

# Nausea / Vomiting in Palliative Care

## Introduction

Common, distressing symptoms that can be controlled with careful assessment of underlying causes, and selection of appropriate medication and route of administration.

## Assessment

Seek and treat any reversible causes including:

• medication	• constipation	• gastric irritation	• coughing
• hypercalcaemia	• uraemia	• gastroenteritis	• infection

## Management

Choice of drug is based on likely cause(s), side effect profile and route of administration of antiemetics, and patient's condition/ prognosis. Drug doses and prescribing advice - see chart.

Clinical picture	Possible cause(s)	Treatment
<ul style="list-style-type: none"> <li>• Intermittent vomiting that relieves nausea.</li> <li>• Early satiety.</li> <li>• Audible splash, and frequent small vomits if fluid retained in flaccid stomach.</li> <li>• Other autonomic features (eg syncopal episodes, postural hypotension).</li> </ul>	<b>Impaired gastric emptying:</b> <ul style="list-style-type: none"> <li>• Locally advanced cancer (stomach, pancreas, liver metastases, gross ascites)</li> <li>• Morphine, anticholinergics</li> <li>• Gastroenterostomy</li> <li>• Autonomic neuropathy (diabetes, alcoholism, chronic kidney disease, coeliac plexus infiltration, paraneoplastic syndrome, Parkinson's disease)</li> </ul>	Prokinetic antiemetic: <ul style="list-style-type: none"> <li>• metoclopramide</li> <li>• domperidone</li> </ul> <ul style="list-style-type: none"> <li>• dexamethasone (extrinsic compression/ obstruction from tumour, diffuse gastric tumour)</li> <li>• proton pump inhibitor (gastric irritation, reflux)</li> </ul>
<ul style="list-style-type: none"> <li>• Dysphagia, pain, regurgitation, coughing.</li> </ul>	<b>Regurgitation:</b> <ul style="list-style-type: none"> <li>• Obstruction/ compression of oesophagus</li> </ul>	<ul style="list-style-type: none"> <li>• dilatation, stent, laser</li> <li>• dexamethasone</li> </ul>
<ul style="list-style-type: none"> <li>• Persistent nausea, little relief from vomiting.</li> </ul>	<b>Chemical/ metabolic:</b> <ul style="list-style-type: none"> <li>• Medication (opioids, antibiotics, SSRI antidepressants, digoxin)</li> <li>• Extensive cancer</li> <li>• Sepsis</li> <li>• Renal or liver impairment</li> <li>• ↑ calcium, ↓ magnesium, ↓ sodium</li> </ul>	<ul style="list-style-type: none"> <li>• haloperidol</li> <li>• metoclopramide</li> <li>• levomepromazine</li> </ul>
<ul style="list-style-type: none"> <li>• Intermittent vomits that may relieve nausea.</li> <li>• Colic in mechanical obstruction.</li> <li>• Constipation.</li> </ul>	<b>Bowel obstruction:</b> <ul style="list-style-type: none"> <li>• Mechanical obstruction</li> <li>• Peristaltic failure (autonomic neuropathy or carcinomatosis)</li> </ul>	Medical management if surgery not appropriate.  See: Bowel Obstruction
<ul style="list-style-type: none"> <li>• Worse in the morning.</li> <li>• Headache.</li> <li>• Neck stiffness.</li> </ul>	<b>Cerebral disease:</b> <ul style="list-style-type: none"> <li>• Compression/ irritation by tumour</li> <li>• Raised intracranial pressure</li> <li>• Anxiety</li> </ul>	<ul style="list-style-type: none"> <li>• cyclizine</li> <li>• add dexamethasone</li> </ul>
<ul style="list-style-type: none"> <li>• Worse on movement.</li> <li>• Vertigo, deafness if ear pathology.</li> </ul>	<b>Vestibular system:</b> <ul style="list-style-type: none"> <li>• Motion sickness</li> <li>• Base of skull, brainstem disease</li> </ul>	<ul style="list-style-type: none"> <li>• prochlorperazine</li> <li>• cyclizine</li> <li>• hyoscine hydrobromide</li> <li>• levomepromazine</li> </ul>
	<b>Chemotherapy/ radiotherapy:</b>	<ul style="list-style-type: none"> <li>• Seek specialist advice</li> </ul>
<ul style="list-style-type: none"> <li>• Review possible causes/ previous treatment.</li> </ul>	<b>Unknown or multiple causes:</b> <ul style="list-style-type: none"> <li>• Broad spectrum treatment using single or multiple drugs.</li> </ul>	<ul style="list-style-type: none"> <li>• metoclopramide and/or levomepromazine</li> <li>• or cyclizine + haloperidol</li> <li>• add dexamethasone</li> </ul>

## Practice points

- Even if the patient is not vomiting, ask about nausea (often not reported).
- Mechanisms of nausea/ vomiting are complex and multiple pathways are affected; a pragmatic approach selecting the antiemetic most likely to be effective and then a second drug or drugs is often effective.
- Avoid combining drugs with a similar mode of action or side effect profile; and do not combine prokinetics with anticholinergics.
- If patient is vomiting or if oral absorption is in doubt, use the subcutaneous route or rectal route. (see: Subcutaneous medication)
- Prescribe the antiemetic regularly and as required starting with the lowest dose.
- Review the treatment and response every 24 hours until symptoms are controlled.
- Continue to review antiemetic use regularly. Stop if underlying cause has resolved.
- Nausea can usually be fully controlled; vomiting about once a day may be acceptable in bowel obstruction.
- Good mouth care is essential in patients with nausea/ vomiting. (see: Mouth Care)
- Many antiemetics are used outside their marketing authorisation in palliative care, including by the subcutaneous route; this is supported by extensive clinical experience. Palliative medicine specialists occasionally recommend other regimens. This should be clearly documented in the patient's notes. (see: Medication outside marketing authorisation on website).

## Patient/ carer advice points

- Make sure the patient knows if the antiemetic is to be taken regularly or as needed; explain the treatment and plan review.
- Offer dietary advice; small, frequent meals may be better.
- Avoid strong smells, and any nausea triggers.
- Acupuncture/ acupressure has been used for nausea in chemotherapy or surgery.

## Resources

### Professional

Palliative Care Drug Information online: <http://www.palliativedrugs.com/>

### Patient

Patient leaflet on website: Managing sickness & vomiting

## Key References

1. Wood GJ. Management of intractable nausea and vomiting in patients at the end of life. *JAMA* 2007; 298(10):1196-1207
2. Stephenson J. An assessment of aetiology based guidelines for the management of nausea and vomiting in patients with advanced cancer. *Support Care Cancer* 2006; 14:348-353
3. Glare P. Systematic review of the efficacy of antiemetics in the treatment of nausea in patients with far-advanced cancer. *Support Care Cancer* 2004; 12: 432-440
4. Kennett A. An open study of methotrimeprazine (levomepromazine) in the management of nausea and vomiting in patients with advanced cancer. *Support Care Cancer* 2004; 13: 715-721
5. Mannix K. Palliation of nausea and vomiting. *CME Cancer Medicine* 2002;(1):18-22
6. Bentley A. Management of nausea and vomiting using clinical pictures. *Palliative Medicine* 2001; 5:247-253

## Antiemetic information chart

Drug	Oral dose range	As required dose	24 hour SC dose range	Prescribing notes
Cyclizine	25-50mg, 8 hourly	25-50mg oral or SC, 8 hourly	100-150mg	<ul style="list-style-type: none"> <li>Anticholinergic antihistamine. Slows peristalsis in GI tract; acts directly on vomiting centre. Side effects: dry mouth, urinary retention, blurred vision; also hypotension, extrapyramidal effects, confusion.</li> </ul>
Domperidone	10-20mg, 6-8 hourly (tablet / suspension)	10mg oral	---	<ul style="list-style-type: none"> <li>Prokinetic action in GI tract; blocked by anticholinergics. Lower risk of extrapyramidal side effects than metoclopramide. Available as 30mg suppository; dose 30-60mg PR twice daily.</li> </ul>
Metoclopramide	10-20mg, 6-8 hourly (tablet / suspension)	10mg oral 5mg SC 5-10mg IM	20-120mg	<ul style="list-style-type: none"> <li>Central and peripheral actions. Prokinetic action in GI tract; blocked by anticholinergics. Extrapyramidal side effects (caution in those &lt; 20 years). Injection is 5mg/ml so give larger as needed doses IM not SC.</li> </ul>
Haloperidol	0.5-1.5mg, nocte or bd	0.5-1.5mg oral 1mg SC, 12 hourly	2.5-5mg	<ul style="list-style-type: none"> <li>Main action is dopamine blockade; avoid in Parkinson's disease. Can cause extrapyramidal side effects (eg apathy, withdrawal) especially at higher doses for over 1-2 weeks. Once daily SC dose can be used as alternative to SC infusion.</li> </ul>
Levomepromazine	3-6mg, nocte or bd	3mg oral, 2.5mg (0.1ml) SC, 8-12 hourly	5-25mg	<ul style="list-style-type: none"> <li>Phenothiazine with a broad spectrum of action. Use low doses to avoid sedation and hypotension. 6mg scored tablet is available on named patient basis; tablet disperses well in water. (see: Levomepromazine on website) SC dose is half the oral dose; a dose can last 12-24 hours.</li> </ul>
Hyoscine butylbromide (Buscopan)	Poor absorption	20mg SC, hourly	40-120mg	<ul style="list-style-type: none"> <li>Anticholinergic. Slows peristalsis and reduces secretions in GI tract. Less central side effects than hyoscine hydrobromide.</li> </ul>
Hyoscine hydrobromide	No oral preparation	400 micrograms SC, 2 hourly	400-1200 micrograms	<ul style="list-style-type: none"> <li>Anticholinergic. Slows peristalsis and reduces secretions in GI tract. Side effects: dry mouth, drowsiness, confusion. Available as topical patch (1mg/ 72 hours)</li> </ul>
Prochlorperazine	5-10mg, 8 hourly	5-10mg oral, 12.5mg IM	Not used SC (too irritant)	<ul style="list-style-type: none"> <li>Used for motion sickness, post-operative vomiting. Buccal tablet 3mg once or twice daily is available.</li> </ul>
Dexamethasone	4-16mg		4-16mg	<ul style="list-style-type: none"> <li>Adjuvant antiemetic; oral dose the same as SC/IM dose. Best given in the morning to maintain diurnal rhythm. Monitor for side effects. Review and reduce to lowest effective dose or stop.</li> </ul>
5HT <sub>3</sub> antagonists	See BNF/ Formulary for drugs and doses			<ul style="list-style-type: none"> <li>Constipating; proven value in oncology</li> </ul>