**ABDOMINAL BOWEL OBSTRUCTION**

Bowel obstruction is the mechanical or functional obstruction of peristaltic passage of GI luminal contents

- Mechanical obstruction of the small bowel (SBO) (image 2) is most commonly caused by post-operative adhesions or hernias.
- It may be simple or strangulated
- Strangulation is caused by a loop of bowel twisting on an adhesion or incarceration of a hernia
- Results in impaired arterial supply & tissue ischaemia. **Strangulation is a surgical emergency**

- **Large bowel obstruction** (image 3) is most commonly caused by malignancy or strictures (e.g. from IBD or diverticular disease), but may also be caused by volvulus, constipation/ faecal impaction or adhesions

- **Ileus** describes failure of peristalsis (functional obstruction) of the GI tract
- Common complication of abdominal surgery, especially when the bowel is handled
- Other causes include any condition causing peritonitis and medications such as opiates and antimuscarinics

- **Colonic pseudo-obstruction** is also diagnosed in the absence of a mechanical obstruction but, as the name suggests, it is limited to the large bowel only
- Also may be caused by surgery and serious systemic illness, metabolic or electrolyte disturbance, as well as medications
- The exact pathophysiology of functional or pseudo obstructions is unclear, but is thought to relate to autonomic nervous system dysfunction

**Symptoms & Signs**

Colicky or spasmodic abdominal pain
- Pain is central in SBO and lower in LBO
- Abdominal distension
- Constipation (or Obstipation, inability to pass flatus)
- Vomiting, which may be bilious or faeculent if the obstruction is in the ileum or above
- Bowel sounds are hyperactive, often described as ‘tinkling’, in early obstruction
- Bowel sounds may be reduced or absent later
Pathophysiology
- Obstruction causes proximal dilatation due to build-up of digestive contents and swallowed air
- Dilatation causes increased peristalsis & secretions in an attempt to clear the obstruction
- Increasing luminal pressures causes compression of lymphatic vasculature & capillary beds causing mucosal oedema and third spacing of fluid into the lumen
- If strangulation occurs, or is the cause of obstruction, arterial supply is compromised & ischaemia and necrosis will occur
- Bowel wall may lose its integrity allowing translocation of gut flora and systemic infection

Interpreting abdominal x-rays
- Small bowel usually central with the large bowel around the periphery
- Maximal bowel diameters on x-ray:
  - Small bowel 3cm
  - Caecum 9cm
  - Large bowel 6cm
- Small bowel has valvulae conniventes which appear across the full width
- Large bowel has haustrations which don’t cross full width

Management
- In the absence of strangulation, initial management follows the concept of ‘Drip and Suck’
- Replace fluid and electrolyte loss
- Decompress the bowel by placing a large bore NG tube
- Strangulation should be suspected in the presence of haemodynamic instability, a high or rising lactate, elevated inflammatory markers or irreducible hernia
- This is a surgical emergency and should be discussed with ED seniors as it is likely to require aggressive resuscitation, and the on-call surgical registrar