Surgical complications after Gastric bypass and Gastric Sleeve

A structured clinical overview of timing, presentation, investigations, and red flags

Both **Roux-en-Y gastric bypass (RYGB)** and **Sleeve gastrectomy (LSG)** are safe and effective bariatric procedures with low peri-operative mortality (<0.2–0.3% in experienced centres). However, complications can occur. Early recognition is critical, as delay significantly increases morbidity.

Complications are best understood by timing: **early (0–30 days), intermediate (1–12 months), and late (>12 months).**

1. Early complications (0–30 Days)

A. Anastomotic or Staple Line Leak

Timing: Most common days 1–10 (can occur up to 30 days)

- RYGB: gastrojejunal anastomosis
- LSG: proximal staple line (near angle of His)

Presentation:

- Tachycardia (>100 bpm is often earliest sign)
- Fever
- Increasing abdominal pain
- Shoulder tip pain
- Dyspnoea
- Oliguria
- Unexplained anxiety/restlessness

Red Flag: Persistent tachycardia >120 bpm should be treated as a leak until proven otherwise.

Investigations:

- Urgent CT abdomen/pelvis with oral + IV contrast

- CRP and lactate
- Full blood count

Normal imaging does not fully exclude leak if clinical suspicion remains high. Early surgical review is mandatory.

B. Post-operative haemorrhage

Timing: First 24–72 hours

Presentation:

- Tachycardia
- Hypotension
- Drop in haemoglobin
- Increasing abdominal girth
- Melena (intraluminal bleed)

Investigations:

- FBC (serial Hb)
- CT angiography if stable
- Urgent theatre if unstable

C. Pulmonary embolism (PE)

Timing: Days 3–14

Obesity increases thrombotic risk.

Presentation:

- Sudden dyspnoea
- Tachycardia
- Hypoxia
- Chest pain
- Syncope

Red Flag: Unexplained tachycardia + shortness of breath.

Investigations:

- CTPA
- D-dimer (limited utility post-op)
- ABG

Requires urgent anticoagulation.

D. Sleeve-specific: Gastric stenosis or twist

Timing: 1–6 weeks

Presentation:

- Persistent vomiting
- Intolerance of fluids
- Severe reflux
- Epigastric pain

Investigation:

- Upper GI contrast study
- Gastroscopy

2. Intermediate complications (1–12 months)

A. Stricture (RYGB Gastrojejunal anastomosis)

Timing: 4–12 weeks

Presentation:

- Progressive dysphagia
- Vomiting after solids
- Food sticking
- Regurgitation

Investigation:

- Gastroscopy (diagnostic and therapeutic dilation)

B. Marginal ulcer (RYGB)

Timing: 2–12 months (can occur anytime)

Risk factors:

- Smoking
- NSAID use
- H. pylori
- Steroids

Presentation:

- Epigastric pain
- Nausea
- Bleeding (melaena)
- Anaemia

Red Flag: Haematemesis or severe pain.

Investigation:

- Gastroscopy

C. Severe reflux (Sleeve)

Sleeve gastrectomy can exacerbate or induce GERD.

Presentation:

- Heartburn
- Regurgitation
- Night cough
- Aspiration

Investigation:

- Gastroscopy
- pH study (if persistent)
- Contrast study

Persistent refractory reflux may require conversion to bypass.

D. Nutritional deficiencies

Timing: Months onward

More common after bypass due to malabsorption.

Common deficiencies:

- Iron
- B12
- Folate
- Vitamin D
- Calcium
- Thiamine (B1)

Presentation:

- Fatigue
- Hair loss
- Neuropathy
- Cognitive changes
- Bone pain

Red Flag: Persistent vomiting + neurological symptoms → suspect thiamine deficiency (Wernicke's risk).

Investigation:

- Routine bariatric blood panel every 6–12 months

3. Late complications (>12 months)

A. Internal hernia (Bypass Only)

One of the most important late surgical emergencies.

Timing: 1–5 years post-op

Presentation:

- Intermittent colicky abdominal pain
- Post-prandial pain
- Nausea
- Episodes of obstruction that self-resolve

Pain may be disproportionate to examination findings.

Red Flag: Severe episodic abdominal pain in a bypass patient, even with normal labs.

Investigation:

- CT abdomen with contrast (may show mesenteric swirl sign)

- Low threshold for diagnostic laparoscopy

Delay risks bowel ischemia.

B. Small Bowel obstruction

Causes:

- Adhesions
- Internal hernia (bypass)
- Port site hernia

Presentation:

- Abdominal pain
- Vomiting
- Distension
- Obstipation

Investigation:

- CT abdomen

C. Gallstones

Rapid weight loss increases biliary lithogenicity.

Timing: 6–24 months

Presentation:

- RUQ pain
- Biliary colic
- Cholecystitis
- Pancreatitis

Investigation:

- Ultrasound

D. Hypoglycaemia (Late Dumping / Hyperinsulinaemic Hypoglycaemia – Bypass)

Timing: >1 year

Presentation:

- Sweating
- Tremor
- Confusion
- Occurs 1–3 hours post meal

Investigation:

- Mixed meal test
- Glucose monitoring

Red flag symptoms that require urgent review

Any post-bariatric patient presenting with:

- Persistent tachycardia (>100 bpm)
- Severe or worsening abdominal pain
- Shortness of breath
- Inability to tolerate fluids
- Repeated vomiting
- Haematemesis or melaena
- Confusion or neurological symptoms
- Severe episodic abdominal pain years after bypass

should be assessed urgently.

Key clinical principles

1. Tachycardia is the earliest warning sign of serious complications.
2. Pain out of proportion to findings in a bypass patient = suspect internal hernia.
3. Persistent vomiting post-sleeve warrants early imaging.
4. Long-term nutritional surveillance is mandatory.
5. Early surgical consultation saves lives.

Final Perspective

Both gastric bypass and sleeve gastrectomy are highly effective metabolic operations with excellent safety profiles in experienced centres. However, their altered anatomy means presentations can be atypical, and delays in recognition can be dangerous.

Patients should be educated that:

- Severe symptoms are not “normal”
- Hydration intolerance is not trivial
- Abdominal pain years later can still relate to surgery

Timely investigation and low threshold for specialist review are central to maintaining the excellent long-term outcomes these procedures provide.