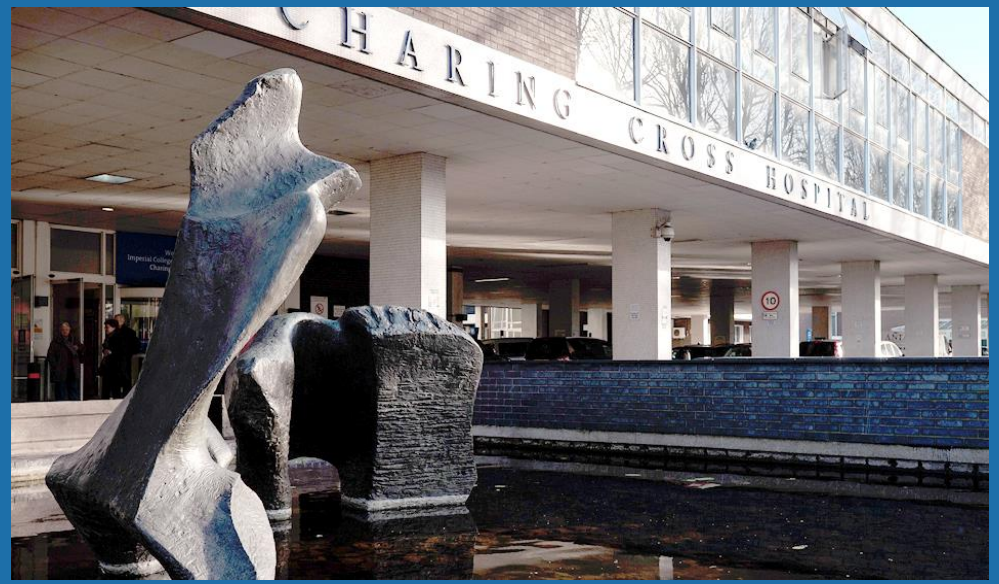
Obesity, Bariatric Surgery & its Complications

BSG BAPEN Course October 2024

Dr Aruchuna Ruban
Consultant Gastroenterologist
Imperial College Healthcare NHS Trust



Aims

- Understand the current landscape for weight loss drugs
- Develop a systematic approach for scoping the bariatric patient
- Provide a general overview of the common complications following bariatric surgery and how these are managed.

THE LANCET

"In adults with a body-mass index of 27 kg/m² or higher and type 2 diabetes, 72 weeks of treatment with tirzepatide... resulted in clinically meaningful reductions in bodyweight."

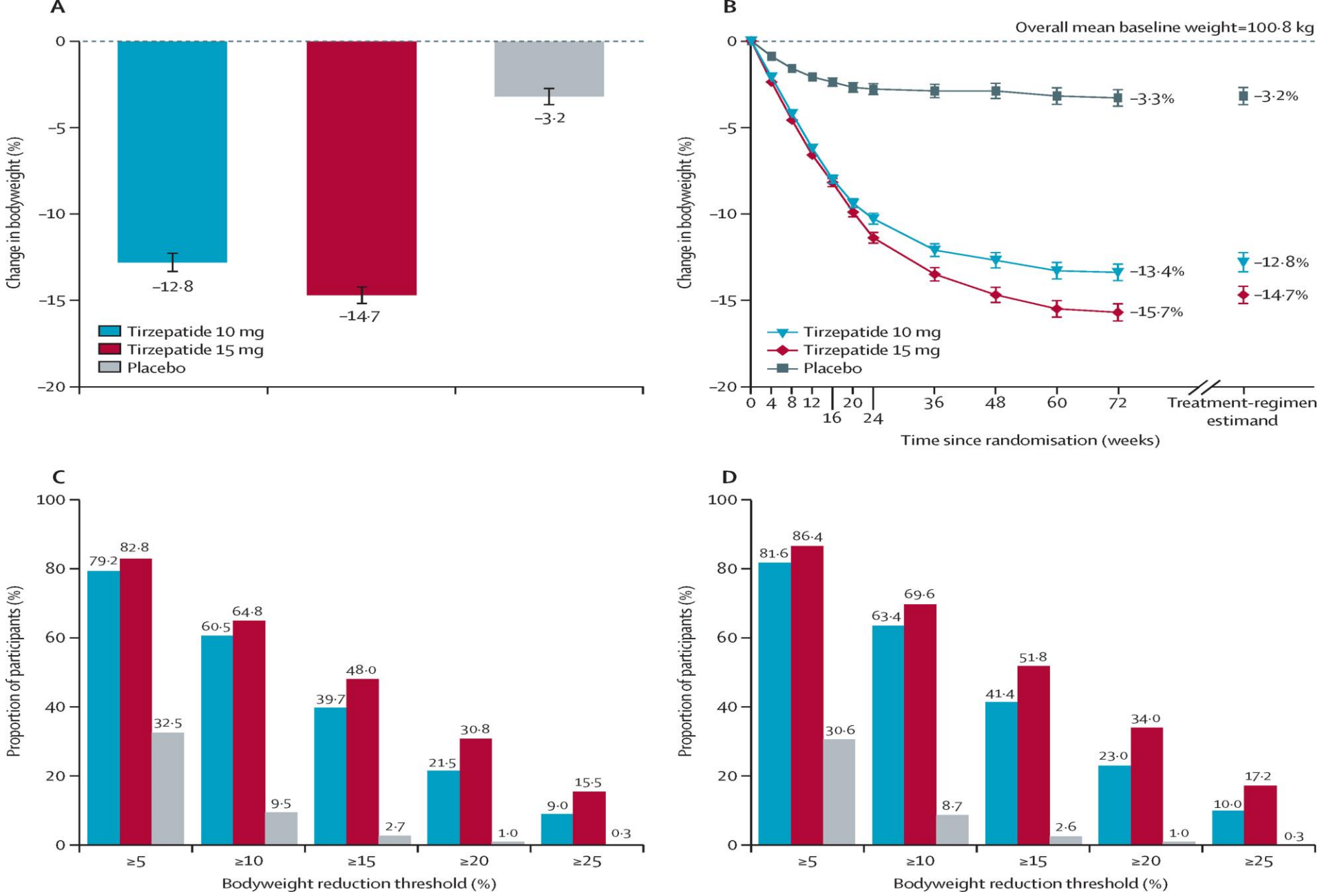


Figure 2. Effect of once weekly tirzepatide, compared with placebo, on bodyweight

Boots ONLINE DOCTOR

MANAGING MOUNJARO, SAXENDA AND WEGOVY SIDE EFFECTS

Looking for Weight Loss Treatment?

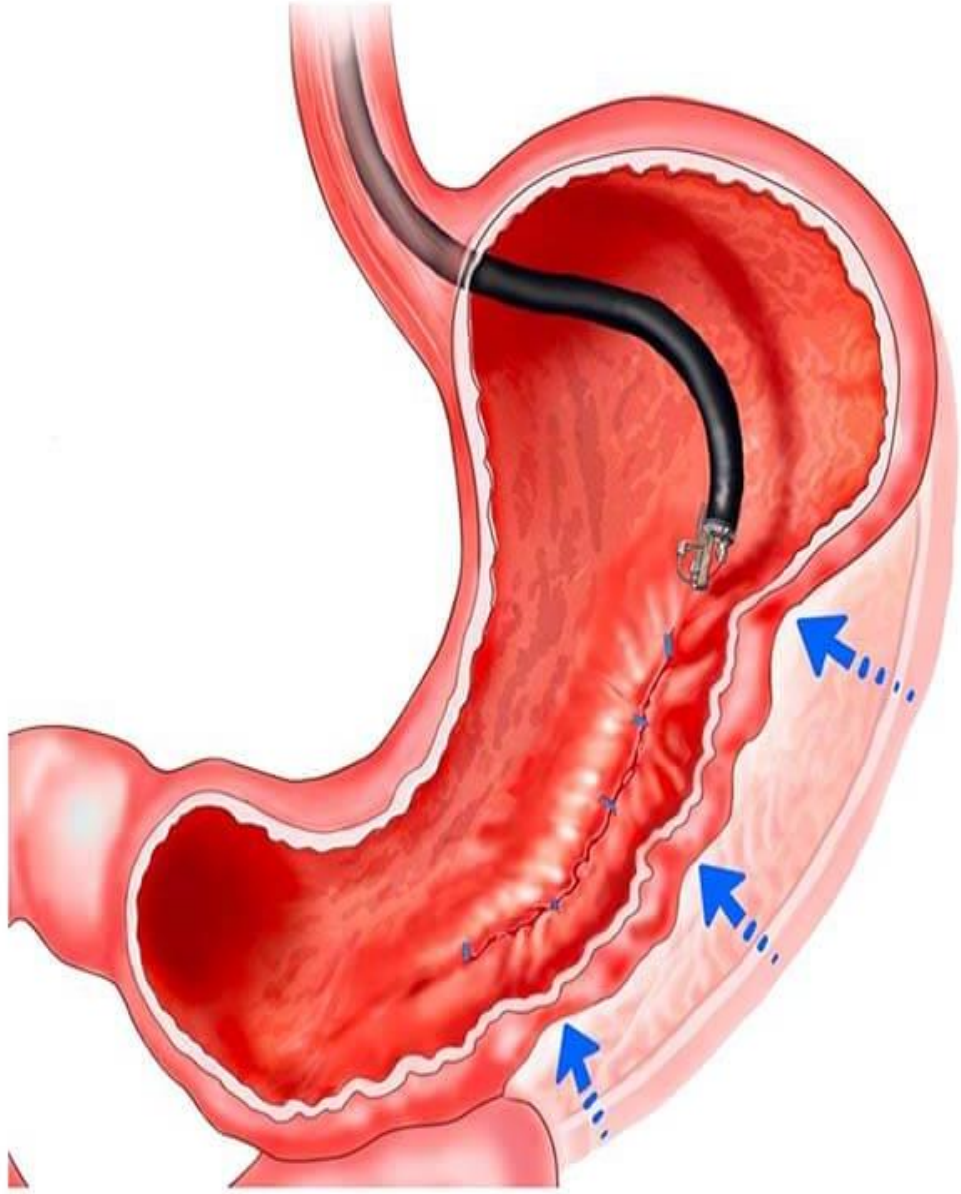
No appointment needed

Convenient, discreet treatment

Experienced clinicians

Endoscopic Sleeve Gastroplasty

- Currently available in 11 NHS hospitals nationwide
- Uses the OverStitch™ Endoscopic Suturing System from Boston Scientific.
- %TWL at 1 month was 9%, at 12 months was 17%.



Curriculum based clinical review

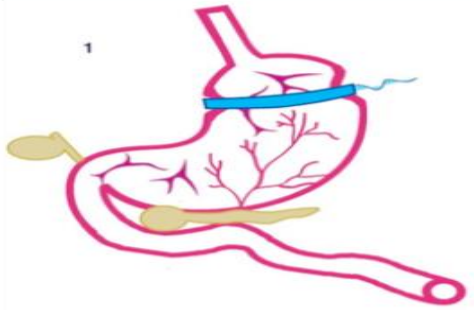
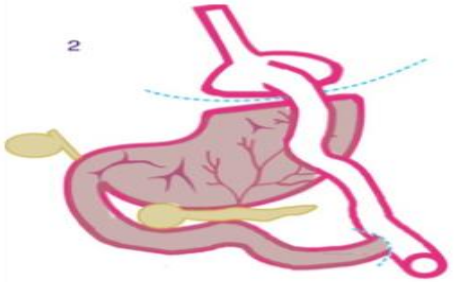
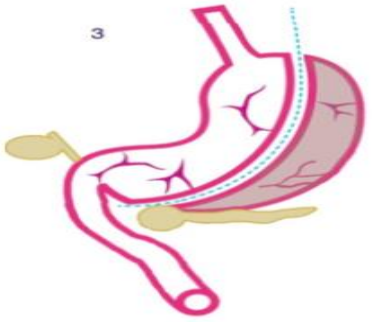
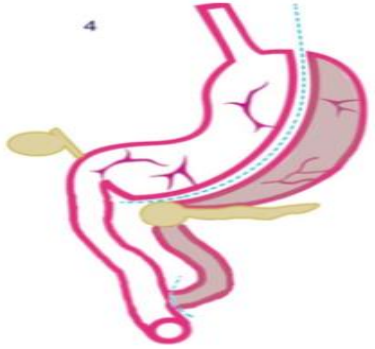
Bariatric surgery and the endoscopist

Laura Temperley ,[1] Andrew Sullivan,[2] Aruchuna Ruban [3]

To cite: Temperley L, Sullivan A, Ruban A. *Frontline Gastroenterology* Epub ahead of print: [please include Day Month Year]. doi:10.1136/flgastro-2020-101681

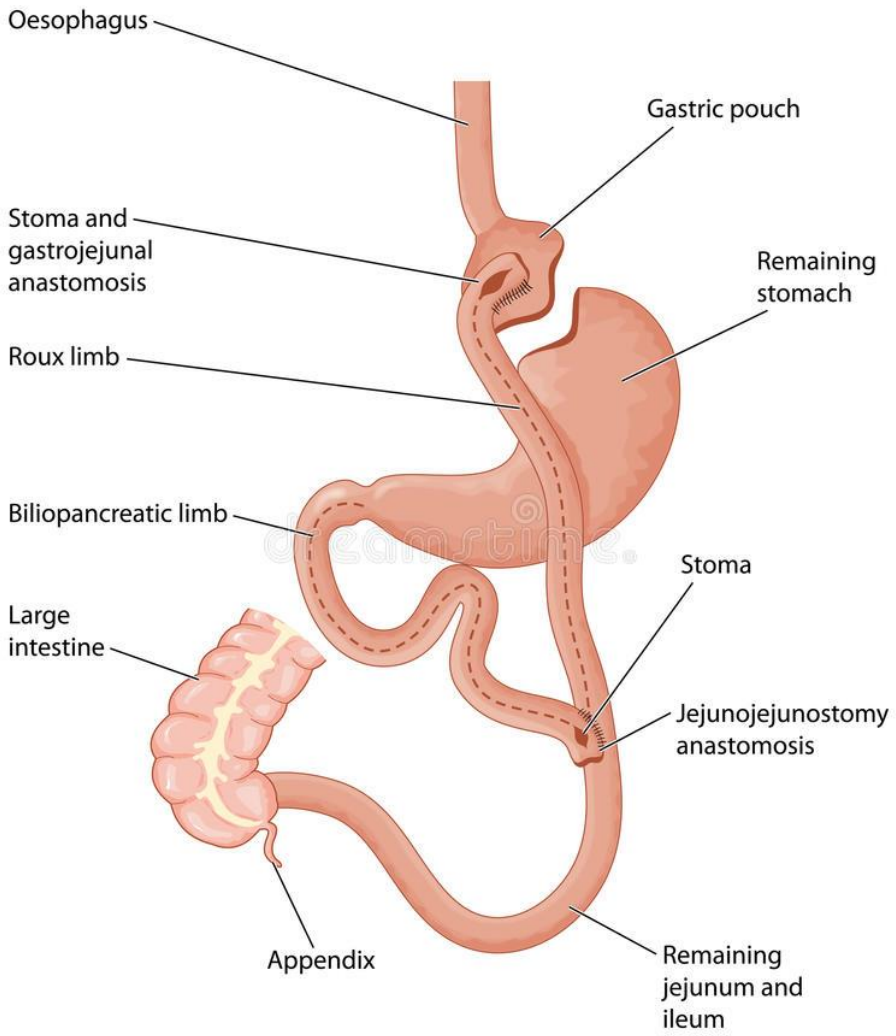
ALLURION BALLOON PILL

- Patient swallows a pill, connected to a catheter.
- AXR performed at 10 mins to ensure that is in the stomach.
- The balloon is filled with 550cc of sterile saline to about the size of a grapefruit.
- Catheter Removed
- 2nd x-ray is performed to ensure the balloon remains in the appropriate area of the stomach.

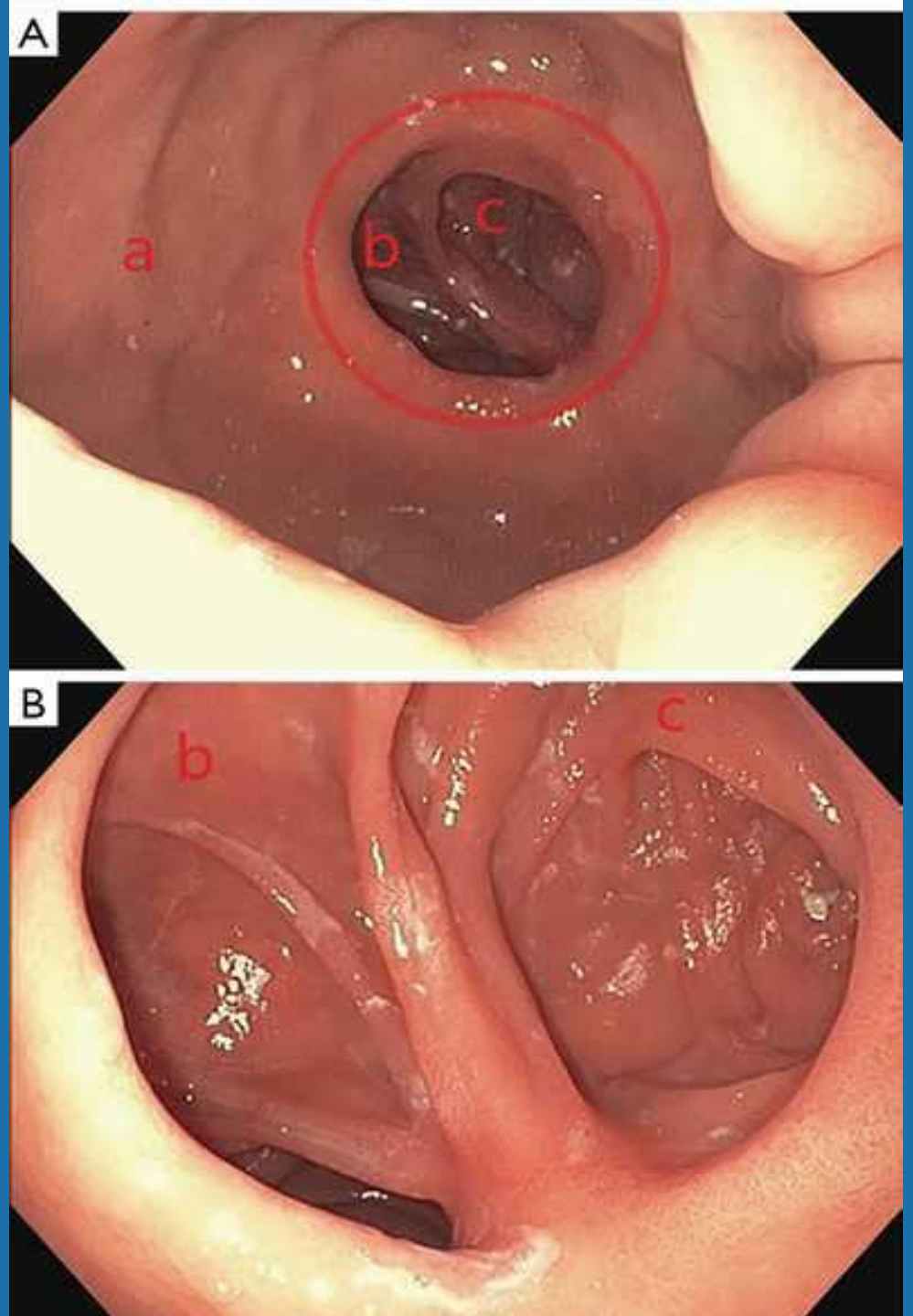
Bariatric procedure	Diagram	Description	Weight loss mechnism
Laparoscopic adjustable silicone gastric banding (LAGB)		An inflatable band is placed 1-2 cm below the gastroesophageal junction creating a gastric pouch. The band is connected to a subcutaneous port allowing the degree of constriction to be adjusted externally.	Restrictive
Roux-en-Y gastric bypass (RYGB)		A gastric pouch is created by dividing the proximal part of the stomach. The small intestine is then divided creating an alimentary limb, which is anastomosed to the gastric pouch, and a biliopancreatic limb which is subsequently connected to the alimentary limb more distally.	Restrictive and malabsorptive
Sleeve gastrectomy (SG)		The greater curvature of the stomach is resected leaving a small tubular stomach.	Restrictive
Biliary and pancreatic diversion (BPD) and duodenal switch (DS)		Part of the stomach is removed similar to an SG and the duodenum is divided from the pylorus. The ileum is also divided with the distal portion connected to the pylorus and the proximal part to the terminal ileum.	Restrictive and malabsorptive

A few definitions to learn…..

- Gastrojejunostomy - anastomosis stomach to the jejunum, bypassing or removing the duodenum
- Efferent Limb/Alimentary/Roux– transmits food and nutrients to distal small bowel.
- Afferent Limb/Biliopancreatic - This limb of the intestine transfers bile, pancreatic juices, and other proximal intestinal secretions toward the gastrojejunostomy and is thus termed the afferent loop.
- Blind Limb/Bakers Pouch: Usually adjacent to alimentary limb
- Common channel: Segment distal to the jejunojejunal anastomosis
- Remnant Stomach: Bypassed stomach

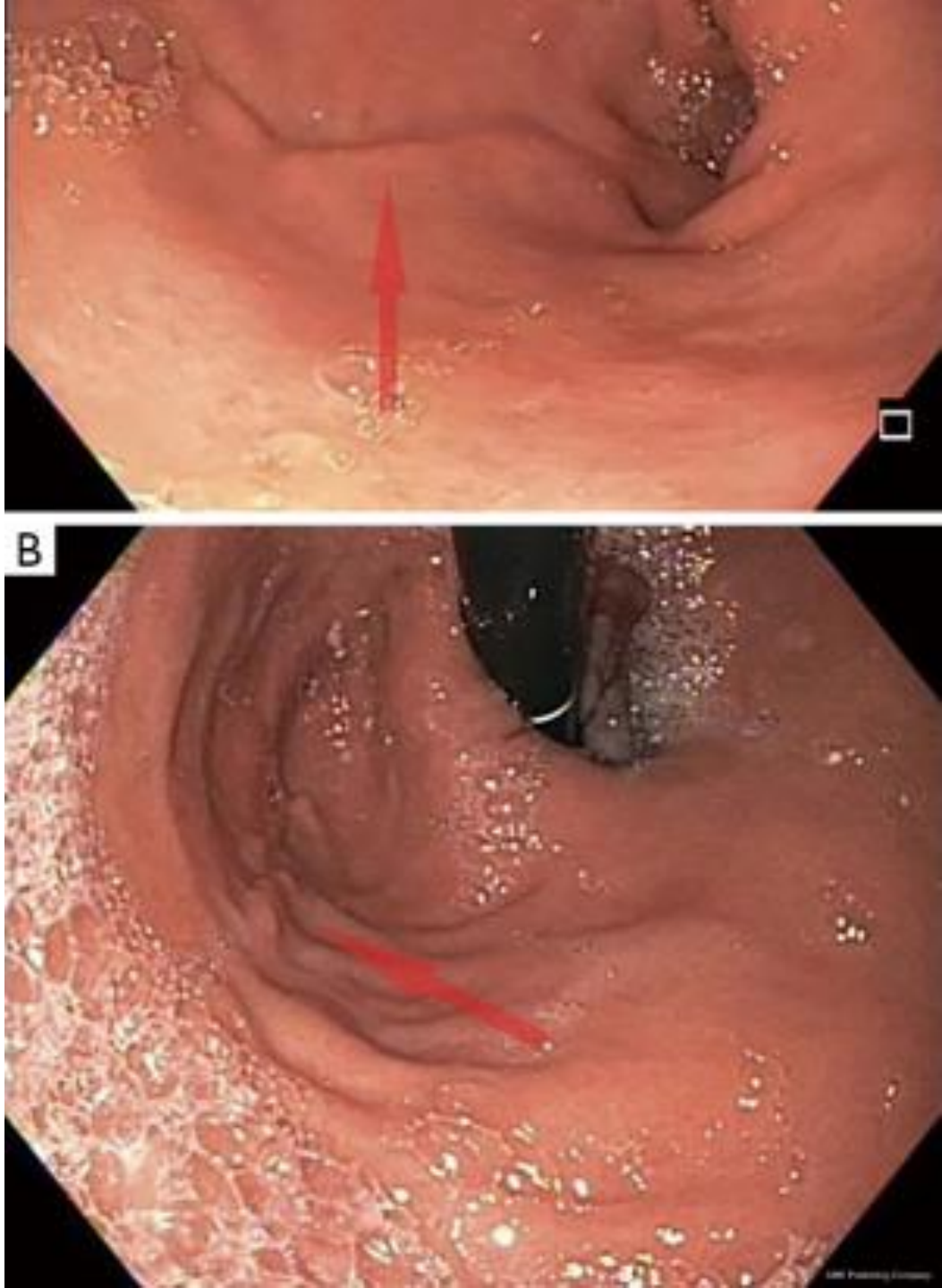


a) gastric pouch
b) Alimentary limb
c) Bakers Pouch/Blind End



Sleeve Gastrectomy

- A healed staple line, appearing as a mucosal ridge, will run as a continuous line from the incisura to the angle of His on the patient's left.
- Endoscope should pass easily through the sleeve into the antrum
- A spiraling staple line or tight angulation at the level of the incisura may indicate a twisted sleeve and results in symptoms similar to gastric outlet obstruction.
- A small portion of proximal fundus may be present above the staple line but should not permit retroflexion.



Bariatric Complications

Table 3 Complications of bariatric surgical procedures

Laparoscopic adjustable silicone gastric banding	Band slippage (1.6%) band erosion (0.1%–7.7%)
Roux-en-Y gastric bypass	Gastrointestinal bleed/ anaemia (1%–4%) Ulceration (1%–16%) Anastomotic leak (0.1%–5.6%)±fistula Strictures (3%–28%)
Sleeve gastrectomy	Gastrointestinal bleed/anaemia (2%) Anastomotic leak (2.4%)±fistula Strictures (0.2%–4%)
Biliary and pancreatic diversion and duodenal switch	Ulceration (2.3%)

Gi Bleeding Post Bariatric Surgery

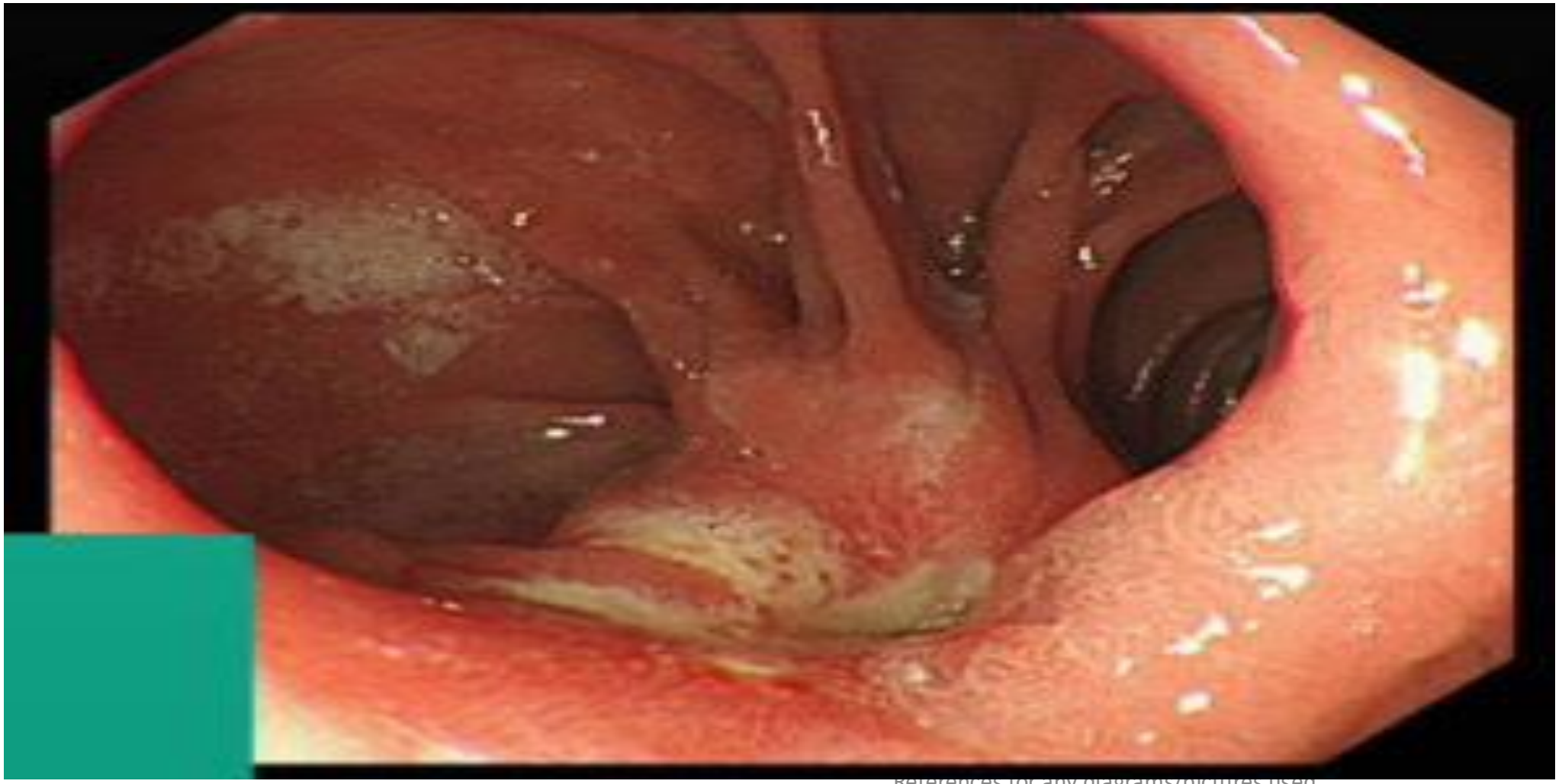
Most early bleeds occur within 48 hours - frequently from the staple lines at the gastrojejunostomy.

More rarely:

- jejunojejunostomy
- gastric pouch
- Bypassed stomach.

References for any diagrams/pictures used

Late GI bleeds (>30 days) usually result from peptic or marginal ulcers.



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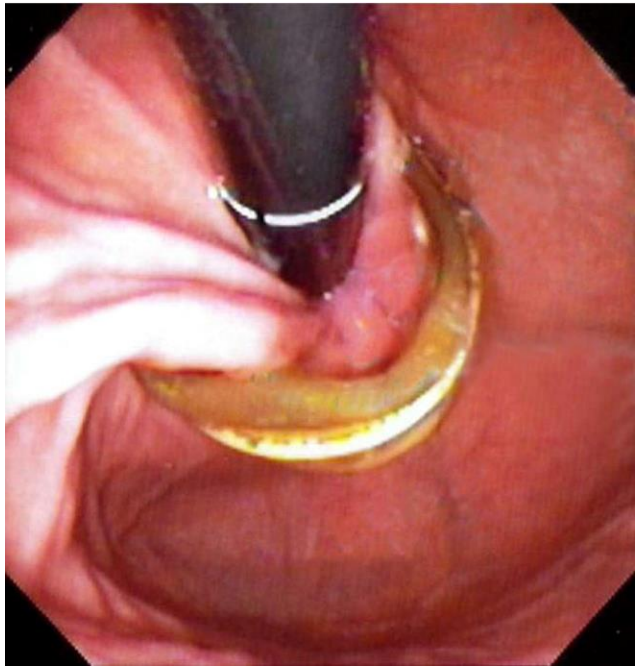
Band Erosion

- Most frequently occurs 1–2 years following surgery.
- Presents with:
- weight regain
- difficulty controlling food intake
- Abdominal pain and port site infections.
- OGD will confirm the presence of band erosion.
- Removal can be performed endoscopically but surgical removal may be required.



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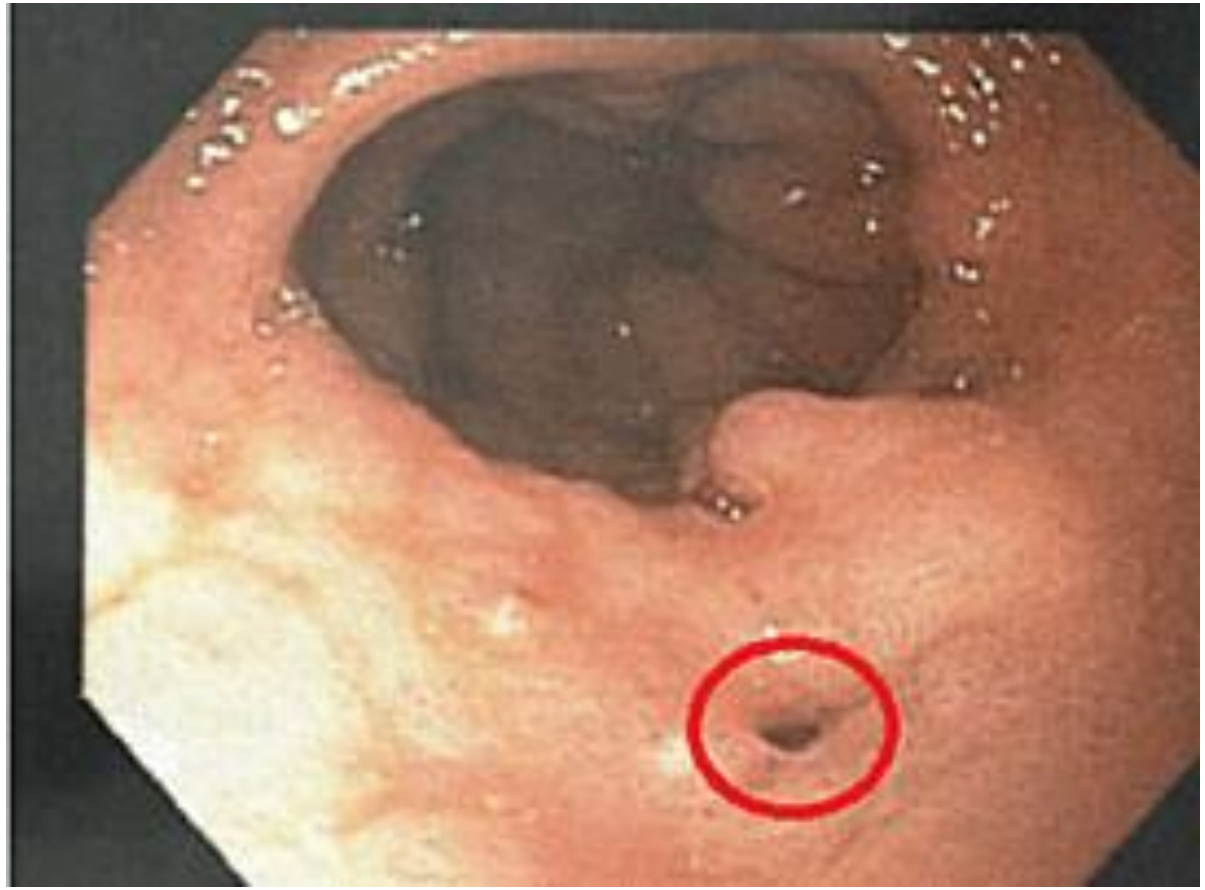
RYGB Strictures

- Usually a late complication and most commonly found at the gastro-jejunal anastomosis.
- Less frequently occurring at the jejuno-jejunal anastomosis.
- Can present with dysphagia, vomiting and nutritional deficiencies.
- Balloon dilatation is considered as first line management

Endoscopic Abnormalities in SG

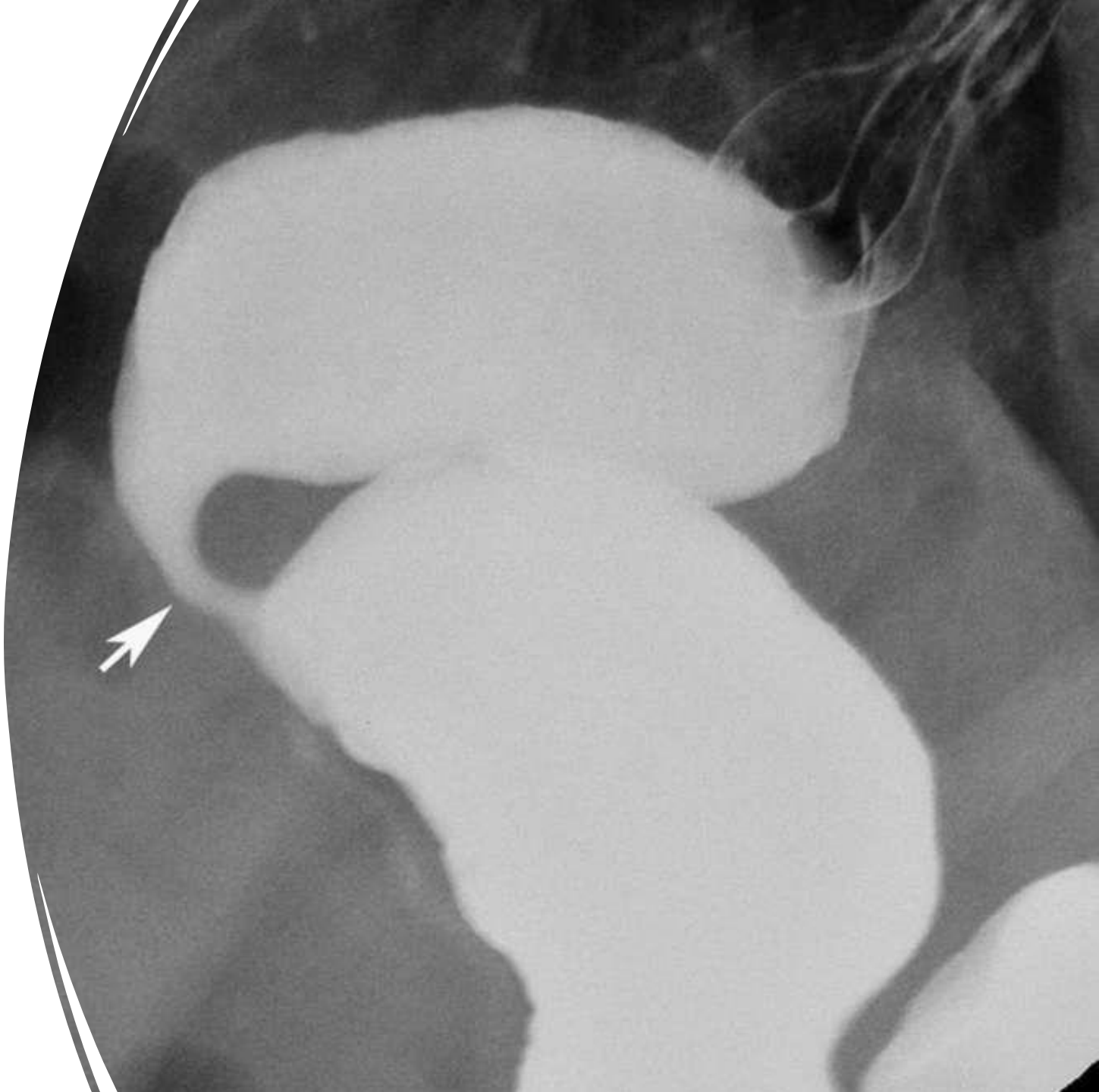
- Oesophagitis,
- Staple line dehiscence,
- Food impaction,
- Stenosis of the pouch outlet,
- Fistula



Stenosis in Sleeve Gastrectomy

- Occurs in 1-4% of patients
- Passage of the endoscope through the sleeve does not mean that the patient does not have a stenosis

- Gastric stricture caused by fibrosis after surgery.
- Gastric angulation
- Gastric torsion along the gastric longitudinal axis.

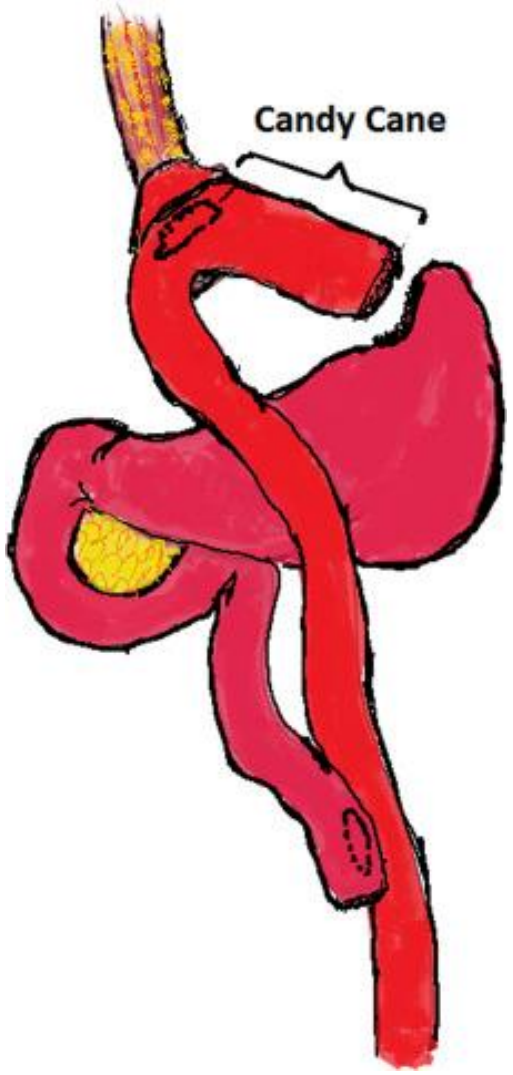


Weight Regain after RYGB

- Large retained fundus is an indicator that the pouch is oversized – typically you shouldn't be able to retroflex!
- If the pouch or anastomosis is oversized (the GJ anastomosis should be less than 20 mm in diameter)
- Development of a gastrogastric (GG) fistula between the pouch and remnant stomach

Candy Cane Syndrome

- Excessive length of roux limb proximal to gastrojejunostomy, creating the possibility for food particles to lodge and remain in the blind redundant limb.
- With the pressure of eating, this blind limb becomes a catch area, extending, lengthening and curving like the tip of a candy cane.
- Food and liquid will begin to become lodged or trapped in this area causing the symptoms of this deformity.



Dumping Syndrome

- Undigested food gets “dumped” directly from the gastric pouch into small bowel
- Early dumping happens 10 to 30 minutes after a meal.
  - Bloating, sweating, abdominal cramps, diarrhoea
- Late dumping happens 1 to 3 hours after eating palpitations, faint, confusion
- Main treatment is dietary modifications

Protein Losing Enteropathy

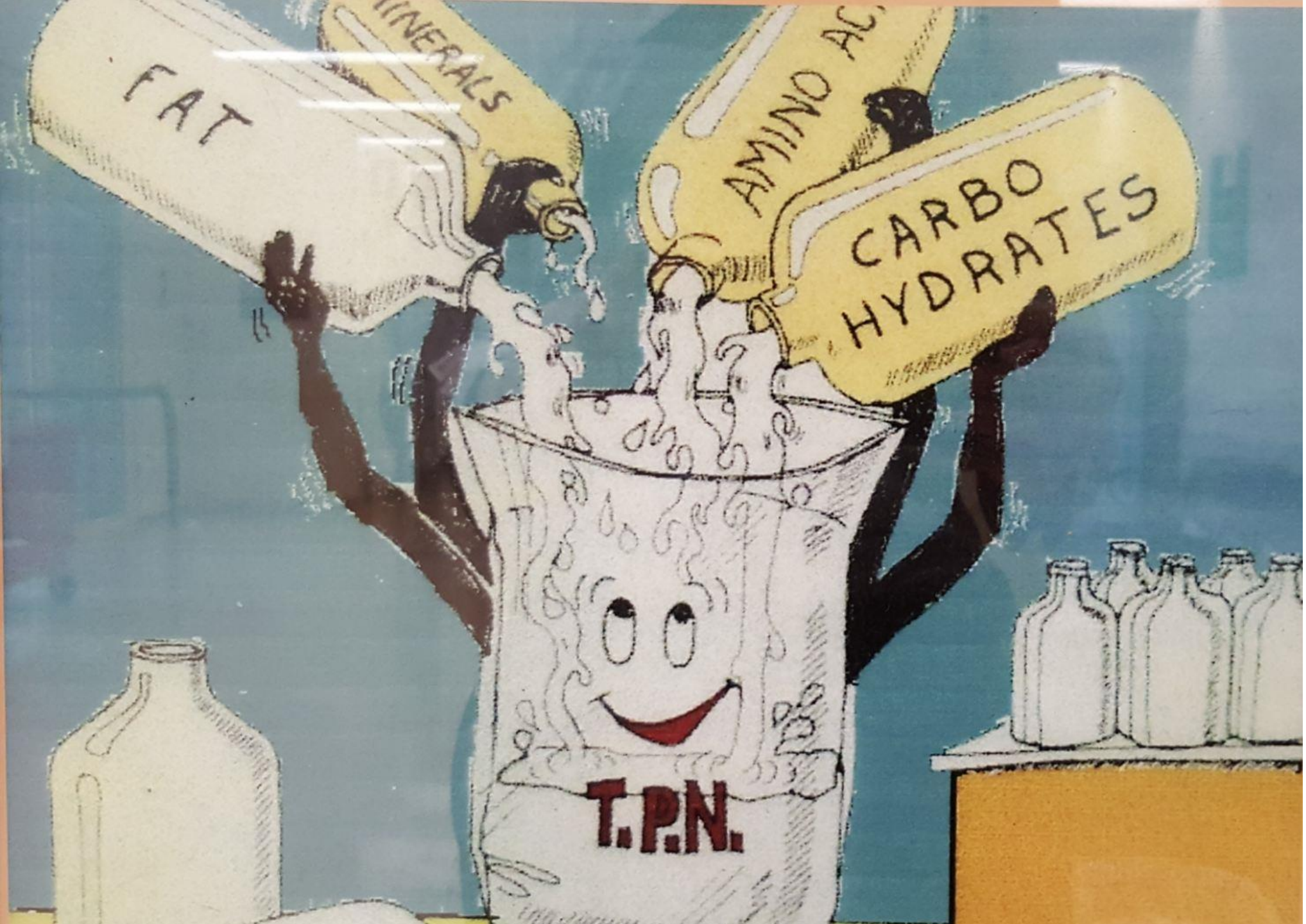
Why might this happen after bariatric surgery?

Protein intake is compromised because of reduced gastric capacity and aversion for certain foods.

Hypoproteinaemia: Low albumin and low globulins levels in their serum.

Exclude common causes such as nephrotic syndrome, or chronic liver disease

- Coeliac disease
- ID work for chronic intestinal infections such as giardia and Whipples disease
- Imaging of abdomen and pelvis,
- OGD and Colonoscopy with biopsies
- Capsule endoscopies
- Autoimmune workup
- Echocardiogram, BNP



Treatment

- Treat underlying cause
- Rehydration and volume replacement,
- Enteral/ Parenteral feeding
- Review in a bariatric MDT

Summary/Key Points

- Be familiar with the anatomical alterations seen following bariatric surgery
- Be aware of the common complications following bariatric surgery.
- Management of these patients requires a coordinated effort with the surgical team and wider MDT