

Ileostomy, colostomy, pouches

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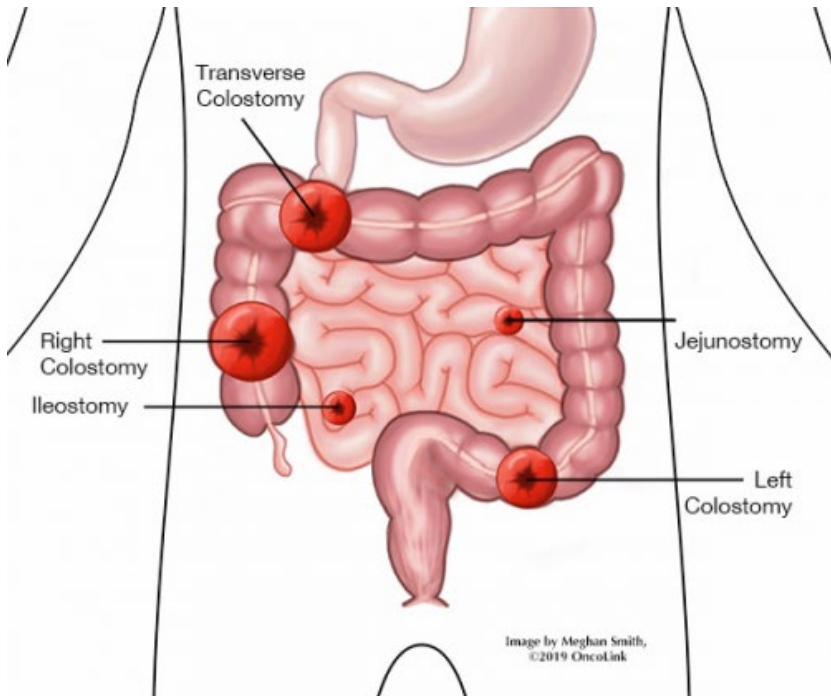
Inselspital Bern

Outline

- Ileostomy, colostomy
- Ileal pouch-anal anastomosis (IPAA)
- Current studies in IBD (brief overview)

Ostomy

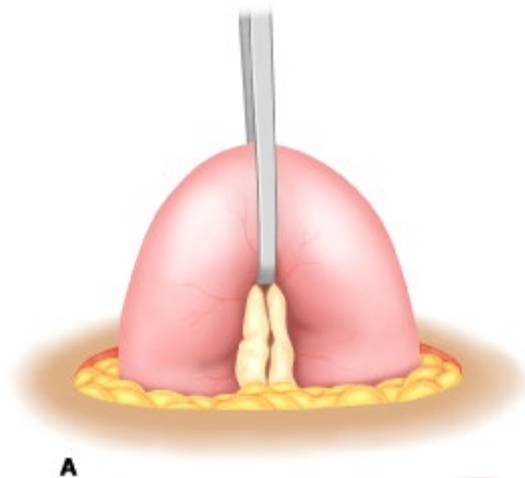
- Purposeful anastomosis between a segment of the gastrointestinal tract and the skin of the anterior abdominal wall
- Location: ileostomy, sigmoidostomy, colostomy, gastrostomy...



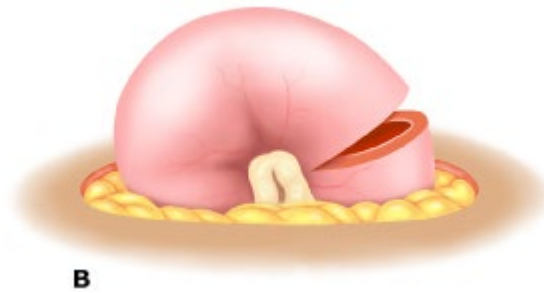
(temporary) diverting loop ileostomy

Temporary diversion of fecal stream for high-risk patients:

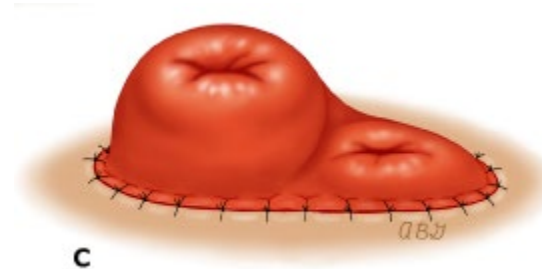
- Previous irradiation of the pelvis
- Medication impairing wound healing (e.g. steroids, immunosuppressants, biologics)
- Low colorectal anastomosis (<5-7cm)



Tension free placement
above abdominal wall

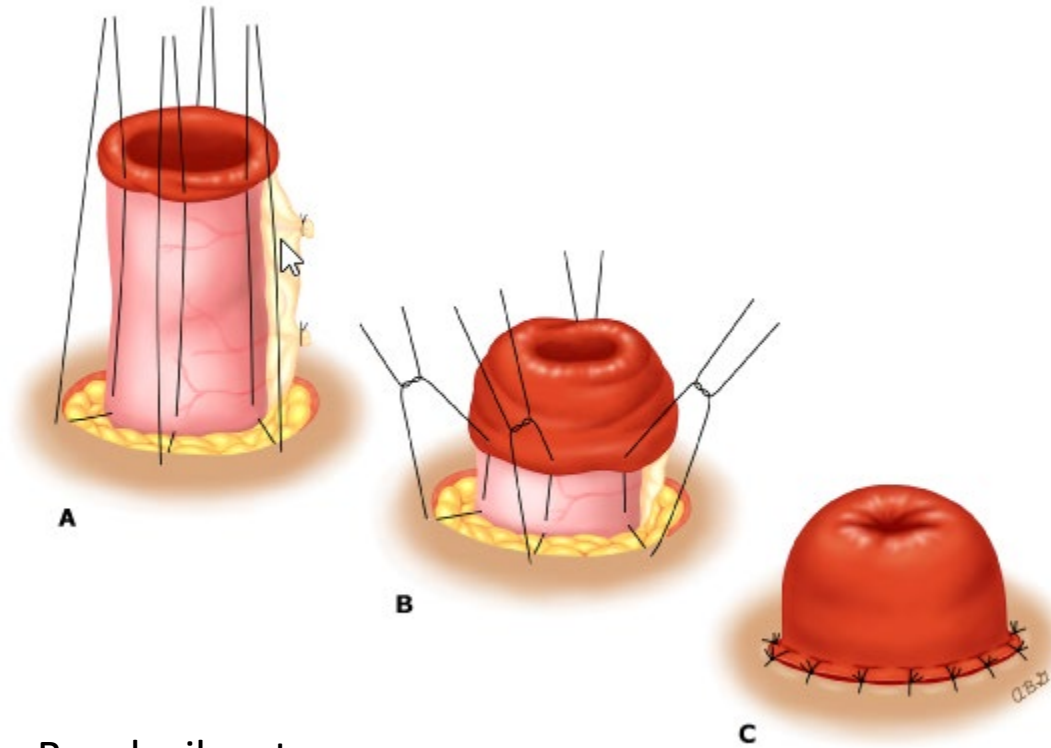


Enterotomy close to the
efferent (distal) loop



→ Everting proximal afferent end
→ distal efferent end

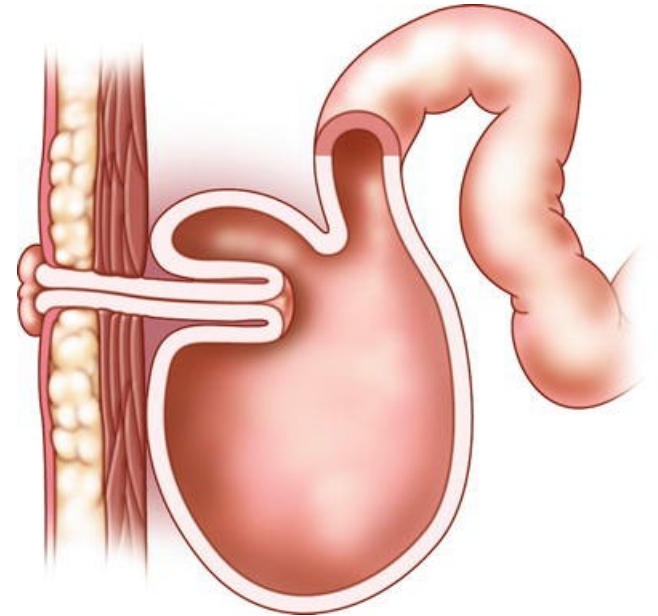
Terminal ileostomy



Brooke ileostomy

- 2-3 cm above skin (for secure application of stoma applicance)
- Less skin irritation

During tying of sutures, distal end is everted onto itself



Continent ileostomy

- high reoperation rate
- Contraindicated in Crohn's disease

Colostomy

- Temporary diverting loop colostomy
- Terminal colostomy



Indications

- Decompression of the colon (to prevent perforation)
- Perianal sepsis, wounds
- Therapy resistant fistulae (e.g., in Crohn's disease)
- Protection of anastomosis in the presence of risk factors
- Therapy of incontinence (last resort)...

Comparison temporary ileostomy vs. colostomy

Meta-analysis: 329 studies, n=1534 (906 ileostomies, 628 loop transverse colostomies)

- Stoma prolapse: OR: 6.32 (2.78-14.35) favoring ileostomy
- High-output stoma: OR 0.16 (0.04-0.55) favoring colostomy
- Problems during reversion: favoring ileostomy
 - Wound infection: OR: 3.45 (2-5.95)
 - Incisional hernia: OR: 4.8 (1.85-12.44)
- Cumulative meta-analysis: no difference

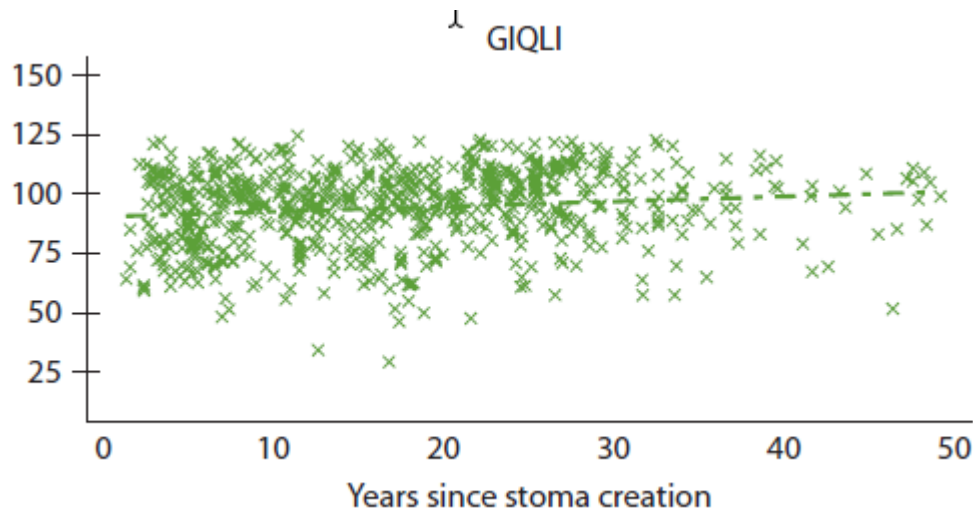
Problems of ileostomies in daily life

- **Dehydration**
 - 30% of patients, most common reason for re-admission
 - Stoma output: 500-1300 ml/ day
 - Advice: more drinking, e.g., 500-750ml more
- **Electrolyte imbalance** (Na^+ , K^+)
 - Dry mouth, concentrated/ dark urine, dizziness, fatigue
- **High ostomy output** (>1.5 Liter/ day)
 - Soluble fibers
 - Loperamid, octreotid, cholestyramine, tinctura opii
 - Long-term i.v. hydration
- **Food blockage** (bezoars: popcorn, stringy vegetables...)
- **Drug malabsorption**
- **Skin irritation**



Slightly reduced quality of life with ileostomy

- Gastrointestinal quality of life index 94.4 vs. 126 (in health)
- Stoma care problems affecting daily life: 63%
 - Parastomal hernia
 - Stenosis
 - Prolaps



A normal life is possible



<https://twitter.com/TJ09669873>

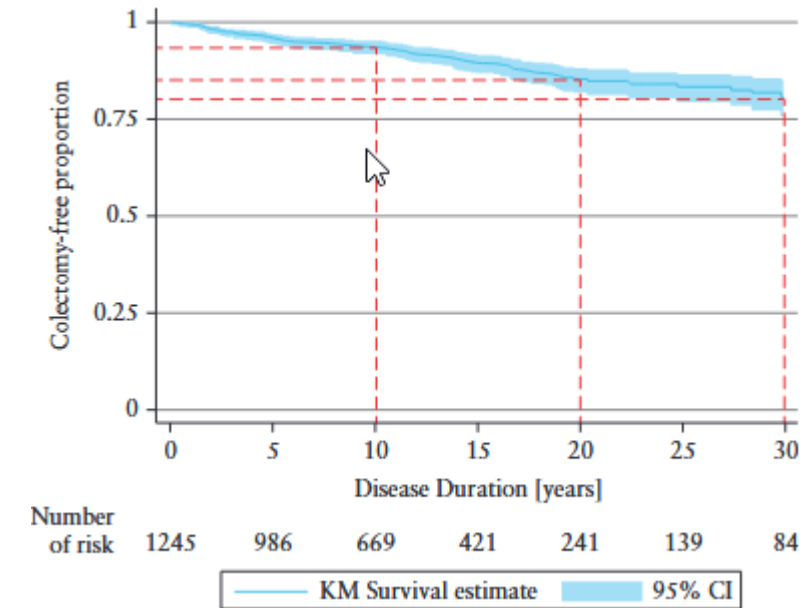


<https://www.womenshealthmag.com/health/a30987519/what-its-like-to-have-ileostomy-bag/>

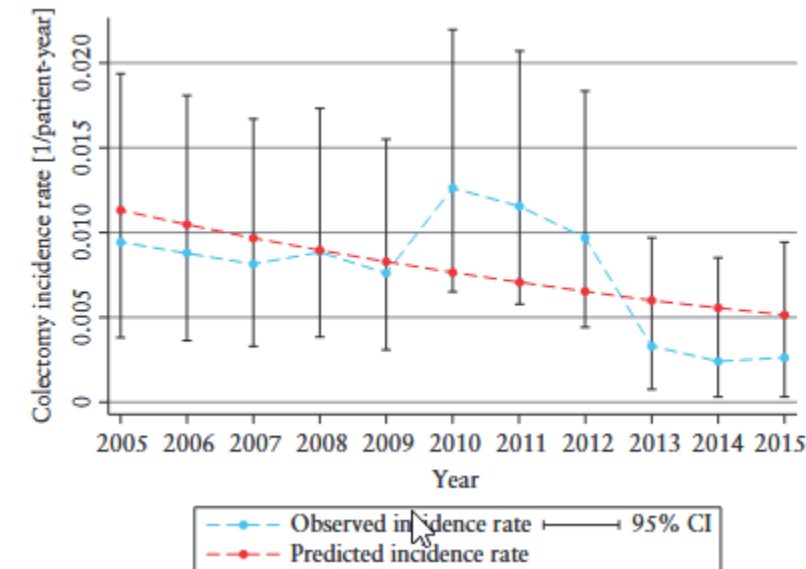
Proctocolectomy with ileal pouch-anal anastomosis

- Ulcerative colitis
 - Failed medical management
 - Dysplasia/ carcinoma
- Familial adenomatous polyposis coli (FAP)
- Hereditary non-polyposis colorectal cancer (HNPCC)

SIBDC: colectomy free survival



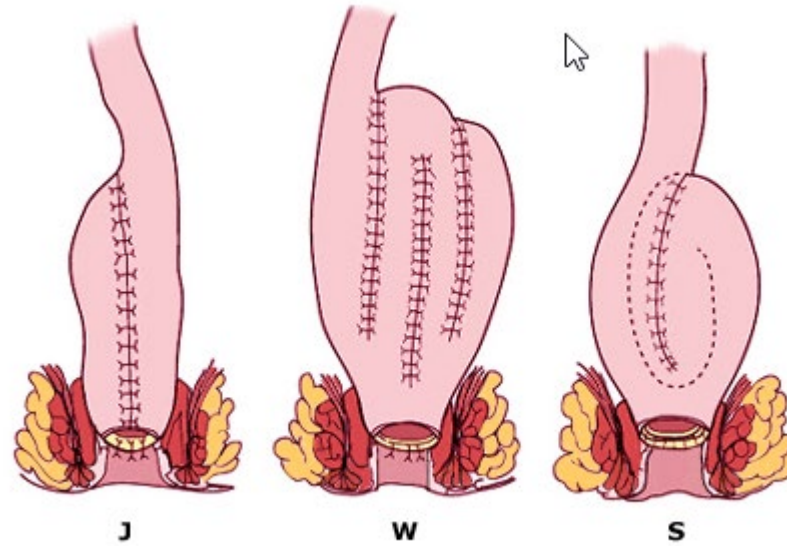
SIBDC: colectomy rates



Pouch

Timing of the procedure

- 3-staged procedure
 - Colectomy – with ileostomy
 - Pouch construction – with ileostomy
 - Ileostomy reversal
- 2-staged procedure = colectomy + pouch in 1 procedure equally effective?



J pouch: standard

W, S pouch:

- Initial better function
- No long-term benefit
- Longer operation time

Anastomotic technique

- Stapled anastomosis with cuff
- Hand-sewn with mucosectomy after dysplasia
more stricture, sepsis, pouch failure, incontinence, daily life restrictions

Ileo-rectal anastomosis

Advantages/ indications

- Preserved female fertility
- Normal continence
- Normal rectal function
- If Crohn's disease has not been excluded: Less perianal complications
- Less perioperative problems in patients with comorbidities

Drawbacks

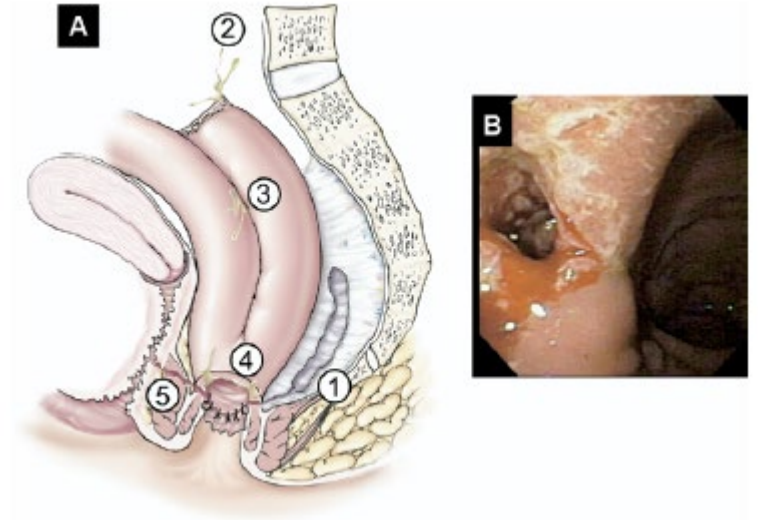
- Refractory proctitis
- Rectal carcinoma
 - 6% at 20 years
 - 15% at 30 years

→ Frequent (yearly?) surveillance

→ After 10 years 20% will have required proctectomy

Complications after pouch

- Stricture
 - 11% → endoscopic dilatation
- Pelvic sepsis
 - 9.5%
- Pouch failure
 - =need for ileostomy with or without pouch excision
 - 4% at 4 years, 8% at 15 years
- Fecal incontinence
 - Day - Mild: 17%, severe 3.7%
 - Night - Mild: 13%, severe 4.5%
- Pouch dysplasia/ cancer
 - 1% (anus, cuff, rectum, ileum)



Pouch leakage

Pouchitis after ileal pouch-anal anastomosis



- Frequency: 20-50%
- Acute pouchitis: ≤ 4 weeks vs. chronic pouchitis: > 4 weeks
- Episodic (< 3 events per year) relapsing (≥ 3 events) vs. Chronic
- Antibiotic responsive vs. antibiotic refractory

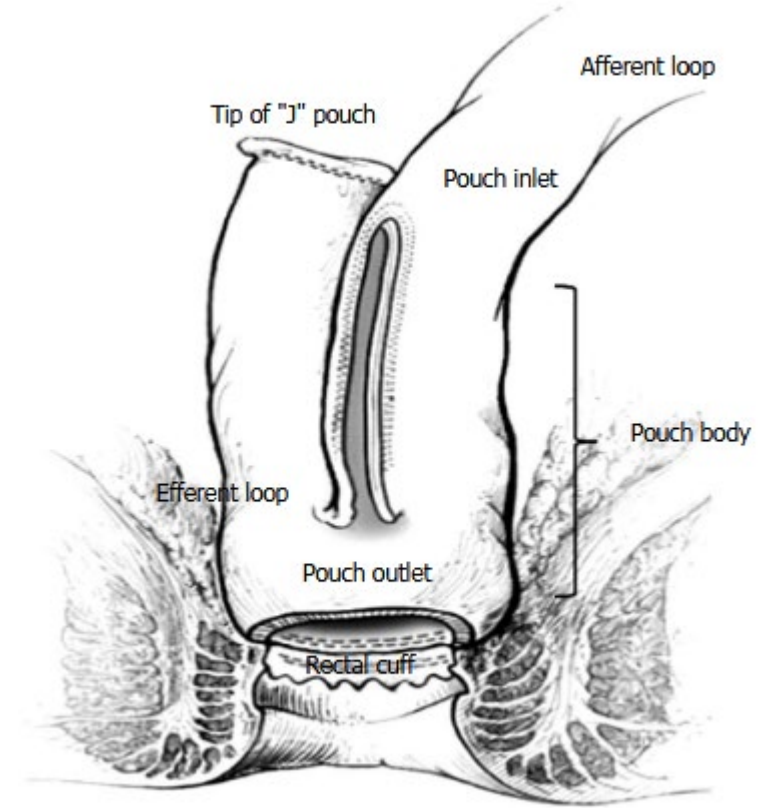
Etiology: *«an abnormal immune response to altered intestinal bacteria in a genetically susceptible host»*

→ Like IBD → unknown

Secondary pouchitis: *Clostridioides difficile*, ischemia, Crohn's disease, NSAID, CMV, radiation, fecal stasis, outlet...

Risk factors for pouchitis

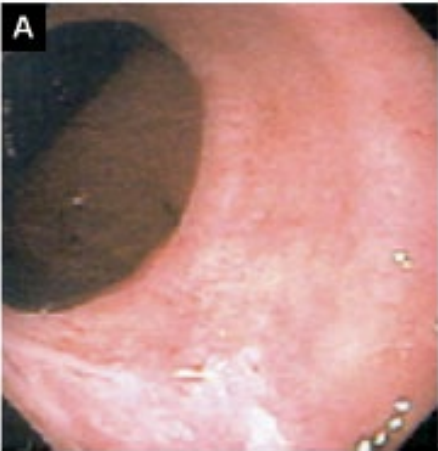
- UC >> IPAA for FAP
- Genetics: NOD2, TNFSF15, TLR 9 (IBD risk genes)
- Ulcerative colitis
 - Extensive disease, E3: OR 3.3 (1.2 – 8.9)
 - PSC (also diffuse pouchitis, enteritis)
 - Young age at diagnosis
 - p-ANCA
- Obesity (BMI ≥ 30 kg/m²)
- Smoking, NSAID
- S-shaped pouch better than J or W



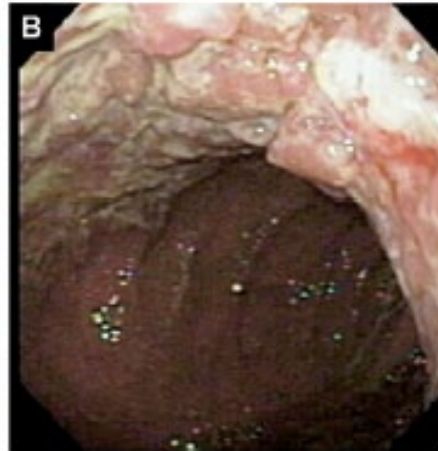
Symptoms

- Normal stool frequency with IPAA: 4-7 per day
= «fragmented» defecation
- Pouchitis:
 - stool frequency increased above normal
 - Pelvic pain
 - Urgency → incontinence

DD Cuffitis



Normal cuff



Cuffitis

DD Crohn's disease of the pouch

- Ulcera (proximal), stenosis, fistulae
- de novo: 2.7-13%



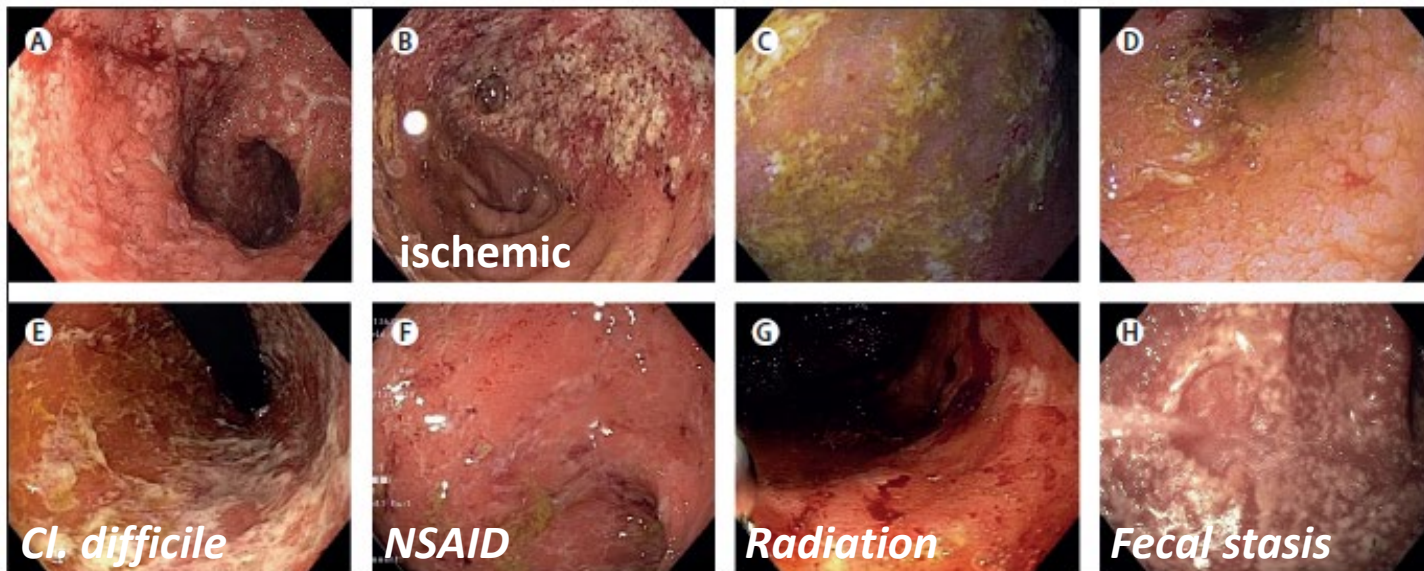
Neo-Terminal Ileum



Pouch Inlet

Endoscopy

- Inspection: fistulae? Fissure?
- Palpation: stricture?
- Endoscopy pouch: erythema, friability, erosion, ulcerations
 - Pouchitis
 - Prepouch ileitis (>10 cm)
 - Long-segment pouchitis (e.g., in PSC, Crohn's disease)



Diagnosis:

→ Pouchoscopy

→ Microbiology

Treatment of acute pouchitis - antibiotics

- Ciprofloxacin 500mg 1-0-1 for 2 weeks OR
- Metronidazole/ tinidazole 500mg 1-0-1 for 2 weeks
- Ciprofloxacin better than metronidazole (n=16)
RR: 2.68 (1.13-6.35)
- Relieve after 3 days

Rescue strategies

- Culture guided antibiotic treatment OR
- Combination antibiotic therapy:
two out of Ciprofloxacin/ Metronidazole/ Rifaximin

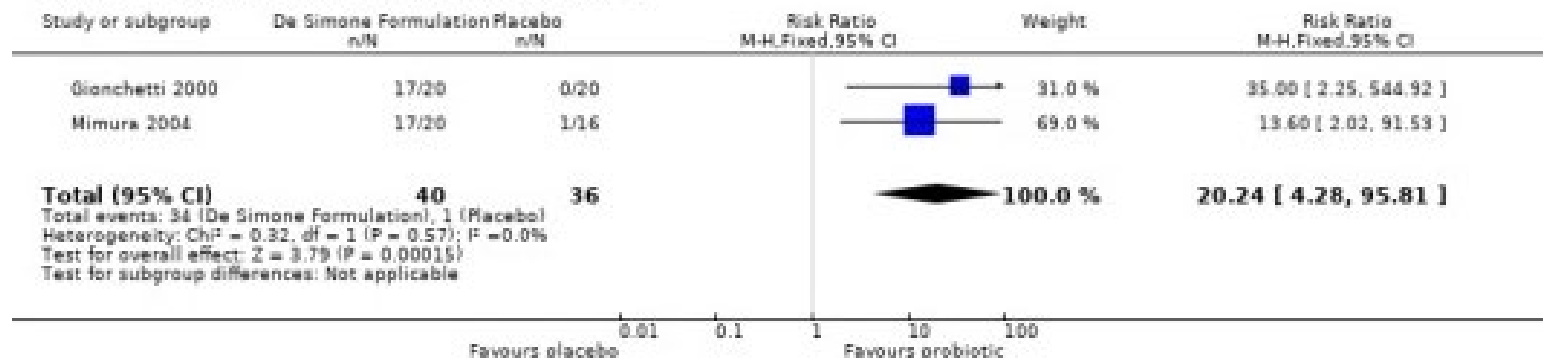
Relapse



4x *Lactobacillus* spp
2x *Bifidobacterium* spp
Streptococcus salivarius spp
Thermophilus spp
450 billion viable cells/ sachet

- <3 relapses per year: antibiotic therapy
- ≥3 relapses: maintenance therapy:
VLS#3: de Simone formulation
 - 85% remission (34/40) vs. 3% (1/36) at 9-12 months
 - 2.5% side effects vs. 0% (abdominal cramps, nausea, vomiting, diarrhea)

Review: Treatment and prevention of pouchitis after ileal pouch-anal anastomosis for chronic ulcerative colitis
Comparison: 7 De Simone Formulation versus placebo
Outcome: 1 Maintenance of clinical remission at 9 to 12 months



- Less promising in open-label trials
e.g. 25/31 (81%) withdrawal at 8 months due to inefficacy/ side effects

Chronic antibiotic-refractory pouchitis (CARP)

→ similar to ulcerative colitis

- Pouchoscopy: confirm inflammation, exclude CMV
- Stool culture: exclude *Cl. difficile*
- Exclude PSC

1) *Mesalamine 1g supp./ mesalamine 4g enema
+/- oral mesalamine*

2) *Budesonide 2mg foam
+/- oral budesonide*

Biologicals/ new treatment

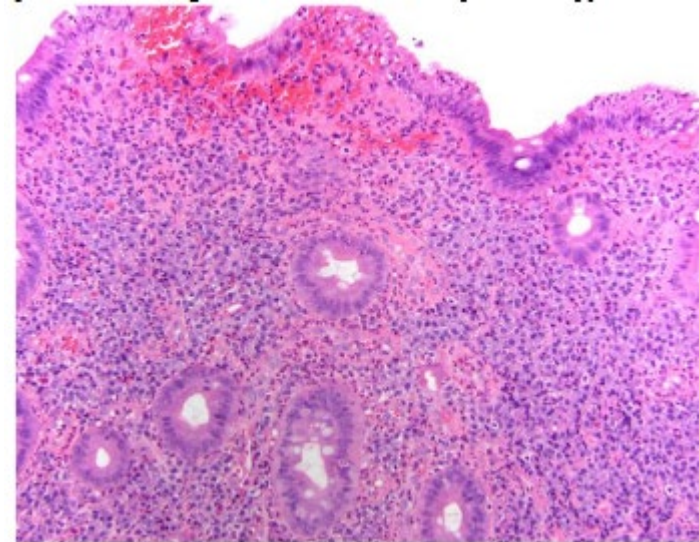
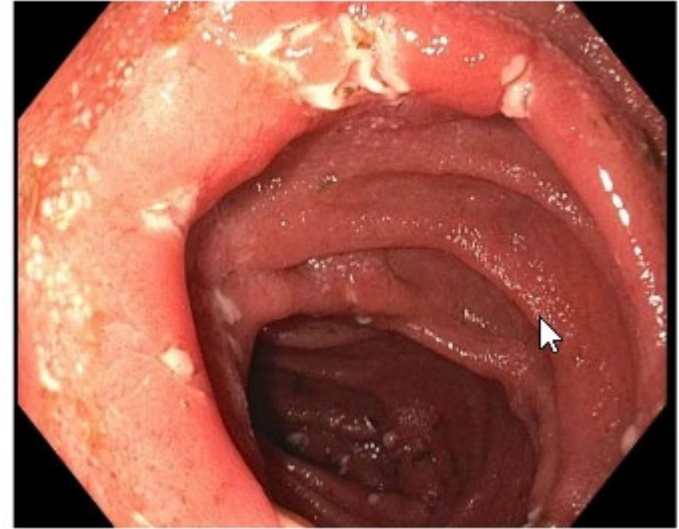
	Symptomatic improvement	Endoscopic improvement
Vedolizumab	33/44 (75%)	28/38 (74%)
Ustekinumab	12/24 (50%)	4/9 (44%)
Infliximab	10/23 (44%)	
Adalimumab	5/13 (39%)	

Case reports for

- Tofacitinib
- Tacrolimus (topical)
- i.v. immunoglobuline

Prepouch enteritis

- Prepouch enteritis (>10 cm of ileum)
 - Budesonide 9mg/d, or oral mesalamine
- PSC + Pouch
 - Higher risk of chronic antibiotic refractory pouchitis
 - Inflammation of pouch, cuff, afferent limb (pre-pouch enteritis)
 - Mild symptoms
 - Local therapy + oral budesonide or systemic therapy



→ Successful treatment with mesalamine p.o.

Infertility after IPAA

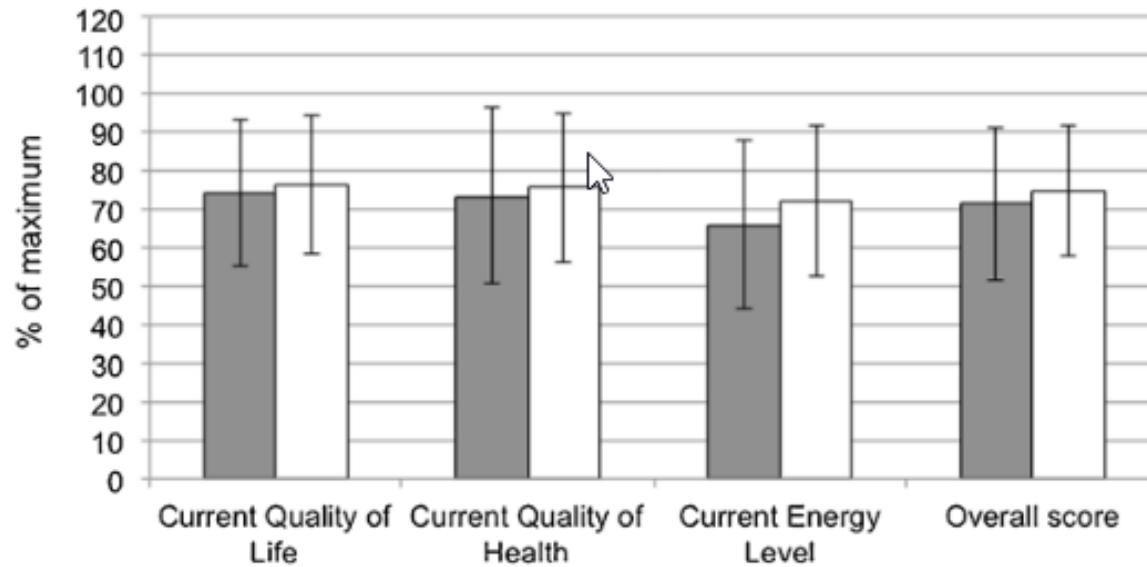
= failure to conceive after 1 year regular intercourse without conception

- Meta-analysis 8 studies, n=528
 - Infertility 20% for medically treated UC, 50% after IPAA
 - OR: 2.42 (1.99-2.96)
- Case series 237 female UC patients with IPAA:
 - Onset UC → IPAA: 120 births (expected: 131)
 - 12 months after IPAA: 34 births (expected 69)

→ Fertility also reduced in IPAA after FAP

→ Likely due to closure of fallopian tubes

Good quality of life after IPAA surgery



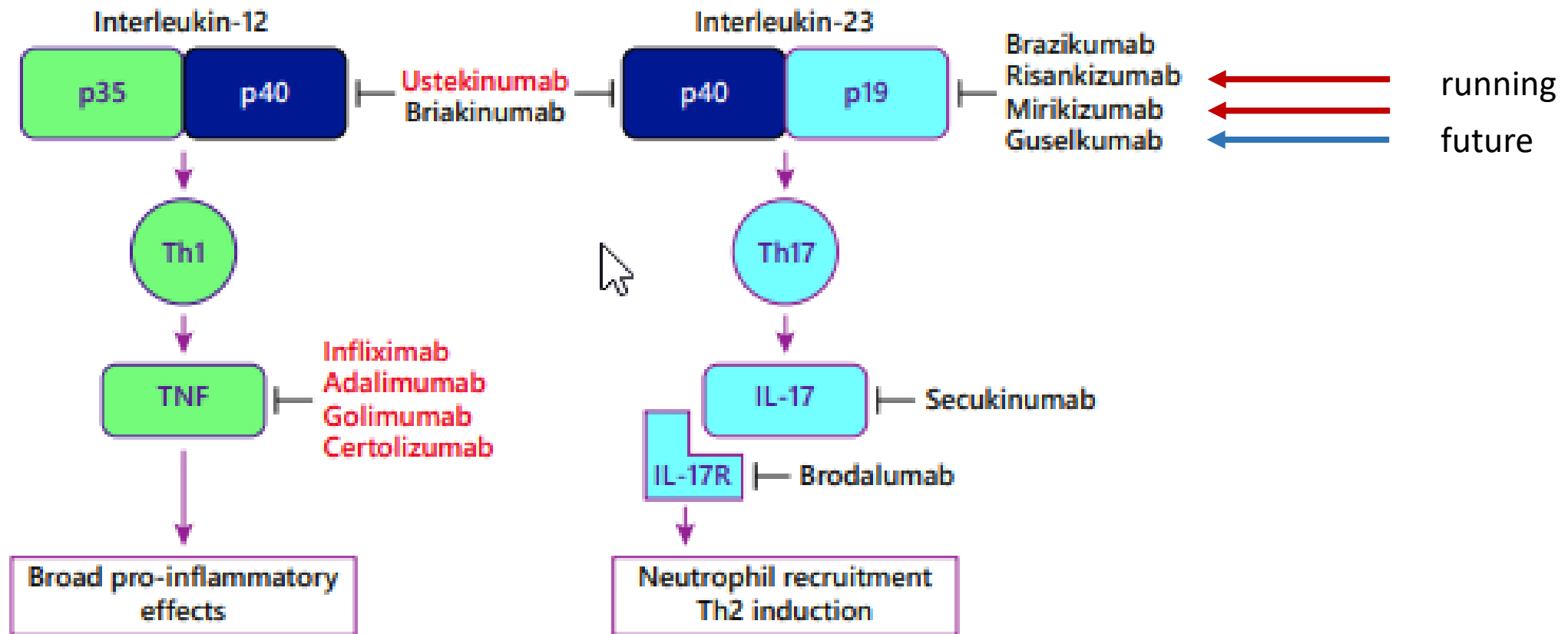
48 patients with IPAA vs. 48 controls

- 77% report better QoL compared to before surgery
- 88% would undergo IPAA surgery again

IBD studies update

Niklas Krupka, Benjamin Misselwitz

IL-23 Antagonists



Colitis ulcerosa

M16-067

Studie mit **Risankizumab (anti-IL23) versus Placebo**, zuerst als Infusion dann subcutan alle 4 Wochen. Die Studie dauert 24 Wochen und es ist möglich, zu gewissen Zeitpunkten in eine Open-Label Folgestudie einzutreten (M16-066), in der alle Patienten das Medikament erhalten.

Wichtige Einschlusskriterien: Patienten mit aktiver Colitis ulcerosa, die vor mehr als 6 Monaten diagnostiziert wurde.

Einschluss bis Mitte 2022 möglich.

Morbus Crohn

M20-259

Studie mit **Risankizumab (anti-IL23) versus Ustekinumab**, zuerst als Infusion, dann subcutan alle 8 Wochen. Die Studiendauer ist 48 Wochen.

Wichtige Einschlusskriterien: Patienten mit aktivem Morbus Crohn, die vor mehr als 6 Monaten diagnostiziert wurde.

Einschluss bis Mitte 2022 möglich.

Keine Placebogruppe

Wichtigstes Ausschlusskriterium: Keine vorangegangene Therapie mit Ustekinumab

Morbus Crohn

I6T-MC-AMAM

Studie mit **Mirikizumab (anti-IL23) versus Ustekinumab versus Placebo**, zuerst als Infusion, dann subcutan alle 4 Wochen. Die Studie dauert 52 Wochen und es ist möglich zu gewissen Zeitpunkten in eine Open-Label Folgestudie einzutreten (I6T-MC-AMAX), in der alle Patienten das Medikament erhalten.

Wichtige Einschlusskriterien: Patienten mit aktivem Morbus Crohn, die vor mehr als 6 Monaten diagnostiziert wurde. **Einschluss bis Ende 2022 möglich.**

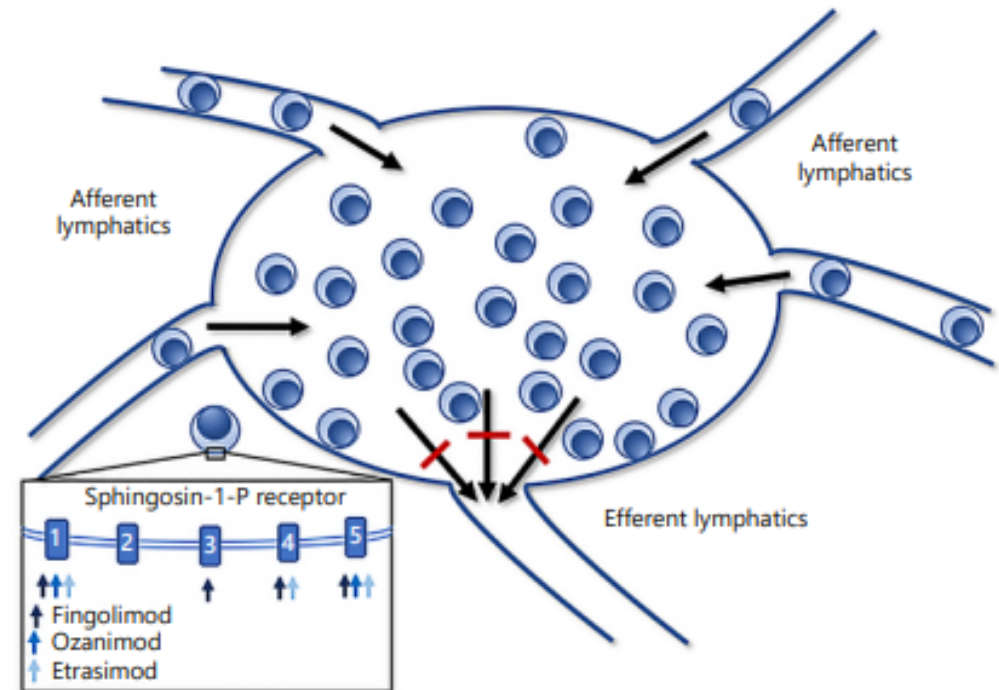
Wichtigstes Ausschlusskriterium: Keine vorangegangene Therapie mit Ustekinumab

Morbus Crohn

Arena202

Studie mit **Etrasimod (Sphingosine-1-Phosphate Rezeptor-Modulator) versus Placebo**, als Tabletten täglich. Die Studie dauert 52 Wochen und es ist möglich zu gewissen Zeitpunkten in eine Folgestudie einzutreten (Arena203), in der alle Patienten das Medikament erhalten.

Wichtige Einschlusskriterien: Patienten mit aktivem Morbus Crohn, die vor mehr als 6 Monaten diagnostiziert wurde. Studienstart in Kürze.



VARIETY

Studie mit **Vedolizumab**.

Beobachtungsstudie nach

- Neustart Vedolizumab
- Gabe Vedolizumab i.v. maintenance
- Geplanter Wechsel Vedolizumab i.v. auf s.c.

Studienstart am 7.3.2022.

Zöliakie

CEC-4/CEL Study

- Studie mit **ZED1227 (Transglutaminase 2 Inhibitor) versus Placebo**, als Kapseln täglich. Die Studiendauer ist 21 Wochen.
- Wichtige Einschlusskriterien: Patienten mit seit über einem Jahr diagnostizierter Zöliakie, die trotz glutenfreier Diät nicht symptomfrei sind. Diese Studie startet in Kürze