CLINICAL GUIDELINE

Proton Pump Inhibitors Prescribing on Discharge from Hospital

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Approval Group:	Medicines Utilisation Subcommittee of ADTC

Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as ‘Uncontrolled’ and as such, may not necessarily contain the latest updates and amendments.

PROTON PUMP INHIBITORS PRESCRIBING ON DISCHARGE FROM HOSPITAL

NHS Greater Glasgow and Clyde

This table includes general recommendations and is expected to be appropriate for the majority of **adult patients**. It is however recognised that these recommendations may not be suitable in each individual case and should not be a substitute for specialist expertise and clinical judgement.

Adverse effects: Although generally regarded as effective and safe, long-term PPIs have been linked with some potentially serious adverse effects. These include fractures, hypomagnesaemia, subacute cutaneous lupus erythematosus, pneumonia and *C. difficile* associated diarrhoea. The following articles provide further information on adverse effects of PPIs: Medicines Update Extra 4 (can be found on GGC Medicines website www.ggcmedicines.org.uk) and UKMi Q+A. CDI and PPIs Consult the BNF for a full list of adverse effects of PPIs.

In order to minimise the risk of adverse effects of PPIs, use the lowest effective dose for the shortest duration appropriate for the condition being treated. Long-term treatment should be reviewed periodically. When stopping long-term treatment this should be tapered rather than stopped abruptly to prevent symptoms of rebound acid hypersecretion.

	INDICATION	DRUG / STRENGTH	DURATION	OTHER COMMENTS
OESOPHAGUS				
1.	**Achalasia** (*)	If patient presents symptoms of reflux, refer to indication 3. If patient does not present symptoms of reflux, PPI not required.		
2.	**Barrett's oesophagus** (*)	Omeprazole or lansoprazole Dose decided on a individual basis, tailored to symptom control	Long-term	In patients with dysplastic Barretts (low or high grade) undergoing treatment with radio frequency ablation high doses e.g. omeprazole 40mg BD should be continued until full squamous re-epithelialisation has been confirmed. Dose could then be stepped down to once daily.
3.	**GORD**	Omeprazole 20mg OD or lansoprazole 30mg OD *If symptoms persist:* Omeprazole 40mg OD or lansoprazole 30mg OD until symptoms are controlled. (*) Once this is achieved, reduce dose over 2 weeks – first to omeprazole 20mg OD/ lansoprazole 15mg OD, then to PRN dosing. Higher doses may be required occasionally for symptom control – this should be reserved for cases with direct Consultant input. (*)	4 - 8 weeks Until symptom control	Mild symptoms should be treated with other preparations such as co-magaldrox or Peptac® (avoid in cardiac failure, renal disease and hepatic disease). Reserve PPIs for patients with persistent symptoms. For long-term maintenance, aim for the lowest dose of PPI needed to control symptoms and encourage 'on demand' PPI treatment especially for endoscopic-negative reflux disease. PPI doses should be taken 30 minutes before food for optimum efficacy
4.	**Oesophageal cancer** (*)	PPI not required		
5.	**Oesophageal perforation** (*)	PPI not required		
6.	**Oesophageal stent** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	Long-term	
7.	**Oesophageal stricture** (*)	Omeprazole 40mg BD or lansoprazole 30mg BD *Followed by:* Omeprazole 20mg BD or lansoprazole 15mg BD	6 weeks (or until endoscopic control) Long-term	
8.	**Oesophagectomy** (*)	Omeprazole 40mg BD or lansoprazole 30mg BD	Long-term	May be able to step down to omeprazole 20mg BD or lansoprazole 15mg BD if symptoms controlled
9.	**Reflux oesophagitis**	Omeprazole up to 40mg OD or lansoprazole 30mg OD *If long-term prophylaxis is required:* Omeprazole 20mg OD/ lansoprazole 15mg OD (increasing to BD dosing if necessary)	8 weeks Long-term	

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	INDICATION	DRUG / STRENGTH	DURATION	OTHER COMMENTS
STOMACH				
10.	**Bariatric surgery: adjustable gastric band** (*)	If patient presents symptoms of GORD, refer to indication 3. If patient does not present symptoms of GORD, PPI not required		
11.	**Bariatric surgery:** **gastro-ileal bypass** (*) **sleeve gastrectomy** (*)	Omeprazole 40mg BD	12 weeks then review at clinic appointment. May need to continue for longer particularly after gastro-ileal bypass	Dispersible omeprazole preparations should be used for two weeks following surgery then can be switched to capsule formulation (full supply of dispersible omeprazole will be provided on discharge from hospital).
12.	**Double bypass: gastrojejunostomy and hepatic jejunostomy** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	Long-term	
13.	**Dyspepsia** (*)	Refer to Therapeutics Handbook For symptomatic functional dyspepsia Omeprazole 10mg OD or lansoprazole 15mg OD	4 weeks	If symptoms recur after initial treatment, use the lowest dose of PPI needed to control symptoms and encourage 'on demand' PPI treatment
14.	**Fundoplication** (*)	PPI not required		
15.	**Gastrectomy (total or distal)** (*)	PPI not required		
16.	**Gastric cancer** (*)	PPI not required		
17.	**Gastric obstruction** (*)	PPI not required		
18.	**Gastric ulcer**	Omeprazole 20mg OD or lansoprazole 30mg OD *If patient is to stay on NSAIDs:* Omeprazole 20mg OD or lansoprazole 30mg OD *If patient was treated with Hong Kong protocol:*(*) Omeprazole 40mg BD for two weeks then 40mg OD for remainder of course *Prevention of relapse of gastric ulcers (for poorly responsive cases):* Omeprazole 20mg OD (increased to 40mg OD in high risk cases only)	Continue until confirmation of healing from a repeat endoscopy after 4-8 weeks While on NSAIDs 8 weeks in total Long-term	In poorly responsive patients omeprazole 40 mg OD may be used for up to 8 weeks In perforated gastric ulcer the dose of PPI is determined by the surgical team post-operatively
19.	**Gastroprotection for patients on NSAIDs, oral corticosteroids and/ or low dose aspirin** (*) *Note that the risk of GI toxicity with NSAIDs is considerably higher than with low dose aspirin*	The risk of GI toxicity does not warrant the use of gastroprotection in all patients. Decision should be made on an individual basis, taking into account other risk factors for GI toxicity and symptoms. *If gastroprotection is indicated:* Omeprazole 20mg OD or lansoprazole 15-30mg OD	For the duration of treatment with NSAID, oral corticosteroids and/ or low dose aspirin	The risk of GI symptoms/ toxicity is increased in the following cases: • age 65 years or older • history of gastroduodenal ulcer, perforation or GI bleeding • concomitant use of medication known to increase risk of upper GI adverse events, eg aspirin, anticoagulants, corticosteroids, SSRIs,SNRIs, NSAIDs • serious co-morbidity eg cardiovascular disease, renal or hepatic impairment, diabetes, hypertension, concomitant high alcohol intake - if patients develop GI symptoms after starting low-dose aspirin they should be advised to reduce their alcohol intake - if GI symptoms do not subside, gastroprotection should be considered • requirement for prolonged duration of NSAID and/ or oral corticosteroids use • high dose NSAID use (equivalent to ibuprofen 2400mg/day or naproxen 1gram/day)

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	INDICATION	DRUG / STRENGTH	DURATION	OTHER COMMENTS
STOMACH *(cont.)*				
20.	**Hiatus hernia** (*)	Before repair: If patient presents symptoms of GORD, refer to indication 3. If patient does not present symptoms of GORD, PPI not required After repair: PPI not required		
21.	***H. pylori* eradication**	Omeprazole 20mg BD or lansoprazole 30mg BD	1 week, in combination with antibiotics Where ulcers have bled or perforated PPI will be continued	Healing of gastric ulcers must be confirmed by endoscopy after 6-8 weeks (refer to indication 18. for more details).
22.	**Zollinger-Ellison syndrome**	Omeprazole or lansoprazole Dose decided on an individual basis, tailored to symptom control Initial recommended dose: 60mg daily of omeprazole or lansoprazole. Dose can be tailored up to omeprazole 120mg daily or lansoprazole 180mg daily.	Long-term unless surgically treated	Doses higher than 80mg daily of omeprazole or 120mg daily of lansoprazole should be divided and given twice daily.
PANCREAS				
23.	**Cystogastrostomy** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	To be reviewed at surgical follow-up clinic	
24.	**ERCP**(*)	PPI not required		
25.	**Frey's procedure** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	To be reviewed at surgical follow-up clinic	
26.	**Pancreatic cancer** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	Long-term	
27.	**Pancreaticoduodenectomy (Whipple's procedure)** (*) **Pancreaticogastrostomy** (*) **Pancreaticojejunostomy** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	To be reviewed at surgical follow-up clinic	
28.	**Pancreatic pseudocyst** (*)	PPI not required		
29.	**Pancreatitis – acute** (*)	Treatment with omeprazole or lansoprazole may be required Dose and duration decided on an individual basis, tailored to symptom control	To be reviewed at hospital follow-up clinic	
30.	**Pancreatitis – chronic** (*)	Treatment with omeprazole or lansoprazole may be required Dose and duration decided on an individual basis, tailored to symptom control	Long-term	
31.	**Percutaneous necrosectomy** (*)	Omeprazole 40mg OD or lansoprazole 30mg OD	To be reviewed at surgical follow-up clinic	
GALLBLADDER				
32.	**Cholecystitis/ cholangitis** (*)	PPI not required		
33.	**Cholescystectomy** (*)	PPI not required		
34.	**Chronic biliary sepsis** (*)	PPI not required		

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INDICATION		DRUG / STRENGTH	DURATION	OTHER COMMENTS
DUODENUM				
35.	**Duodenal ulcer**	Omeprazole 20mg OD or lansoprazole 30mg OD *If patient is to stay on NSAIDs:* Omeprazole 20mg OD or lansoprazole 30mg OD *If patient was treated with Hong Kong protocol: (*)* Omeprazole 40mg BD for two weeks then 40mg OD for remainder of course *Prevention of relapse of duodenal ulcers (for H. pylori negative patients or if eradication is not possible):* Omeprazole 20mg OD (increased to 40mg OD in high risk cases only)	4 - 8 weeks While on NSAIDs 8 weeks in total Long-term	In poorly responsive patients omeprazole 40 mg OD may be used for up to 4 weeks In perforated duodenal ulcer the dose of PPI is determined by the surgical team post-operatively
ILEUM				
36.	**High output stoma** (*)	Omeprazole up to 40mg BD or lansoprazole up to 30mg BD Dose tailored to stoma output. PPI should be reserved to 3rd line, in combination with loperamide and/or codeine (discuss with nutrition team)	Long-term	If patient fails to respond to capsules or tablets, consider changing to lansoprazole orodispersible
COLO-RECTAL				
37.	**Appendicectomy** (*)	PPI not required		
38.	**Diverticulitis** (*)	PPI not required		
39.	**Large bowel resection** (*)	PPI not required		
40.	**Rectal cancer** (*)	PPI not required		
41.	**Ulcerative colitis** (*)	PPI not required		
OTHER INDICATIONS				
42.	**Alcoholic liver disease** (*)	PPI not required		
43.	**Anaemia with no signs of underlying GI bleed** (*)	PPI not required		
44.	**Bowel cancer** (*)	PPI not required		
45.	**Bowel obstruction** (*)	PPI not required		
46.	**Crohn's disease** (*)	PPI not required		
47.	**Irritable bowel disease** (*)	PPI not required		

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