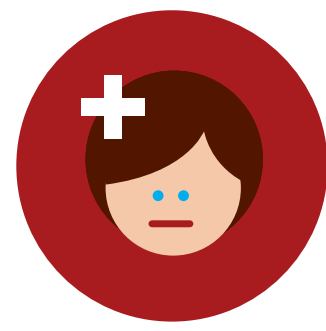


The acute metabolic bariatric surgery patient

The patient

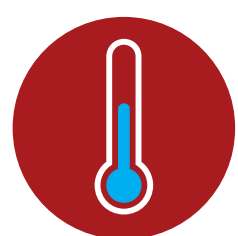


- 1 Presents itself with fewer complaints, seems to have little pain, but is still very ill
- 2 Has fewer physiological reserves, leading to faster and deeper shock
- 3 Vomiting is in principle not a side effect of a bariatric procedure

Alarm symptoms



Tachycardia
>120/min



≥ 38.5°C, hypoxia,
hypotension

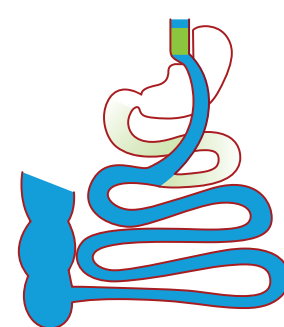


Vomiting blood
or melaena

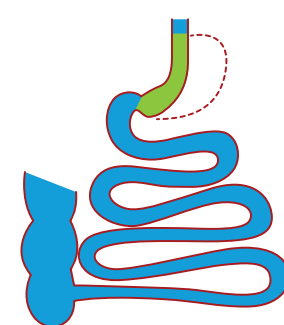


Vomiting and/or
stomach ache

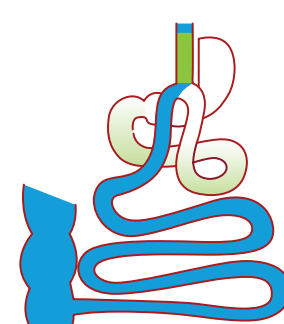
Most common bariatric procedures and their side effects



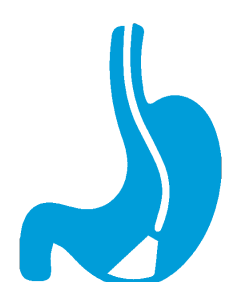
- Gastric Bypass (RYGB)**
- Dumping
 - Poor diet/impaired absorption
 - Abdominal discomfort



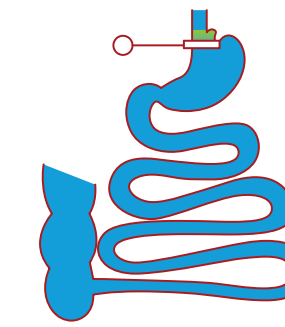
- Sleeve Gastrectomy (Sleeve)**
- Gastroesophageal reflux
 - Poor diet
 - Dyspepsia



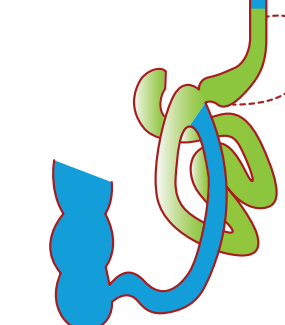
- One Anastomosis Gastric Bypass (OAGB)**
- Biliary reflux
 - Poor diet/impaired absorption
 - Diarrhea



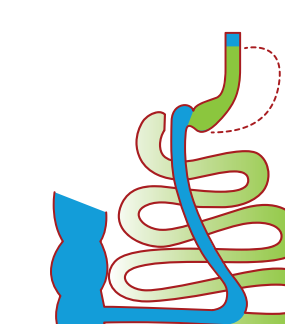
- Endoscopic Procedures**
- Nausea and vomiting
 - Food retention
 - Reflux



- Banded Procedures (AGB; VBG; Banded Sleeve or Banded Bypass)**
- Gastroesophageal reflux
 - Nausea and vomiting
 - Food intolerance



- Single Anastomosis Duodenal-Ileal Bypass + Sleeve (SADI-S)**
- Gastroesophageal reflux
 - Poor diet/impaired absorption (proteins!)
 - Diarrhea/steatorrhea



- Biliopancreatic Diversion/ Duodenal Switch (BPD/DS)**
- Gastroesophageal reflux
 - Dumping
 - Steatorrhea/diarrhea

Images created and kindly granted by Dr. Arnold van de Laar (Spaarne Hospital, Hoofddorp, Netherlands)

Early postoperative complications (30 days) – always consult with (bariatric) surgeon

Bleeding

Symptoms

- Bruising on the abdominal wall
- Vomiting blood/melaena
- Collapse
- Tachycardia
- Low blood pressure

Management

- Resuscitate, transfusion (RBC) and correct coagulation
- **Pay attention!** Intra-abdominal bleeding is possibly an indication for leakage
- Unstable despite volume resuscitation: consider gastroscopy/laparoscopy
- CT-abdomen for stable patients only
- **Pay attention!** After Gastric Bypass, the remnant stomach is not accessible for gastroscopy

Leakage/Perforation

Symptoms

- "Change" in postoperative course
- Tachycardia
- Fever
- Pain

Management

- Resuscitate
- Laparoscopy
- Consider CT abdomen
- Consider percutaneous drainage
- Broad spectrum IV antibiotics

Pulmonary Embolism

Symptoms

- Chest pain
- Tachypnea

Management

- CT-angio chest/lung
- Anticoagulation

Obstruction

Management

- Obstruction can lead to leakage and/or strangulation
- No nasogastric tube. No conservative management without a definitive diagnosis!
- Gastric Band → Puncture Access Port and empty Gastric Band
- Sleeve → nil per os + swallow study/CT with oral contrast
- Gastric Bypass → CT abdomen (oral and intravenous contrast) excluding stenosis of anastomoses or internal herniation
- Negative CT with strong clinical suspicion: laparoscopy
- **Pay attention!** Enlarged remnant stomach + elevated liver/pancreas values = obstruction at jejuno-jejunostomy!

Late postoperative complications

Abdominal Pain

Diagnosis & Management

Upper abdomen:

- Exclude gallstones: ultrasound
- Exclude ulcer: gastroscopy
- Exclude perforation: CT abdomen

Mid/lower abdomen:

- CT abdomen to exclude stenosis of anastomosis, or internal herniation
- IBS can develop or worsen after weight loss
- Overeating can cause abdominal pain

Obstruction

Management

- No nasogastric tube. No conservative policy without definitive diagnosis!
- Gastric Bypass → bowel strangulation (internal herniation), CT abdomen: swirl sign/laparoscopy <6h!
- Gastric Band → empty Gastric Band + swallow study
- Sleeve → nil per os + swallow study
- Negative CT with strong clinical suspicion: laparoscopy

Hypoglycaemia

- Dumping (after too many calories/carbohydrates): dizzy, "hot flush", sleepy, abdominal discomfort, tachycardia
- Tachycardia

Management

- Correct hypoglycaemia
- Dumping: dietary adjustments (consultation with bariatric dietician), medication (consultation with bariatric endocrinologist)

Malnutrition and Deficiencies

- Deficiencies can occur after each bariatric procedure: vitamin B1 (vomiting?), B12, D, Hb, Ca, Fe, Protein
- Gastric Bypass/Divisions: also vitamins A, E and K, severe protein malnutrition. Beware of "Refeeding Syndrome"!

Ulcer

Management

- Stop smoking
- Double dose PPI (+ Sucralfate)
- Severe heartburn that does not respond to PPI can mean biliary reflux: exclude internal herniation! Caveat: H. Pylori

Perforation

- Anastomosis
- Remnant stomach

Management

- Broad spectrum IV antibiotics
- Gold standard: laparoscopy

Gallstones

- Weight loss can cause gallstones and/or kidney stones

Management

- **Pay attention!** After Gastric Bypass, SADI-S and BPD/DS, the duodenum is not accessible for ERCP, consider MRCP
- CBD stones: consider PTC (possibly with duct clearance and papillotomy) or hybrid ERCP

Postoperative bariatric complications are preferably treated in the index bariatric centre or after consultation with that centre