Bowel Obstruction

Small and large bowel · Find the transition point, then decide who cannot wait until morning

CT WITH CONTRAST
level, cause, ischemia

RECOGNIZE IT *the pattern tells you roughly where the blockage is*

THE PRESENTATION

Colicky pain, vomiting, distension and absolute constipation. Proximal small bowel obstructs with early prominent vomiting and little distension; distal small bowel and colon obstruct with marked distension and late, faeculent vomiting. Bowel sounds are high-pitched early and disappear late.

WHY IT IS OBSTRUCTED

Small bowel: adhesions are far and away the commonest, then **hernia**, malignancy, Crohn's stricture, and rarely gallstone ileus or intussusception. **Large bowel: colorectal cancer** predominates, then **volvulus** and diverticular stricture.

EXAMINE PROPERLY

Examine every hernial orifice, including the femoral canal, and look at old scars. An incarcerated femoral hernia in an elderly woman is repeatedly missed and strangulates early. **Do a rectal examination** — an empty ballooned rectum, a mass or blood all change the plan.

IMAGE AND STRATIFY *the question is not whether it is obstructed but whether the bowel is dying*

Test	What it gives you
CT with intravenous contrast	**The decisive investigation.** Confirms obstruction, defines the **level and transition point**, identifies the cause, and above all shows **strangulation and closed-loop configuration**. Request it early rather than serially repeating plain films.
Signs of compromised bowel	**Reduced or absent bowel wall enhancement, mesenteric fat stranding and free fluid, the whirl sign of a volvulus, a closed loop, pneumatosis intestinalis and portal venous gas.** Any of these converts a conservative plan into an operative one.
Plain abdominal film	Fast and useful for the **dilated caecum in large bowel obstruction** and the coffee-bean of a sigmoid volvulus, and for tracking a contrast challenge. **It cannot exclude obstruction or detect ischemia.**
Labs	**A normal lactate does not exclude ischemia early.** A rising lactate, worsening acidosis, rising white count or a patient in pain out of proportion should override a reassuring first scan. Check **potassium, magnesium and renal function** — losses are large.

INITIAL MANAGEMENT *drip and suck buys time only if the bowel is viable*

1. **NPO, nasogastric tube on free drainage, and intravenous fluid.** Losses into the obstructed bowel are substantial, so **resuscitate properly and replace measured nasogastric losses**. Catheterize and monitor urine output; correct **potassium and magnesium**.
2. **Analgesia and antiemetics, and stop what is making it worse** — opioids where possible, anticholinergics and constipating agents. **Antibiotics are for perforation, peritonitis or planned surgery**, not routine.
3. **Trial non-operative management only in adhesive obstruction with no red flags**, and give it a defined limit — **conventionally up to about 72 hours**. **Reassess clinically at least twice daily**; the plan is a decision to be revisited, not a holding pattern.
4. **Go to the OR now for peritonitis, strangulation or ischemia on imaging, a closed loop, perforation, or an irreducible or tender hernia.** Also operate when a contrast challenge fails or the patient deteriorates. **Bowel dies quietly in the closed loop while the observation continues.**
5. **Have a low threshold for surgery in the virgin abdomen.** With no previous operation, adhesions are unlikely and something else — hernia, tumor, volvulus — is causing it, so prolonged conservative management rarely succeeds and merely delays.

SITUATIONS WITH THEIR OWN RULES *where the general plan does not apply*

Situation	Approach
Large bowel obstruction	**Assume colorectal cancer until proven otherwise.** A **competent ileocaecal valve creates a closed loop**, and a **caecal diameter beyond about 12 cm carries a high perforation risk**. Options are resection, a defunctioning stoma, or a **self-expanding metal stent as a bridge to surgery or for palliation**.
Sigmoid volvulus	Elderly, comorbid, chronically constipated; coffee-bean loop on plain film. **Endoscopic detorsion with a flatus tube is first-line** if there is no ischemia. **Recurrence is high, so arrange definitive sigmoid resection on the same admission** in fit patients rather than discharging after decompression.
Caecal volvulus	**Endoscopic reduction usually fails** and this is an operative problem from the outset. Typically a younger patient than sigmoid volvulus.
Colonic pseudo-obstruction	**Ogilvie syndrome** — massive colonic dilatation with **no mechanical cause**, seen postoperatively and in severe illness. **Exclude mechanical obstruction with CT first.** Treat precipitants, stop opioids and anticholinergics, correct electrolytes. If it persists or the caecum is very dilated, **neostigmine with continuous cardiac monitoring and atropine to hand**, then colonoscopic decompression if that fails.
Malignant obstruction in palliative care	Where surgery is not appropriate, manage medically: see the drug doses above. **The goal is comfort and, where possible, eating for pleasure**, not radiological resolution.

THE PROTOCOLS, WITH NUMBERS *the three interventions people name but rarely dose*

Intervention	How to actually do it
Water-soluble contrast challenge (adhesive SBO, no red flags)	Decompress on NG first, then give **about 100 mL of water-soluble contrast** down the tube and clamp. **Repeat the abdominal film at 8 and 24 h. Contrast reaching the colon by 24 h predicts resolution without surgery** and is itself therapeutic, being hyperosmolar. **Failure to reach the colon is the signal to operate**, which is what turns an open-ended wait into a decision.
Neostigmine (Ogilvie syndrome only)	**2 mg IV over 3-5 min** with **continuous cardiac monitoring and atropine drawn up at the bedside**, because bradycardia is common and can be profound. **Exclude mechanical obstruction first.** Avoid in bradycardia, bronchospasm, recent myocardial infarction and severe renal impairment.
Palliative malignant obstruction	**Octreotide 100-200 mcg SC three times daily**, or 300-600 mcg over 24 h by infusion, to cut secretions. Add **hyoscine butylbromide 20 mg** for colic and **dexamethasone** for peritumoral edema. A **venting gastrostomy** allows eating for pleasure when the obstruction will not resolve.

PEARLS & PITFALLS

- **Feel every hernial orifice.** A missed femoral hernia is the classic cause of an avoidable bowel resection.
- **Pain out of proportion, tachycardia and a rising lactate mean ischemia** until disproved, whatever the last scan said.
- **A normal lactate is not reassurance.** It rises late, after the bowel is already compromised.
- **Give conservative management a deadline.** Open-ended observation of an adhesive obstruction is how strangulation gets missed.
- **New large bowel obstruction is cancer until proven otherwise**, and a tense caecum is close to perforating.
- **Exclude a mechanical cause before treating pseudo-obstruction** — neostigmine into a true obstruction is dangerous.

References: WSES (Bologna) guidelines for adhesive small bowel obstruction · ASCRS and ESCP guidance on large bowel obstruction and colonic volvulus · systematic reviews of water-soluble contrast in adhesive obstruction · ACG guidance on acute colonic pseudo-obstruction.