



23 July 2020

## Medicine Supply Alert Notice

### H2-antagonists (cimetidine, famotidine and nizatidine)

**Priority: Level 2\* update to MSAN (2020)59**

**Valid until: Various dates**

#### Issue

1. Supply overview of cimetidine, famotidine and nizatidine preparations:

Product	Supplier	Anticipated Resupply Date	Detail
Famotidine 20mg tablets	Tillomed Laboratories	end-July 2020	
	Teva UK	to be confirmed	
Famotidine 40mg tablets	Tillomed Laboratories	end-July 2020	
	Teva UK	to be confirmed	
Cimetidine 200mg tablets	Ennogen Pharma	2021	Unlicensed supplies have been sourced
	Medreich	to be confirmed	
Cimetidine 400mg tablets	Ennogen Pharma	2021	
	Medreich	to be confirmed	
Cimetidine 800mg tablets	Ennogen Pharma	2021	
	Medreich	to be confirmed	
Cimetidine 200mg/5ml oral solution	Rosemont Pharmaceuticals	n/a	In stock
Nizatidine 150mg tablets	Mylan	end-July 2020	Supplies anticipated w/c 27 <sup>th</sup> July 2020
	Medreich	to be confirmed	
Nizatidine 300mg tablets	Mylan	In Stock	In Stock
	Medreich	to be confirmed	

#### Advice and Actions

2. For patients with insufficient supplies of cimetidine, famotidine or nizatidine for the duration of the out of stock period, prescribers should consider:

- reviewing patients to establish if ongoing treatment is still required and if it is consider stepping down to an antacid or alginate;
- if ongoing treatment is still required and stepping down to an antacid or alginate is not appropriate, switching to an alternative proton pump inhibitor or alternative H2-antagonist:
  - See table 1 in **Annex A** for advice on oral acid suppressants in adults
  - See table 2 in **Annex A** for advice on oral acid suppressants in paediatrics

- prescribing an unlicensed import where a patient specifically requires cimetidine tablets and where the oral solution is considered inappropriate. Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see additional information).

### **Additional Information**

3. The following specialist importers have confirmed they can source unlicensed cimetidine tablets (please note, there may be other companies that can also source supplies):
  - Alium Medical (200mg, 400mg and 800mg)
  - Mawdsley's Unlicensed (400mg)
4. Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Board or local governance procedures. Please see the links below for further information:
  - [Prescribing unlicensed medicines](#), General Medical Council (GMC),
  - [The supply of unlicensed medicinal products](#), Medicines and Healthcare products Regulatory Agency (MHRA)
  - [Professional Guidance for the Procurement and Supply of Specials](#), Royal Pharmaceutical Society
5. Further information on supply issues affecting ranitidine can be found in MSAN(2020)54

### **Enquiries**

6. Enquiries from Health Boards or healthcare professionals should be directed in the first instance to [PharmacyTeam@gov.scot](mailto:PharmacyTeam@gov.scot) (primary care) or [NSS.NHSSMedicineShortages@nhs.net](mailto:NSS.NHSSMedicineShortages@nhs.net) (secondary care).

**Table 1: Alternative oral products for the main indications of ranitidine in adults:**

Before switching to another agent, review if patients still require treatment or could be stepped down to an antacid or alginate.

Acid suppressant	Formulation	GU/DU treatment	GU/DU prophylaxis	GORD	NSAID associated GU/DU treatment/prophylaxis	Comments
<b>Proton pump inhibitors</b>						
<b>Omeprazole*</b>	Capsules, tablets and dispersible tablets: 10mg, 20mg, 40mg  Powder for oral suspension 2mg/mL, 4mg/mL	20-40mg OD	10-40mg OD (DU)  20-40mg OD (GU)	20-40mg OD (treatment)  10-40mg OD (long term management after healed reflux oesophagitis)  10-20mg OD symptomatic GORD	20mg OD (prevention and treatment)	<i>*not to be prescribed with clopidogrel due to risk of reducing its antiplatelet efficacy.</i>  Losec MUPS® not licensed for use via enteral feeding tubes, however there is extensive experience of using via this route in practice.
<b>Lansoprazole</b>	Capsules and dispersible tablets: 15mg and 30mg	30mg OD	UL (15-30mg OD) ¥	30mg OD (treatment)  15-30mg (prevention)  15-30mg OD (symptomatic GORD)	30mg OD (treatment)  15-30mg (prevention)	Orodispersible tablets licensed for administration via nasogastric (NG) tubes.
<b>Pantoprazole</b>	Tablets 20 and 40mg	40-80mg OD	UL (20-40mg OD) ¥	20mg OD symptomatic GORD  20-40mg OD long term management and prevention of relapse	20mg OD (prevention)	

Acid suppressant	Formulation	GU/DU treatment	GU/DU prophylaxis	GORD	NSAID associated GU/DU treatment/prophylaxis	Comments
<b>Proton pump inhibitors (continued)</b>						
<b>Esomeprazole*</b>	Tablets, capsules 20mg, 40mg  Granules 10mg	UL (20-40mg OD) ¥	UL (20-40mg OD) ¥	40mg OD (treatment)  20mg OD (prevention and symptomatic treatment)	20mg OD (prevention and treatment)	<i>Not to be prescribed with clopidogrel due to risk of reducing its antiplatelet efficacy.</i>  Granules are licensed for administration via NG or gastric tubes.
<b>Rabeprazole</b>	Tablets 10mg, 20mg	20mg OD	UL (10-20mg OD) ¥	20mg OD (treatment)  10-20mg long term maintenance  10mg OD symptomatic GORD	UL	
<b>H2-receptor antagonists</b>						
<b>Nizatidine</b>	Capsules 150mg	150mg BD or  300mg OD	150mg OD	150-300mg BD	150mg BD or 300mg OD (treatment)	
<b>Famotidine</b>	Tablets 20mg, 40mg	40mg OD	DU 20mg OD	20mg BD (but for erosion/ulcer linked to reflux 40mg BD for 6- 8 weeks)	UL	
<b>Cimetidine*</b>	Tablets 200mg, 400mg and 800mg  Liquid 200mg/5mL	400mg BD or  800mg ON (up to 400mg QDS)	400mg ON up to BD	400mg QDS	400mg BD (treatment)- see SPC for other dose regimens	No data on crushing tablets  <i>*caution as CYP P450 inhibitor; care with drug interactions- consult SPC</i>

Key:, GU: gastric ulcer, DU: duodenal ulcer; PU: peptic ulcer; GORD: gastroesophageal reflux disease, UL: unlicensed

¥ Based on PPI dose equivalence table for severe oesophagitis in NICE guideline (CG184) update (2014): <https://www.nice.org.uk/guidance/cg184/chapter/Appendix-A->

**Table 2: Alternative oral acid suppressants for gastro-oesophageal reflux disease in children**

[Refer to BNFC or local paediatric formulary for other indications/off label use]

Before switching to another agent, review if patients still require acid suppression or if could be stepped down to an antacid

Acid suppressant	Formulation	Licensed age group	Dose	Comments
<b>Proton pump inhibitors</b>				
<b>Omeprazole</b>	<p>Capsules, tablets and dispersible tablets 10mg, 20mg, 40mg</p> <p>Oral suspension 2mg/mL, 4mg/mL</p> <p><i>In the absence of the licensed liquid being available, consider using an unlicensed liquid (manufactured special). However, there is only limited evidence of efficacy.</i></p>	> 1 year and ≥ 10 kg	<p><u>&lt;2.5kg</u> 0.7-1.4mg/kg to 3mg/kg/day</p> <p><u>2.5 – 7kg</u> 5mg to 3mg/kg/day (max 10mg)</p> <p><u>7 - 15kg</u> 10mg to 20mg OD</p> <p><u>≥15kg</u> 20mg to 40mg OD</p>	<ul style="list-style-type: none"> <li>• Losec MUPS® tablets may be dispersed in water (do not crush tablet) for oral liquid administration. Halve 10mg tablet before dispersing for 5mg dose.</li> <li>• Losec MUPS® is not licensed for use via enteral feeding tubes, however there is extensive experience of using via this route in practice (NB: granules are approx. 0.5mm in diameter and have a tendency to block fine-bore feeding tubes [<math>&lt;8Fr</math>])</li> <li>• Esomeprazole granules are licensed for administration down tubes <math>\geq 6Fr</math>.</li> <li>• <i>Liquid may be required in age <math>&lt;1</math> year with nasogastric (NG) or gastric tubes <math>&lt;8Fr</math>, or in patients intolerant/allergic to excipients in esomeprazole granules.</i></li> </ul> <p><i>* Not to be prescribed with clopidogrel due to risk of reducing its antiplatelet efficacy</i></p>
<b>Esomeprazole</b>	Tablets, capsules, 20mg and 40mg	$\geq 12$ years	20-40mg OD	<p>Granules licensed for administration via enteral feeding tube <math>\geq 6Fr</math></p> <p><i>* Not to be prescribed with clopidogrel due to risk of reducing its antiplatelet efficacy</i></p>
	10 mg gastro-resistant granules for oral suspension	1-11 years	<p>Weight <math>\geq 10</math> - <math>&lt;20</math> kg: 10mg OD</p> <p>Weight <math>\geq 20</math> kg: 10-20mg OD</p>	
<b>Pantoprazole</b>	Tablets 20mg and 40mg	$\geq 12$ years	20 mg OD	
<b>Lansoprazole</b>	Capsules and dispersible tablets: 15mg and 30mg	No paediatric licence but used off label in this population	<p>Off label use:</p> <p><u>Infant 2.5kg – 5kg</u> 3.75mg (1/4 of a 15mg tablet) OD</p> <p><u>5 – 10kg</u> 7.5mg (1/2 a 15mg tablet) OD</p> <p><u>10 - 30kg</u> 15mg OD</p> <p><u><math>\geq 30kg</math></u> 30mg OD</p>	<p><u>Dispersible tablets</u></p> <ul style="list-style-type: none"> <li>• Excipients include aspartame.</li> <li>• Dose should be rounded to the nearest solid dosage form i.e. half or quarter of tablet.</li> <li>• Halve or quarter tablet before dispersing in water for oral liquid administration. Stir thoroughly before administration.</li> <li>• Licensed for administration via NG tube (can be dispersed in 10mL water and flushed through tube <math>&gt; 8Fr</math>).</li> <li>• For fine-bore tubes <math>&lt;8Fr</math>, dissolve contents of capsule in 8.4% sodium bicarbonate before administration.</li> <li>• Lansoprazole dispersible tablets are generally easier to use than omeprazole. When using feeding tubes of gauge under 8Fr in patients over 2.5kg.</li> </ul>

Acid suppressant	Formulation	Licensed age group	Dose	Comments
<b>Proton pump inhibitors (continued)</b>				
<b>Rabeprazole</b>	Tablets 10mg and 20mg	No paediatric licence	<u>Off label use</u> 1-11 years; <15kg: 5mg OD ≥15kg: 10mg OD ≥12 years: 20mg OD	Crushing is not recommended. Not suitable for enteral tube administration
<b>H2-receptor antagonists</b>				
<b>Cimetidine</b>	Tablets 200mg, 400mg and 800mg  Liquid 200mg/5mL	>1year	<u>&gt;1 year</u> 25-30mg/kg per day in divided doses  Use in age < 1 year not fully evaluated; 20mg/kg/day in divided doses has been used	No data on crushing tablets.  <i>Caution as CYP P450 inhibitor; care with drug interactions-consult SPC</i>
<b>Nizatidine</b>	Capsules 150mg	No paediatric licence	<u>Off label use</u>  <u>6 months to 11 years</u> 5-10mg/kg/day in 2 divided doses  <u>≥12 years</u> 150mg BD	Not suitable to be used via enteral feeding tubes, as whilst drug dissolves in water, excipients do not and may coat and block tube.
<b>Famotidine</b>	Tablets 20mg and 40mg	No paediatric licence	<u>Off label use:</u>  <u>1 to ≤3 months</u> 0.5mg/kg/dose OD  <u>≥3 months to &lt;1 year</u> 0.5mg/kg/dose BD  <u>1 to 16 years</u> 0.5mg/kg/dose BD (maximum 40mg dose)	Without crushing, tablets will disperse in water, in 2 to 5 minutes. This process can be quickened by crushing and mixing tablets with water to for administration.  No information available on giving resulting suspension via enteral feeding tubes.

**References:** SPCs, Handbook of Drug Administration via Enteral Feeding Tubes, The NEWT Guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties, [Evelina London Paediatric Formulary](#), BNFC, Paediatric & Neonatal Dosage Handbook, 23rd ed

**Please note:** Any decision to prescribe off-label must take into account the relevant GMC guidance and NHS Board governance procedures for unlicensed medicines. Prescribers are advised to pay particular attention to the risks associated with using unlicensed medicines or using a licensed medicine off-label.