Surgical management of Inflammatory bowel disease

- indication of surgical intervention
- under stand the risk involved
- option and rationale of surgical treatment

Multi-disciplinary care

- Named personnel comprising
  - gastroenterologists,
  - colorectal surgeons
  - clinical nurse specialists,
  - dietician,
  - pathologist
  - GI radiologist
  - pharmacist,
- Access to
  - a psychologist/counsellor, rheumatologist, ophthalmologist,
  - dermatologist, obstetrician, nutrition support team, a paediatric gastroenterologist
  - gastroenterology clinical network, general practise

Surgical management of Ulcerative colitis

Risk of Surgery / UC

- 20 – 30 % of patients will require surgery
- 5-10 % present with acute sever colitis
- 30 % of sever case will require emergency surgery
- After acute severe ulcerative colitis 50% with incomplete remission with steroids will require colectomy within 1 year.

Acute Sever Colitis

- 6 bloody stools/day
- Abdominal tenderness
- signs of systemic Toxicity (HR>90, T>37.8, Hb#10.5 or ESR>30
- Anemia
- Fulminanat colitis (stool > 10 / day , Anemia requiring transfusion , signs of systemic toxicity , abdominal distension, tenderness , fever and leukocytosis.

Truelove and Witts' criteria , Br Med J. 1955

Sands BE J Gastrointestinal Surg. 2008

- Colectomy rate about 30 %
- Rate of Colectomy did not change in last 40 years

Turner D, et al Gastroenterol Hepatol 2007

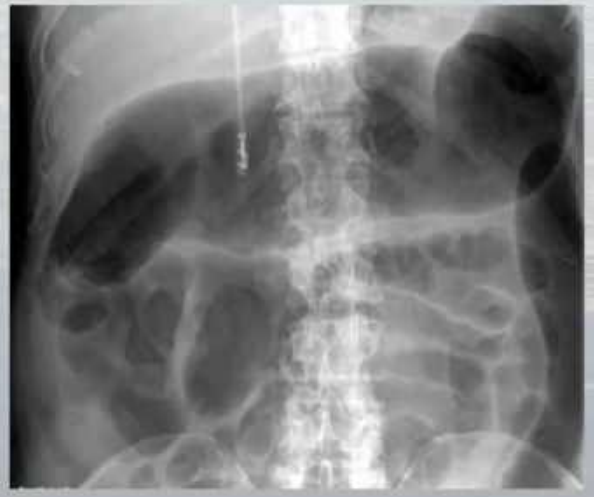
	Mild	Moderate	Severe
1. Number of evacuations/day	≤4	5	≥6
2. Bright-red blood in stool	±	+	+ +
3. Temperature (°C)	Normal	Intermediate values	Average temperature at night >37.5 °C or ≥37.8° C in 2 days within 4 days
4. Pulse (bpm)	Normal	Intermediate	>90 bpm
5. Hemoglobin(g/dL)	>10	Intermediate	≤10.5
6. *HSS (mm,1st hour)	≤30	Intermediate	>30

*HSS = Hemosedimentation speed

FIGURE 2. Classification of nonspecific ulcerative colitis (UC) according to severity of acute episode (Truelove & Witts[93])

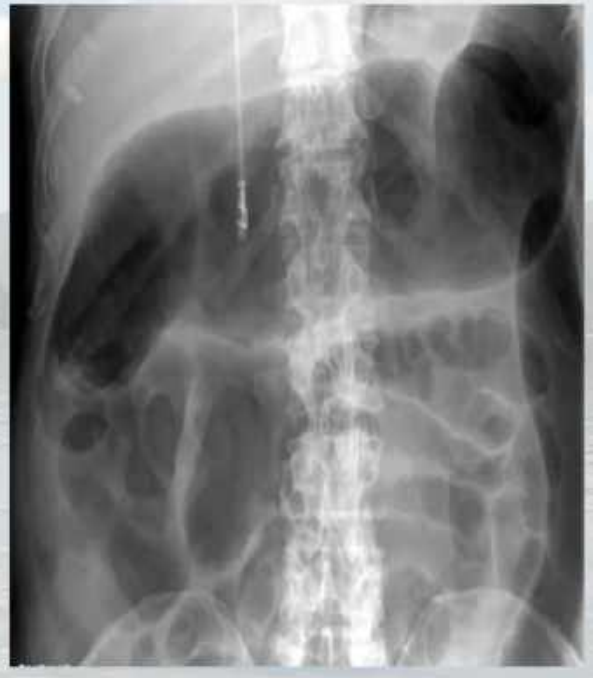
Rule of Surgery in Acute Presentation

- Perforation
- Haemorrhage
- Toxic megacolon (diameter >5.5 cm, or caecum >9 cm)
  - Systemic toxicity
  - Steroids mask clinical picture.
- Failed medical treatment



Colectomy in Acute presentation

- Up to 40 % mortality for **perforation**
- 2-8 % mortality if before perforation



Rule of Surgery in Acute Presentation . Cont.

- GI team care. Surgeon aware.
  - Routine bloods (CBC/ U&E's / CRP/Albumin)
  - Regular abdominal exam
  - AXR
  - Stool for bacteriology/ C diff / CMV
  - +/- Flexible sigmoidoscopy
  - DVT prophylaxis
- IV steroids

Rule of Surgery in Acute Presentation . Cont.

- A stool frequency of >8/day or CRP >45 mg/l at **3 days** appears to predict the need for surgery in 85% of cases

Travis, S. P. Let al Gut. 38(6):905-910, June 1996.

- Intravenous steroids are generally given for up to **5 days**. There is no benefit beyond 7-10 days

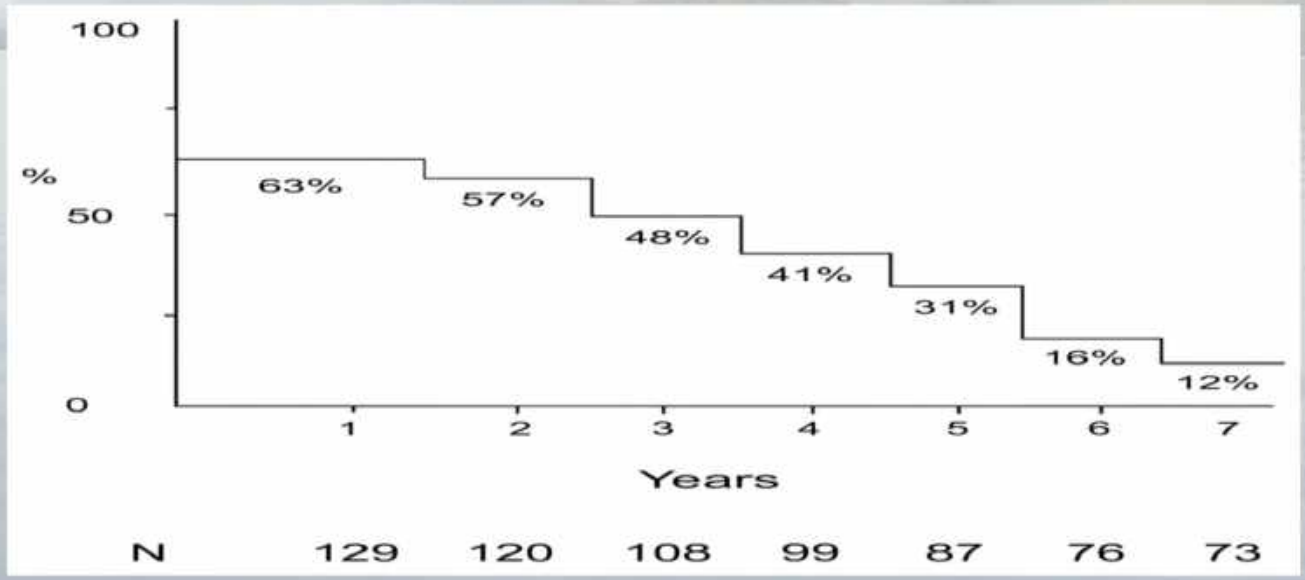
Turner D et al Clin Gastroenterol Hepatol 2007;5:103e10.

Rule of Surgery in Acute Presentation . Cont.

- Day 1
- Day 3 : *Surgery Discussed / Stoma therapist input*.
- Day 5
- → Consideration of **colectomy** or **rescue** therapy with either intravenous cyclosporine OR Biologic

Rescure / Salvage therapy cont.

- Colectomy rate (36 - 69%) in the 12 months following introduction of CsA



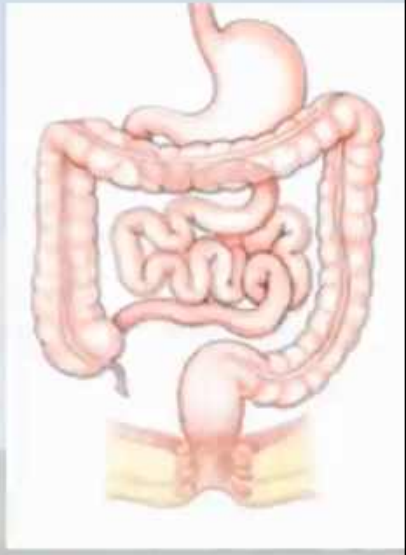
Moskovitz DN et al , Clin Gastroenterol Hepatol 2006;4:760e5

Rescure / Salvage therapy cont.

- CONSTRUCT UK trial

  clinical- and cost-effectiveness of infliximab and ciclosporin in the treatment of acute severe ulcerative colitis that fails to respond to intravenous steroids

Surgery in Acute presentation cont.



- Proctocolectomy and Ileostomy
  - High mortality
  - Permanent stoma
  - Pelvic dissection / nerve damage / sepsis
- Proctocolectomy and Pouch

- Subtotal Colectomy and Ileostomy

Subtotal Colectomy and Ileostomy

- ~ 3% mortality
- ~ 2 -12 % rectal stump blowout.
- Close stump / Mucus fistula / SC Stump

Advantage

- Confirm diagnosis
- Off medication
- Improve nutritional status

- *6 months to next stage.*

Options after surgery for acute colitis

- Ulcerative colitis / Indeterminate
  - Completion proctectomy and Pouch
  - Completion proctectomy and end ileostomy
  - Completion proctectomy and Continent ileostomy
- Crohn's Disease ? ……

Elective Surgery for Ulcerative Colitis

- Medical Intractability ? Failed medical treatment
  - MDT
- Chronic disease
  - Quality of life
  - Off work / Hospitalization
  - Never remission / Anemia / Amenorrhea/ ,malnutrition
- Steroid dependence / refractory
- Extra-alimentary manifestation
- Malignancy

- Extra intestinal Manifestations
  - Peripheral arthritis
  - Uveitis
  - Iritis

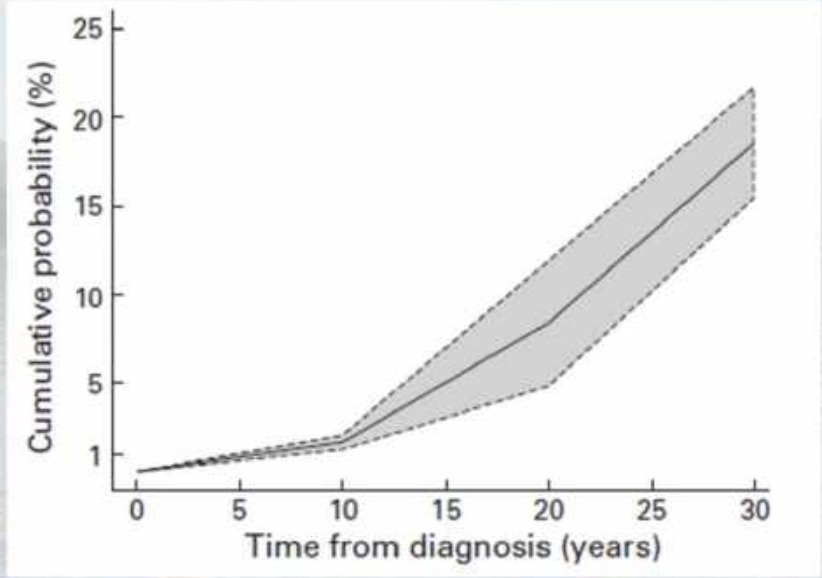
Respond to colectomy

  - Ankylosing spondylitis
  - Sacroilitis
  - Primary sclerosing cholangitis

do not respond to colectomy

Malignancy

- 1 -2 % per year after 10 years
- PSC 9% after 10 years
  50 % after 25 years
- Surveillance
- High Grade Dysplasia vs law grade dysplasia
- Pancolitis



Risk of malignancy in UC

- Pancolitis
- PSC (primary sclerosing cholangitis)
- Dysplasia

- Risk of concomitant Cancer
  - HGD / DALM up to 58 %
  - LGD up to 19%
- Progression of LGD to HGD or cancer
  - 0.5% - 54%

- 42 patients with UC and LGD followed for mean 4 years and 43 bx per colonsocopy
  - 81 % of LGD failed to progress over 4 year
  - More than 3 LGD Bx risk increase by six fold.

TABLE 3. Characteristics of LGD Patients: Progressors vs. Nonprogressors

Risk Factor	Progressors (n=8)	Nonprogressors (n=34)	Risk Ratio [95% CI][a]	P-value
Average age UC onset (yrs)	28	32	0.99 (0.93-1.05)	0.79
Onset of UC age ≥30	3	15	1.12 (0.25-5.09)	0.88
Average age at LGD (yrs)	44	51	0.95 (0.88-1.02)	0.13
Age at LGD ≥50	2	17	0.99 (0.10-2.57)	0.40
Duration of UC (yrs) at LGD	15.5	18.5	0.95 (0.88-1.02)	0.17
Duration of UC ≥20 yrs	3	17	0.36 (0.07-1.87)	0.23
No. biopsies taken (mean)	39	43	0.97 (0.92-1.03)	0.34
No. of biopsies with LGD(mean)	2.6	1.5[a]	2.83 (1.44-5.55)[b]	<0.01
≥2 biopsies with LGD	6	13	7.2 (0.86-60.07)	0.07
≥3 biopsies with LGD	4	5	5.8 (1.29-26.04)	0.02
Left-sided dysplasia	4	16	1.14 (0.25-5.13)	0.86
Visible lesion	4	19	0.61 (0.14-2.73)	0.51
Primary sclerosing cholangitis	4	7	1.78 (0.39-8.11)	0.45

[a]95% confidence interval.
[b]One outlier patient with 40 biopsies of LGD was excluded from calculations.

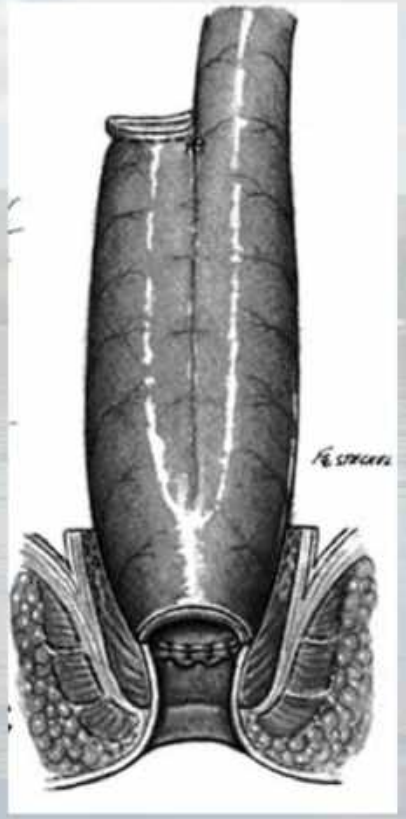
Zisman et al Inflamm Bowel Dis 2012

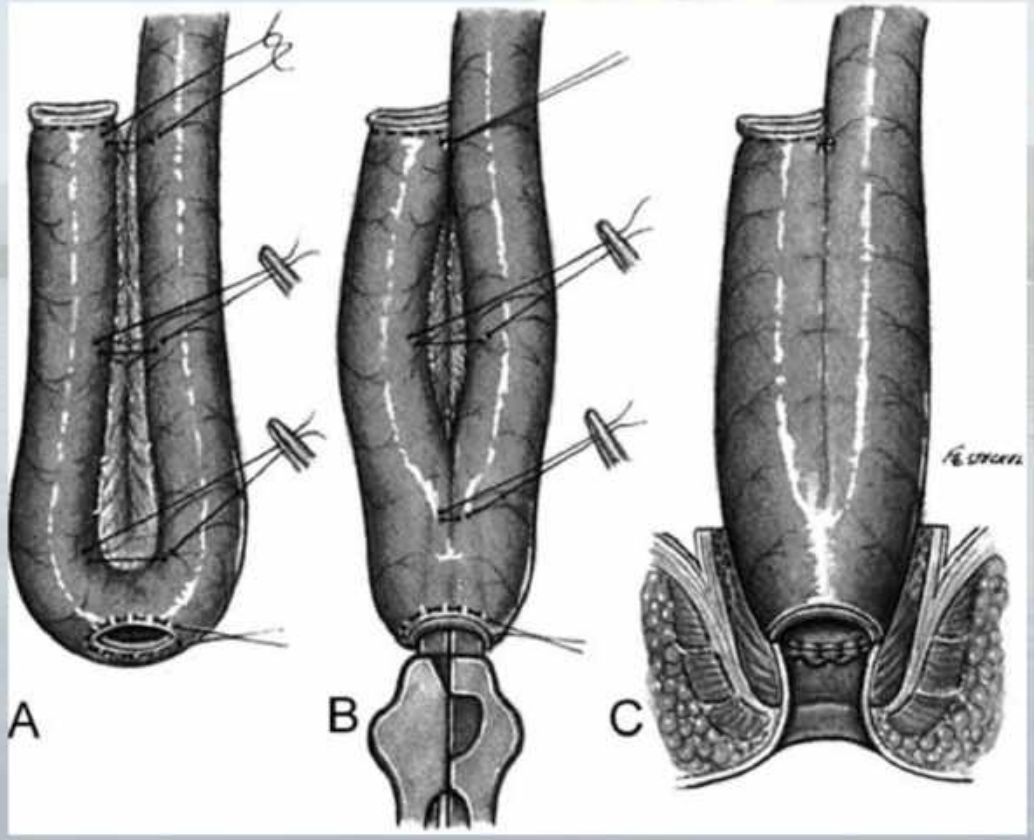
Options of elective surgery

- **Restorative proctocolectomy**
  - One or Two stages
  - Reduce steroid to minimum
- **Proctocolectomy and end Ileostomy**

Restorative proctocolectomy

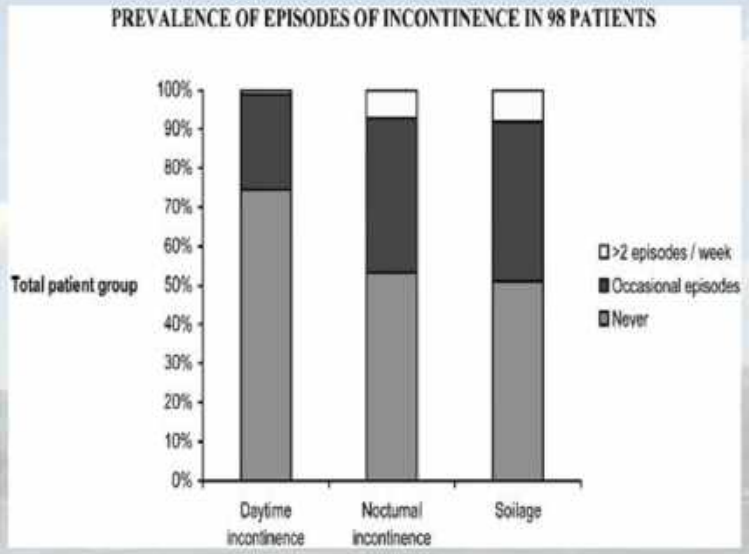
- Elective
- Off steroids
- One or two stages - w/o ileostomy
- Specialized Units
  - At least 10 per year BSG 2010 (UK)
- stapled or hand-sewn pouch
- pouch configuration (W, S, J)
- hand-sewn or stapled ileo-anal anastomoses




A
B
C

Life style operation

- The median frequency of defaecation/24
  - 5 day
  - 1 night
- Nocturnal seepage
  - 8% at 1 year
  - 15 % at 20 years
- Urgency
  - 5.1% at 1 year
  - 9.1 % at 15 years

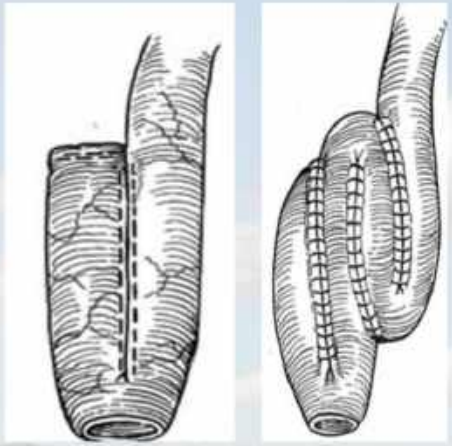


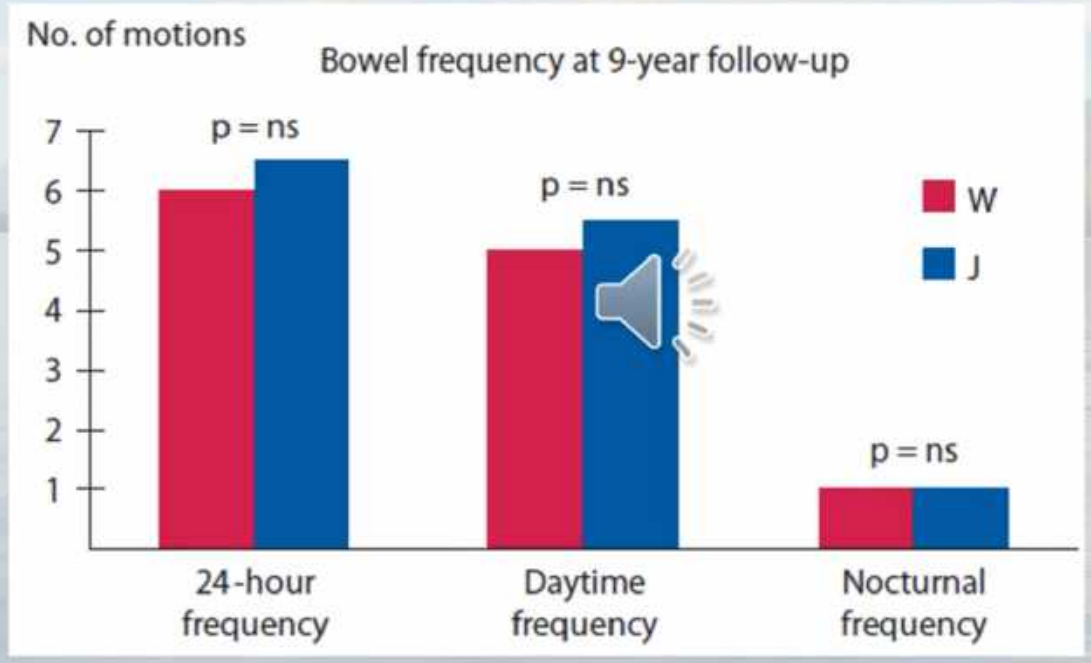
Tekkis PP et al Colorectal Dis 2010

- Fecundity reduced by 40 – 50 %

Gorgun E et al Surgery 2004

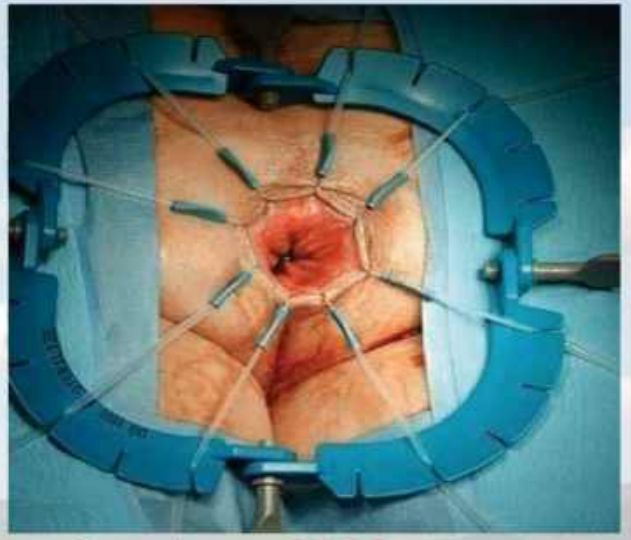
J or W pouch





McCormick, P. H. et al Diseases of the Colon & Rectum., December 2012.

Risk of malignancy and dysplasia in rectal cuff



- Low risk / is infrequent

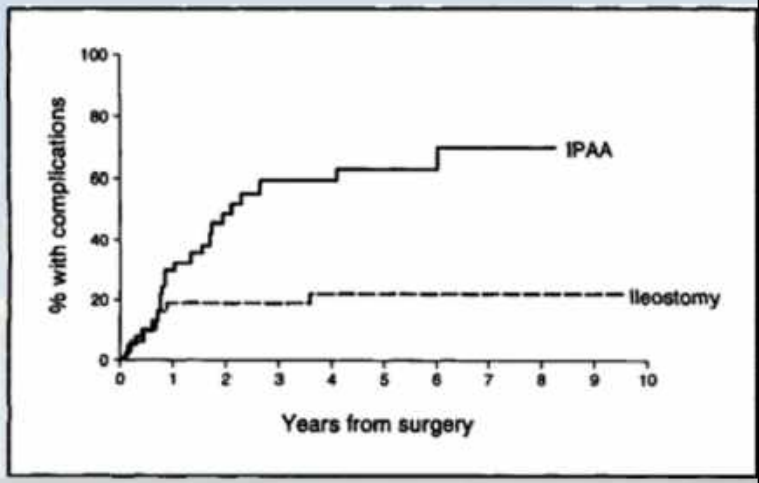
Remzi , Dis Colon Rectum. 2003;

Fazio 1994

- Cuff surveillance is not necessary
  - Unless dysplasia and cancer in original sp.

Coul Colorectal Disease. 2007.

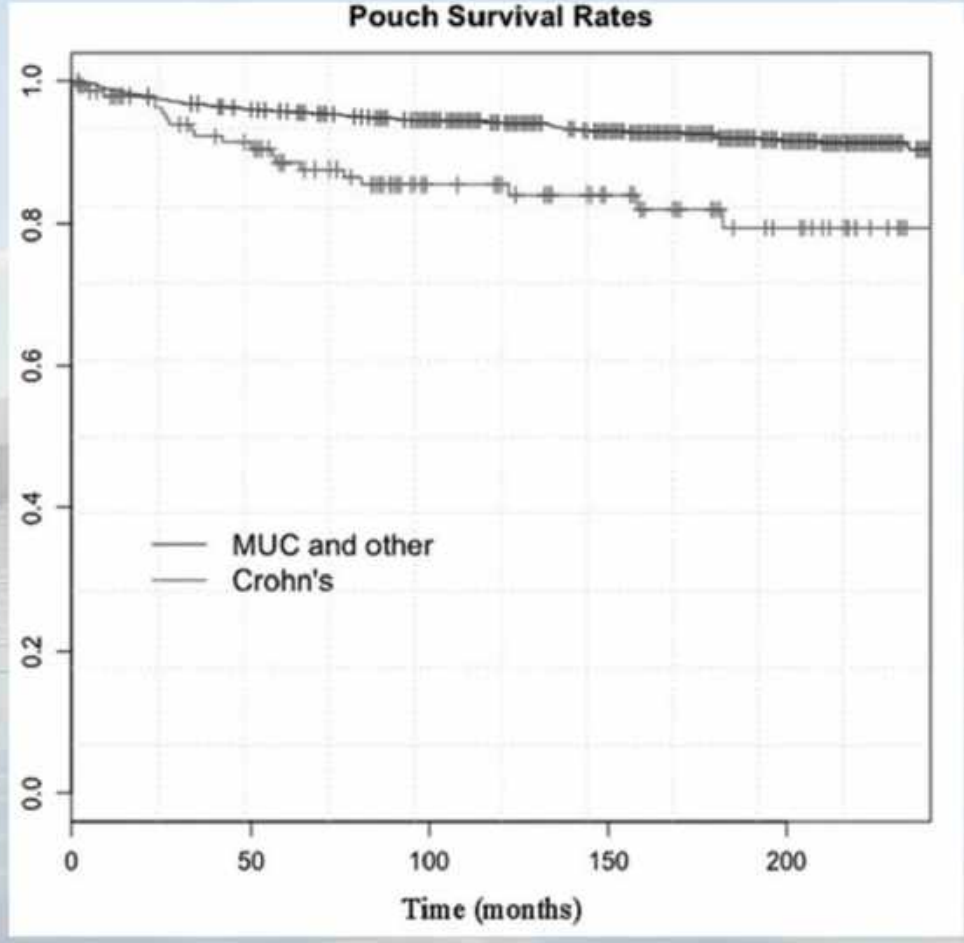
Complication after RPC



- Pouchitis up to 50 %
  - Consider CD.
  - Antibiotics/ Probiotics/ Biologic/ Ciclosporin
- Pouch vaginal fistula
  - Technical
  - Advancement flaps / redo-pouch
- Vitamin B12 and iron deficiency
- Infertility
- Stricture
- Malignancy

Pouch failure

- 5.9 % at 10 years
  - Pelvic sepsis
  - Anastomotic leak
  - Fistula
  - Crohn's disease



Fazio *Annals of Surgery* 2013

Surgery of Ulcerative colitis

- Curative
- Risk of cancer / Dysplasia
- Dealing with complication and failure
- Re-operative / Re-do Surgery
- Attractive for minimally invasive surgery
- Controversies remains

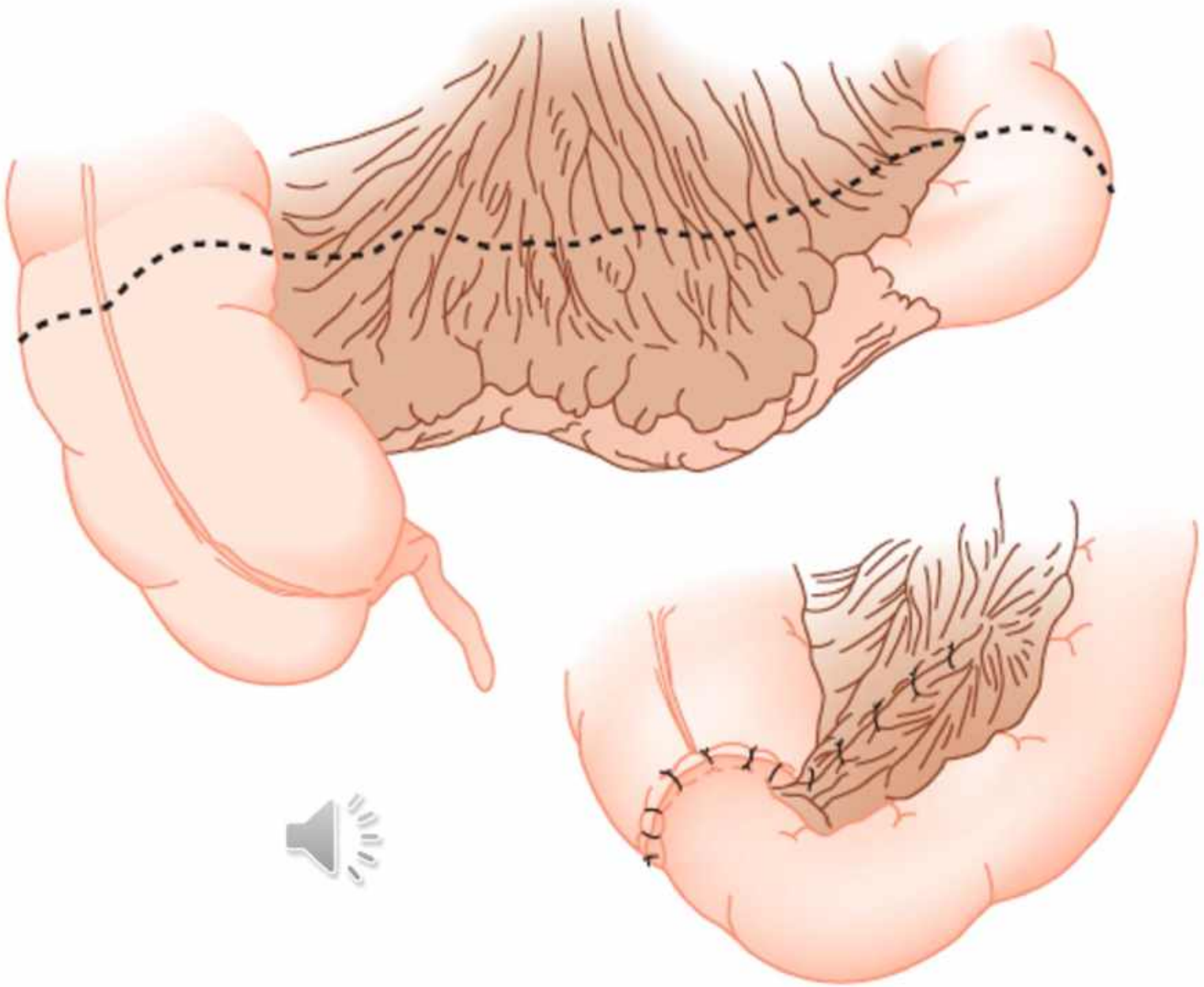
Surgery for Crohn's disease

- Indication
  - Stenosis (stricture) causing obstructive symptoms
  - Enterocutaneous or intra-abdominal fistula
  - Intra-abdominal or retroperitoneal abscess
  - Acute or chronic bleeding
  - Free perforation

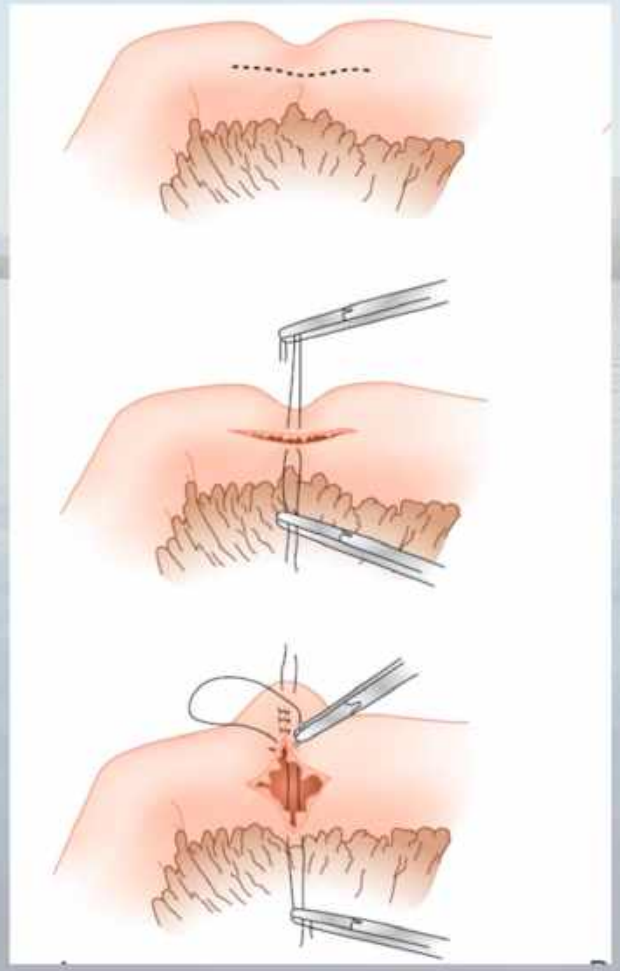
(Complication)

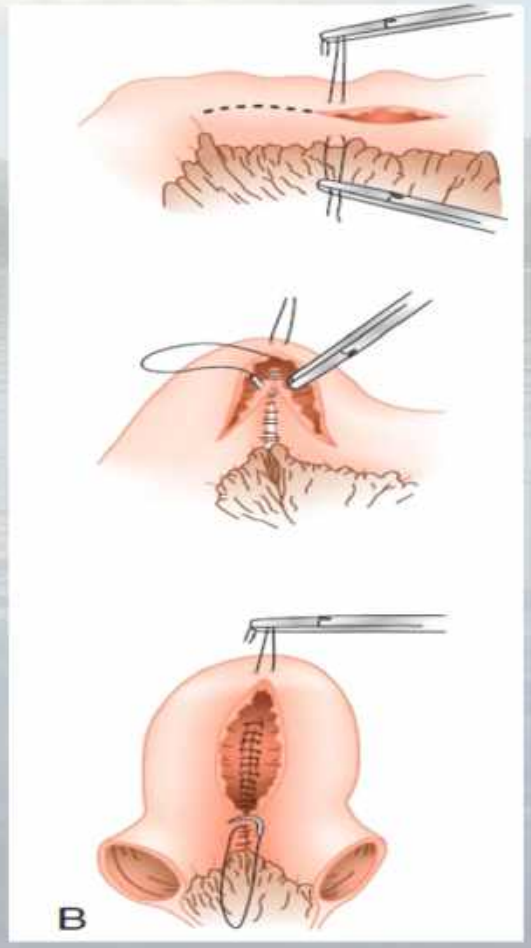
Surgery CD cont.

- Segmental resection
- Avoid wide resection
- May need stoma
  - Malnutrition
  - Immuno-suppresion
  - Intra-abdominal sepsis
- Risk of malignancy



Strictureplasty





Smoking ....

- Tobacco abuse as a causative factor in the development of Crohn's disease has been difficult to prove

- Increase the incidence of relapse and failure of maintenance therapy.

- Associated with the severity of disease in a linear dose-response relationship.

The End

The End