Gastrointestinal disorders

Kirsten Arnold

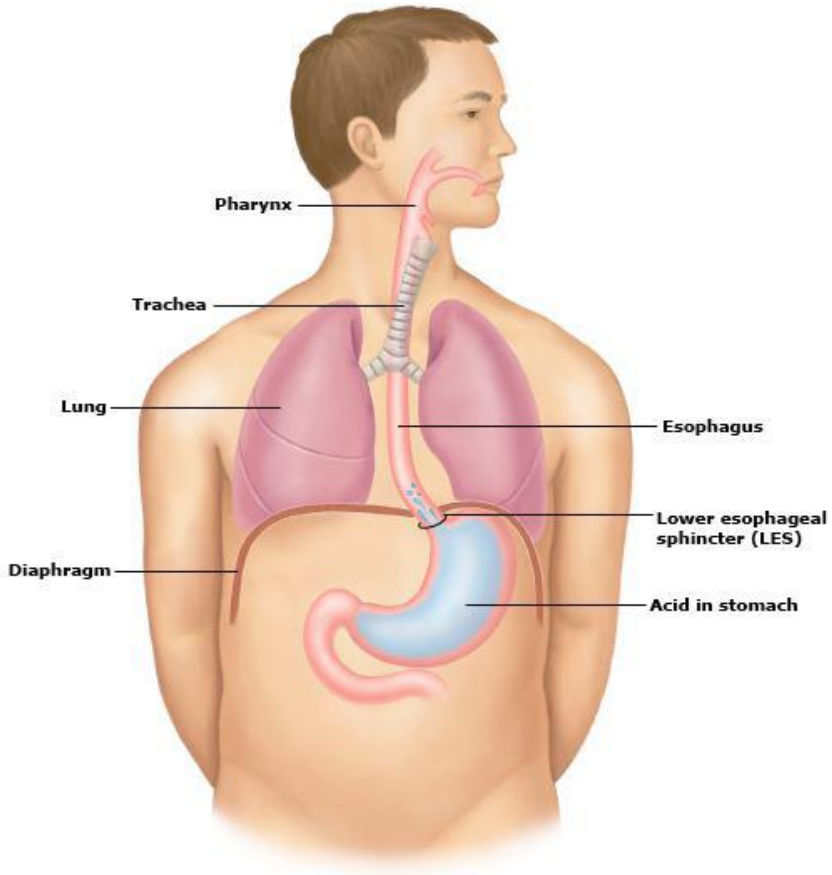
IBD Clinical Nurse Specialist

CDHB

Overview

- GORD
- Helicobacter Pylori
- Coeliac disease
- Irritable bowel syndrome (IBS)
- Inflammatory bowel disease (IBD)

Gastro-oesophageal reflux disease (GORD)



- Burning sensation retrosternal area
- Regurgitation
- Dysphagia, odynophagia
- Usually post prandial
- Caused by weak lower oesophageal sphincter, hiatus hernia

https://www.uptodate.com/contents/medical-management-of-gastroesophageal-reflux-disease-in-adults

Worrying signs in GORD

- New onset of dyspepsia in patient ≥60 years
- Evidence of gastrointestinal bleeding (hematemesis, melena, hematochezia, occult blood in stool)
- Iron deficiency anemia
- Anorexia
- Unexplained weight loss
- Dysphagia
- Odynophagia
- Persistent vomiting
- Gastrointestinal cancer in a first-degree relative

https://www.uptodate.com/contents/medical-management-of-gastroesophageal-reflux-disease-in-adults

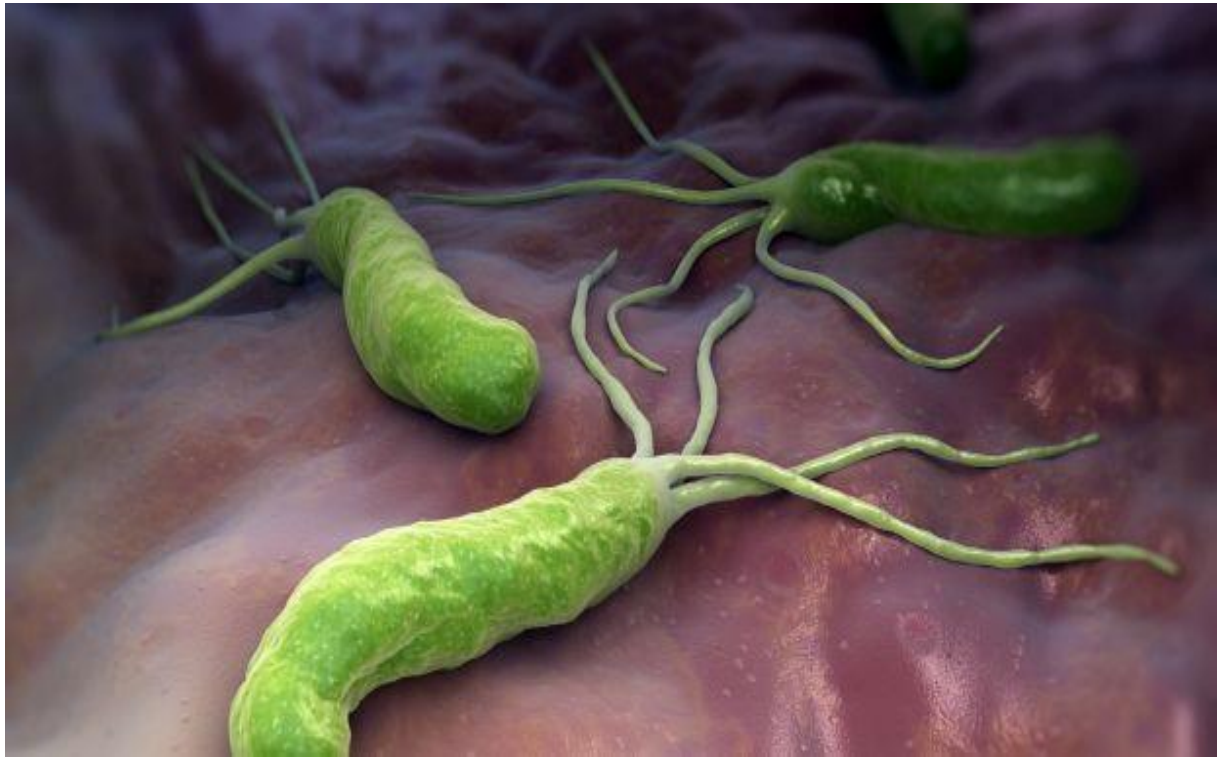
Treatments for GORD

- Lifestyle and dietary modification
- Avoid smoking and alcohol – cause decrease LOS pressure
- Elevate head of bed
- Antacids for symptom relief (Mylanta, Gaviscon)
- Histamine 2 receptor antagonists (ranitidine)
  - decrease the secretion of acid by inhibiting the histamine 2 receptor on the gastric parietal cell
- Proton pump inhibitors (omeprazole, pantoprazole)
  - inhibitors of gastric acid secretion by irreversibly binding to and inhibiting the hydrogen-potassium (H-K) ATPase pump
- Endoscopy if no improvement
- Surgery available

https://www.uptodate.com/contents/medical-management-of-gastroesophageal-reflux-disease-in-adults

Helicobacter Pylori

- *Helicobacter pylori* (*H. pylori*) is highly adapted to the gastric environment where it lives within or beneath the gastric mucous layer
- Renders the underlying mucosa more vulnerable to acid peptic damage by disrupting the mucous layer
- Can lead to gastritis and peptic ulcers
- Implicated in gastric malignancy



https://www.uptodate.com/contents/pathophysiology-of-and-immune-response-to-helicobacter-pylori-infection

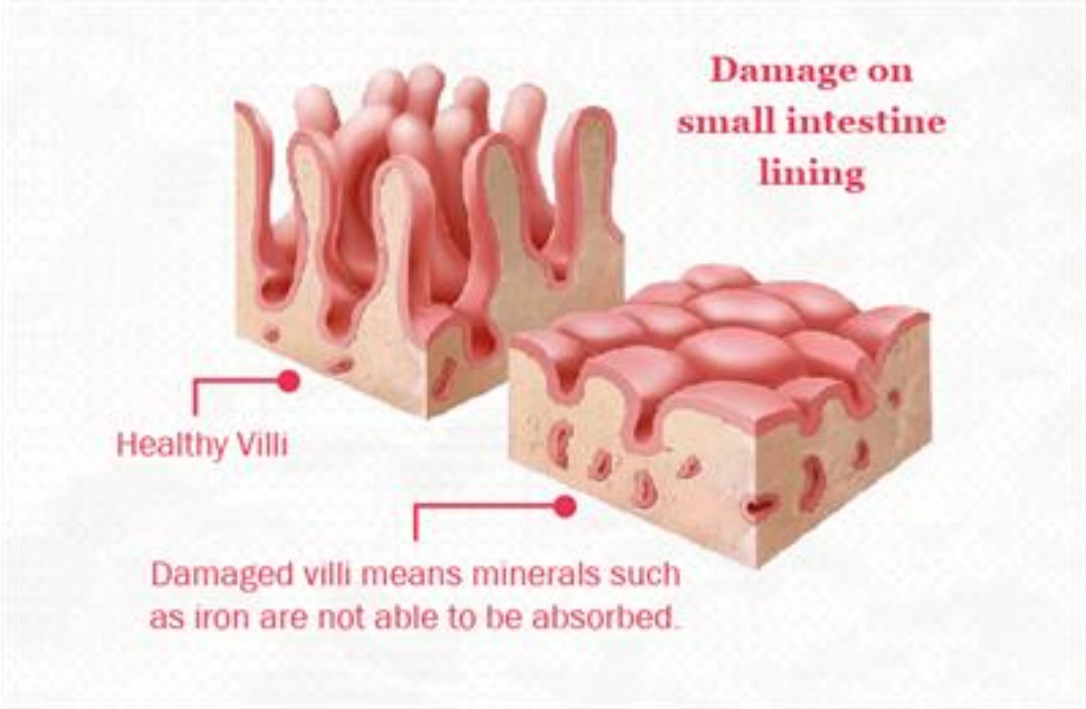
Helicobacter treatment

- “Triple therapy” antibiotics and PPI
  - Clarithromycin, amoxicillin and a PPI
- Bismuth “quadruple therapy” antibiotics and PPI
  - Bismuth subsalicylate, metronidazole, tetracycline, and a PPI
- Fourteen days duration of treatment
- Eradication may be confirmed by a urea breath test, faecal antigen test, or gastroscopy and biopsy performed at least four weeks post antibiotic therapy
- PPI therapy should be withheld for one to two weeks prior to testing

https://www.uptodate.com/contents/treatment-regimens-for-helicobacter-pylori

Coeliac disease

- Coeliac disease (also called gluten-sensitive enteropathy and nontropical sprue) was first described in 1888
- An immune disorder that is triggered by an environmental agent (the gliadin component of gluten) in genetically predisposed individuals
- HLA-DQ2 and/or DQ8 gene



https://www.uptodate.com/contents/pathogenesis-epidemiology-and-clinical-manifestations-of-celiac-disease-in-adults

Symptoms of coeliac disease in adults

- Diarrhoea – This may begin at any age and is often present for years prior to diagnosis
- Fatigue, weakness and lethargy
- Anaemia – iron or folic acid deficiency are the most common. The anaemia will either not respond to treatment or will recur after treatment until the correct diagnosis is made and a gluten free diet is begun.
- Weight loss
- Constipation – some are more likely to experience constipation rather than diarrhoea.
- Flatulence and abdominal distension
- Cramping and bloating.
- Nausea and vomiting

http://www.coeliac.org.nz/what_is_coeliacdisease

Diagnosis and treatment of coeliac disease

- Blood tests
  - Endomysial antibosies (positive or negative)
  - Tissue trans glutaminase (TTG) <20 normal
- Gastroscopy
  - Duodenal biopsy looking for blunted villi and increased intraepithelial lymphocytes
- <u>Gluten Free diet!</u>

Irritable Bowel Syndrome (IBS)

- Pathophysiology uncertain
- Functional bowel disorder
- Affects gastrointestinal motility
- Visceral hypersensitivity
- ? Food sensitivity
- ? Bacterial overgrowth
- Post infectious IBS common

https://www.uptodate.com/contents/pathophysiology-of-irritable-bowel-syndrome

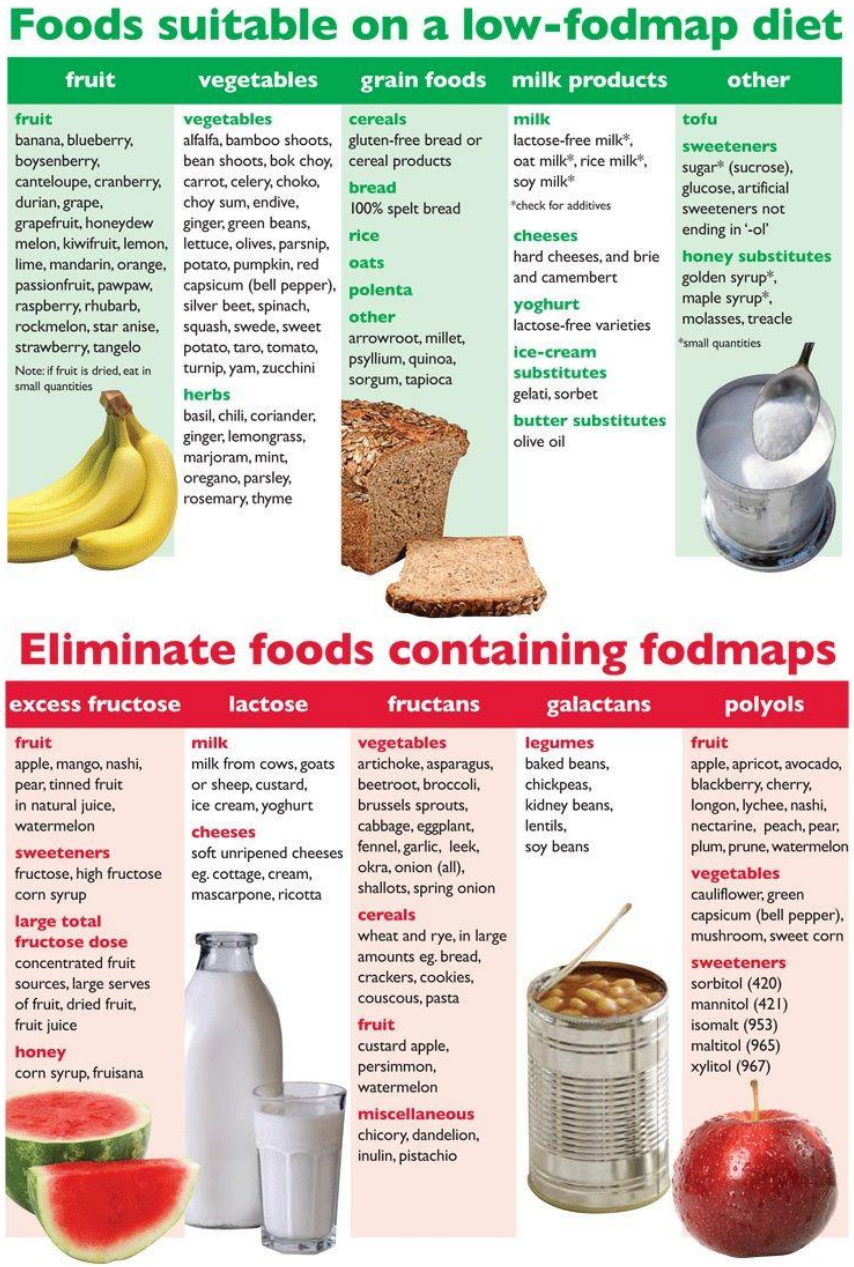
Symptoms and diagnosis of IBS

- Chronic abdominal pain
- Bloating
- Diarrhoea
- Constipation
- No biological markers that are useful

https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-irritable-bowel-syndrome-in-adults

Treatment of IBS

- Low FODMAP diet
- fermentable oligo-, di-, and monosaccharides and polyols
- short-chain carbohydrates are poorly absorbed and are osmotically active in the intestinal lumen
- Rapidly fermented, resulting in symptoms of abdominal bloating and pain.

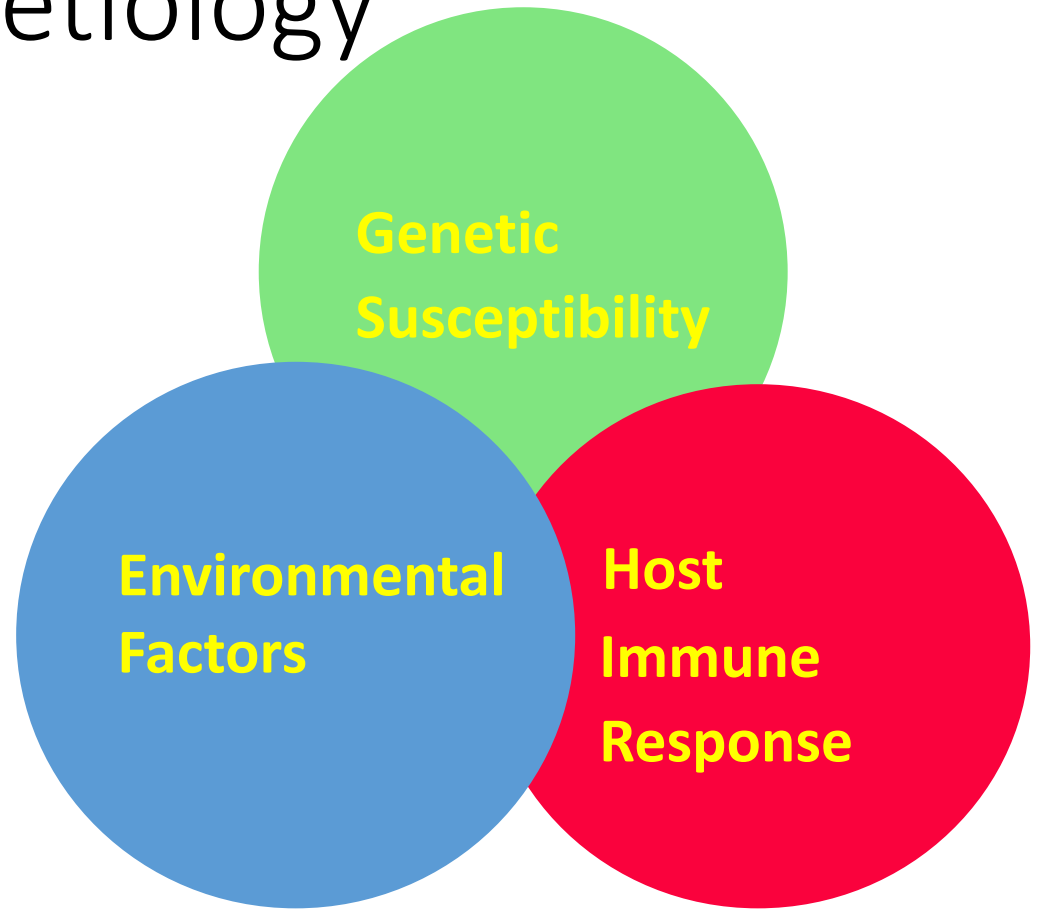


https://www.uptodate.com/contents/treatment-of-irritable-bowel-syndrome-in-adults

Inflammatory Bowel Disease - definition

- Idiopathic inflammation of the gastrointestinal tract
- Three types
  - Ulcerative colitis
  - Crohn’s disease
  - IBD-U (indeterminate colitis)
- Differentiated by disease location, behaviour and pathology

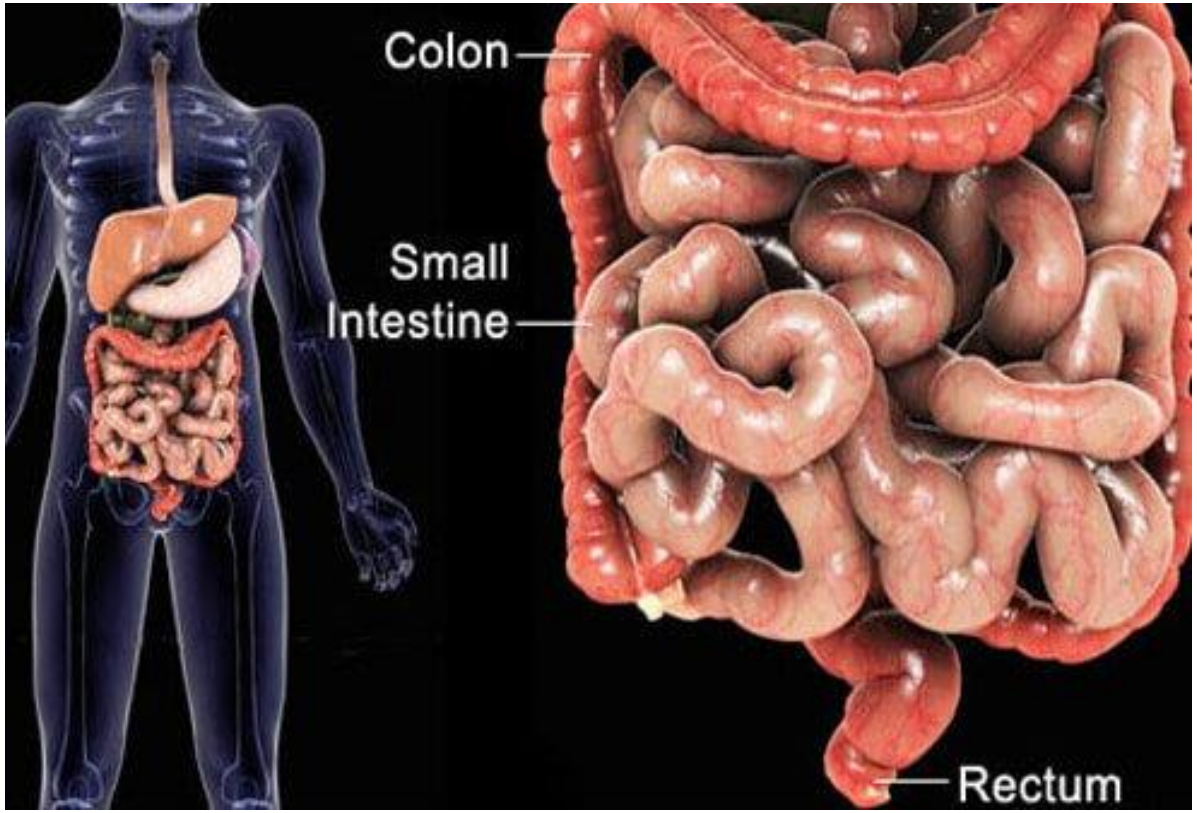
IBD Aetiology



"Genes load the gun, the environment pulls the trigger"

Slide kindly provided by Professor Richard Gearry

IBD and the GI tract



- Ulcerative colitis – only affects the colon
- Crohn's disease – can affect anywhere from the mouth to the anus

Ulcerative Colitis - symptoms

- Diarrhoea
- Urgency
- Tenesmus
- PR bleeding
- Mucous in stool
- Abdominal pain (rarely)
- Fever (rarely)

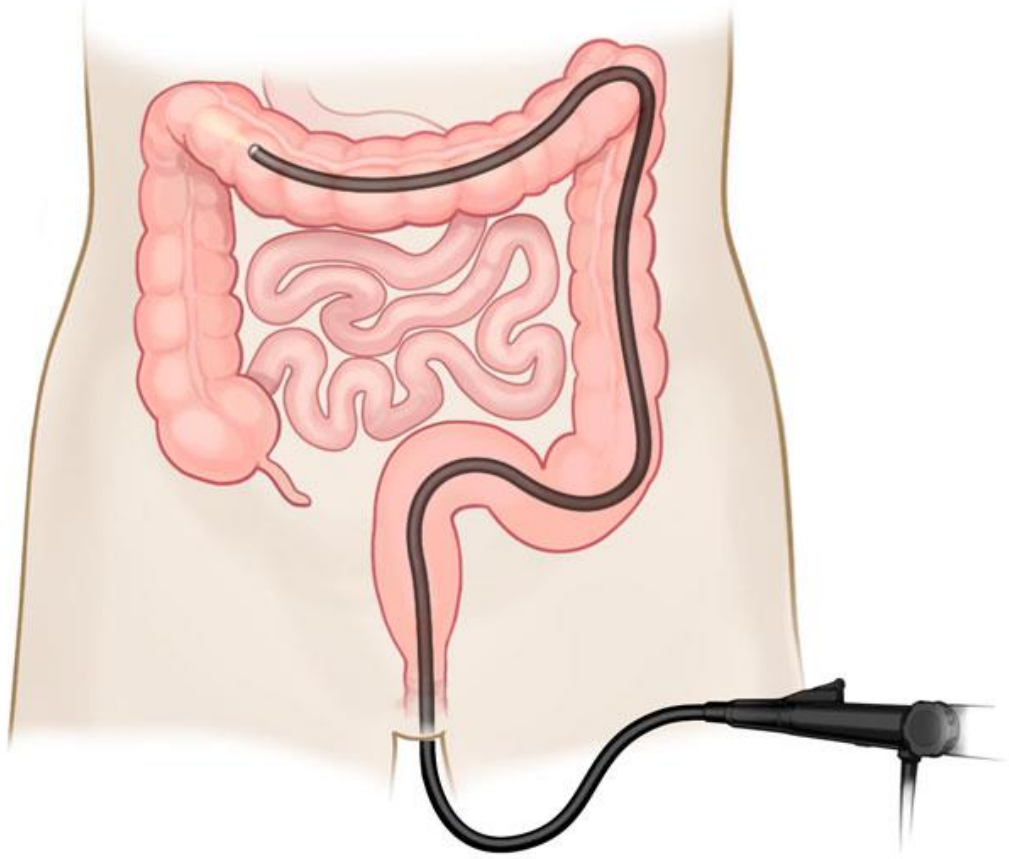
Crohn’s disease - symptoms

- Abdominal pain
- Weight loss
- Diarrhoea
- PR blood and mucous
- Nutritional deficiencies – anaemia/low B12

Relevant clinical tests

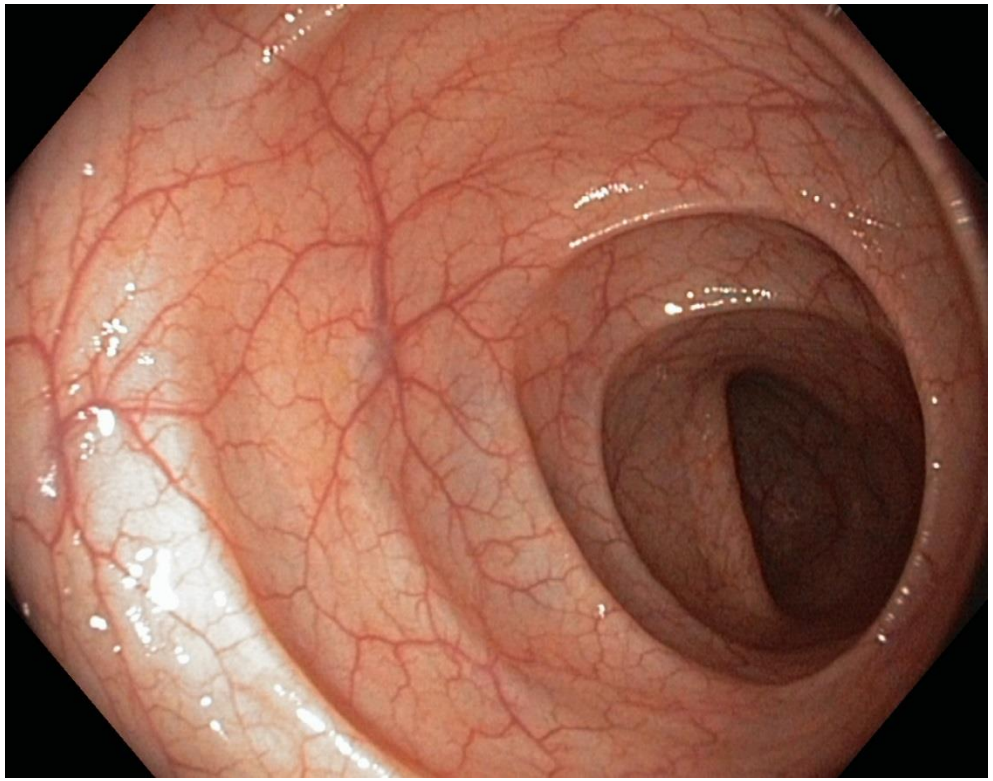
- Stool sample to rule out infectious cause
  - Micro, culture and sensitivity
  - Parasites and ova
  - C-difficile
- Faecal Calprotectin (range 0-100ug)
- C-reactive protein (CRP)
- Complete Blood Count (CBC)
- IgA TTG – rule out coeliac disease

Colonoscopy



Colonoscopy

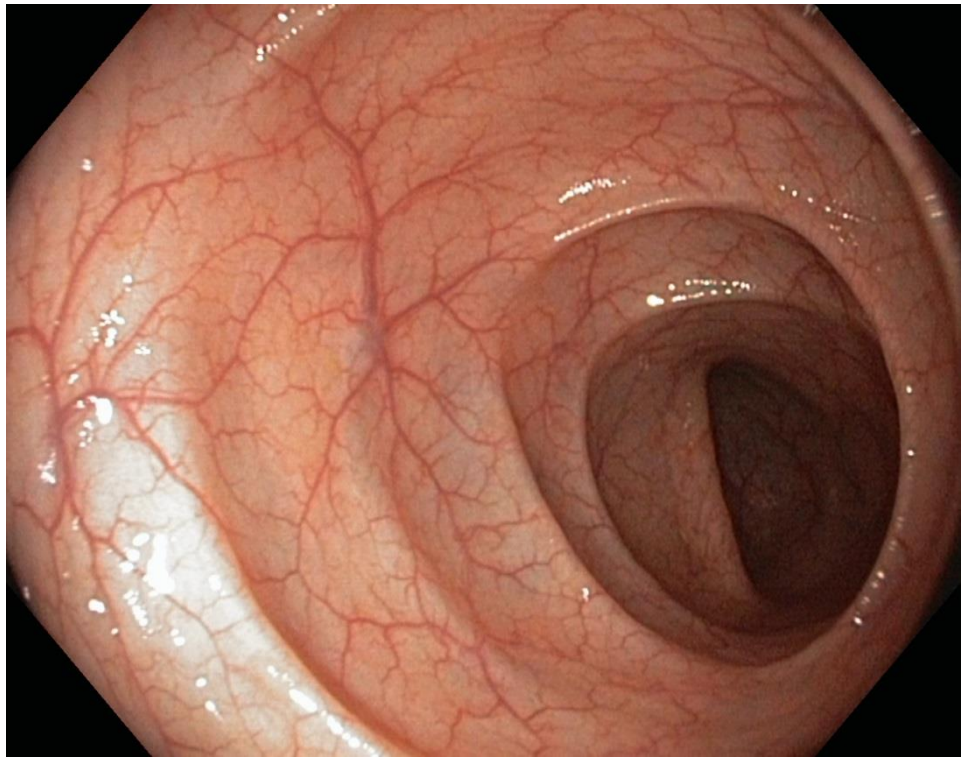
Normal colon



Colonic Crohn's disease

Colonoscopy

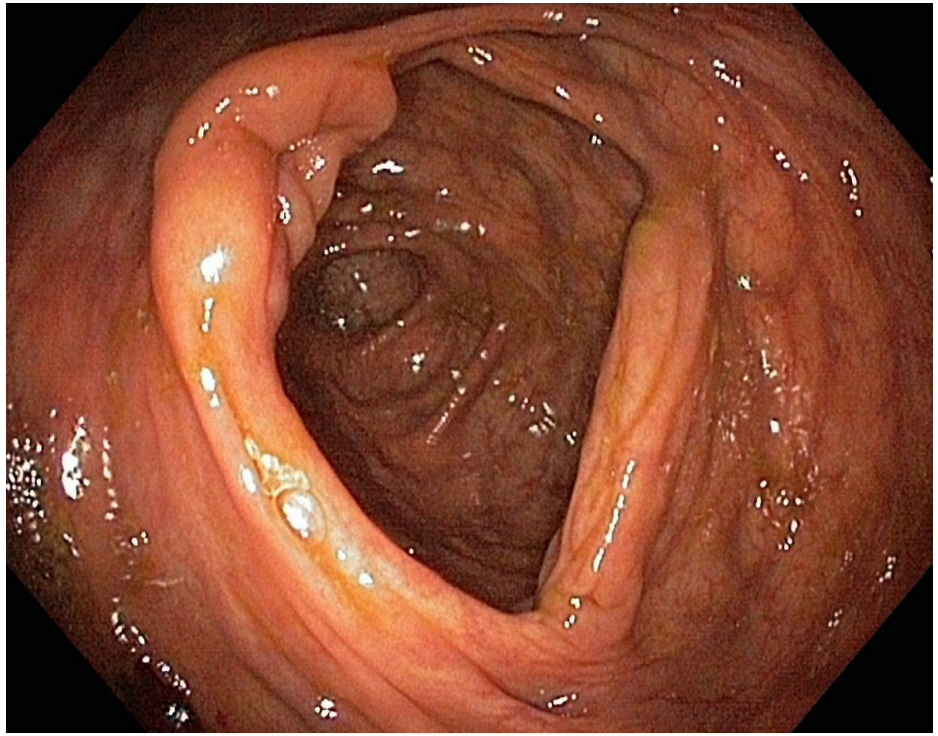
Normal colon



Ulcerative Colitis

Colonoscopy

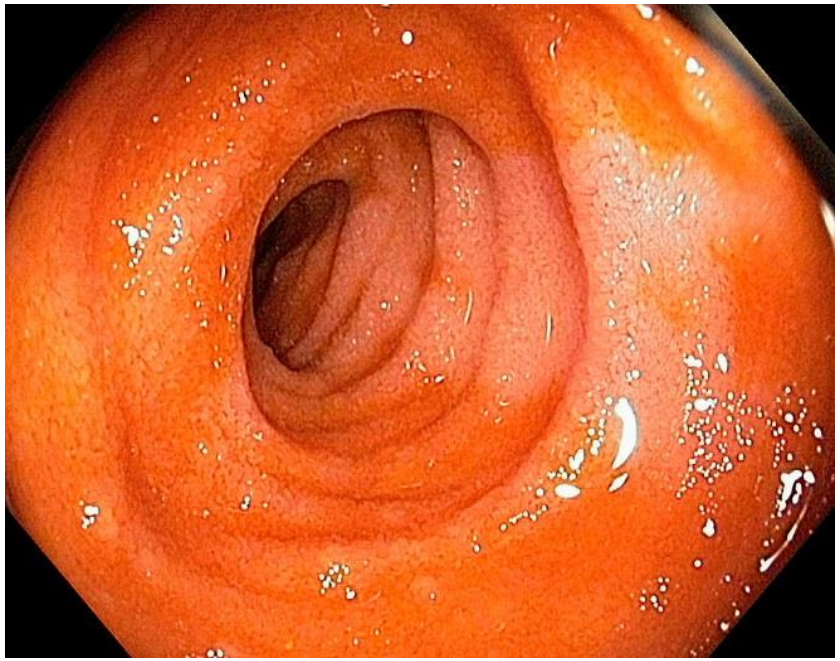
Normal ileocaecal valve



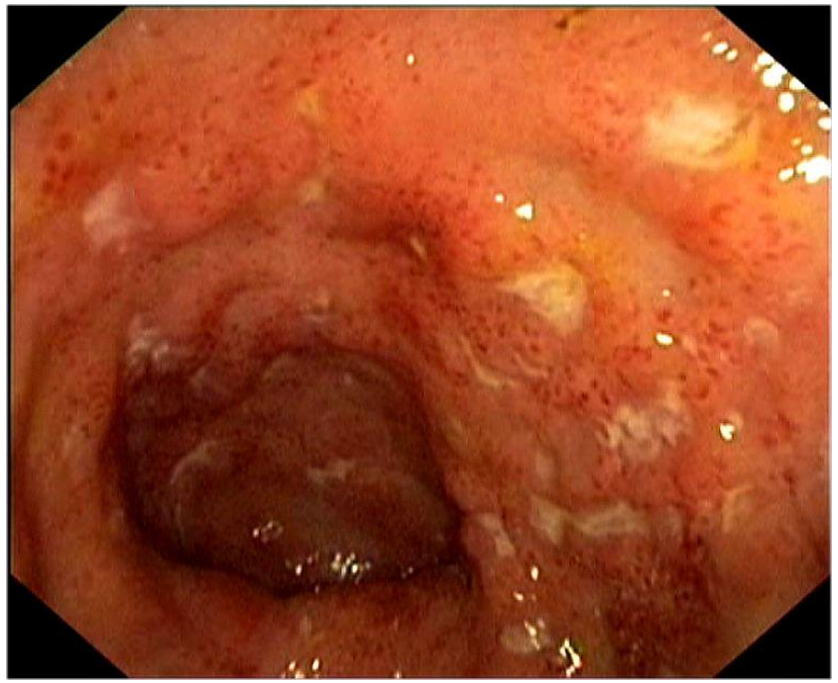
Crohn’s disease ileocaecal valve

Colonoscopy

Normal terminal ileum



Terminal ileum Crohn's disease



Small bowel capsule endoscopy

Extra-intestinal manifestations of IBD

Apthous stomatitis

Arthralgia

Extra-intestinal Manifestations of IBD

Uveitis

Iritis

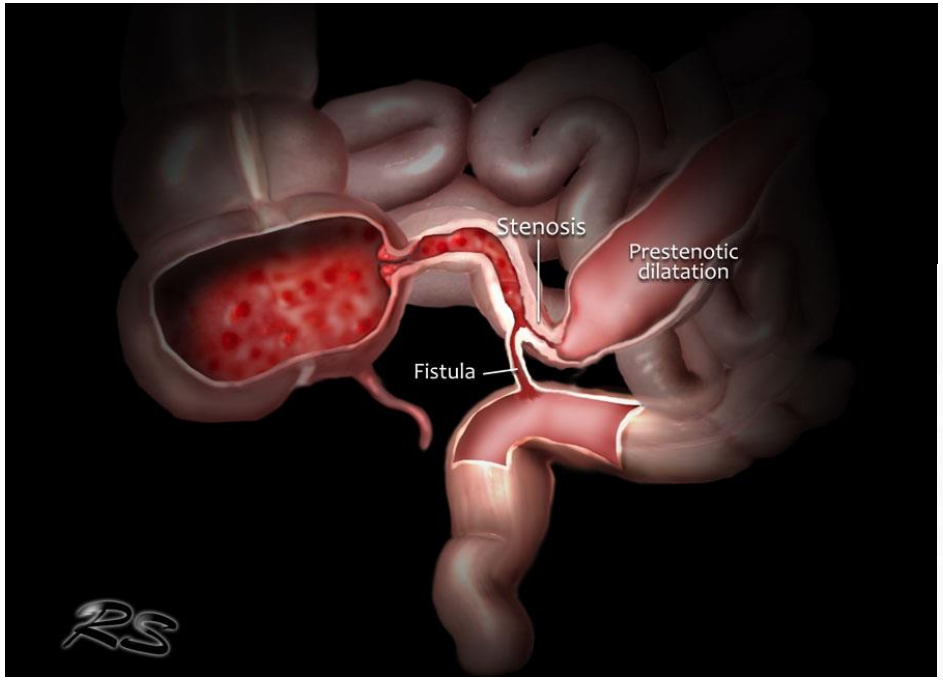
Extra-intestinal Manifestations of IBD

Erythema nodosum

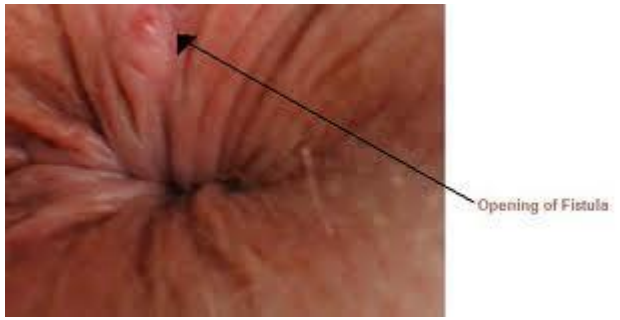
Pyoderma gangrenosum

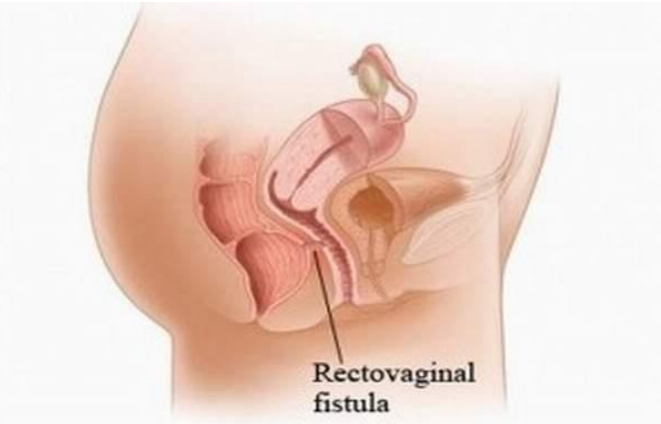
Extra-intestinal Manifestations of IBD

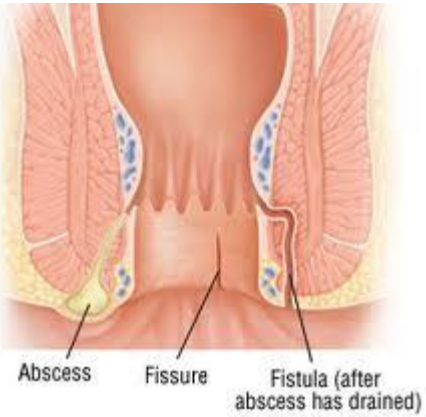
Enteroenteric fistula



Enterocutaneous fistula







Treatment of IBD

- There is no cure at this stage
- Aim of therapy is to induce remission
- Maintenance medication is important

Medical therapy - steroids

- IV Hydrocortisone in acute setting

- Prednisone orally – 8 week tapering course starting at 40mg

- Topical rectal steroid

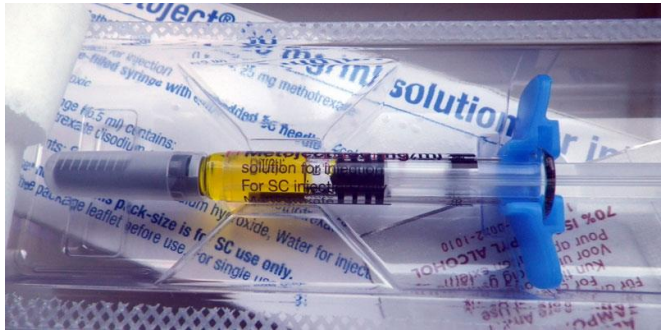
Medical – “step up therapy”

- 5-ASA medication
  - Pentasa
  - Asacol
  - Olsalazine
  - Sulphasalazine
- Topical therapy PO or PR

Pentasa®
mesalazin
Partners in remission

Medical – “step up therapy”

- Immunomodulators
  - Azathioprine
  - 6-Mercaptopurine
  - Cyclosporin
  - Methotrexate



Medical – “step up therapy” biologics

- Anti-TNF
  - Adalimumab and Infliximab

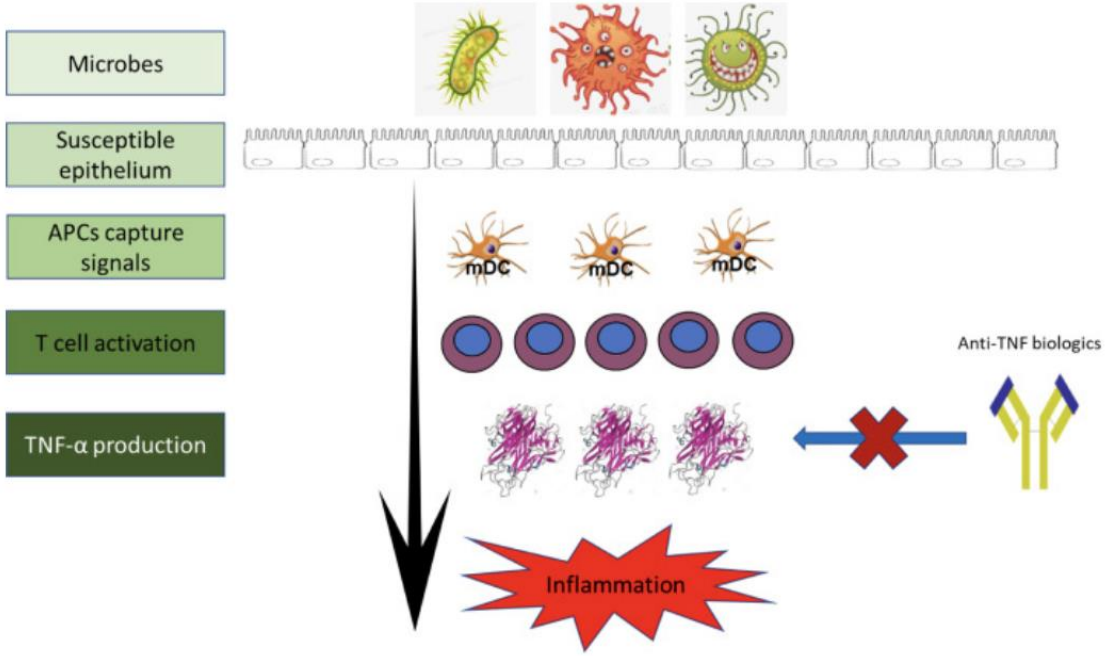
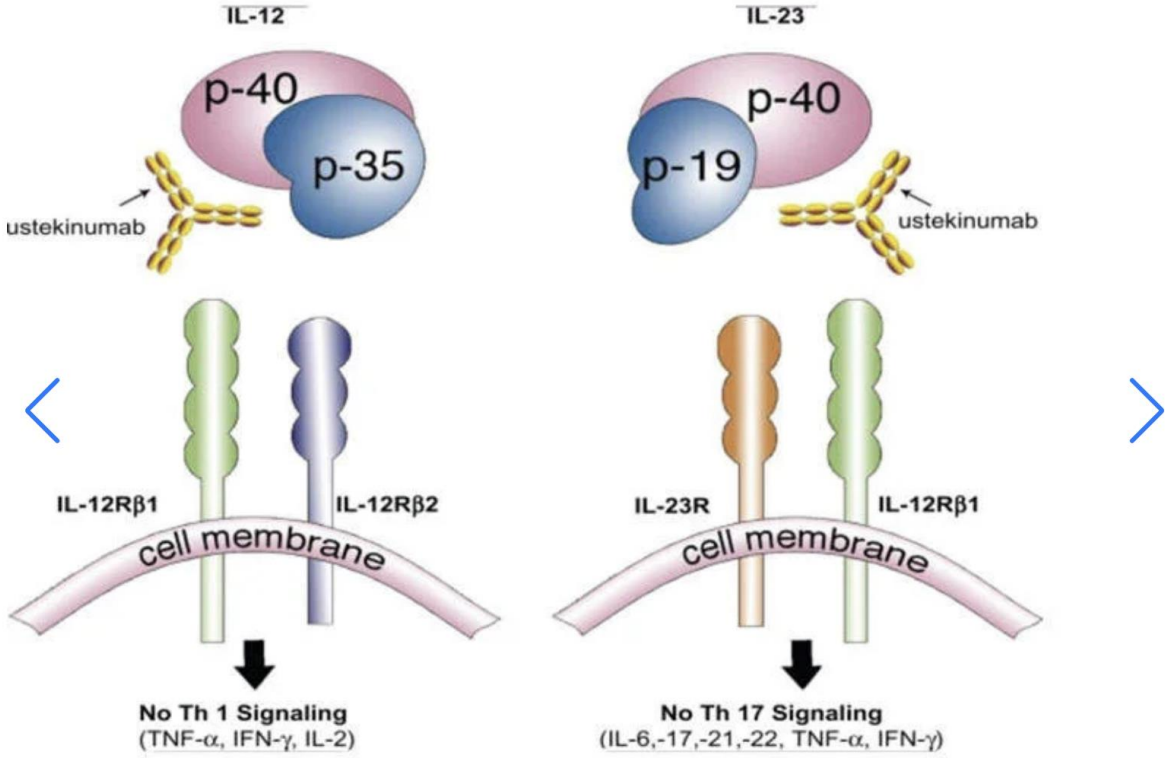


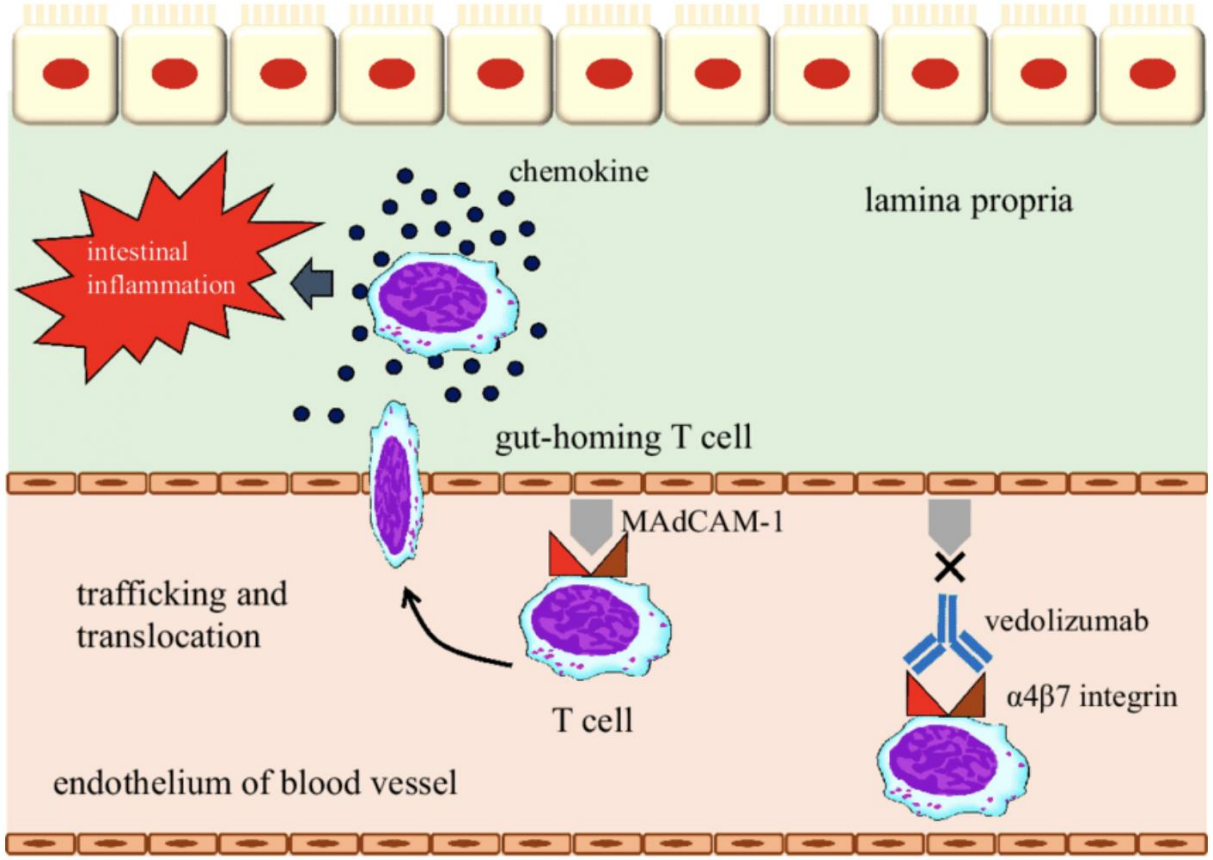
Fig. 1 Schematic summary of TNF-α’s role and anti-TNF therapy in the pathogenesis of IBD.

Newly funded biologics



Newly funded biologics

- Vedolizumab (Entyvio)

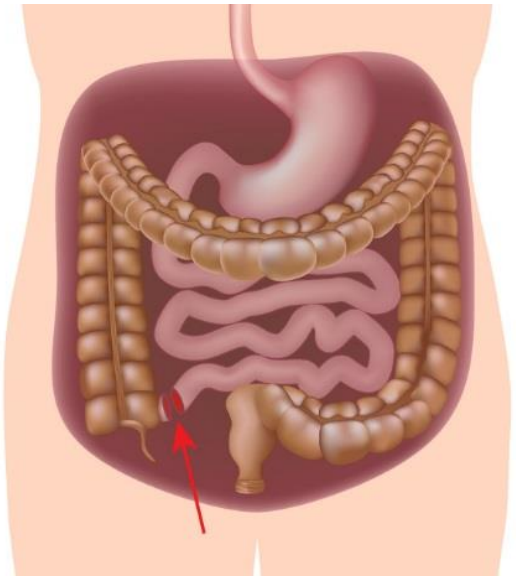


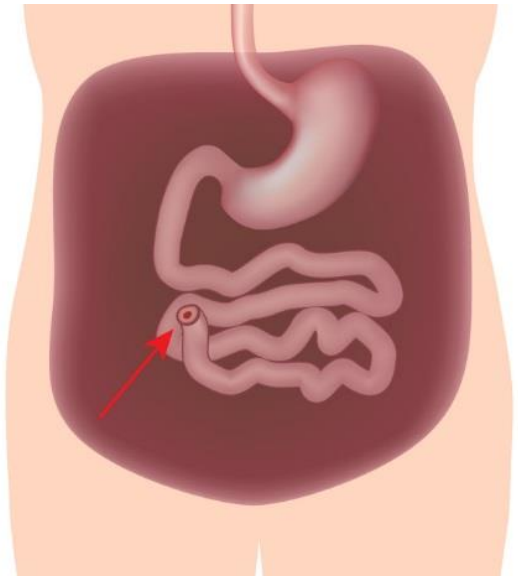
A mechanism of action of vedolizumab.

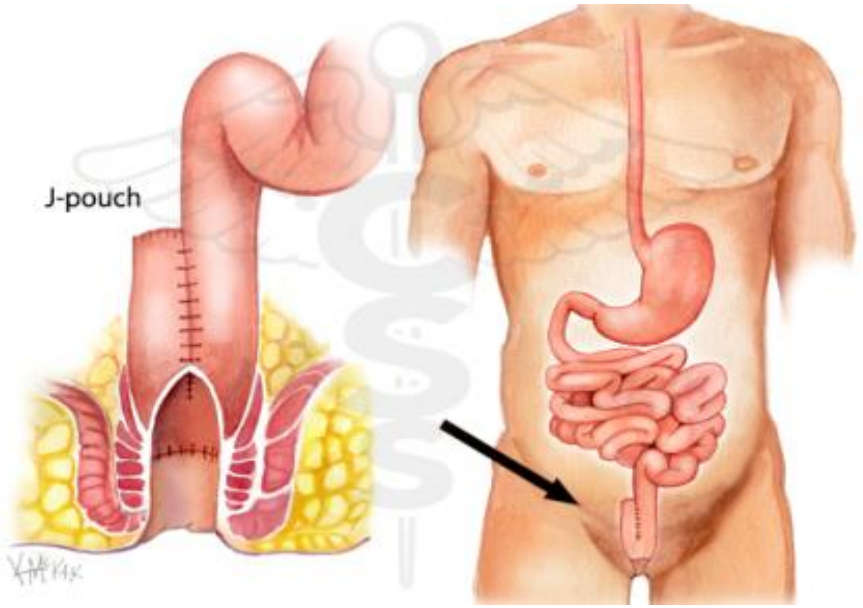
Slides kindly provided by Professor Richard Gearry

Surgical – Ulcerative Colitis

- “Cure” for UC is total panproctocolectomy
- Either with end ileostomy or eventually “J pouch”

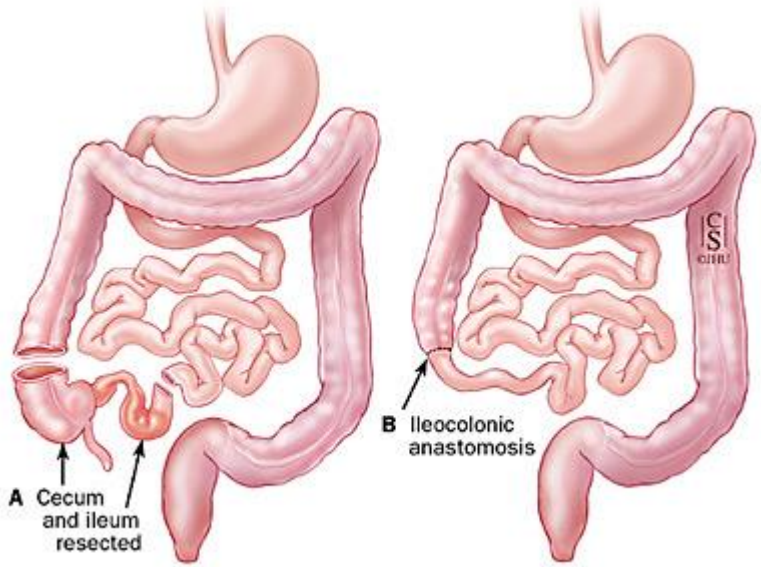


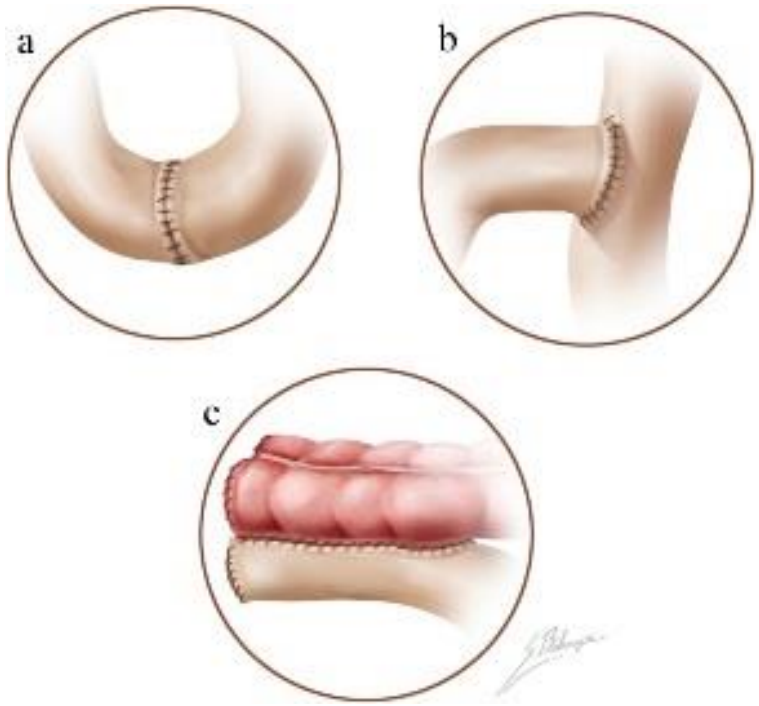




Surgery – Crohn's disease

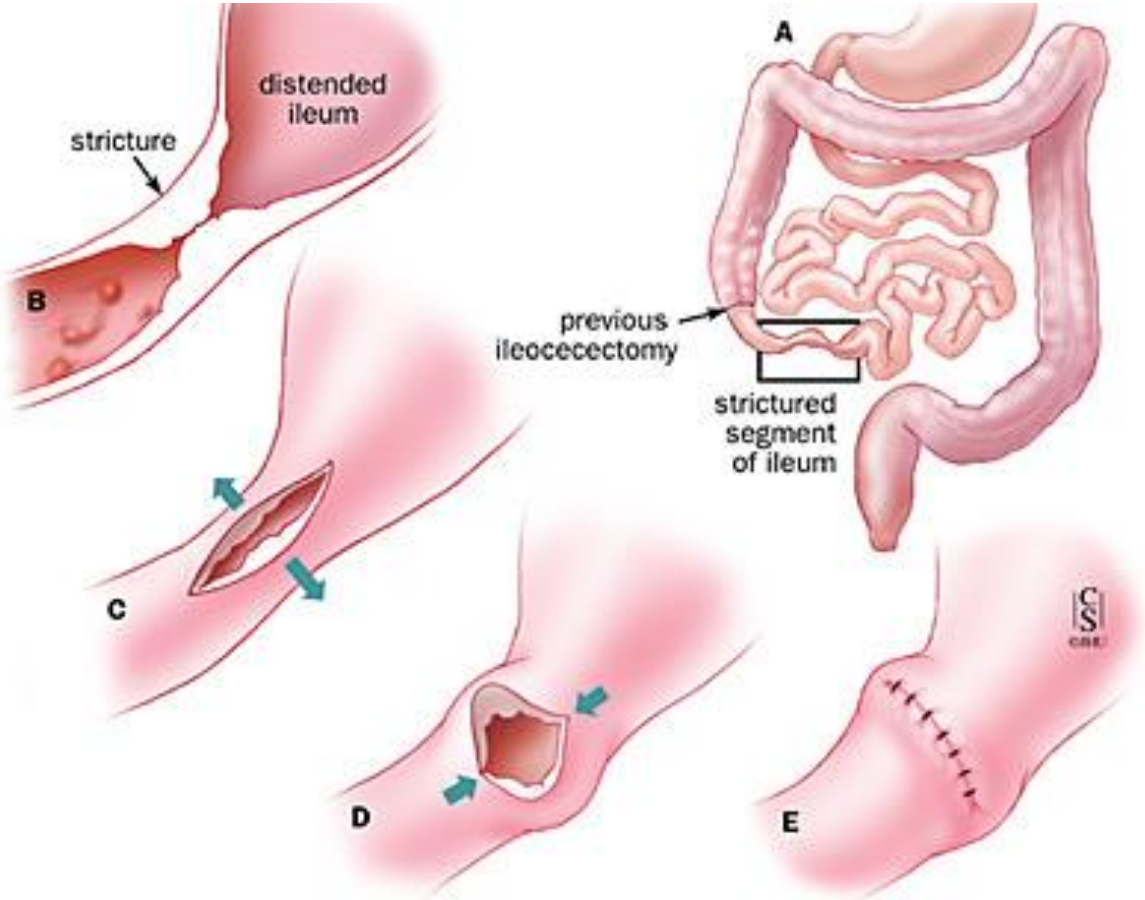
- Ileocaecal resection
- Limited resection of ileum





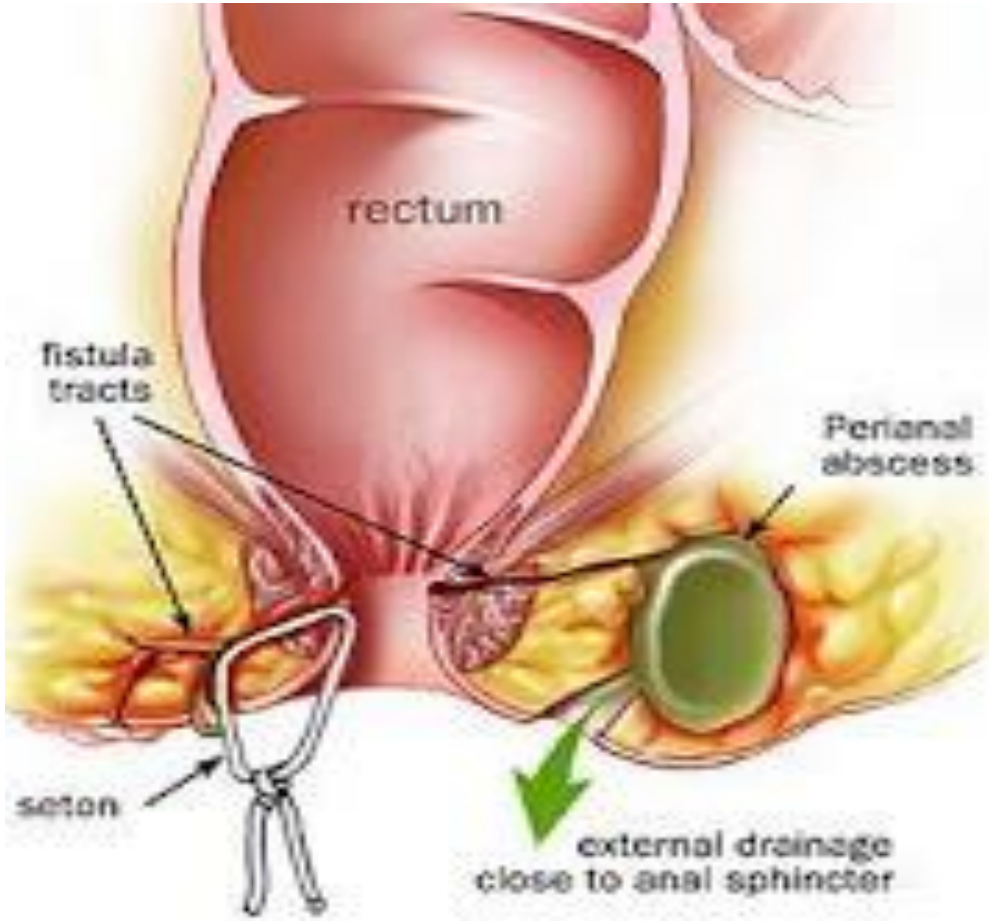
Surgery – Crohn's disease

- Stricturoplasty



Surgery – Crohn's disease

- Fistula surgery
  - Drainage of abscess
  - Insertion of seton



Questions?