



Bowel obstruction

Clinical decision and action checklist

1. **Is there any doubt this is an obstruction?**
2. **Is constipation the sole cause?**
3. **Is a physical blockage absent or unlikely?**
4. **Is thirst present?**
5. **Is surgery possible?**
6. **Is nausea and/or vomiting present?**
7. **Is pain present?**
8. **Is the obstruction complete and continuous?**
9. **Is the obstruction partial or intermittent?**

Key points

- Inoperable, complete bowel obstruction can be managed at home.
- Nasogastric tubes and IV hydration are not usually needed.

Bowel obstruction

Introduction

Intravenous hydration and nasogastric suction will fail to control the symptoms of inoperable bowel obstruction in approximately 90% of patients.^{1,2} Medical management will keep the majority of patients free of nausea and pain,³ achieving a comfortable phase with the option of doing this at home.⁴

Causes of obstruction

Recurrent abdominal cancer causes multiple blockages,⁵ especially with small bowel blockage in ovarian carcinoma.^{6,7,8} *Metastatic obstruction* from outside the abdomen are usually due to spread from primary melanoma, breast or lung.⁹ *Constipation* can mimic obstruction and a supine abdominal X-ray will differentiate constipation from other causes of obstruction. *Benign adhesions* may occur in up to 20% of patients with recurrent abdominal cancer,^{10,11} and are the commonest cause of small bowel obstruction.¹² *A new primary tumour* can be the cause of obstruction in nearly 10%.¹ *Motility disorders* can cause the same features as a physical blockage.⁵

Management

Surgery: this should always be considered since it may be a simple procedure, but surgery can have a significant mortality and morbidity.^{5,13} An understanding surgical opinion is essential.¹⁴

Dysmotility and ileus: absent motility (ileus) or abnormal bowel motility (dysmotility) can cause obstructive symptoms. Dysmotility is common in cancer and can be caused by retroperitoneal disease, antimuscarinic drugs or autonomic failure. A trial of a prokinetic is worthwhile, initially given parenterally.

Colic: this can radiate to a variety of sites in the abdomen and elsewhere, but the pain usually has the typical periodic nature of colic, recurring regularly every few minutes. In complete, inoperable obstruction all laxatives should be stopped, while the risk of producing an ileus with antispasmodics is not relevant and these can be used to treat the colic. Partial obstruction is different, with a need to preserve

bowel motility and yet prevent colic. The use of a laxative with minimal stimulant activity (docusate), dietary advice (avoiding high fibre foods) and the cautious use of antispasmodics keeps symptoms to a minimum.

Proximal obstructions: these are more likely to cause vomiting, but less likely to cause distension. In pancreatic carcinoma most are due to poor motility rather than a physical obstruction,¹⁵ and can be treated as for gastric stasis. Complete, high obstructions may need gastric aspiration to reduce vomiting and IV hydration to prevent thirst. Gastrostomies have been used to 'vent' gastric contents from high obstructions.^{14,16}

Nausea: Nausea (the most distressing symptom) will respond to cyclizine in most patients. A secondary onset of nausea (possibly due to invasion of small bowel by colonic bacteria) will often respond to haloperidol or levomepromazine.

Feeding and hydration: most patients will absorb sufficient fluid from their upper gut to prevent symptomatic dehydration. Parenteral feeding is not necessary, unless it is a preliminary to surgery.¹⁷ Patients with repeated vomiting or high obstructions proximal to the mid-jejunum will need intravenous or subcutaneous hydration to offset the thirst resulting from the rapid dehydration. As patients deteriorate their fluid intake reduces, and parenteral hydration is not usually needed.

Nasogastric tubes: these fail to control the symptoms of obstruction in at least 86% of patients,² and are ineffective in controlling post-operative vomiting.¹⁸ Antisecretory drugs should be tried first (eg. hyoscine, octreotide).¹⁹ Nasogastric suction or drainage has a place in faeculant or faecal vomiting. Faeculant vomiting is not the vomiting of faeces, but of small bowel contents colonised by colonic bacteria in obstructions lasting a week or more. True faecal vomiting is much less common and is due to a gastro-colic fistula.

Bowel obstruction

Clinical decision	If YES ⇒ Action
1. Is there any doubt whether this is bowel obstruction?	<ul style="list-style-type: none"> Consider other causes of nausea and vomiting, abdominal distension (eg. ascites), colic (eg. contact stimulant laxatives) or altered bowel habit (eg. constipation).
2. Is constipation the sole cause?	<p>Bowel history, examination and plain abdominal X-ray will help in deciding.</p> <ul style="list-style-type: none"> Clear rectum and start laxative.
3. Is a physical blockage absent or unlikely?	<p>This may be peristaltic failure (absent or reduced bowel sounds):</p> <ul style="list-style-type: none"> Exclude peritonitis, septicaemia or recent cord compression Stop antiperistaltic drugs (eg. antimuscarinics) and osmotic laxatives. Start metoclopramide SC infusion 30-90mg per 24 hours. In children, domperidone is safer. Consider adding a stimulant laxative acting on small and large bowel, eg. bisacodyl. Alternatively try neostigmine SC 1-2.5mg 6-hourly (do not use if these are present: asthma, cardiac problems, hypotension, peptic ulcer, hyperthyroidism, renal problems).
4. Is thirst present?	<ul style="list-style-type: none"> Rehydrate orally, SC or IV.
5. Is surgery possible?	<p>Surgery is possible if the patient agrees and is in good or reasonable nutritional and medical condition. The prognosis is poor if there has been previous abdominal radiotherapy, there are abdominal masses, multiple blockages, rapidly recurring ascites or a small bowel blockage.^{7, 14, 15, 20}</p>
6. Is nausea and/or vomiting present?	<ul style="list-style-type: none"> <i>If poor motility is suspected:</i> start metoclopramide SC infusion 30-90mg per 24 hours. In children, domperidone is safer. If metoclopramide or domperidone make the vomiting worse, reduce the dose. <i>If a physical obstruction is likely:</i> start cyclizine 50mg PO or PR 8-hourly/ SC infusion 150mg per 24 hrs. Start at half these doses for patients >70 years age. <i>If nausea and/or vomiting persists:</i> Replace cyclizine with levomepromazine 2.5-5mg SC once at night. If vomiting persists: <u>add</u> octreotide SC infusion 100-600 microg. per 24 hours.^{21, 22, 23} Hyoscine butylbromide SC infusion 60-120mg per 24 hours is an alternative but takes up to 3 days to take effect.²⁴
7. Is pain present?	<ul style="list-style-type: none"> <i>Colic:</i> hyoscine butylbromide 20mg SC. <i>Abdominal distension:</i> paracetamol 1g 4-hourly. If this is insufficient follow the WHO analgesic staircase. <i>Coeliac plexus pain:</i> start gabapentin 100mg 8-hourly and titrate daily until pain controlled.²⁵ If the pain persists refer to a pain specialist for a nerve block.
8. Is the obstruction complete and continuous?	<ul style="list-style-type: none"> Stop all laxatives. Treat a dry mouth. If colic is present: start hyoscine butylbromide SC infusion 60-120mg per 24hrs. Allow oral hydration and feeding, using occasional, small snacks. Consider high dose dexamethasone (16mg daily) if short term relief of obstruction is appropriate.^{26, 27}
9. Is the obstruction partial or intermittent?	<ul style="list-style-type: none"> Stop osmotic and stimulant laxatives. Start docusate 100mg PO 8-hourly and titrate to produce a comfortable stool without colic. Avoid high roughage foods (eg. peas). Continue oral feeding and hydration in small, frequent snacks. For intermittent colic use hyoscine hydrobromide 75-300 microg. sublingually (max. 900 micrograms in any 24 hour period).

B = book; C = comment; Ch = chapter; CS-n = case study-no. of cases; CT-n = controlled trial- no. of cases; E= editorial; GC = Group consensus; I = interviews; LS = laboratory study; MC = multi-centre; OS-n = open study-no. of cases; R = review; RCT-n = randomised controlled trial-no. of cases; RS-n = retrospective survey-no. of cases, SA = systematic or meta analysis.

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