

# Surgical Aspects of Acute Ulcerative Colitis

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# Scope

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- Assumptions
- Surgery for Acute v Chronic UC
- Assessment of Severity
- Indications for Emergency Surgery
- Optimisation Pre Surgery – Covered by
- Surgical Options
- Post Surgery management

# Assumptions

- This talk will discuss on the surgical aspects of acute severe ulcerative colitis (ASUC).
- Assume the initial investigations are complete and the colitis is confirmed to be UC.
- We assume the combined care of patient with ASUC of the “known /proven UC patient” has occurred since the time of admission
- Assumed knowledge will include:
  - Investigation / management first episode undifferentiated colitis
  - Initial Medical Management Ulcerative Colitis
  - Previously covered the case of interest for this presentation

# Colectomy for Ulcerative Colitis

- 12 – 25% of patients with UC will have at least one episode of acute severe UC.<sup>1</sup>
- Of the patients in hospital for Acute Severe UC
  - 30% will have a colectomy on the index admission
  - 35% will have a colectomy at some time over the next 10 years for acute severe UC<sup>2</sup>
- Mortality of acute severe UC has reduced:
  - 38 % in the 1930s and 1940s,<sup>3</sup>
  - 7% with commencement of steroids, now 1% in modern medical + surgical approaches.<sup>3</sup>
- Colectomy:
  - However - the colectomy rate has been unchanged.
  - A review of 32 studies of over 30 years identified a stable rate of approximately 29 %.<sup>4</sup>
- Nonetheless, the majority of patients will respond adequately to medical therapy on their index admission for severe UC and will not require urgent colectomy.

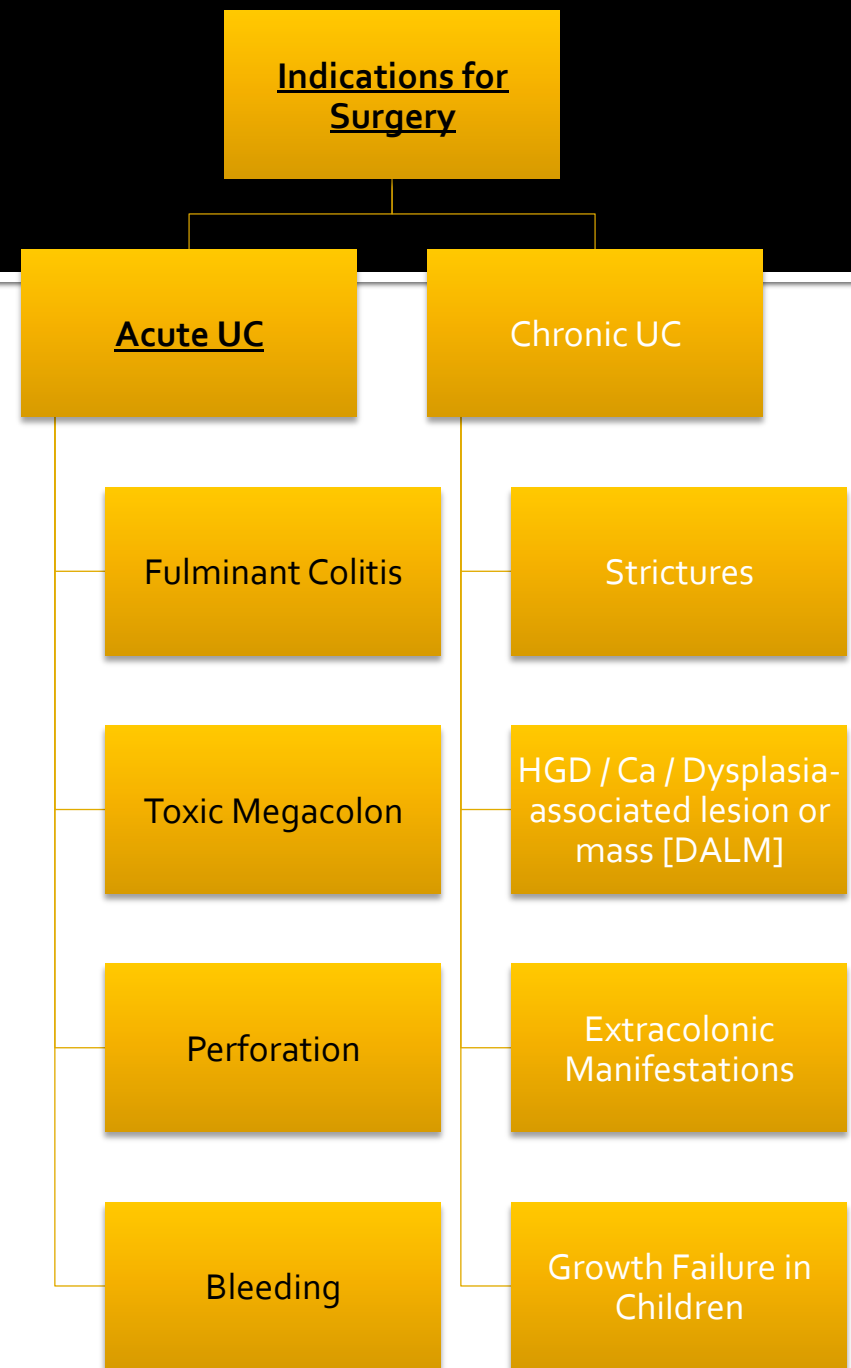
1. Dinesen LC, Walsh AJ, Protic MN, Heap G, Cummings F, Warren BF, George B, Mortensen NJ, Travis SP. The pattern and outcome of acute severe colitis. *J Crohns Colitis*. 2010 Oct;4(4):431–7.

2. Bojic D, Radojicic Z, Nedeljkovic-Protic M, Al-Ali M, Jewell DP, Travis SP. Long-term outcome after admission for acute severe ulcerative colitis in Oxford: the 1992–1993 cohort. *Inflamm Bowel Dis*. 2009 Jun;15(6):823–8

3. Travis S, Katsangis, Lémann M *Gut* 2011;60:3–9 doi:10.1136/gut.2010.216895 Predicting the need for colectomy in severe ulcerative colitis: a critical appraisal of clinical parameters and currently available biomarkers

4. Turner D, Walsh CM, Steinhart AH, Griffiths AM. Response to corticosteroids in severe ulcerative colitis: a systematic review of the literature and a meta-regression. *Clin Gastroenterol Hepatol*. 2007 Jan;5(1):103–10.

- The aim is to:
  - confirm the diagnosis,
  - assess severity and extent of disease,
  - and identify those in need of urgent surgery
- Combined Care:
  - Gastroenterology and
  - Surgery
- Scoring Systems – see next slide



# Assessment of Severity and Response

**Table 1** Truelove and Witts criteria for severity of acute ulcerative colitis

	Severe	Moderate	Mild
Bowel movements/day	>6	4-6	<4
Temperature	>100 F	Normal	Normal
Heart rate	> 90 bpm	Normal	Normal
Hemoglobin	<10.5 g/dL	10.5-normal	Normal
ESR	>30 mm/h	<30 mm/h	<30 mm/h

**Table 2** Severe versus fulminant colitis

	Severe	Fulminant
Bowel movements/day	>6	>10
Blood in stool	Frequent	Continuous
Hemoglobin	<10.5 g/dL	Transfusion required
Abdominal exam	Tenderness	Tenderness and distension
Abdominal X-ray	Edematous wall, thumbprinting	Colonic dilation
Systemic toxicity	Absent	Present

- Edward FC, Truelove SC. The course and prognosis of ulcerative colitis. *Gut* 1963; 4: 299- 315.
- Hanauer SB. Inflammatory bowel disease. *NEJM*. 1996; 334(13):842.

# Assessment of Response to Steroids

- Approximately one third of patients will not respond to steroid therapy.
  - Prompt, objective identification of these patients is crucial.
  - Duration of inpatient medical therapy was the only factor associated with major surgical complications in a multivariate analysis of patients with severe UC.
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- Turner D, Walsh CM, Steinhart AH, Griffiths AM. Response to corticosteroids in severe ulcerative colitis: a systematic review of the literature and a meta-regression. Clin Gastroenterol Hepatol. 2007 Jan;5(1):103–10.
  - Randall J, Singh B, Warren BF, Travis SP, Mortensen NJ, George BD. Delayed surgery for acute severe colitis is associated with increased risk of postoperative complications. Br J Surg. 2010 Mar 97(3):404–9.

# Predictors of the Need for Colectomy

- Oxford Criteria – 85% chance colectomy within 7 days

Travis, SP, Jewell, DP Predicting outcome in severe ulcerative colitis. *Gut* 1996; 38:905-910

- After 3 days of steroid treatment

- >8 bowel motions on day 3 or
    - >3 BM on day 3 + CRP > 45mg/L

- Other Criteria Used:

- AXR mucosal islands or diameter >5.5 cm had a 73% colectomy rate
  - Low Albumin, CRP, prior steroids, short duration of illness

- If a patient is failing to respond to 3 days of aggressive medical therapy, a decision point has been reached between colectomy and second-line medical therapy.



# Optimisation Pre Surgery

- This has been discussed by the Gastroenterologists
- Pre-op electrolytes and nutrition
  - Nutrition - TPN / Enteral
  - Re-feeding issues
  - Medical timing of surgery
  - Optimising medications pre surgery
  - Peri-operative/ Post Surgery steroid management

## Surgical Options (Lap v Open)

### Acute UC Surgery

Subtotal colectomy  
with end-ileostomy,  
mucus fistula

### Chronic UC

Pan-proctocolectomy  
and ileostomy

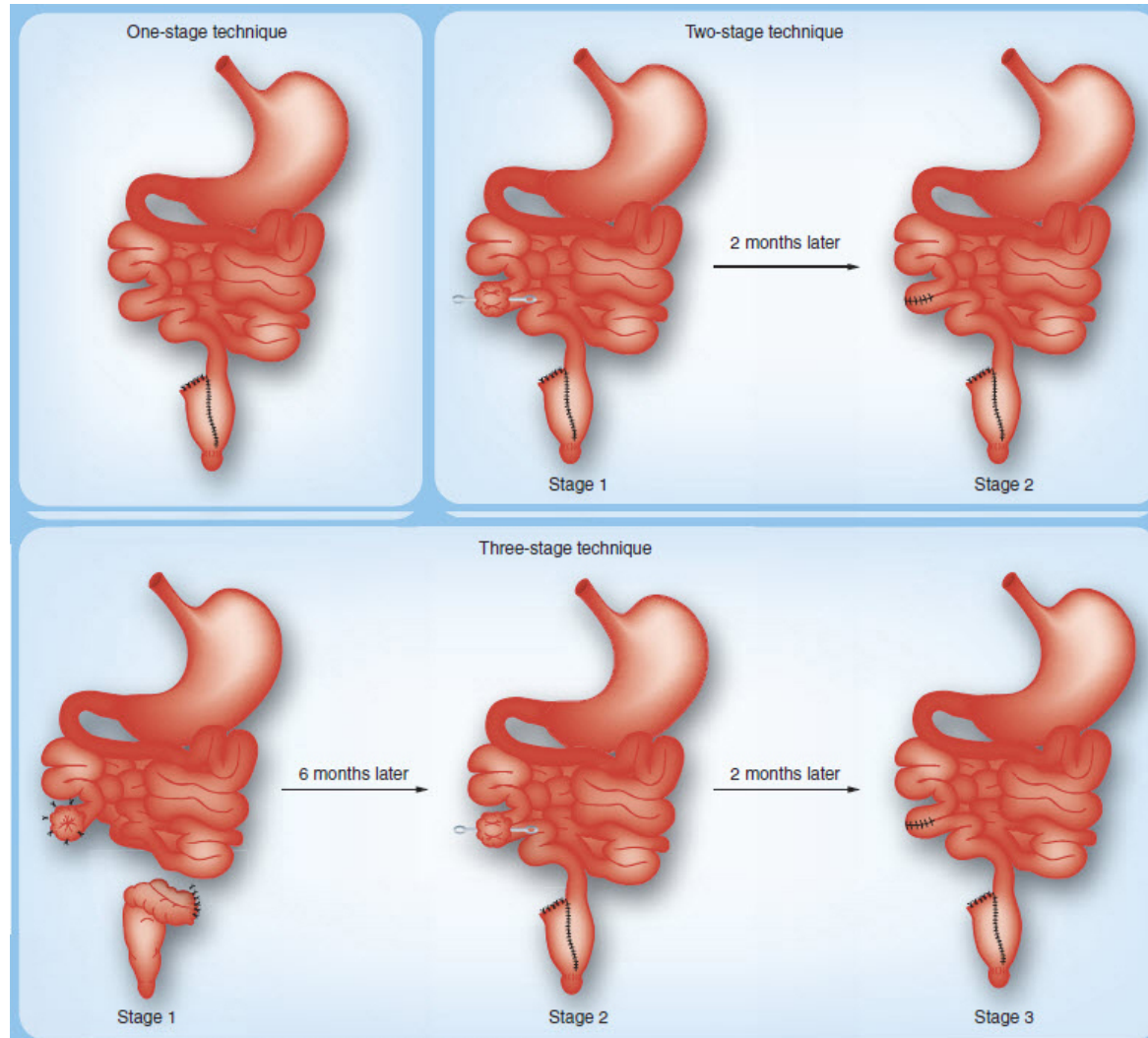
Total colectomy,  
ileostomy and rectal  
stump

Ileo-anal pouch  
reconstruction or  
ileorectal  
anastomosis

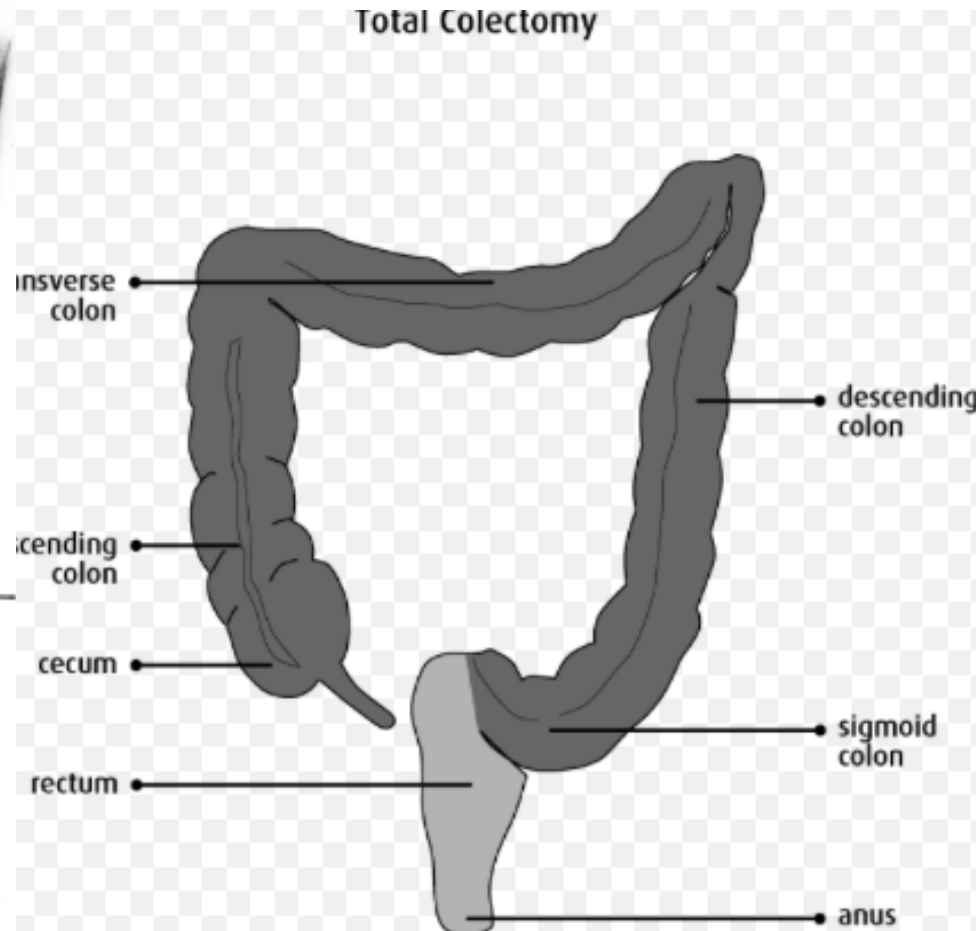
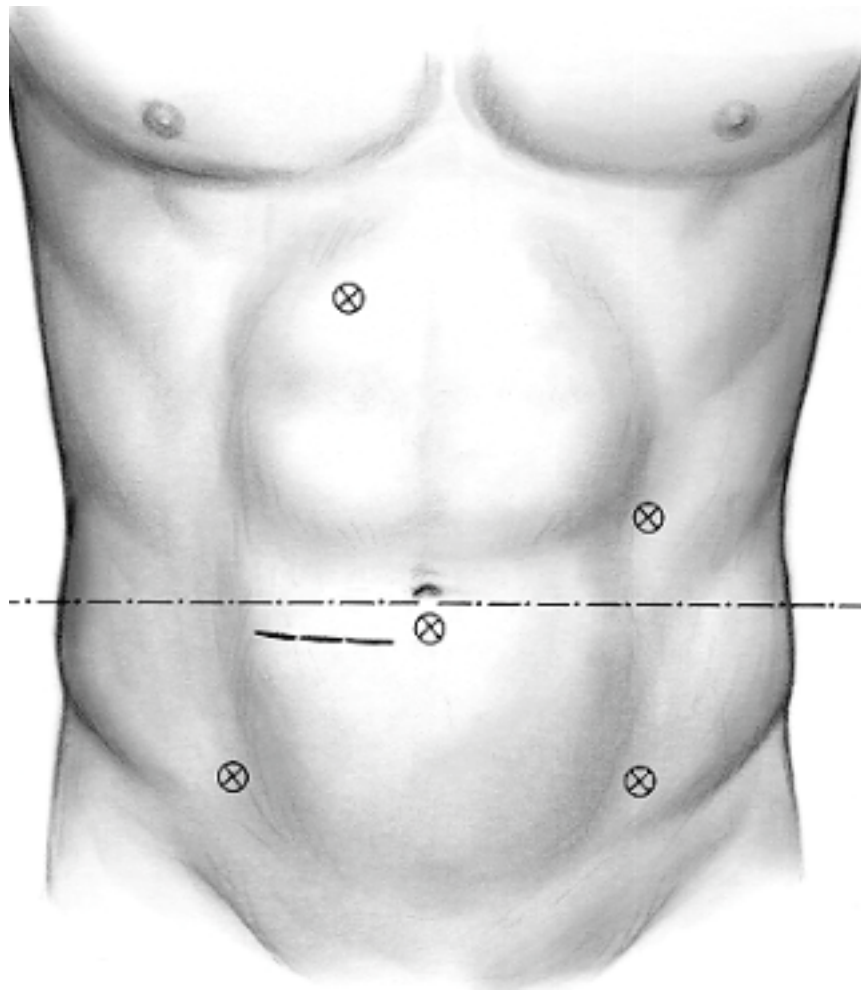
- Standard of care surgery for ulcerative colitis is creation of ileo-anal pouch anastomosis (IPAA).
- Staging of Surgery:
  - Three-stage surgery consists of subtotal colectomy and ileostomy, followed by proctectomy and pouch creation, and then ileostomy closure.
  - Two-stage surgery consists of IPAA and ileostomy at the initial operation, followed by ileostomy closure.
  - One-stage procedures, omitting ileostomy creation entirely, are generally reserved for stable, “good-risk” patients in the elective setting.

# Staged Procedures

## Surgery for Acute UC is Usually Three Stages



# Laparoscopic Surgical Technique



# Laparoscopic Surgical Technique



# Final Goal





# Post Operative Complications

- General Complications:
  - Ileus
  - Steroids – wound healing, breakdown and hernia.
  - Malnutrition - wound healing, hernia and re-feeding issues.
  - Immunosuppression – wound infection, delayed response to deep sepsis.
  - Stoma (ileostomy) – routine issues, high output, electrolyte imbalance, retraction, prolapse, ischaemia, stenosis, technical stoma bag issues / education.
- IPAA
  - Pouchitis or nonspecific inflammation of the ileal pouch
  - Small bowel obstruction - 20% of patients who undergo ileal pouch operations
  - Pelvic Sepsis – 5% (anastomotic dehiscence , abscess, infected pelvic haematoma, fistula
  - Ileo-anal anastomotic stricture occurrence rates vary from 5% to 38%.
  - Patients also encounter similar issues with sexual dysfunction (including postoperative infertility) and ileostomy complications after a total proctocolectomy.
  - Pouch-vaginal fistula - 3% to 16%
  - Females - fertility
- Complications of colectomy with ileorectal anastomosis (IRA):
  - Considered in young females who want to preserve fertility and avoid a stoma
  - Remnant rectum - risk of malignant disease is approximately 10%.
  - Subsequent proctectomy as a result of severe proctitis 25%
    - IRA is contraindicated in patients who have moderate to severe inflammation of the rectum, dysplasia, or cancer of the rectum, perianal disease, and known anal incontinence.

# Thank you

Surgical Aspects of  
Acute Ulcerative Colitis



# MEDICAL MANAGEMENT OF ULCERATIVE COLITIS

## Diagnosis of IBD

- history & examination
- exclude infection
- abdominal x-ray
- FBC, ECU, LFT, ESR, CRP
- sigmoidoscopy where disease is severe
- colonoscopy for mild to moderate disease
- histopathology



## Ulcerative Colitis (UC)

characterised by diffuse mucosal inflammation limited to the colon  
Symptoms include

- bloody diarrhoea +/- colicky abdominal pain,
- urgency
- tenesmus

*Management depends on disease activity & extent, ideally as outpatient unless severe*

## Active Left-Sided Colitis

Disease extends to the splenic flexure

- Suppositories for rectal disease; enemas for disease to splenic flexure
- Dietitian referral

### FIRST LINE COMBINATION THERAPY

- Combination of per rectal and oral treatment recommended
- Oral 5-ASA dividing dose in a bd or tds fashion either:
  - Sulphasalazine 2-4gm
  - Mesalazine 2-4gm
  - Olsalazine 1.5-3gm
  - Balsalazide 6.75gm
- With per rectal medication either daily:
  - Mesalazine 2gm in 60ml (more distal disease)
  - Mesalazine 1gm in 100ml daily (more proximal extent)
  - Mesalazine 1gm supp (proctitis, or severe urgency)
- Rectal corticosteroids can be added to rectal ASA if not responding
- If failure to improve on first line therapy add prednisolone 40-60 mg daily, reducing dose gradually over 8-12 weeks (once a clinical response has occurred)

## Severe Ulcerative Colitis

- Defined by >6 bloody bowel actions/day + one or more systemic feature including fever, tachycardia, anaemia
- Will not have responded to maximum oral and/or topical therapy
- Must be referred for inpatient management by Gastroenterologist + Colorectal Surgeon
- See separate protocol

## Extensive Colitis

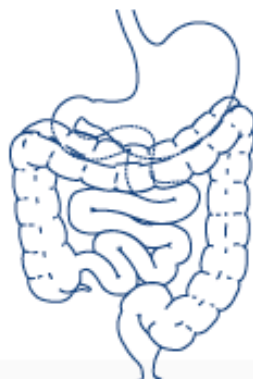
- Dietitian referral

### FIRST LINE THERAPY

- Oral 5-ASA dividing dose in a bd or tds fashion either:
  - Sulphasalazine 2-4gm
  - Mesalazine 2-4gm
  - Olsalazine 1.5-3gm
  - Balsalazide 6.75gm
- Add per rectal agent if troublesome rectal symptoms

### SECOND LINE THERAPY

- Prednisolone 40-60mg daily (up to 1 mg/kg), reducing to zero over 8-12 weeks once clinical response has occurred
- For chronic steroid dependent disease add: Azathioprine 2-2.5mg/kg/day or 6-Mercaptopurine 1-1.5mg/kg/day



## Maintenance of Remission

- Lifelong therapy recommended especially for extensive disease or relapse >once a year
- Corticosteroids are ineffective
- Dietitian

### FIRST LINE THERAPY

- Oral 5-ASA dividing dose in a bd fashion, either:
  - Sulphasalazine 2-4gm
  - Mesalazine 1-3gm
  - Olsalazine 1-2gm
  - Balsalazide 3gm
- Can add topical mesalazine for distal colitis
- If intolerant of or relapse despite first line therapy: Azathioprine 2-2.5mg/kg/day or 6-Mercaptopurine 1-1.5mg/kg/day
- Need regular CBE and LFTs if on immunomodulators as follows:
  - weekly for 4 weeks, then monthly for the next 2 months then 3 monthly
- Can continue 5-ASA with Azathioprine (although no supporting evidence)
- If UC >8 years then 2 yearly colonoscopy for carcinoma surveillance
- Folic acid may reduce the risk of dysplasia

## General Management of IBD Principles

- Refer all patients to:
  - IBD Nurse Coordinator at FMC, contact 8204 3942

### OR

- IBD Specialist Nurse at RGH, contact 8275 1745
- Discuss and make treatment decisions with the patient
- Ensure rapid access to clinic appointments
- Provide clear management plans
- As non-specific pain is a common feature of IBD, where possible determine cause & treat. Avoid analgesics; tramadol if necessary