosporin 0.2% PF ointment commercially available as veterinary product Optimmune®. Source from veterinary wholesaler		
		Ciclosporin 0.2% eye ointment and eye drops (unlicensed special)	Review requirement for unlicensed preparations regularly - very expensive	
		Ciclosporin 0.05% PF ointment available as licensed product in the USA - Restasis®. Need to be imported as ophthalmic special order product		
Ciclosporin 2% eye drops or ointment. Probable error, check if 0.2% strength intended				
Cimetidine	1.3.1	Cimetidine 200mg/5ml oral solution - licensed		
Ciprofloxacin 0.2% eye drops PF multidose	11.3	Not suitable for primary care prescribing - Specialist use only	Licensed ciprofloxacin 0.3%w/w ointment (Ciloxan®) or licensed levofloxacin preservative-free (Oftraquix®) are preservative free alternatives	24 hr in-use shelf life as cannot be refrigerated.
Citalopram	4.3.3	Citalopram 40mg/ml oral drops - licensed	8 mg= 4 drops	
Clobazam	4.8.1	Clobazam oral solution available in 1mg/ml, 2mg/ml, 5mg/ml and 10mg/ml.	Clobazam Atnahs 5mg/5ml or 10mg/5ml or Perizam 1mg/ml or 2mg/ml	Caution with switching formulations - can lead to seizures.
		Frisium 10mg tablets can be crushed and mixed with apple sauce.	This slows, but doesn't affect overall absorption.	
		10mg tablets can be dispersed in water for administration. They disperse in 1 to 5 minutes.	Taste can be unpleasant in water but can be mixed with apple sauce.	
		10mg tabs are scored to be used for 5mg doses. The remaining half should be used as soon as possible	NB only prescribable on NHS for epilepsy.	
Clonazepam	4.8.1	Disperse tablets in at least 30ml water	Clonazepam 500mcg (Rivotril) tablets are scored for 250mcg dose	Caution with switching formulations - can lead to seizures.
		Clonazepam oral solution 0.5mg/5ml and 2mg/5ml licensed from Rosemont		
		Clonazepam oral drops available 2.5mg/ml drop and oral lyophilisates 0.5mg (available as imports)	Do not mix the the drops or the solution with water or any other diluent, this will cause the drug to precipitate out	
Clonidine HCl	2.5.2	The injection (Catapres®) is tasteless and can be given orally, with fruit juice if preferred.	BNF flags as drug considered less suitable for prescribing.	Tablets have been crushed but little information on this.
		Clonidine 50mcg/5ml oral solution and suspension	Solution cheaper for quantities ≤ 200ml, Suspension cheaper for quantities ≥ 200ml	
Clopidogrel	2.9	Can be dispersed in water for administration. They disperse in 1 – 5 minutes. Review length of treatment as appropriate		
		Clopidogrel 75mg/5ml oral solution and suspension (unlicensed special) (Solution considerably cheaper than the suspension)		
<a href="#">Coal Tar</a>	15	See Betamethasone 0.1% Ointment in Coal Tar Solution 6% in WSP - Ointment		
Co-amilorfruse	2.2.4	Tablets disperse in water within one minute.		
		Consider alternative licensed diuretic - amiloride.	Both components are available separately as licensed liquids. Amiloride and Furosemide	
		Consider alternative licensed diuretic - furosemide		

Co-careldopa	4.9.1	Lower dose Sinemet® tablets disperse in water within one minute. Higher strengths within 1 – 5 minutes. Give immediately as the drug will degrade	Do not crush MR preps. For patients on MR preparations, can convert to dispersible tablets and increase dosing frequency. Check with consultant re dose	See NEWT for conversion from SINEMET to Madopar dispersible (call Medicines Information)
		Consider conversion to co-beneldopa dispersible	Check with consultant re dose	
		Co-careldopa 25mg/100mg/5ml suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	See; <a href="#">How can medicines be managed for Parkinson's disease patients with swallowing difficulties?</a> ( <a href="https://www.sps.nhs.uk/articles/how-can-medicines-be-managed-for-parkinsons-disease-patients-with-swallowing-difficulties/">https://www.sps.nhs.uk/articles/how-can-medicines-be-managed-for-parkinsons-disease-patients-with-swallowing-difficulties/</a> ) and <a href="#">How do you convert from co-beneldopa (Madopar®) prolonged-release capsules to dispersible tablets?</a> ( <a href="https://www.sps.nhs.uk/articles/how-do-you-convert-from-co-beneldopa-madopar-prolonged-release-capsules-to-dispersible-tablets/">https://www.sps.nhs.uk/articles/how-do-you-convert-from-co-beneldopa-madopar-prolonged-release-capsules-to-dispersible-tablets/</a> )
Co-Dydramol	4.7.1	<b>Co-dydramol is NON FORMULARY</b>	Review to alternative; paracetamol alone or co-codamol.	Higher strengths of co-dydramol tablets now available (co dydramol 20/500mg and co-dydramol 30/500 mg tablets). If used, these can be converted to effervescent co-codamol 30/500 tablets*.
		Consider co-codamol 8/500 dispersible tablets* or co-codamol standard tablets dispersed in water, or codeine 25mg/5ml oral soln	co-codamol 8/500 may be no more effective than paracetamol	
		Co-dydramol 10/500mg/5ml suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	*contains high levels of sodium
Colecalciferol	9.6.4	For treatment of vitamin D deficiency; choose InVita D3* 50,000 units/ml oral liquid, 1 ampoule weekly for 6 weeks OR Plenachol® or Aviticol; 20,000 units, 3 caps weekly for 5 weeks	<a href="#">Please see APC Vitamin D Prescribing Guidelines</a>	
		For prevention of vitamin D deficiency related bone-disease; ask patient to purchase suitable colecalciferol liquid or consider using licensed doses of; THORENS 10 000 I.U. /ml oral drops Fultium-D3 Drops InVita D3 25,000 IU oral solution		
		5000u/5ml, 10,000u/5ml, 15,000u/5ml oral solution solution (unlicensed special)	Expensive compared to licensed options.	
Cyclizine	4.6	Tablets can be crushed and dispersed in water, may taste bitter	Tablets do not disperse readily - crush/ shake for 5 minutes and use immediately thereafter.	
		Consider alternative licensed anti-emetic. E.g promethazine, as liquid		
		Consider prochlorperazine liquid, or buccal prochlorperazine		
		Metoclopramide 5mg/5ml oral solution (licensed) or domperidone 1mg/ml oral suspension (licensed) if but check cautions and contraindications first - these are only suitable for some pts.		<a href="#">See safety warnings for domperidone</a>
		Cyclizine 50mg/5ml solution and suspension (unlicensed special) (suspension considerably cheaper than solution)		<a href="#">See safety warnings for metoclopramide</a>
Cysteamine / Mercaptamine eye drops	11	<b>Not suitable for primary care prescribing - Specialist use only</b>		
Dabigatran	2.8.2	Dabigatran capsules should not be opened as they release contents slowly at the correct point in the gastrointestinal tract. Opening them may increase the risk of side effects (i.e. bleeding).		
		Consider apixaban, edoxaban or rivaroxaban tablets which can all be crushed (see details under each drug).		
Dantrolene	10.2.2	Capsules can be opened and the contents dispersed in water or acidic fruit juice (e.g. orange) for administration		
		Dantrolene 25mg/5ml, 10mg/5ml and 100mg/5ml oral suspension (unlicensed specials)	Review requirement for unlicensed preparations regularly - Very expensive (100mg/5ml most cost effective)	
		Consider licensed alternative e.g baclofen 5mg/5ml		
Demeclocycline	5.1.3	No alternative available. Do NOT open the capsules as can cause severe irritation to the mucosa. If indication for use is as an antibiotic, consider an alternative antibiotic due to frequency of dosing and potential for interaction with food.	If demeclocycline is being used to treat Syndrome of Inappropriate Antidiuretic Hormone (SIADH) secretion alternative management and specialist advice should be sought.	
Desmopressin	6.5.2	Available as intranasal solution 100mcg/ml	Available as spray but caution in use with children, can only be used under adult supervision	
		Desmopressin also available as licensed product -DDAVP melt® - sublingual tablets. 60mcg;120mcg & 240mcg		
Dexamethasone oral solution	6.3.2	Dexsol® 2mg/5ml oral solution - licensed Dexamethasone 10mg/20mg in 5ml oral solution - licensed Dexamethasone soluble tablets 2mg, 4mg, 8mg - licensed		
Dexamethasone eye drops	11.4	<b>If G.Dexamethasone 1%/w/v, suggest error, check 0.1% intended</b>	See also Ophthalmic Special Order Products Guidance	
		PF: Dropodex® individual unit dose PF 0.1% eye drops Minimis® Dexamethasone individual unit dose PF 0.1% Dexafree® 1mg/1ml (0.1%) eye drops 0.4ml unit Contains preservative: MAXIDEX® 0.1% w/v, eye drops, suspension		Exception could be patient who cannot tolerate phosphate or disodium edetate in licensed products.
Dexamfetamine	BNFC	Dexamfetamine 1mg/ml solution (Martindale Pharma) - licensed	Crushed/ dissolved tablets may leave a bitter taste	
		Tablets are freely soluble in water. <sup>C</sup>		
Dicycloverine	1	Dicycloverine syrup 10mg / 5ml - licensed	Syrup can be diluted with water immediately prior to administration to reduce viscosity	Expensive - consider switch to mebeverine once pt can swallow capsules (evidence of same efficacy). Contact Medicines Optimisation Team for advice.
Diltiazem Cream and gel	1.7.4	Consider alternative licensed product (GTN - Rectogesic®)		
		Use diltiazem unlicensed special as second line to glyceryl trinitrate 0.4% (BNF)		
		Diltiazem 2% cream and ointment (unlicensed special) (ointment is cheaper than the cream)		
Diltiazem	2.6.2	60mg generic tablet can be crushed for administration, including via enteral tubes.	The 60mg generic preparation is not slow-release. Patients on once or twice-daily MR diltiazem preps may need to be converted onto three-times-daily doses of the generic preparation. Contact the MMT for advice on equivalent doses.	
		Viazem® XL, Adizem® MR, Dilzem® SR and XL, Tildiem® LA and Slozem® capsules can be opened and contents can be mixed with soft foods(*) OR given via wide-bore enteral feeding tubes. The capsule contents should not be crushed or chewed.		(*) This method may not be suitable for patients with impaired ability to follow instructions.
		Diltiazem 60mg/5ml oral suspension (unlicensed special)		Review requirement for unlicensed preparations regularly - Very expensive
Dipyridamole	2.9	<a href="#">For prevention of Stroke or TIA, see NICE guidance on place in therapy of Dipyridamole - consider clopidogrel which can be dispersed in water</a>	Standard release Dipyridamole (capsules or suspension) are not licensed for prevention of stroke/ TIA. Guidelines do not recommend this formulation for this indication. Consider alternative as per NICE guidelines (e.g. clopidogrel).	
		Dipyridamole 50mg/5ml oral suspension - licensed		
		Dipyridamole 100mg/5ml oral suspension (unlicensed special)		
Domperidone	4.6	Domperidone 1mg/ml suspension - licensed		<a href="#">See safety warnings for domperidone</a>
Donepezil	4.11	Use licensed products: Donepezil 5 mg/ 10mg Orodispersible Tablets or Donepezil Hydrochloride 1mg/1ml Oral Solution		

		The film coated tablet can be crushed and mixed with water for administration	Crushed donepezil tablets may have a strong bitter taste	
Dosulepin	4.3.1	Consider alternative licensed liquid - amitriptyline Consider alternative licensed liquid - lofepramine Dosulepin 75mg/5ml solution and suspension (unlicensed special)	Use licensed strength of amitriptyline liquid. Dosulepin considered less appropriate for prescribing in BNF	
Doxazosin	2.5.4	Standard tablets will disperse readily but deionised water must be used i.e. not tap water MR tablets should not be crushed. Doxazosin 4mg/5ml solution and suspension (suspension considerably more expensive than solution) (unlicensed special)	Chloride ions in tap water will cause the drug to precipitate out <a href="#">Consider switching from MR to std release doxazosin - discuss with MMT</a> Review requirement for unlicensed preparations regularly - Very expensive	
Edoxaban	2.8.2	Can be crushed and mixed with apple puree before giving <sup>1</sup>		
Enalapril	2.5.5	Tablets can be crushed and dispersed in water. Without crushing, takes around 5 mins to disperse. Crushed tabs may taste bitter. Enalapril 5mg/5ml oral suspension and solution (suspension better value than solution, unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Ephedrine nasal drops	12.2.3 and BNFC 12.2.3	Ephedrine nose drops 0.5% and 1% available - licensed products Children: Consider xylometazoline paed nasal drops	Check indication for 0.25% strength.	
Ergocalciferol	9.6.4	Colecalciferol is preferred to ergocalciferol (see local guidance) For treatment of vitamin D deficiency; choose InVita D3* 50,000 units/ml oral liquid, 1 ampoule weekly for 6 weeks OR Plenachol* or Aviticol; 20,000 units, 3 caps weekly for 5 weeks For prevention of vitamin D deficiency related bone-disease; ask patient to purchase suitable colecalciferol liquid or consider using licensed doses of; THORENS 10 000 I.U. /ml oral drops Fultium-D3 Drops InVita D3 25,000 IU oral solution 5000u/5ml, 10,000u/5ml, 15,000u/5ml oral solution solution (unlicensed special)	<a href="#">Please see C&amp;W APC Vitamin D Prescribing Guidelines</a> Expensive compared to licensed options.	
Ethambutol	5.1.9	Tablets can be crushed and dispersed in water	<u>Tuberculosis drugs are Specialist Only (with exceptions).</u> <u>Check in netFormulary and repatriate if appropriate.</u>	
Ferrous Sulphate	9.1.1	Ferrous fumarate 140mg/5ml contains 45mg/5ml of iron - licensed product Ironorm drops - licensed product (ferrous sulfate 125mg/5ml contains 25mg Iron per ml). Ferrous sulphate 60mg/5ml solution (unlicensed special)	Ironorm drops much more expensive than ferrous fumarate syrup. 200mg Ferrous Sulfate tablet = 65 mg iron	
Finasteride		Tablets can be dispersed in water	Use a closed system (i.e. by placing tablet into the barrel of an oral syringe and allowing to disperse in water) before giving.	Women who are or who may become pregnant should not handle crushed, broken, or dissolved tablets.
Flecainide	2.3.2	Standard tablets will disperse in deionised water. Do not use tap water Flecainide 25mg/5ml solution and suspension (unlicensed special, suspension better value than solutions)	Crushed tablets have an anaesthetic property so caution in patients with swallowing difficulties Flecainide 10mg/5ml oral suspension also available as unlicensed special - very expensive.	
Fludrocortisone acetate	6.3.1	The tablets can be dispersed in water for administration. They disperse within one minute. Fludrocortisone 50 mcg/5ml and 100mcg/5ml oral susp available - unlicensed specials	If giving via enteral feeding tube, flush well after administration Expensive compared to licensed options.	
Fluoxetine	4.3.3	Fluoxetine 20mg/5ml oral solution -licensed Citalopram drops - for higher doses Fluoxetine orodispersible SF tablets - Olenä® can be dispersed in water		For patients on 10mg/day doses who can swallow without difficulty, doses of 20mg can be given on alternate days as fluoxetine has a long half-life (off label)
Flunarizine	Not in BNF(2)	Not licensed or marketed in the UK, has to be imported by a licensed company under the brand name Sibellum®	Suggest scripts provided by hospital.	Flunarizine is an antihistamine which is a derivative of cinnarizine. (Martindale) Consider cinnarizine instead - cinnarizine tablets disperse in water within one minute.
Folic Acid	9.1.3	Lexpec® 2.5mg in 5ml oral solution Folic acid 5mg/5ml oral solution sugar free		
Furosemide	2.2.2	Various strengths of licensed furosemide oral liquid products available.	Check excipients; some contains alcohol and only some are licenced for use via enteral feeding tubes.	
Gabapentin	4.8.1	Capsules can be emptied and added to soft food or dispersed in water before taking/ giving immediately Gabapentin oral solution 50mg/ml available from Rosemont or Colonis - licensed	Ensure dose can be achieved using 100mg; 300mg;400mg caps. Can be used (licensed for) via enteral feeding tubes that terminate in the stomach.	
Gentamicin 0.15% w/v eye drops and PF multidose	11.3	Not suitable for primary care prescribing - Specialist use only		
Gliclazide	6.1.2	Crush standard formulation well and mix with orange juice or water Do not crush MR formulation but convert dose to standard and treat as above. 30mg MR = 80mg standard Gliclazide 40 and 80mg/5ml oral suspension (unlicensed special)	80mg/5ml most cost effective strength to prescribe.	
Glucose Nasal Drops (25% in Glycerol)	12	Glycerdex® nose drops (Arjun products)	Listed as appliance in drug tariff	
Glycerol 1% and 10% eye drops		Not suitable for primary care prescribing - Specialist use only		
Glyceryl Trinitrate	1.7.4	Glyceryl trinitrate 0.4% ointment (Rectogesic®) Glyceryl trinitrate 0.2% ointment in Drug Tariff (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Glycine powder Sachet	7.4.4	Not in BNF, only listed as 1.5% irrigation soln for TURP. Consider referral back to hospital for script.		
Glycopyrronium Bromide	15.1.3	Consider using subcutaneously prn or via syringe driver Sialanar 2mg/5ml oral solution Glycopyrronium 2mg/5ml, 1mg/5ml, 200mcg/5ml, 5mg/5ml suspension and solution (unlicensed special)	Injection can be used orally or via enteral feeding tubes Expensive product Available as glycopyrrolate 200mcg/ml x 1ml or 3ml injections	
Griseofulvin	5.2	Tablets are not soluble but can be crushed and mixed with soft food or yoghurt before administration. <sup>5</sup>	Consider if older children can manage 125mg tablets as these are quite small.	
Haloperidol	4.2.1	Haldol 2mg/ml oral solution - licensed Haloperidol 10mg/5ml oral Solution - licensed Haloperidol 5mg/5ml oral Solution - licensed Haloperidol 1mg/5ml solution and suspension	Use pipette provided for smaller doses Review requirement for unlicensed preparations - Very expensive - suggest licensed oral solution instead.	
Homatropine hydrobromide 2% PF multidose eye drops	11.5	Suggest alternative commercially available mydriatic-cycloplegic e.g. Minims® Cyclopentolate or Minims® Tropicamide		



Hydralazine	2.5.1	Tablets can be crushed but are sugar-coated and may block enteral feeding tubes. The injection can be made up with <a href="#">water for injection</a> and administered orally	Crushing tablets may alter their absorption rate (usually increased). Monitor blood pressure. This is preferred for pts with enteral feeding tubes. Do not use tap water to make up.	Consider discussion with prescriber about changing therapy.
Hydrocortisone standard release tablets	6.3.2	Tablets can be dispersed in water for administration orally or via feeding tube Efcortisol® injection may be given enterally. Hydrocortisone 10mg/5ml and 5mg/5ml suspension	Review requirement for unlicensed preparations regularly - Very expensive	
Hydrocortisone modified release tablets	6.3.2	Plenadren (modified-release tablets) are non-formulary	When switching from modified-release tablets to immediate-release preparations (see row above), use the same total daily dose, divided and given more frequently. Monitor clinical response	
Hydroquinone Cream	13	Specialist Only - Refer prescribing request back to dermatology unit	Not in BNF. Used to depigment hyperpigmented skin, normally available as an OTC cosmetic preparation.	Use to treat melasma. Do not use for more than 6 months due to the risk of ochronosis. A commercially available similar preparation called Pigmanorm® (Mawdsley Brooks £17.60). Evidence base for this is limited.
Hydroxocobalamin	9.1.2	Normally given via i/m injection 1mg/ml. Check rationale for oral use. Cyanocobalamin 35micrograms/5ml oral solution (AMCo) available	Hydroxocobalamin is not absorbed via oral route. Check clinical appropriateness of suggesting Cyanocobalamin for each individuals circumstances. Intramuscular vitamin B12 usually preferred.	
Hydroxychloroquine sulphate	10.1.3	The tablets can be crushed and dispersed in water for administration		
Hyoscine butylbromide	1.2	Consider alternative licensed liquid e.g. mebeverine oral suspension Injection 1mg/ml can be administered orally Hyoscine butylbromide 10mg/5ml solution and suspension (unlicensed special - suspension cheaper than suspension)	Review requirement for unlicensed preparations regularly - Very expensive	
Hyoscine Hydrobromide	4.6	150mcg chewable tablets (Joy-Rides®, Kwells®) 300mcg tablets (Kwells®) can be sucked or chewed - absorbed via buccal mucosa <sup>c</sup> Hyoscine Hydrobromide 300mcg/500mcg/5ml solution and suspension (unlicensed special) Consider alternative licensed anti-emetic (e.g. cyclizine, domperidone, metoclopramide)	Also available as patches (Scopoderm TTS) - use these as per license Check contraindications and cautions before suggesting/prescribing as some safety concerns re domperidone and metoclopramide (see BNF).	
Hypromellose Eye Drops preservative free	11.8	Use multidose preservative containing eye drops where possible (i.e. Evolve hypromellose® (hypromellose 0.5% PF multidose container) Consider the most cost effective unit doses of hypromellose (i.e. Lumaticare Singles® (hypromellose 0.3% PF single dose units) Hypromellose 0.25% PF (unlicensed special)	Refer to APC Lubricant PPL See also Ophthalmic Special Order Products Guidance Review requirement for unlicensed preparations regularly - Very expensive. Consider options on local PPL.	
Indapamide	2.2.1	The standard tablets can be dispersed in water for administration, they disperse in 1-5 minutes Consider use of other diuretics - bendroflumethiazide Consider alternative licensed liquid - furosemide	Modified release should not be crushed / dispersed etc Administration via tubes terminating in the jejunum is not appropriate as absorption will be greatly reduced	
Indomethacin	10.1	Non-formulary - change to formulary options (i.e. ibuprofen liquid, naproxen oral suspension or effervescent tablets) Consider indomethacin suppositories if formulary choices unsuitable	The modified-release capsules are irritant to the stomach, and should not be opened. Do not crush the tablets.	
Irbesartan	2.5.5	Consider alternative licensed liquid - losartan Tablets can be crushed and dispersed in water, or will disperse without crushing in around 5 mins	Irbesartan is practically insoluble - may not flush down enteral feeding tubes easily. Flush well.	
Isoniazid	5.1.9	Tablets can be crushed and mixed with water for administration Isoniazid 50mg/5ml oral solution (unlicensed special)	Tuberculosis drugs are Specialist Only (with exceptions). Check in netFormulary and repatriate if appropriate.	
Isosorbide mononitrate	2.6.1	Standard release tablets can be crushed and dispersed in water. They may have an increased rate of absorption therefore monitor for side effects and dose. Do not crush MR preps. Most M/R tablets are scored and can be halved though. Alternatively, the M/R capsules have been opened and the contents mixed with soft food Consider using GTN patches at licensed dose for angina	There is a theoretical risk of explosion if isosorbide mononitrate tablets are crushed. However there have been no reports of this and manufacturers do not believe there to be any risk.	
Isosorbide dinitrate	2.6.1	Non-formulary - change to formulary options (i.e. alternatives to isosorbide mononitrate) Consider alternative beta-blocker (e.g. atenolol which is available as a licensed oral solution)		
Labetalol	2.5	Injection can be given orally - can be mixed with orange juice to help disguise bitter taste Tablet can be crushed but bitter taste and must be taken immediately after crushing.	If giving via feeding tubes, absorption may be affected as labetalol subject to 1st pass metabolism - monitor effects closely.	
Lansoprazole	1.3.5	Available as 15mg & 30mg Fas Tab® which dissolve in mouth. The orodispersible tablets are licensed to be dispersed in a small amount of water and administered via a naso-gastric tube or oral syringe. Capsules can be opened and mixed with apple juice or orange juice to form a solution. Contents of capsules can also be mixed with 10ml of 8.4% sodium bicarbonate injection to form a suspension. Omeprazole suspension 5mg, 10mg, 20mg and 40mg in 5ml (unlicensed special) Lansoprazole 5/15/30mg per 5ml suspension (unlicensed special)	These methods may be most suitable for administration via small bore feeding tubes. Very expensive	
Lassar's paste	13.5.3	<a href="#">See Zinc &amp; Salicylic Acid Paste</a>		
Levocarnitine	9.8.1	Specialist Only - repatriate	Contact Medicines Optimisation Team for advice if needed	
Levodopa	4.9.1	Confirm mono-therapy with prescriber as normally given in combination as co-beneldopa or co-careldopa - see monographs for co-careldopa.		
Levomopromazine	4.2.1	Consider use of injection given i/m or via syringe driver. The tablets can be dispersed in water, disperse immediately	Special will take several days to be made. Confirm indication and length of treatment.	
Levothyroxine	6.2.2	Crush tablets and mix with water immediately prior to administration or disperse in water in 1-2 mins Levothyroxine licensed liquid 25mcg/5ml, 50mcg/5ml and 100mcg/5ml	Confirm with prescriber if capsules requested as capsules as unlicensed and very expensive Monitor TSH, if thyroid function deteriorates then consider crushing tablets. Monitor TFT's if giving via enteral feeding tubes as levothyroxine can adsorb to these.	
Liothyronine	6.2.2	<a href="#">Refer to APC Positioning Statement and consider referral to specialist</a> Tablets of 20mcg can be crushed and dispersed in ~20ml water - for smaller doses can use part of the solution and discard the rest. <sup>f</sup>	No evidence that any more effective than standard levothyronine for maintenance treatment.	
Lisinopril	2.5.5	The tablets can be dispersed in water for administration. They disperse in 1-5 minutes. Lisinopril 5mg/5ml suspension (licensed)	Licensed liquid is expensive minutes. Lisinopril oral solution is absorbed to a lesser extent than Lisinopril tablets - if switching monitor blood pressure closely.	

Lithium	4.2.3	N.B. Preparations vary widely in bioavailability, changing to liquid preparation requires the same monitoring as initiation of treatment. <b>Prescribe by brand name.</b> Lithium Citrate oral solution (Li-Liquid®): 509mg/5mL (Li+ 5.4mmol/5mL) / 1.018g/5mL (Li+ 10.8mmol/5mL) - licensed Lithium Citrate 520mg/5mL (Li+ 5.4mmol/5mL) liquid (Priadel®) - licensed	Lithium carbonate 200mg = lithium citrate 509mg.	
Loperamide	1.4.2	Loperamide liquid 1mg/5ml (Imodium) Loperamide 25mg/5ml suspension (unlicensed special)	Use undiluted Review requirement for unlicensed preparations regularly - Very expensive	Antidiarrhoeals should not be used to treat C. difficile infections due to the risk of toxic megacolon
Lofepiramine	4.3.1	Lomont® 70mg/5ml oral suspension - licensed	Use undiluted. If used via tube ending in jejunum, effects may be increased - monitor closely.	
Lorazepam	4.1.2 and 4.8.2	Tablets can be dispersed in water or crushed and mixed with water for administration orally or via feeding tube Tablets can be administered sublingually if the patient has a sufficiently moist mouth. Lorazepam 1mg/ml solution (licensed) Lorazepam 500mcg/5ml and 1mg/5ml solution/suspension (unlicensed specials available)	Injection may also be used sublingually Relatively expensive Review requirement for unlicensed preparations regularly - Very expensive	Lorazepam should be for short term use only
Losartan	2.5	Losartan oral suspension 2.5mg/ml (Cozaar®) - licensed Tablets can be dispersed in water or crushed and mixed with water for administration orally or via feeding tube		
Magnesium Aspartate	9.5.2 BNFc	Oral powder sachets 6.5g (KoRa)	To prescribe as ACBS if that applies	
Magnesium Carb Heavy	Not in BNF(2)	Only available as unlicensed special	Review requirement for unlicensed preparations regularly - Very expensive	
Magnesium Glycerophosphate	9.5.1.3	Available as Magnaphos®/ YourMag/ Neomag 4mmol chewable tablets (licensed) Available as quarter scored Mag-4® 4mmol tablets LiquaMag GP or MagnaPhos (both 5mmol/5ml licensed oral solution) Magnesium glycerophosphate tablets can be crushed and mixed with water for administration. Consider health food supplements such as Lamberts® MagAsorb® which may be purchased by patients	4mmol approx equal to 1g of Mag glycerophosphate and 97mg of Mg Tablets are quarter scored for lower doses. Tablets can be chewed or crushed and mixed with water <sup>†</sup>	
Magnesium Oxide	Not in BNF(2)	Magnesium glycerophosphate may be suitable. If Magnesium oxide essential, consider unlicensed special	Review requirement for unlicensed preparations regularly - Very expensive	Do not give magnesium oxide via enteral feeding tube - choose alternative magnesium salt.
Mebeverine	1	Colofac (Solvay) tablets 135 mg can be crushed. Licensed 50mg/5ml available, very expensive	Fybogel Mebeverine (Reckitt Benckiser) sachets, which contain mebeverine 135 mg and fybogel, may be suitable for some people. Not suitable via enteral feeding tubes due to risk of blockage. 150mg (15ml) = 135mg tablet	
Megestrol Acetate	8.3.2	Tablets can be dispersed in water for administration orally or via feeding tube. 40mg disperse quickly, 160mg disperse in 1-5 mins	Use with caution via enteral feeding tubes as megestrol is practically insoluble.	
Melatonin	4.1.2	Circadin 2mg MR tablets can be crushed to a fine powder and mixed with water or given with a small amount of cold soft food e.g. yoghurt or jam. Special Products standard release capsule - (unlicensed) The standard capsule can be opened and mixed with water, milk, yoghurt or fruit juice for administration Melatonin 2mg/5ml, 3mg/5ml and 5mg/5ml solution and suspension (unlicensed special) (solution is cheaper than suspension)	<a href="#">See Melatonin Drug Positioning Statement</a> <a href="#">See SCA documentation</a> Review requirement for unlicensed preparations regularly - Very expensive	If immediate release characteristics are required, then crushing the appropriate number of Circadin 2mg MR tablets should be considered to provide a "standard release" dose.
Memantine	4.11	Use oral drops (Ebixa® pump actuation oral solution) The tablets can be crushed and dispersed in water for administration. Need to crush well as they are film coated	The drops can be diluted in water to aid administration if necessary	<a href="#">See NetFormulary for other potential options</a>
Menadiol	9.6.7	10mg tabs can be crushed and mixed with water Consider phytomenadiol: Use the Konakion 'MM' or 'MM Paediatric' injection orally/enterally. NeoKay 1mg capsules (phytomenadione) Menadiol 5mg/5ml suspension (unlicensed special)	Confirm dose and expected length of treatment. Konakion MM paediatric supplied with pipette to give oral dose. Licensed for opening top of capsule and giving into babies mouth. Could be given to adults too (off-label). Review requirement for unlicensed preparations regularly - Very expensive	Konakion MM Paed is licensed for children and neonates (not adults), for prophylaxis of vitamin K deficiency bleeding.
Menthol in aqueous cream	13.3	Blacklisted. Suggest PPL emollients as alternatives; i.e. Cetraaben®, Aquamax®, Zerobase®, Zerocream® Blacklisted but several licensed products of various strengths available (see BNF) - pt may be able to buy these.		
Mesalazine	1.5.1	Pentasa® sachet available 1g and 2g. Pentasa® m/r tabs can be dispersed easily in 50ml of water and should be administered immediately Consider rectal administration - emema and suppositories are available	Manufacturer advises that sachets are not suitable via feeding tubes as may stick to tubing. Dispersed Pentasa® m/r tabs not suitable via feeding tubes. Act locally so only consider if appropriate for pts condition.	chewed so not appropriate for patients with impaired ability to follow instructions. Do not crush Octasa, Mezavnt, Asacol or Ipacol tabs
Mepacrine tablets	5.4.4 10.1.3	Not suitable for primary care prescribing - Specialist use only	Only available as unlicensed special 10.1.3 - Sometimes used in discoid lupus erythematosus	
Mercaptamine/ Cysteamine eye drops	11	Not suitable for primary care prescribing - Specialist use only	Strengths used; 0.11%, 0.44% and 0.55%. For cystinosis; 0.55% is more frequently used. Single source amongst NHS manufacturing units. 0.44% may be imported as Cystaran® from USA. CYSTARAN is used for the treatment of corneal cystine crystal accumulation in patients with cystinosis.	
Metformin	6.1.2	Metformin 500mg/5ml oral solution - licensed Metformin (Aurobindo, Genesis, Wockhardt, Zentiva) and Glucophage (MerckSerono) tablets can be crushed.	Can be expensive depending on dose	
Methotrexate	10.1.3	Licensed pre-filled injections with varying doses available Tablets can be dispersed in water Methotrexate 2.5 to 50mg/5ml suspension and solution (unlicensed specials)	Check correct choice on surgery system. Injection can be diluted with water and administered orally to give similar plasma concentration to tablet preparation. CYTOTOXIC – handle with care, wear gloves and mask, do not crush the tablet and should be done in a closed system (i.e. syringe barrel). Pregnant women to avoid handling. Dispose of syringes as cytotoxic waste. Review requirement for unlicensed preparations regularly - Very expensive	Methotrexate in primary care requires a Shared Care Agreement SCA
Methyldopa	2.5.3	The tablets can be crushed and mixed with water for administration Only available as unlicensed special	Review requirement for unlicensed preparations regularly - Very expensive	
Metoclopramide	4.6	Metoclopramide 5mg/5ml oral solution - licensed		
Metolazone		Specialist Only status - repatriate	Contact Medicines Optimisation Team for advice if needed	
Metoprolol	2.4	Tablets can be crushed and mixed with water for administration. Metoprolol 12.5mg/5ml suspension and solution (unlicensed special) Consider alternative licensed liquid - propranolol	Do not crush MR preps Review requirement for unlicensed preparations regularly - Very expensive	



		Consider alternative licensed liquid - atenolol		
Metronidazole	5	Metronidazole 200mg/5ml oral suspension (Norzol®) Flagyl 500mg or 1g suppositories		
Mexiletine Capsules	2.3.2	Capsules can be opened, and the contents dispersed in water for immediate administration Unlicensed special	Review requirement for unlicensed preparations regularly - Very expensive	
Midazolam Liquid	4.8.2	2.5mg/5mg/7.5mg/10mg/ml oral mucucosal solution (Licensed - Buccolam® or Epistatus 10mg/ml)	Formulary preferred option is Buccolam®	Buccolam and Epistatus are NOT directly interchangeable - training in use needed if product changed. Seek advice for Medicines Optimisation Team.
Midodrine Tablets	6.1.5	Licensed 2.5mg and 5mg tablets available (Bramox, Midotense)	Tablets can be crushed and mixed with water before giving immediately.	
Mirtazapine	4.3.4	Orodispersible form will disperse in water (15mg, 30mg, 45mg)	Standard tablet, when crushed, has a bitter taste and an anaesthetic effect on the mouth - so avoid crushing this.	
		Licensed mirtazapine oral solution 15mg/ml available from Rosemont	Orodispersible form, dissolved, may block enteral feeding tube - avoid.	
Nalidixic acid	5.1.12	Nalidixic acid 300mg/5ml licensed oral suspension Rosemont	Tablets are no longer available in the UK	
		<a href="#">Check community antibiotic prescribing guidance for alternative options</a>		
Naproxen	10.1.1	Consider ibuprofen suspension, granules or effervescent sachets		
		Consider licensed products (Stirlescent 250mg effervescent tabs, Naproxen 125mg/5ml oral suspension)	These may be expensive compared to other options	
		Consider topical NSAID preparation	Topical ibuprofen products preferred formulary options	
		Consider diclofenac suppositories*	*Diclofenac suppositories may not be suitable for all patients. They are contraindicated in ischaemic heart disease, peripheral arterial disease, cerebrovascular disease and congestive heart failure (NYHA class II-IV). See prescribing information for full list of contraindications.	
		The standard tablets can be crushed and mixed with water for administration.		
		Naproxen 125mg/5ml and 200mg/5ml (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Nifedipine	2.6.2	<a href="#">Consider switching to a suitable formulation of amlodipine</a>	Take care - Risk of profound drop in blood pressure and tachycardia if nifedipine is given incorrectly/ when immediate release products used.	
		Adalat Retard tablets can be crushed and dispersed in water and must be given immediately. MR capsules (e.g. Coracten®) can be opened and administered sublingually or swallowed/ flushed down enteral feeding tubes	Do not crush contents of MR capsules	
		Nifedipine 10mg/5ml suspension (unlicensed special)		
Nitrazepam	4.1.1	Nitrazepam 2.5mg/5ml - licensed but expensive <a href="#">Consider alternative licensed liquid - temazepam</a>	Nitrazepam is non-formulary, review.	
Nitrofurantoin	5.1.13	Licensed suspension available 25mg/5ml, but very expensive	<a href="#">Consider alternative antibiotic in liquid form - see community antibiotic prescribing guidelines</a>	Note that UHCW guidance in paed suggests cephalosporin or Co-amoxiclav if upper UTI or trimethoprim / amoxicillin for lower UTI in older children. Check sensitivities and consider other options accordingly.
		Macrochantin® capsules can be opened and contents mixed with water. Do not open the modified-release capsules.	Do not crush the tablets - nitrofurantoin is an irritant	
Nystatin	5.2	Nystatin oral suspension 100,000u/ml		
Olanzapine	4.2.1	Licensed orodispersible tablets available in different strengths	Can be placed on tongue or dissolved or dispersed in water or in orange juice, apple juice, milk or coffee.	
		Olanzapine 2.5mg/5ml suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Olive Oil Ear Drops	12.1.3	Arjun® Ear Drops	Patient can be asked to purchase OTC from chemist	
Olmesartan	2.5.5	<a href="#">Consider licensed alternative liquid - losartan</a>	Olmesartan is non-formulary	
Omeprazole	1.3.5	<a href="#">Consider licensed lansoprazole orodispersible tablets</a>	Omeprazole 20mg = ~lansoprazole 15mg Omeprazole 40mg = ~lansoprazole 30mg	Note that omeprazole MUPS are non-formulary (except in neonates).
		Capsules can be opened and mixed with 10ml of 8.4% sodium bicarbonate injection to form a suspension.	This may be most suitable for administration via small bore feeding tubes.	Capsules can be opened and mixed with apple juice or orange juice to form a solution. Contents of capsules can also be mixed with 10ml of 8.4% sodium bicarbonate injection to form a suspension.
		Omeprazole 5mg/5ml, 10mg/5ml, 20mg/5ml and 40mg/5ml suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive. See above note for MUPS.	
Ondansetron	4.6	Ondansetron 4mg/5ml licensed syrup	Note that syrup contains sorbitol	Check formulary status before considering prescribing.
		Ondansetron melt tablets and film disperses on tongue		
		Ondansetron injection has been used entally	The injection is acidic so flush feeding tubes before and after	
		Ondansetron suppositories	For acute use, consider using the suppositories, plasma ondansetron levels achieved in 15-60 minutes	
Oxybutynin	7.4.2	Some brands of oxybutynin tablets (e.g. Tillomed brand) disperse readily in water.	Some brands of oxybutynin tablets (e.g. Tillomed brand) disperse readily in water.	
		Oxybutynin elixir 2.5mg/5ml	Expensive - crushed tablets are preferable	
		Kentera® oxybutynin transdermal patch		
Oxycodone Suppositories	4.7.2	Available as licensed liquid Shortec® 5mg/5ml and Shortec® concentrate 10mg/ml	Shortec is the formulary preferred brand	
		Consider change to alternative opioid (e.g. buprenorphine or fentanyl patches) if sustained opiate is required.	Contact Medicines optimisation team for advice on dose conversion.	
		Suppositories available as unlicensed special only	Review requirement for unlicensed preparations regularly - Very expensive	
Oxytetracycline	5.1.3	Consider alternative antibiotic e.g. doxycycline 100mg dispersible tablets	Consider whether long term use needs review	
Paracetamol	4.7.1	Ask patients to buy own paracetamol where possible. Pharmacies sell a range of pharmaceutical forms.	<a href="#">See NHS England guidance</a>	
		Paracetamol 500mg dispersible tablets	High sodium content may be a problem	
		Paracetamol 120mg/5ml oral suspension	Hyperosmolar - may cause diarrhoea when administered via enteral tubes	Ask patients to buy own paracetamol where possible. Pharmacies sell a range of pharmaceutical forms.
		Paracetamol 250mg/5ml oral suspension		
		Paracetamol suppositories - various strengths available		
Perindopril Arginine	2.5.5	Blacklisted - choose perindopril erbumine	4 mg erbumine = 5 mg arginine	
Perindopril Erbumine	2.5.5	Tablets can be crushed and mixed with water for administration.		
		Perindopril 4mg/5ml suspension and solution (unlicensed special) (suspension is more expensive than the solution)	Review requirement for unlicensed preparations regularly - Very expensive	

		Consider licensed ramipril 2.5mg/5ml solution	Most cost effective liquid ACE	
Phenobarbitone	4.8.1	Tablets can be crushed and mixed with water for administration.	Monitor for loss of seizure control if crushing as pharmacokinetic profile may be altered.	Phenobarbitone is a CD. MHRA advises prescribing by brand to avoid loss of seizure control by switching brands. If switching products / brands, monitor seizure control closely.
		Elixir 15mg/5ml (Thornton and Ross) Contains 38% alcohol which may be a problem	May not be suitable for children or other patients who cannot have alcohol.	
		Phenobarbitone 50mg/5ml solution and suspension (unlicensed special)	For children, the RCPCH and NPPG recommend this (50 mg/5 mL) strength.	
Phenytoin Sodium	4.8.1	Phenytoin 30mg/5ml licensed suspension available	(90mg syrup = 100mg caps). Administer as single daily dose if possible.	
		Phenytoin chewable tablets available (Epanutin® Infatabs)		
		Epanutin capsules can be opened and the powder inside mixed with ~10mL water. The powder will dissolve when left for ~ 5mins and can be swallowed/ put down feeding tube.	It is suggested, however, never to put any formulation of phenytoin down a feeding tube as absorption is too unpredictable. Consider alternative therapy.	
		Epanutin injection can be given i.m for short periods	Giving injection i.m results in variable absorption and effects	
		Phenytoin 90mg/5ml oral suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Phytomedadiol (phytomenadione)	9.6.7	<a href="#">See - menadiol</a>		
Pilocarpine HCl eye drops PF - various strengths	11.7	Consider if 2% can be used as available as Minims® PF Pilocarpine	0.1% normally used for diagnosis only and 0.4% is often error (4% intended). Usual strengths 2-4%, query high dose if >4%.	
Pivmecillinam tablets	5	<a href="#">Consider alternative antibiotic - see community antibiotic prescribing guidance</a>		
		Tablets can be crushed and mixed with water for administration - must be given as soon as possible after crushing (to avoid early hydrolysis of drug to active form outside the body) <sup>k</sup>	Disrupting tablet integrity may result in oesophageal/upper gastric side effects. Use a neutral, rather than an acidic fluid, to minimise the bitter taste which the product has following disruption of the film coating. <sup>k</sup>	
Polyhexanide 0.02% w/v multidose	11	Not suitable for primary care prescribing - Specialist use only		
Potassium Chloride	9.2.1	Kay-Cee-L® 7.5% S/F syrup (1mmol/ml = 80mg/ml)	Kay-Cee-L® contains sorbitol which may not be suitable for some patients.	If long-term use, check indication and rationale for this as well as latest serum potassium levels. Consider contacting dietician about increasing dietary intake.
		Sando-K® effervescent tablets (12mmol K+)		
Pravastatin	2.12	Tablets can be crushed and mixed with water for administration. Consider alternative licensed statin - simvastatin 20mg/5ml and 40mg/5ml suspension SF		
Prednisolone sodium phosphate eye drops - varying strengths	11.4	If 0.003%, 0.005% or 0.01% prednisolone eye drops prescribed - query strength as unlikely to be of benefit		
		Prednisolone PF 0.5% individual unit dose - available as licensed Minims® Prednisolone	Predsol® 0.5% and betamethasone 0.1%w/v (Betnesol®, Vista-methasone) licensed products also available.	
		Prednisolone sodium phosphate PF 0.03%, 0.1% and 0.3% eye drops (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Pregabalin for neuropathic pain	4.8.1	Capsules can be emptied and dispersed in water.	Capsule contents may have an unpleasant taste	
		<a href="#">Consider use of gabapentin</a>		
		Lyrica oral solution 20mg/ml available (licensed)	Expensive.	
		Pregabalin 75mg/5ml suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Primidone	4.8.1	Tablets will disperse in 10ml of water in 2 to 5 minutes	Monitor effect, changes in formulation can affect pharmacokinetics.	
		Primidone 50mg/5ml and 62.5mg/5ml (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Procyclidine hydrochloride	4.9.3	Procyclidine Hydrochloride Syrup 2.5mg/5ml (Rosemont, licensed)		
		Procyclidine hydrochloride Syrup 5mg/5ml (Rosemont, licensed)		
Promazine hydrochloride	4.2.1	Promazine 25mg/5ml oral syrup (licensed)		
		Promazine 50mg/5ml oral syrup (licensed)		
Propranolol	2.4	Propranolol oral solution (Rosemont, licensed) Available as: 5mg, 10mg, 40mg, 50mg/5ml	Absorption of propranolol can be increased by concomitant food or milk	
Pyrazinamide tablets	5.1.9	Tuberculosis drugs are Specialist Only (with exceptions). Check in <a href="#">netFormulary</a> and repatriate if appropriate.		
Pyridostigmine	10.2.1	60mg tablets can be crushed and dispersed in water.	Review requirement for liquid formulation regularly - Very expensive. Note BNF advice regarding doses above 10mg daily	
Pyridoxine	9.6.2	Tuberculosis drugs are Specialist Only (with exceptions). Check in <a href="#">netFormulary</a> and repatriate if appropriate.		
		Tablets can be crushed and mixed with water. The 50mg tablets disperse within 5 minutes		
Quetiapine	4.2.1	<a href="#">Consider alternative licensed product - risperidone liquid</a>	Consider seeking patient-specific specialist advice before switching drugs.	
		<a href="#">Consider alternative licensed liquid - amisulpride liquid</a>	Antipsychotics should not be used for mood control in elderly patients with dementia or behavioural problems. Please refer to CSM and MHRA warnings. BNF for doses for schizophrenia (300mg-450mg daily) / mania (400mg - 800mg daily)	
		<a href="#">Consider alternative licensed product - olanzapine orodispersible tablet.</a>		
		Immediate release quetiapine tablets can be crushed and mixed with water or added to soft food (e.g. yoghurt) but taste bitter	<a href="#">Check current formulary choice on Netformulary (or with the Medicines Optimisation Team).</a>	
		DO NOT crush Modified Release quetiapine tablets	The daily dose will need to be converted to an immediate release formulation given several times daily. The Medicines Optimisation Team can advise.	
		Quetiapine 20mg/ml SF oral suspension (licensed)	Review requirement for liquid preparations regularly - very expensive (including licensed product)	
		Quetiapine 12.5mg/5ml, 25mg/5ml, 50mg/5ml, 100mg/5ml and 200mg/5ml suspension (unlicensed specials)		
Quinine Sulphate	5.4.1	Tablets can be crushed and mixed with 200ml of water - resultant liquid will be bitter. Addition of syrup may help.	Consider if treatment absolutely necessary. Can block enteral feeding tubes - review risks and benefits of use.	
Ramipril	2.5.5	Ramipril tablets disperse in water in 1-5 minutes		
		Ramipril capsules can be opened and the contents disperse in water for administration	The drug is poorly soluble.	
		Licensed ramipril 2.5mg/5ml S/F solution available	This is expensive.	
Ranitidine	1.3.2	Consider lansoprazole Fas tab® - more cost effective		Check indication - does patient need to continue this long term? Consider duration and add course length. If changing to lansoprazole, add a course length to ensure this is reviewed on a case-by-case basis.
		Ranitidine 300mg/10ml and 150mg/10ml oral solution - licensed	Licensed liquids all contain alcohol and may be too viscous for feeding tubes without being diluted first.	
		Ranitidine effervescent tablets 150mg or 300mg	Some brands contain high amounts of sodium	
		Ranitidine 5mg/5ml solution and suspension (unlicensed special)	Formulation may contain alcohol and product may be expensive.	
Risperidone	4.7.1	Licensed oral liquids 1mg/ml available		

		Risperidone orodispersible tablets available in 500mcg, 1mg, 2mg, 3mg and 4mg strengths		
Rivaroxaban	2.8.2	The tablet can be crushed and mixed with a small amount of water or soft food (e.g. apple puree) for administration - licensed	Bioavailability may be affected by food. Doses of 15mg and 20mg should be taken with food.	
Sertraline HCl	4.3.3	Consider alternative licensed liquid - citalopram drops	Consider discussion with mental health specialist, if patient is being seen by one, before switching drugs to avoid de-stabilising patients condition.	
		Consider alternative licensed liquid/ dispersible tablets - fluoxetine		
		Tablets can be dispersed in water or crushed and mixed with food.	Crushed tablets have an anaesthetic property so caution and take care with hot foods after administration	
		Sertraline 50mg/5ml (unlicensed special)	Expensive	
Sildenafil	2.5.1	The tablets can be crushed and dispersed in water for administration	Specialist only prescribing for pulmonary hypertension and should be supplied by hospital	
		Sildenafil 10mg and 25mg/5ml oral suspension available (unlicensed special)	Expensive	
Simvastatin	2.12	Tablets can be crushed and dispersed in water for administration	Crush well - drug is practically insoluble. Give immediately - light sensitive.	
		Consider licensed atorvastatin chewable tablets 5mg, 10mg, 20mg or 40mg	NICE recommended option.	
		Simvastatin 20mg/5ml and 40mg/5ml oral suspension SF now available from Rosemont	Expensive	
Sitagliptin	6.1.2	Tablets dissolve rapidly in water; may taste unpleasant without film-coating.		
Sodium Bicarbonate	9.2.1.3	The capsules can be opened and the contents mixed with water for administration	Check indication - why are they being used and for how long should they be prescribed?	
		The injection can be given enterally		
		S-Bicarb® 1mmol/ml PF oral soln (licensed)		
		Sodium bicarbonate 420mg/5ml oral solution (unlicensed special)		
Sodium Chloride 0.9% w/v PF multidose eye drops	11.8	Other lubricants may be more suitable, see local PPL	See also Ophthalmic Special Order Products Guidance	
Sodium Chloride 5% Eye Drops/ointment	11.8	Prescribe as 'ODM5 eye drops preservative free (Sodium chloride 5% eye drops)' - licensed medicinal device <sup>k</sup>		
		Sodium chloride 5% preservative free eye drops and 5% ointment (unlicensed special)	Review requirement for unlicensed preparations regularly - very expensive	
Sodium Chloride Nebules	3.8	7% x 4ml nebulas licensed (Nebusal®)		
		3% and 6% x 4ml licenced nebulas (MucoClear®)		
Sodium Chloride Solution	9	1.17g/5ml 4mmol/ml), 1.46g/5ml (5mmol/ml), 1.5g/5ml (5.13mmol/ml) and 292.5mg/5ml (1mmol/ml) oral solution (unlicensed special) (DT)	Review requirement for unlicensed preparations regularly - Very expensive	
		SodiClor® 1mmol/ml PF oral soln (Arjun - Unlicensed)		
		SodiClor® 5mmol/ml PF oral soln (Arjun - Unlicensed)		
Sodium Citrate 10.11% eye drops	11	Not suitable for primary care prescribing - Specialist use only		
Sodium cromoglicate 2% PF	11.5	Use commercially available products (e.g. Catacrom, Opticrom)		
Sotalol	2.4	Consider alternative licensed liquid - propranolol	If sotalol started by a specialist, seek advice before switching drug to check if this is suitable.	
		Consider alternative licensed liquid - atenolol		
		Tablets can be crushed and mixed with water	Sotalol is very soluble	
Spironolactone	2.2.3	Tablets can be crushed and mixed with water		
		Spironolactone 5mg/5ml, 10mg/5ml, 25mg/5ml, 50mg/5ml and 100mg/5ml oral suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Sulfadiazine	5.1.8	Tablets can be crushed and mixed with water immediately prior to administration <sup>f</sup>		
		Liquid only available as special.	Review requirement for unlicensed preparations regularly - Very expensive	
Sulfasalazine	1.5.1	Sulfasalazine 250mg/5ml oral suspension (licensed)		
		Salazopyrin (not EC) tablets can be crushed.		
		Consider 500mg suppositories		
Sulpiride	4.2.1	The tablets can be dispersed in water for administration in 1-5 mins	Note that sulpiride liquid is non-formulary. Disperse tablets as preference.	
		Sulpor® 200mg/5ml oral solution - licensed		
Tacrolimus	8.2.2	Tacrolimus granules for oral suspension 0.2mg and 1mg (Modigraf)	Tacrolimus liquid (Modigraf ▼) - formulations not interchangeable without careful therapeutic monitoring	Total daily dose of granules = total daily dose of the capsules. If this is not possible, ROUND DOWN daily granules dose and give as two equally-divided doses/ slightly larger dose in the
		NOT RECOMMENDED - 2.5mg and 5mg/5ml suspension (unlicensed special)	Unlicensed liquid specials have very limited shelf life and variable bioavailability	
		Consider switch to infusion (this would usually be done in hospital)		
Tamoxifen	8.3.4	Tamoxifen 10mg/5ml oral solution (licensed)		
Tamsulosin	7.4.1	Consider alternative alpha blocker - doxazosin standard release		
		Liquid only available as unlicensed special	Review requirement for unlicensed preparations regularly - Very expensive	
		If no alternative is suitable, contents of capsules may be mixed with cold water and swallowed whole.	Only suitable for patients able to follow instruction not to chew.	
Temazepam	4.1.1	Temazepam 10mg/5ml oral solution - licensed	For short term use only	
Terbinafine	5.2	Tablets can be crushed and mixed with water for immediate administration (with or without food)		
		Terbinafine 250mg/5ml oral suspension (unlicensed)	Review requirement for unlicensed preparations regularly - Very expensive	
Tetrabenazine	4.9.3	Specialist Only status - repatriate	Contact Medicines Optimisation Team for advice if needed	
Thiamine HCl	9.6.2	The tablets can be crushed and dispersed in water for administration. Otherwise special only.	Review requirement regularly especially if no longer taking alcohol. Not indicated long term for re-feeding syndrome	
		Thiamine 100mg/5ml oral solution and suspension (unlicensed) (DT) (suspension considerably more expensive than solution)	Review requirement for unlicensed preparations regularly - Very expensive	
Tizanidine	10.2.2	Tablets can be crushed and mixed with water for administration.		
		Tizanidine 2mg/5ml oral solution and suspension (unlicensed) (suspension considerably more expensive than solution)	Review requirement for unlicensed preparations regularly - Very expensive	
Tocopherol (Vitamin E)	9.6.5	Available as alpha tocopheryl acetate suspension 100mg/1ml. 1mg=1iu	May appear as Vitamin E 100mg/ml on systems.	
		Vitamin E suspension 100mg/ml (Alliance)	Check indication - why are they being used and for how long should they be prescribed?	
		Disperse standard tablets(1mg and 2mg) in water, they disperse within one minute.		

Tolterodine	7.4.2	Modified release capsules, which contain time-release beads can be opened and contents given whole to patients with the ability to follow the instruction <b>not to chew</b>	The MR capsule can be removed from the capsule and administered orally, advise not to chew contents, swallow whole	
		Consider alternative licensed liquid - oxybutynin		
		Tolterodine 2mg/5ml oral suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Topiramate	4.8.1	Topiramate sprinkle capsules 15mg; 25mg; 50mg (Topamax®)		
		Tablets can be crushed and dispersed in water.		
		Topiramate 25mg/5ml, 50mg/5ml and 100mg/5ml suspension (unlicensed special)	Unlicensed liquid specials have very limited shelf life and variable bioavailability	
Tranexamic acid	2.11	Specialist Only status - repatriate	Contact Medicines Optimisation Team for advice if needed	
Trifluorothymidine (trifluridine) 1% w/v multidose and PF multidose eye drops	11	Not suitable for primary care prescribing - Specialist use only		
Trihexyphenidyl	4.9.2	Trihexyphenidyl 5mg/5ml available as a licensed syrup		
		The tablets will disperse in water for administration		
Venlafaxine	4.3.4	Standard tablets can be crushed and mixed with water to form a fine suspension. Crushed tablets may be administered in jam.	MR preparations should not be crushed, the contents of capsule can be mixed with soft food (e.g. yoghurt) but need to be administered whole, not chewed. Convert MR dose to immediate release twice daily dose to use standard tablet	
		Venlafaxine 37.5mg/5ml and 75mg/5ml solution and suspension (unlicensed special)	Review requirement for unlicensed preparations regularly - Very expensive	
Verapamil	2.6.3	Zolvera® 40mg/5ml oral solution - licensed		
Warfarin	2.8.2	Tablets can be crushed and suspended in water. Without crushing they disperse in 2-5 minutes.	It is advisable to keep patients on a consistent formulation and monitor INR with any necessary changes	
		Warfarin 1mg/1ml licensed available (Rosemont)		
		All other strengths only as unlicensed specials	Review requirement for this formulation regularly - Very expensive	
Zinc & Salicylic Acid Paste (Lassar's paste)	13.5.3	Confirm with prescriber. Although listed in BNF as Lassar's paste now only available as special.	Consider commercially available barrier cream/ oint first. <sup>^</sup>	
Zopiclone	4.1.1	Tablets should not be crushed/ dispersed. Consider alternative licensed liquid - temazepam	No advantage over benzodiazepines - use preparation with lowest acquisition cost	
		Zopiclone 3.75mg/5ml and 7.5mg/5ml solution (unlicensed special) (solution considerably cheaper than the suspension)	For short term use only Review requirement for unlicensed preparations regularly - Very expensive	