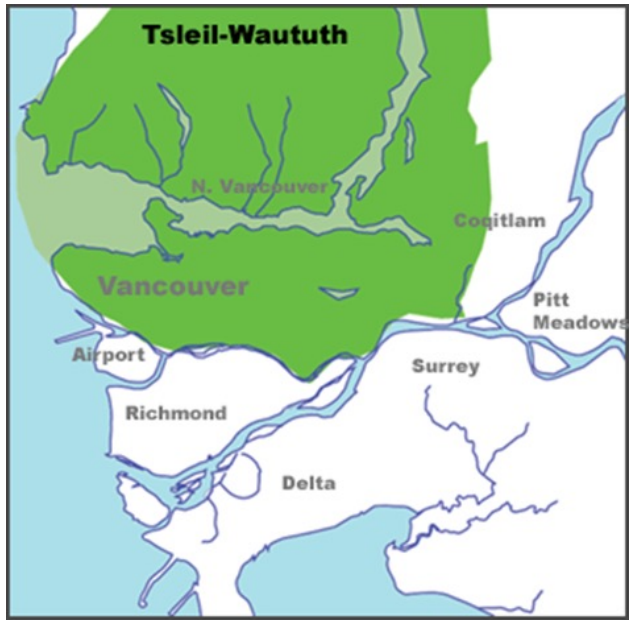
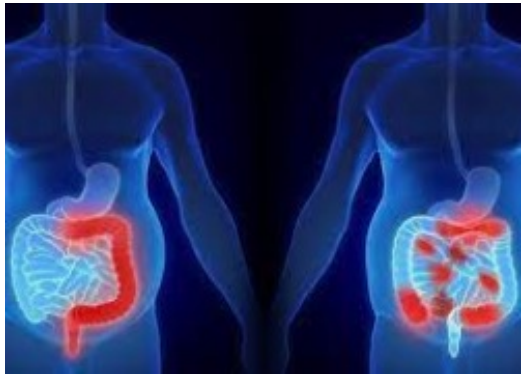
We would like to acknowledge that we are gathered today on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples.

Source: www.johomaps.net/na/canada/bc/vancouver/firstnations/firstnations.html





Overview of Inflammatory Bowel Disease in Outpatient General Practice

Sarvee Moosavi
MD FRCPC
Clinical Assistant Professor
University of British Columbia, Division of Gastroenterology
Neurogastroenterology and GI motility disorders

Disclosure

- None relevant to this talk

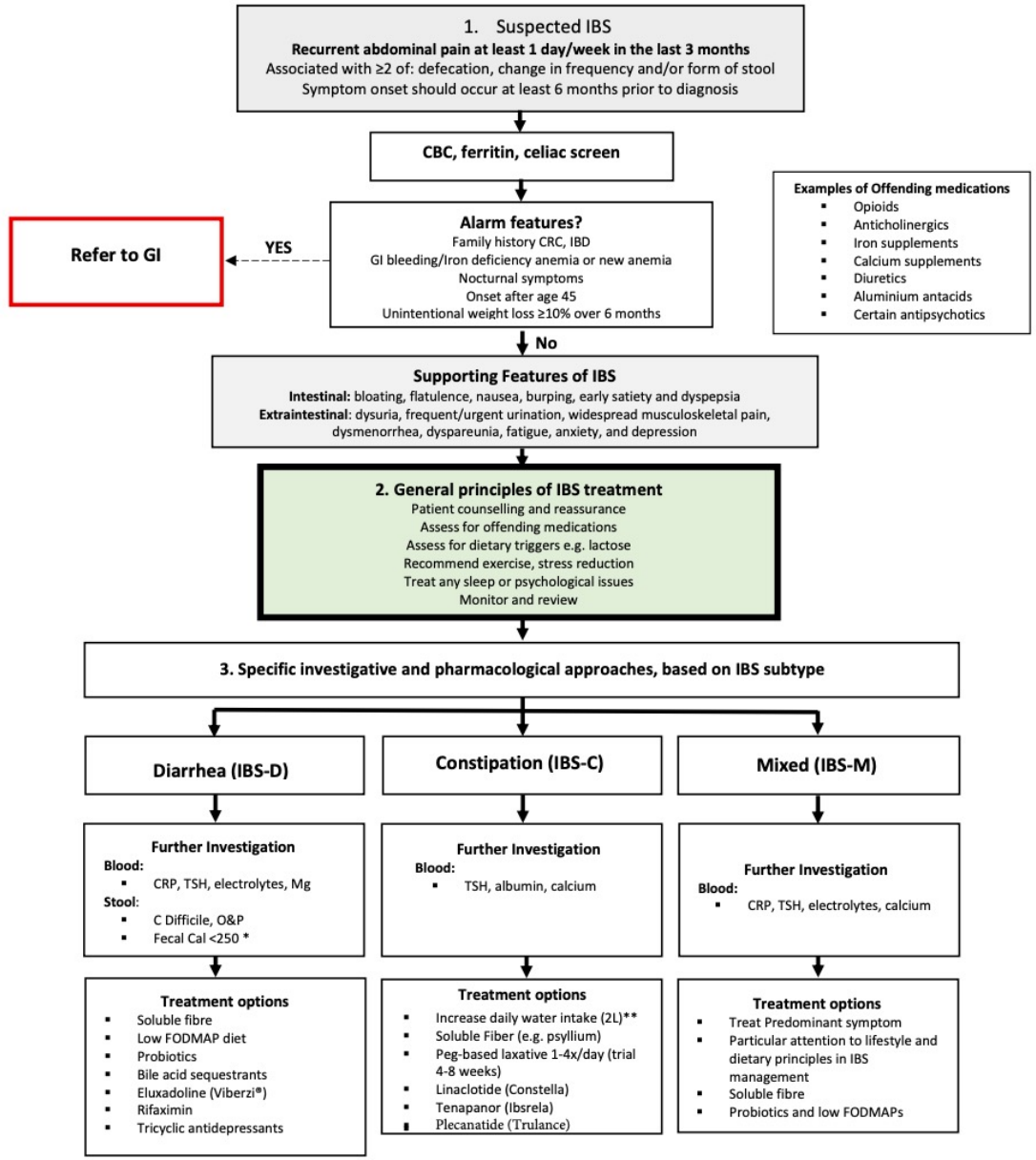
Objectives

- When should I think about IBD as part of differentials
- What work-up should I order while awaiting GI referrals
- Overview of management of IBD in family practice (and beyond)
- Preventative medicine in IBD care

Case 1: Lisa

- 28F with no previous medical history, no meds
- 6 months of lower abdominal cramps, occasional constipation, with sensation of incomplete stool evacuation, straining more, mucus discharge in stool.
- Noticed a few times in the past 2-3 months BRBPR, coating the stool
- No symptoms to suggest Extra-intestinal manifestation of IBD
- Quit smoking 6 months ago, no alcohol
- Works as a marketing manager, stressful job, engaged to her male partner
- FHx: mom has IBS, no IBD or colon cancer
- On exam, Vitals normal, abdo soft, slightly tender in LLQ, ? Palpable stool. DRE: small external hemorrhoids
- CBC: Hb 115, ferritin 20, negative anti-TTG

GI DIVISION OF THE MONCTON HOSPITAL



Adapted from the Calgary Division of Gastroenterology Enhanced Primary Care Pathway: IRRITABLE BOWEL SYNDROME

* Bressler, B. et al. Clinicians' guide to the use of fecal calprotectin to identify and monitor disease activity in inflammatory bowel disease. Can J Gastroenterol Hepatol. 2015 Oct; 29(7): 369–372.

** Markland AD, et al. Association of low dietary intake of fiber and liquids with constipation: evidence from the National Health and Nutrition Examination Survey. Am J Gastroenterol 2013;108:796-803

Case 1

- Was advised around dietary modification: Trial of low FODMAP
- Osmotic laxatives: PEG or MOM
- Topical hemorrhoidal cream
- Follow-up in 4 weeks

Case 1

- Lisa calls in for expedited follow-up
- When took PEG, noticed loose stool; so she stopped. But now more blood on a daily basis, increased BM frequency to now 4 watery stools a day, more urgent, mild tenesmus, worsening LLQ abdominal pain, with incomplete evacuation; interfering with her job.
- Seen in office 3 weeks after first visit

Any additional tests or management plan you consider at this time?

Case 1

- Repeat CBC--> Hb 104
- Abdo X-ray: unremarkable
- Abdo U/S: normal
- Stool cultures including c-diff: negative, pus cells seen
- Patient does not have coverage to pay for fecal calprotectin

Apart from GI referral, would you consider starting her on any therapy?

Gastroenterology 2015;148:1035–1058

CONSENSUS STATEMENT

Clinical Practice Guidelines for the Medical Management of Nonhospitalized Ulcerative Colitis: The Toronto Consensus

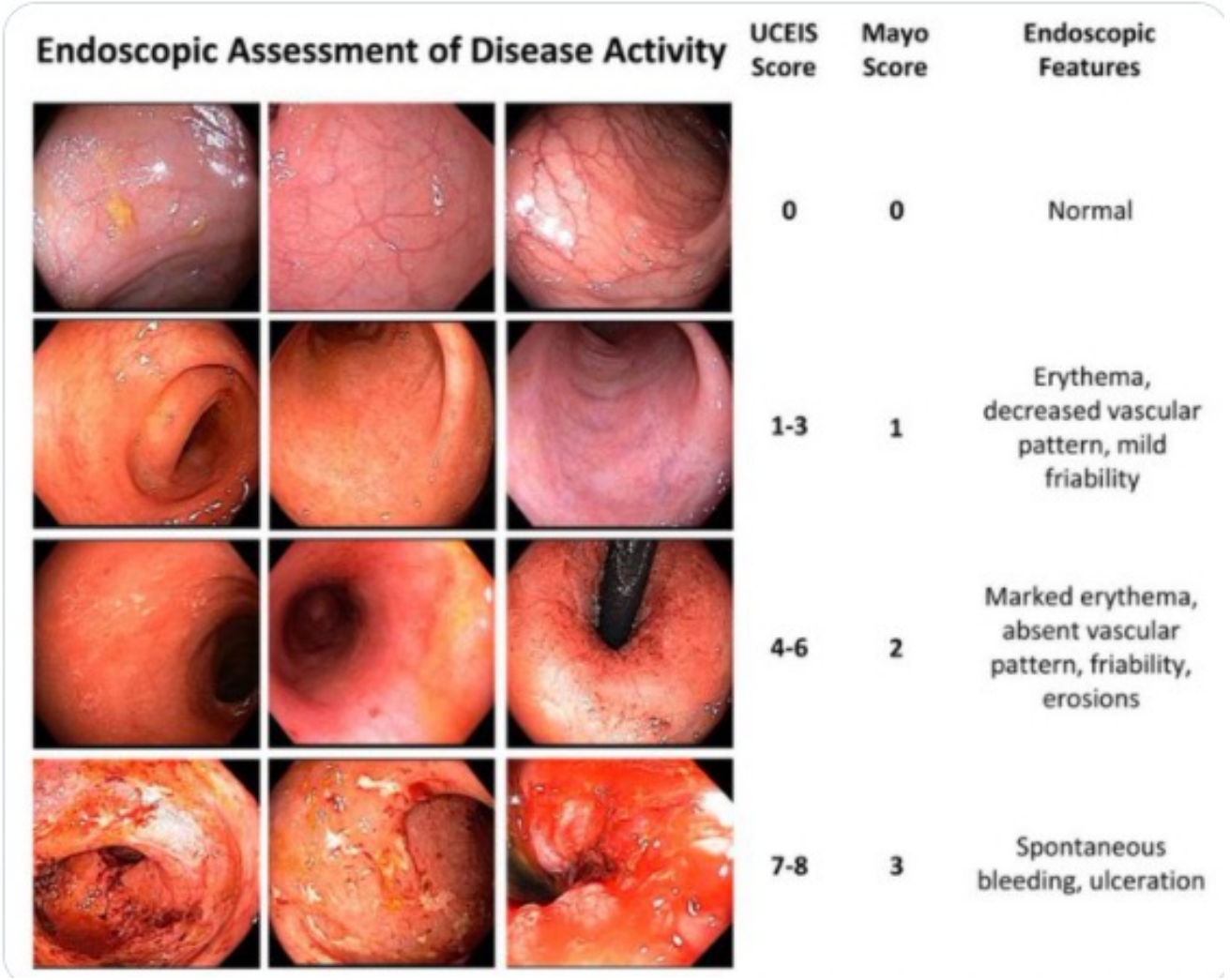
Brian Bressler,[1,*] **John K. Marshall**,[2,*] Charles N. Bernstein,[3] Alain Bitton,[4] Jennifer Jones,[5] Grigorios I. Leontiadis,[2] Remo Panaccione,[6] A. Hillary Steinhart,[7] Francis Tse,[2] and Brian Feagan,[8] on behalf of the Toronto Ulcerative Colitis Consensus Group

Table 4. Summary of Consensus Recommendations for the Medical Management of UC

Statements regarding 5-ASA

1. In patients with mild to moderate active ulcerative proctitis, we recommend rectal 5-ASA, at a dosage of 1 g daily, as first-line therapy to induce symptomatic remission. *GRADE: Strong recommendation, high-quality evidence.*
2. In patients with mild to moderate active left-sided UC, we recommend 5-ASA enemas, at a dosage of at least 1 g daily, as an alternative first-line therapy to induce complete remission. *GRADE: Strong recommendation, moderate-quality evidence.*
3. In patients with mild to moderate active UC of any disease extent beyond proctitis, we recommend an oral 5-ASA preparation, at dosages between 2.0 and 4.8 g/day, as an alternative first-line therapy to induce complete remission. *GRADE: Strong recommendation, moderate-quality evidence.*
4. In patients with mild to moderate active UC of any disease extent beyond proctitis, we suggest the combination of a rectal and an oral 5-ASA preparation over oral 5-ASA alone as an alternative first-line therapy to induce complete remission. *GRADE: Weak recommendation, low-quality evidence.*
5. We recommend that patients with UC be evaluated for lack of symptomatic response to oral/rectal 5-ASA induction therapy in 4 to 8 weeks to determine the need to modify therapy. *GRADE: Strong recommendation, very low-quality evidence.*
6. In patients with oral or rectal 5-ASA–induced complete remission of mild to moderate active left-sided UC or proctitis, we recommend the same therapy be continued to maintain complete remission. *GRADE: Strong recommendation, moderate-quality evidence.*

- Referred to GI; baseline FC was 275
- Underwent Colonoscopy: left-sided ulcerative colitis (Mayo 2)



Score	Disease Activity	Endoscopic Features (Descriptors)
0	Normal or inactive	None
1	Mild	Erythema, decreased vascular pattern, mild friability[a]
2	Moderate	Marked erythema, absent vascular pattern, friability, erosions
3	Severe	Spontaneous bleeding, ulceration

[a] Endoscopic assessment in the mesalamine MMX trials removed friability from level 1 (see text).
Adapted from Schroeder KW, Tremaine WJ, Ilstrup DM. Coated oral 5-aminosalicylic acid therapy for mildly to moderately active ulcerative colitis. A randomized study. N Engl J Med 1987;317:1625–9; with permission.

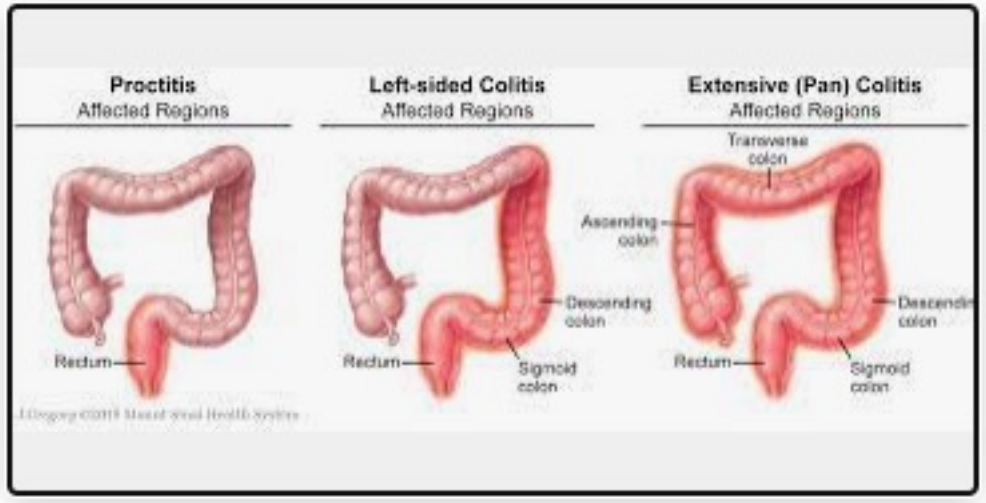


TABLE 1
Conditions associated with fecal calprotectin elevation

Inflammatory
Inflammatory bowel disease
Pouchitis
Graft rejection following intestinal transplant
Collagenous colitis
Graft versus host disease
Ankylosing spondylitis
Systemic sclerosis
Diverticular disease
Celiac disease
Pancreatitis
Infectious
HIV
Infectious diarrhea
Neoplastic
Colon cancer
Intestinal polyposis
Pancreatic cancer
Iatrogenic
Nonsteroidal anti-inflammatory drugs
Proton pump inhibitors
Radiotherapy
Miscellaneous
Liver cirrhosis
Food allergy
Gastroesophageal reflux disease
Cystic fibrosis
Young age

FC use in IBD and beyond.
CJAG April 2015

Case 1

- Was started on a combination of Salofalk enema 4 g daily and Salofalk 4g orally
- Clinical response in 4 weeks achieved: noticed no more blood, no abdominal pain, diminished urgency, BM are semi-solid, reduced to 1-2 stool a day.
- Stopped enema after couple months and continued with Salofalk 2g daily with no recurrent symptoms.
- FC repeat was 30

Fast forward to 3 years later…

- Lisa is coming back to you with recurrent symptoms…
- She has been trying to conceive for the past year, but unsuccessful
- **Hasn’t been on any meds for nearly 2 years**
- Over the past 4-6 weeks: Has 6-7 BM daily, as well as 1-2 nocturnal BM, 2-3 times a week, blood with every stool, worsening left-sided abdo pain, decreased appetite
- Feeling physically and mentally exhausted, depressed mood, really having a hard time at work, as her toilet routine is interfering with herwork productivity
- Fear and anxiety of losing her, as her boss is pressuring

Lisa

- You repeat basic blood work and stool cultures/ and fecal calprotectin
- CBC: Hb 94, Ferritin 5, WBC 6.0, platelet 558, CRP 15, b-HCG negative, Vitamin D (hydroxy) 45, stool Cx including cdiff –ve, pus cells noted, FC 300.
- She’s extremely nervous about taking any medications for UC while trying to conceive

IBD and conception/ pregnancy

- Active IBD decreases fertility
- Higher risk of flare, especially UC during pregnancy
- IBD in pregnancy can increase risk of miscarriage, SGA, premature delivery, poor maternal weight gain
- Increased risk of L&D complications (pre-eclampsia, placental abruption, increased probability of C-S)
- Therefore, counselling should be started pre-conception in a multi-disciplinary setup: GI, Ob-Gyne, with MFM specialist and CR surgeons in more complex IBD

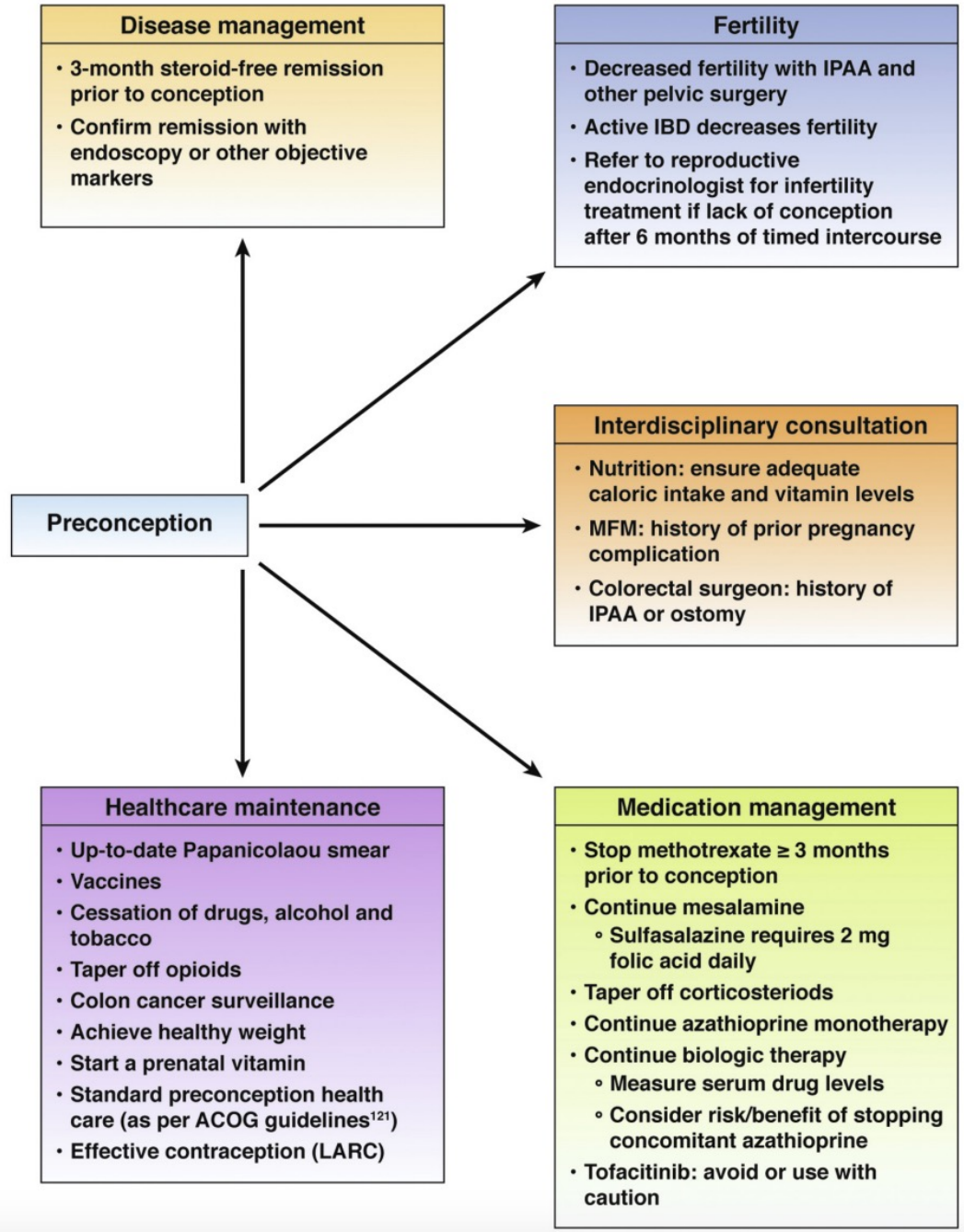


Figure 2. Pregnancy planning and conception. ACOG, American College of Obstetricians and Gynecologists; LARC, long-acting, reversible contraception.

Table 2. Inflammatory Bowel Disease Maintenance Therapies During Pregnancy and Lactation

Medication	Maintenance dosing recommendation	Breastfeeding considerations
Aminosalicylates	Maintain prepregnancy dosing	
Mesalamine	All preparations are now phthalate-free	Compatible with breastfeeding No preparation preference Monitor infant for diarrhea
Sulfasalazine	Consider 2-mg folate supplement in pregnancy Azulfidine EN contains phthalate	Compatible with breastfeeding Mesalamine preferred
Immunomodulators	Dosing may be altered due to increased renal clearance with pregnancy. Therapeutic drug monitoring recommended	Routine infant monitoring not necessary
Cyclosporine (calcineurin inhibitor)	Limited data in pregnancy suggest associations with hypertension, gestational diabetes, preterm birth, low birthweight/SGA. Used as a salvage therapy.	Compatible with breastfeeding Minimal infant exposure, no reports of harm from breastfeeding
Methotrexate	Contraindicated in pregnancy. Stop 3 months before conception.	Limited human data. Not advised.
Thiopurines (azathioprine, 6-mercaptopurine)	Continue as monotherapy In appropriate patients, consider cessation of thiopurine as combination therapy, given possible association with increased infant infections. Use with caution in combination with allopurinol, which carries potential embryo toxic effects	Compatible with breastfeeding Minimal infant exposure, no reports of harm from breastfeeding
Small molecules		
Tofacitinib	Limited human data. Consider other options, particularly in first trimester	Limited human data. Not advised.
Biologics	Maintain prepregnancy dosing Continue dosing throughout all 3 trimesters If possible, plan final dose according to drug half-life to minimize transfer	Compatible with breastfeeding Encourage participation in pregnancy registries if not already done during pregnancy.
Adalimumab	Plan final pregnancy injection 2–3 wk before EDC and resume postpartum[a] (1–2 wk if weekly dosing)	
Certolizumab pegol	May continue scheduled dosing throughout pregnancy.	
Golimumab	Plan final pregnancy injection 4–6 wk before EDC and resume postpartum[a]	
Infliximab	Plan final pregnancy infusion 6–10 wk before EDC and resume postpartum[a] (If every-4-wk dosing, then 4–5 wk before EDC) Base dosing on prepregnancy weight during pregnancy and immediate postpartum	
Natalizumab	Plan final pregnancy infusion 4–6 wk before EDC and resume postpartum[a]	
Ustekinumab[b]/ Vedolizumab[b]	Plan final pregnancy dose 6–10 wk before EDC and resume postpartum[a] (If every-4-week dosing, then 4–5 wk before EDC)	
Corticosteroids	Reserved for active flares in pregnancy. Not recommended for planned maintenance therapy during pregnancy.	Compatible with breastfeeding Subtherapeutic infant exposure expected, even with flare dosing Avoiding feeding 1–2 h post-dose (non-enteric coated forms) can further minimize exposure but is not necessary
Antibiotics	Reserved for perianal disease and pouchitis and not recommended for planned maintenance therapy (amoxicillin/metronidazole preferred over ciprofloxacin)	Amoxicillin/clavulanic acid compatible with breastfeeding Ciprofloxacin preferred over metronidazole

EDC, estimated date of confinement; SGA, small for gestational age.
[a]48 hours post-delivery
[b]Limited pregnancy data

Lisa

- Lisa is reassured after discussion with you to resume her Oral and rectal Salofalk
- You counselled her to **hold off** on active conception
- Encourage her to use contraception, while trying to treat this UC flare
- **Review her vaccinations history**: Uptodate with MMR, had varicella as a child, Hep A and B immune, COVID vaccinated x 2
- Encourage her to take Folic acid at least 1 mg daily, Vitamin D 3000 unit daily, multi-vitamins, as well as Proferrin 1 pill every other day
- Refer her back to GI for urgent follow-up
- Refer for outpatient IV iron

Is this severe or fulminant UC flare?

	Mild	Moderate	Severe	Fulminant
Stools per day	<4	4–6	>6	>10
Rectal bleeding	Infrequent	Intermediate	Frequent	Continuous
Temperature	<37.5°C	Intermediate	>37.5°C	>37.5°C
Heart rate	<90 bpm	Intermediate	>90 bpm	>90 bpm
Hemoglobin	>10 g/dl	Intermediate	<10 g/dl	Transfusion
ESR	<30 mm/h	Intermediate	>30 mm/h	>30 mm/h

Figure

Caption

Table 2 .2. Classification of disease severity in ulcerative colitis (Modified from Truelove and Witts, 1955).

Lisa’s condition has further deteriorated…

- Comes back in 4 weeks with now severe diarrhea, going up to 9-10 BM, bloody, mucusy stool 80% of times, ++urgency, tenesmus, episodes of Fecal incontinence, lost around 3 kg from baseline weight of 55 kg
- O/E: afebrile, 128/ 90, HR 90, pale, abdo mildly tender on left side, no rebound
- Hb repeat: 89, WBC 10.0, CRP 45, albumin 31, K: 3.0, LE normal
- Abdo X-ray: left-sided colonic thickening, no perf, no toxic megacolon

I/P:

- You determine she's failed combination 5-ASA therapy
- GI has not seen her, so you speak with GI on-call
- Advised to start her on prednisone course 40 mg daily x 2 weeks, tapering by 5 mg every week, along with calcium and vitamin D for bone protection
- You counsel her on prednisone side-effects, and she's agreeable to start
- You have provided her employer a note for medical absence for 2 months
- Offered mental health support, she feels reassured. No need for pharmacotherapy at this time
- Outpatient colonoscopy expedited

Lisa's second colonoscopy couple weeks later

- Extensive UC, involving continuously from rectum to proximal ascending colon
- Mayo 3 in left colon, mayo 2 proximally
- Given she has already been 2 weeks of oral prednisone, Lisa was admitted to hospital for consideration of IV methylpred x 3 days
- Pre-biologics (anti-TNF) workup (IGRA, CXR)
- Patient counselling regarding anti-TNF therapy in conjunction with immunomodulators (Azathioprine)
- General surgery is made aware of the patient, in case of further clinical deterioration

Predictors of IV steroids failure in ASUC

Score	Criteria	Probability of IV Corticosteroids Failure
Travis or Oxford criteria	>8 stools or CRP > 45 mg/L	If any present on day 3 = 85% probability of colectomy
Ho or Scottish index	Colonic dilatation > 5.5 cm = 4 points Albumin < 3 g/dl on admission = 1 point Average daily number of stools over first 3 days: < 4 = 0 points; 4–6 = 1 points, 6–9 = 2 points; ≥ 9 = 4 points	≥ 4 points on day 3 = 85% probability of non-response
Lindgren score	Stool frequency per dag + 0.14 x CRP (mg/L)	>8 points on day 3 = 72% probability of non-response

Note: Data from Gisbert et al. [8]

PAD: 3#

- Lisa now has 2-3 semi-formed BM
- Blood has reduced by 90%, with reduced urgency and abdominal pain
- CRP down to 14, Albumin 33, TPMT normal
- Stepped down to Oral prednisone 40 mg daily with tapering regimen
- Started on Imuran 100 mg PO daily with plan for outpatient Inflectra (Remicade bio-similar)
- Septra for PJP prophylaxis, given 3 immunosuppressive agents
- Counselled to get her 3rd COVID dose as well as 4th dose (booster)

Lisa returns 6 months later for routine f/up

- Has been doing clinically well on Imuran 100 mg daily and inflectra at 5 mg/ kg
- 1-2 formed BM, no blood, abdo pain or urgency (partial Mayo score: 0, B/L 1 BM Q1-2 d)
- She is now contemplating conception

Lisa pre-conception

- Repeated colonoscopy: Mayo 0, chronic active colitis in biopsies
- FC 25
- Hb 105, ferritin 45, Vit D 75
- Was counselled on safety of Inflectra and Imuran during pregnancy
- Seen “IBD in pregnancy clinic”, GI, Gyne, and dietitian
- Was told to review the vaccination/ preventative medicine with GP

Journal of the Canadian Association of Gastroenterology, 2021, 4(4), e72–e91
https://doi.org/10.1093/jcag/gwab016
Clinical Guidelines

Clinical Guidelines

Canadian Association of Gastroenterology Clinical Practice Guideline for Immunizations in Patients With Inflammatory Bowel Disease (IBD)—Part 2: Inactivated Vaccines

Jennifer L. Jones,[1] Frances Tse,[2] Matthew W. Carroll,[3] Jennifer C. deBruyn,[4] Shelly A. McNeil,[5] Anne Pham-Huy,[6] Cynthia H. Seow,[7] Lisa L. Barrett,[5] Talat Bessissow,[8] Nicholas Carman,[9] Gil Y. Melmed,[10] Otto G. Vanderkooi,[11] John K. Marshall,[2] Eric I. Benchimol[12,13]

- Suggest vaccinating, If unimmunized for HiB
- Recommend > 50 to receive recombinant Zoster vaccine (2 doses)(strong)
- Recommend < 50 to receive recombinant Zoster vaccine (low)
- Vaccinate IBD adult patients for Hep B, if not immune
- Recommend influenza vaccine annually

Vaccination recommendation

- Pneumococcal vaccine: if no immunosuppressive tx, with a risk factor, OR if on immunosuppressive tx; > 65 years
  * RF: asplenia, cochlear implants, chronic CSF leak, smoker, etoh, drugs, homeless, chronic lung, liver, heart, and renal sx, DM
- Meningococcal: if risk factors for invasive meningococcal disease
- rDTP to be given, if not immunized
- IBD female ages 9-26: Recommend HPV vaccine
- IBD male ages 9-26: Suggest HPV vaccine

Infectious agent	Target population	Check titer before immunization	Dosing Regimen	In patient already on immunosuppressive treatment	Vaccination for family contacts
Measles Mumps Rubella	If unknown vaccination history	Yes	Two doses (>28 days apart) at least 6 weeks before starting immunosuppressive therapy	Contraindicated	Yes
Varicella	If unknown vaccination history or exposure	Yes	2 doses (4–6 weeks apart) at least 1 month before starting immunosuppressive therapy	Depends on the type of immunosuppressive medications	Yes, if vaccine related rash occurs, immunosuppressed IBD patient should avoid contact
Herpes zoster	For patients aged 50 or older	No	1 dose at least 1 month before starting immunosuppressive therapy	Depends on the type of immunosuppressive medications	Yes, if vaccine related rash occurs, immunosuppressed IBD patient should avoid contact

IBD, inflammatory bowel disease.
[a]See text for details.

Streptococcus pneumonia	All patients		If no previous vaccination, PCV13 followed by a dose of PPSV23 after 2–12 months; if received 1 or more doses of PPSV23 should receive PCV13 one or more years after PPSV23; another dose of PPSV23 should be administered 5 years after the initial PPSV23 dose and at age 65 years or older if at least 5 years have elapsed since their previous PPSV23 dose

HAV, hepatitis A; HBV, hepatitis B; PCV, pneumococcal conjugate vaccine; PPSV, pneumococcal polysaccharide vaccine.
[a]See text for details.

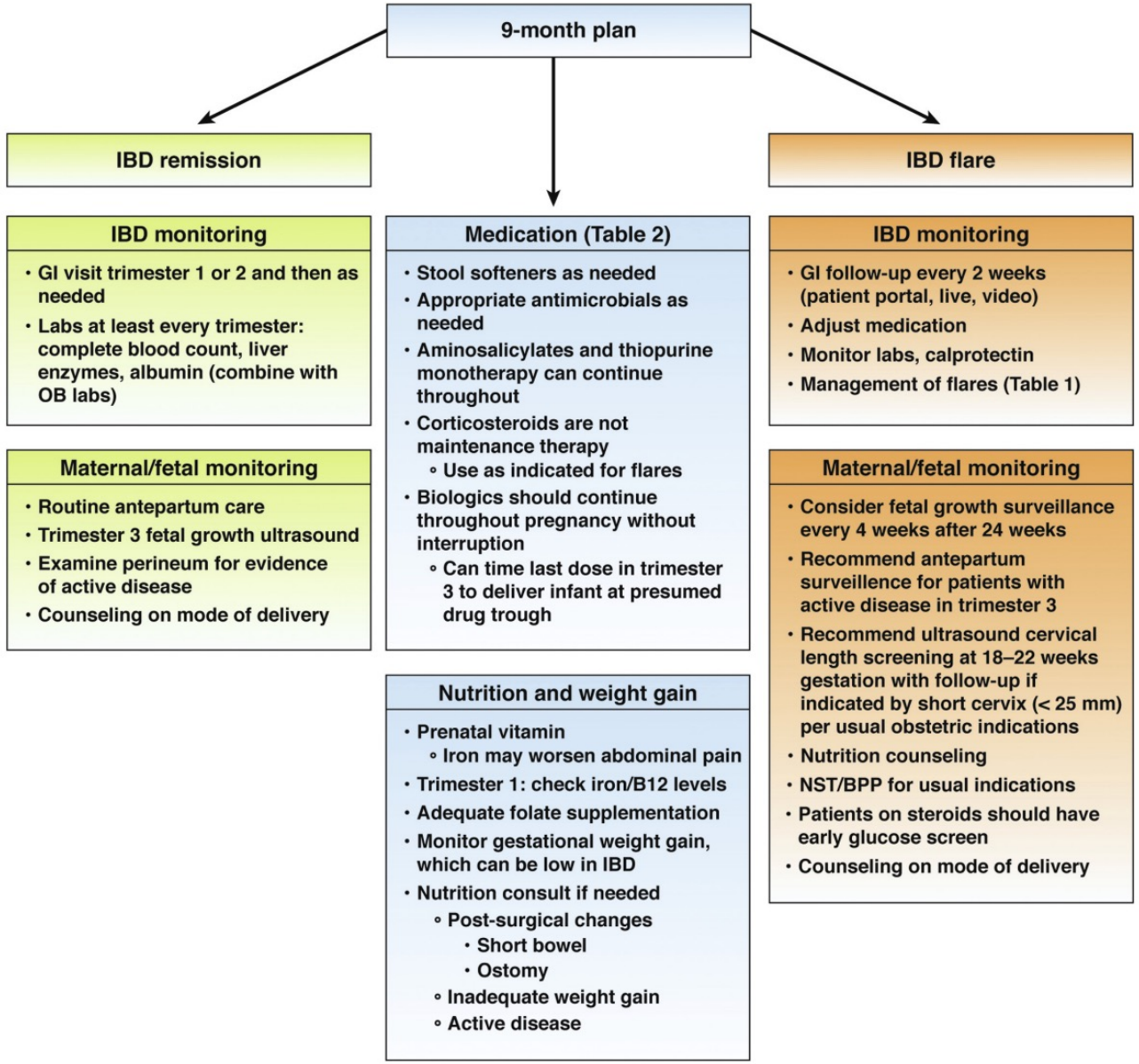
ACG Clinical Guideline: Preventative care in IBD Feb 2017

Preventative Health Maintenance recommendations

Statement 10: Women with IBD on immunosuppressive therapy should undergo annual cervical cancer screening. *Conditional recommendation, very low level of evidence.*
Statement 11: Screening for depression and anxiety is recommended in patients with IBD. *Conditional recommendation, low level evidence*
Statement 12a: Patients with IBD (both ulcerative colitis and CD) should undergo screening for melanoma independent of the use of biologic therapy. *Strong recommendation with low level of evidence.*
Statement 12b: IBD patients on immunomodulators (6-mercaptopurine or azathioprine) should undergo screening for NMSC while using these agents, particularly over the age of 50. *Strong recommendation with low level of evidence.*
Statement 13: Patients with conventional risk factors for abnormal bone mineral density with ulcerative colitis and CD should undergo screening for osteoporosis with bone mineral density testing at the time of diagnosis and periodically after diagnosis. *Conditional recommendation with very low level evidence.*
Statement 14: Patients with CD who smoke should be counseled to quit. *Strong recommendation with low level evidence.*

Lisa is now 35 weeks pregnant

- GBS culture was done, and it’s negative
- She planed her last infusion 6 weeks before her due date
- She stopped Imuran as per GI recommendation
- She’s inquiring about post-delivery care for baby

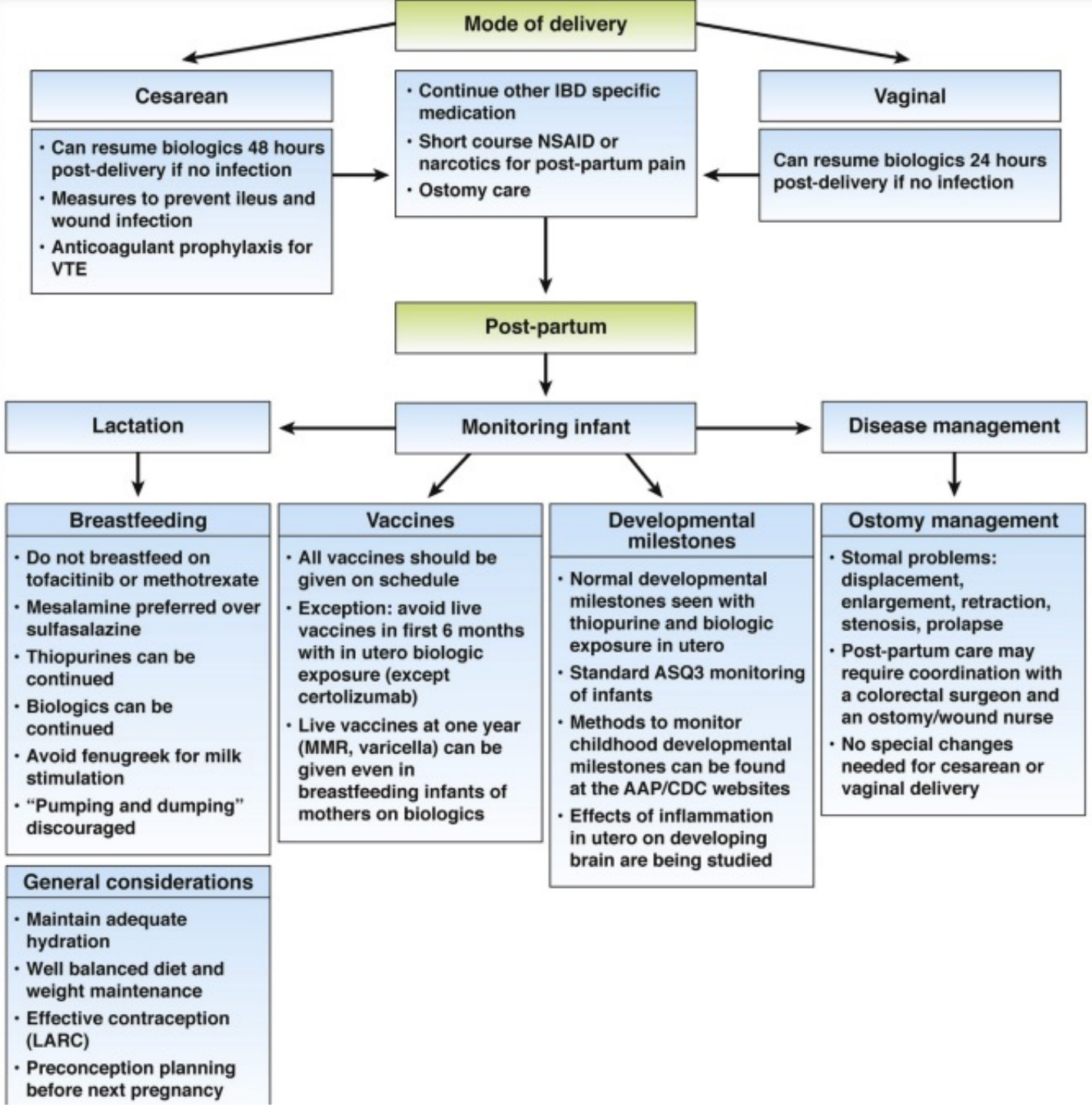


Abbreviations used: NST, Nonstress test; BPP, Biophysical profile

Figure 3. Nine-month plan.

Post-delivery care for mother and baby

- If breastfeeding, increase calorie intake by 450-500Kcal/ d
- Add 200-300 mg/ d omega-3 FA
- Hydration and well-nourishment, especially if stoma or active dx
- Avoid Fenugreek--> diarrhea, bleeding
- LactMed database: majority of meds for IBD are either undetectable or very low concentration in breastmilk
- PIANO registry: Breastfeeding isn’t harmful for infant, similar milestones
- NO NEED to pump and dump
- Limited data on MTX in BF
- Avoid breastfeeding on Tofacitinib



If mother exposed to any biologic tx during 3rd trimester, avoid giving the newborn live vaccines for the first 6 months of life

* Rotavirus (age 2 and 4 months)

Case 2: Josh

- 40M with previous diagnosis of non-fistulizing, non-stricturing ileal Crohn's disease, on colonoscopy 3 years ago
- Previously on a course of Pentasa, but no longer takes it
- Over the past 3 months, has noted gradual worsening of RLQ abdominal pain, with 3 daily, non bloody diarrhea, 5 lbs weight loss. (current weight 60 kg) No EIM
- PMH: dysplastic mole removed
- Social smoker (MJ, Nicotine)
- No NSAIDs; occasional Imodium
- FHx: Father NHL, Mother MS. No IBD or CRC

Case 2:

- Hb: 120, ferritin 30, CRP 6, FC 350; Anti-TTG negative.
- Stool cultures negative

Disease severity scores:

Crohn's Disease Activity Index

Item(day)	Weight
No. liquid or very soft stools(each day for 7days)	×2
Abdominal pain, sum of 7 d rating (0=none,1=mild,2=moderate,3=severe)	×5
General well being (1-4)	×7
Exteraintestinal (1 per finding) Arthritis/arthralgia Mucocutaneous lesion Iritis/uveitis Anal disease (fissure, fistula,etc) External fistula	×20
Fever>36.8	
Antidiarrheal use	×30
Abdomial mass(none-0,equivocal-2,definite-5	×10
Hematocrit (males-47) (Females-42)	×6
Bodyweight (1-body weight/standard weight) ×100	×1
Total CDAI Score	

CDAI:
< 150 clinical remission
150-220: mild disease activity
220-450: moderate
>450 severe
Clinical response: drop by 70-100 points

Harvey Bradshaw index

Variable	Variable description
General well being	0= very well, 1=slightly poor, 2 =poor, 3= very poor, 4= terrible
Abdominal pain	0=none 1=mild 2=moderate 3=severe
No. of liquid stools	Daily
Abdominal mass	0=none 1=dubious 2=definite 3=definite and tender)
Complications	Arthralgia, Uveitis, Erythema nodosum, aphthous ulcer, pyoderma gangrenosum, Anal fissure, New fistula

HBI
< 5: clinical remission
5-7: mild disease
8-16: moderate
>16: severe
Clinical response: drop by 3 points or more

Josh's scores:
CDAI: 229
HBI: 4

CDAI and HBI

- Heavily weighted towards symptoms
- **Poor correlation** with endoscopic disease severity and with FC
- Same limitation with HBI
- Therefore, disease activity based on these scores should not be confused with disease severity

CAG clinical Practice guideline for management of luminal CD 2019

Investigations:

- Colonoscopy: 10-12 terminal ileal ulcerations, (10-15 mm in size) over distal 6 cm, involving 60% of lumen
- Bx TI: chronic active ileitis, architectural distortion, neutrophilic infiltrates, no granuloma, negative CMV and TB
- CTE: mucosal enhancement, distal 12 cm TI thickening, suggestive of active terminal ileal inflammation, slight narrowing, but no definitive stricture.
  No fistula, no abscess.
  Reactive LAN surrounding distal TI

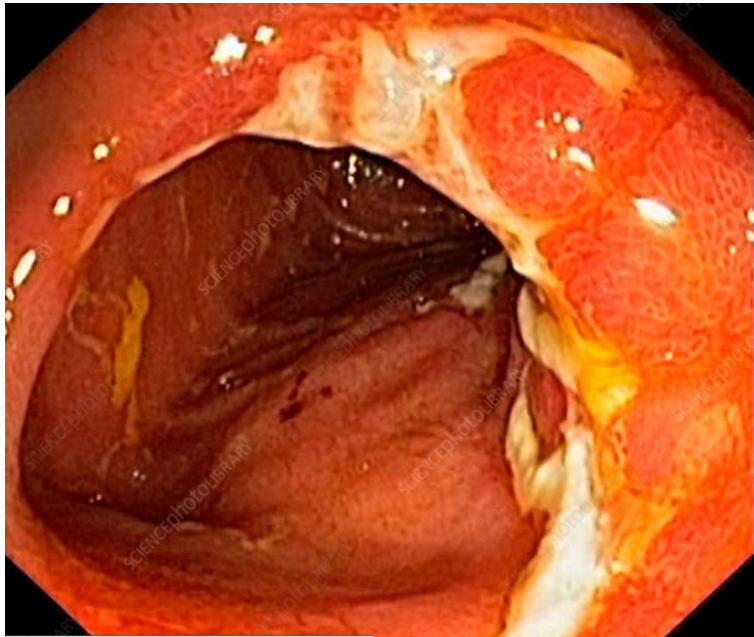
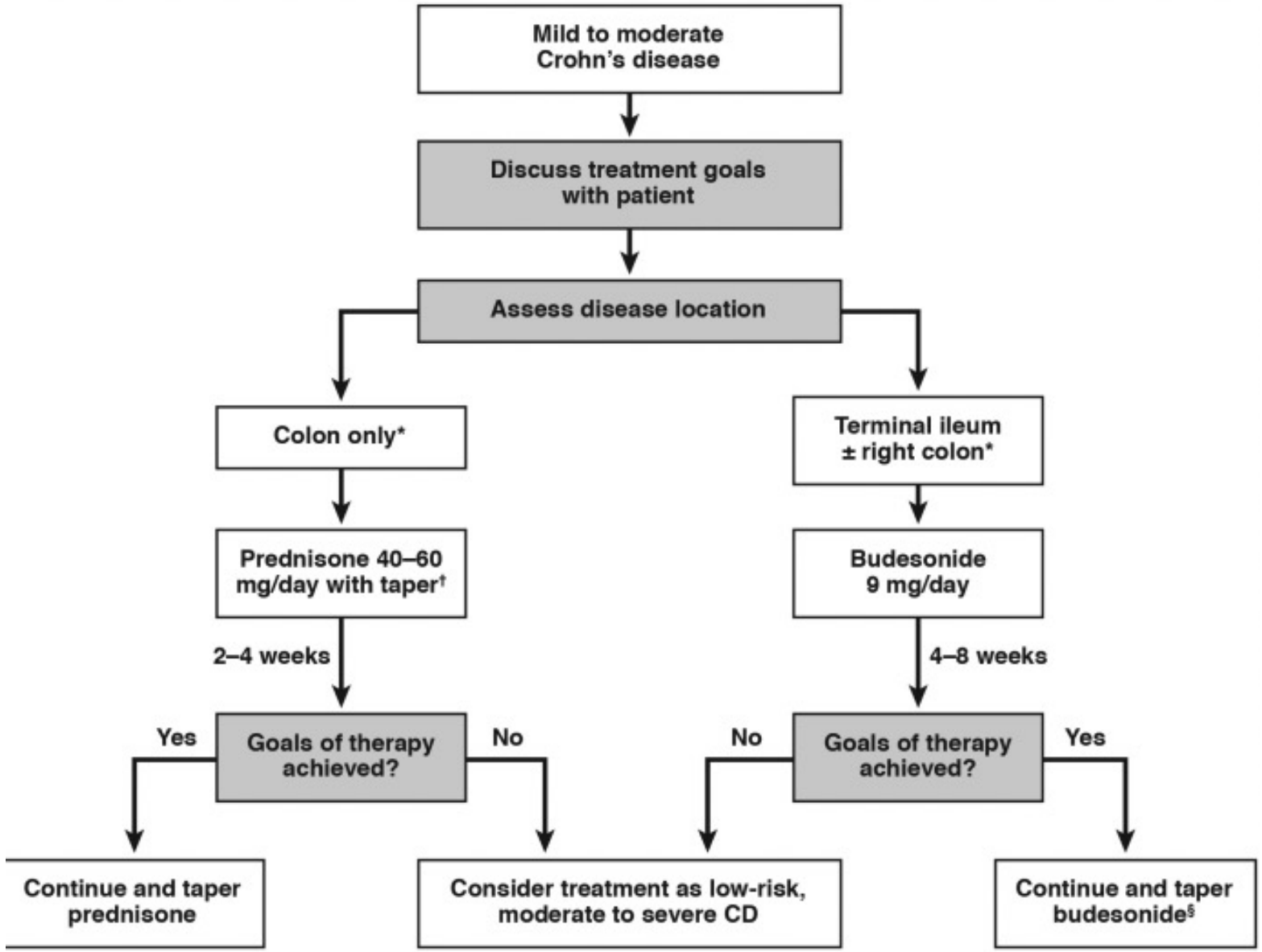


Table 3. Summary of Consensus Recommendations for the Management of Luminal Crohn's Disease[a]

Disease activity
1. We recommend determination of disease severity be based on a combination of symptoms, objective measures of inflammation, and factors that predict an increased risk of complications. GRADE: Strong recommendation. Good practice statement, quality of evidence not assessed
Antibiotics
2. In patients with Crohn's disease of any severity, we suggest against the use of systemically absorbed antibiotics to induce OR maintain complete remission. GRADE: Conditional recommendation, very low-quality evidence for induction of remission, low-quality evidence for maintenance of remission
5-ASA
3. In patients with mild Crohn's disease limited to the colon, we suggest the use of sulfasalazine to induce (4–6 g/day) complete remission. GRADE: Conditional recommendation, very low-quality evidence
4. We suggest that patients with mild Crohn's disease limited to the colon be evaluated for symptomatic response to sulfasalazine therapy between 2 and 4 months to determine the need to modify therapy. GRADE: Conditional recommendation, very low-quality evidence
5. In patients with Crohn's disease of any severity, we suggest against the use of oral 5-ASA to induce OR maintain complete remission. GRADE: Conditional recommendation, low-quality evidence for induction of remission, moderate-quality evidence for maintenance of remission
Budesonide
6. In patients with mild to moderate ileal and/or right colonic Crohn's disease, we suggest oral budesonide beginning at 9 mg/day as first-line therapy to induce complete remission. GRADE: Conditional recommendation, low-quality evidence
7. We suggest that patients with mild to moderate ileal and/or right colonic Crohn's disease be evaluated for symptomatic response to budesonide between 4 and 8 weeks to determine the need to modify therapy. GRADE: Conditional recommendation, very low-quality evidence
8. In patients with mild to moderate Crohn's disease, we suggest against the use of oral budesonide to maintain complete remission. GRADE: Conditional recommendation, low-quality evidence



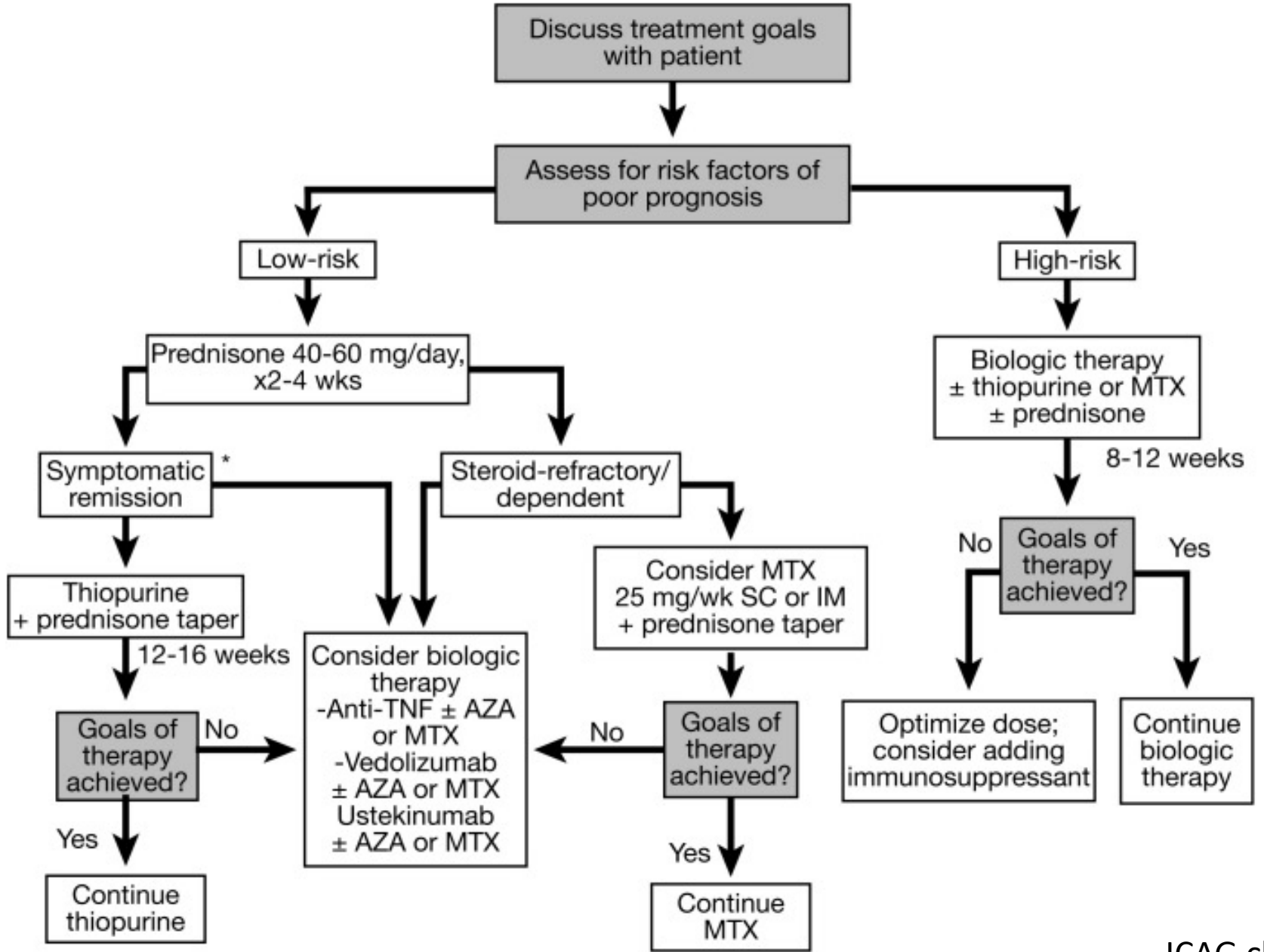
JCAG clinical guideline mild-moderate CD 2019

Table 1. Factors Associated With High Risk of Relapse, Surgery, or Complicated Luminal CD

Clinical factors	Younger age
	Smoking
	Longer disease duration
	Early use of corticosteroids
	Presence of fistulizing perianal CD
	Previous intestinal resection
Disease factors	Disease location (rectal, upper GI, jejunal)
	Disease extent
Laboratory factors	Low hemoglobin
	Low albumin
	High C-reactive protein (CRP)
	High fecal calprotectin levels
Endoscopic factors	Presence of deep ulceration

CD, Crohn's disease; GI, gastrointestinal.

JCAG clinical guideline mild-moderate CD 2019



JCAG clinical guideline mild-moderate CD 2019

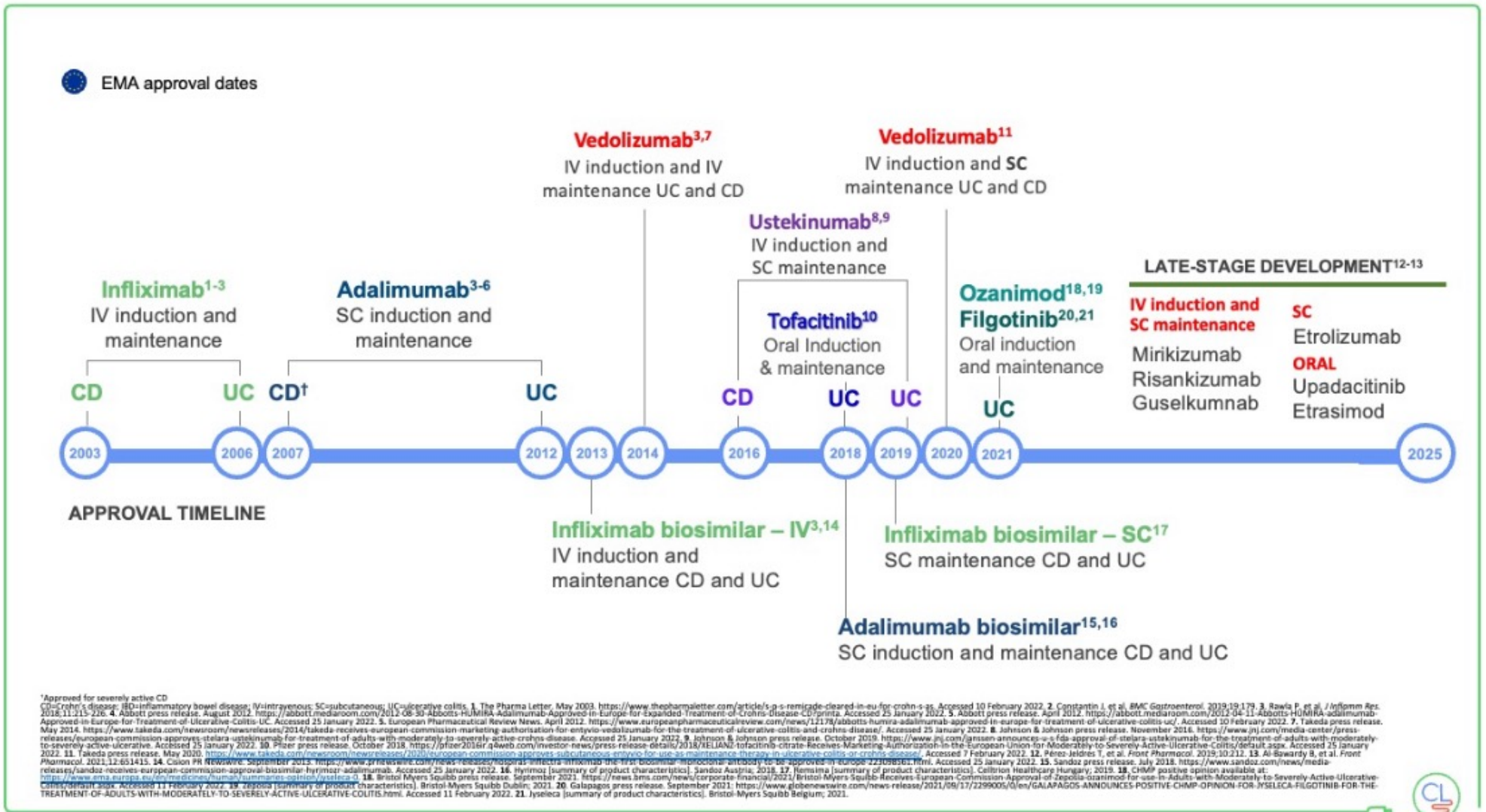
Case 2: Josh

- He is started on Oral Budesonide 9 mg/ d for 8 weeks, with tapering course over 2 months
- Encouraged to discuss smoking cessation with GP
- His symptoms improved, FC repeat went to 75

6 months later…

- Recurrent symptoms with worsening diarrhea, abdo pain
- CDAI: 250, FC repeat: 200
- Stool infectious workup negative
- Resumed on Oral budesonide
- Discussed Imuran vs. Biologics (Anti-TNF, Entyvio)

Treatment Paradigm



*Approved for severely active CD

CD=Crohn's disease; IBD=inflammatory bowel disease; IV=intravenous; SC=subcutaneous; UC=ulcerative colitis. **1.** The Pharma Letter. May 2003. https://www.thepharmaletter.com/article/s-p-s-remicade-cleared-in-eu-for-crohn-s-as. Accessed 10 February 2022. **2.** Constantin J, et al. *BMC Gastroenterol*. 2019;19:179. **3.** Rawla P, et al. *J Inflamm Res*. 2018;11:215-226. **4.** Abbott press release. August 2012. https://abbott.mediaroom.com/2012-08-30-Abbotts-HUMIRA-Adalimumab-Approved-in-Europe-for-Expanded-Treatment-of-Crohns-Disease-CD?printa. Accessed 25 January 2022. **5.** Abbott press release. April 2012. https://abbott.mediaroom.com/2012-04-11-Abbotts-HUMIRA-adalimumab-Approved-in-Europe-for-Treatment-of-Ulcerative-Colitis-UC. Accessed 25 January 2022. **6.** European Pharmaceutical Review News. April 2012. https://www.europeanpharmaceuticalreview.com/news/12178/abbotts-humira-adalimumab-approved-in-europe-for-treatment-of-ulcerative-colitis-uc/. Accessed 10 February 2022. **7.** Takeda press release. May 2014. https://www.takeda.com/newsroom/newsreleases/2014/takeda-receives-european-commission-marketing-authorisation-for-entyvio-vedolizumab-for-the-treatment-of-ulcerative-colitis-and-crohns-disease/. Accessed 25 January 2022. **8.** Johnson & Johnson press release. November 2016. https://www.jnj.com/media-center/press-releases/european-commission-approves-stelara-ustekinumab-for-treatment-of-adults-with-moderately-to-severely-active-crohns-disease. Accessed 25 January 2022. **9.** Johnson & Johnson press release. October 2019. https://www.jnj.com/janssen-announces-u-s-fda-approval-of-stelara-ustekinumab-for-the-treatment-of-adults-with-moderately-to-severely-active-ulcerative. Accessed 25 January 2022. **10.** Pfizer press release. October 2018. https://pfizer2016ir.q4web.com/investor-news/press-release-details/2018/XELJANZ-tofacitinib-citrate-Receives-Marketing-Authorization-in-the-European-Union-for-Moderately-to-Severely-Active-Ulcerative-Colitis/default.aspx. Accessed 25 January 2022. **11.** Takeda press release. May 2020. https://www.takeda.com/newsroom/newsreleases/2020/european-commission-approves-subcutaneous-entyvio-for-use-as-maintenance-therapy-in-ulcerative-colitis-or-crohns-disease/. Accessed 7 February 2022. **12.** Pérez-Jeldres T, et al. *Front Pharmacol*. 2019;10:212. **13.** Al-Bawardy B, et al. *Front Pharmacol*. 2021;12:651415. **14.** Cision PR Newswire. September 2013. https://www.prnewswire.com/news-releases/hospira-inflectra-infliximab-the-first-biosimilar-monoclonal-antibody-to-be-approved-in-europe-223058651.html. Accessed 25 January 2022. **15.** Sandoz press release. July 2018. https://www.sandoz.com/news/media-releases/sandoz-receives-european-commission-approval-biosimilar-hyrimoz-adalimumab. Accessed 25 January 2022. **16.** Hyrimoz [summary of product characteristics]. Sandoz Austria; 2018. **17.** Remsima [summary of product characteristics]. Celltrion Healthcare Hungary; 2019. **18.** CHMP positive opinion available at: https://www.ema.europa.eu/en/medicines/human/summaries-opinion/jyseleca-0. **18.** Bristol Myers Squibb press release. September 2021. https://news.bms.com/news/corporate-financial/2021/Bristol-Myers-Squibb-Receives-European-Commission-Approval-of-Zeposia-ozanimod-for-use-in-Adults-with-Moderately-to-Severely-Active-Ulcerative-Colitis/default.aspx. Accessed 11 February 2022. **19.** Zeposia [summary of product characteristics]. Bristol-Myers Squibb Dublin; 2021. **20.** Galapagos press release. September 2021: https://www.globenewswire.com/news-release/2021/09/17/2299005/0/en/GALAPAGOS-ANNOUNCES-POSITIVE-CHMP-OPINION-FOR-JYSELECA-FILGOTINIB-FOR-THE-TREATMENT-OF-ADULTS-WITH-MODERATELY-TO-SEVERELY-ACTIVE-ULCERATIVE-COLITIS.html. Accessed 11 February 2022. **21.** Jyseleca [summary of product characteristics]. Bristol-Myers Squibb Belgium; 2021.

Treatment options

- Given FDR with lymphoma and MS, feels concerned to start Anti-TNF
- With personal history of dysplastic nevus, isn’t keen to go on Imuran
- Opted to start Entyvio IV, followed by SC maintenance (after negative HBV serology)
- Achieves clinical response
- FC repeat 6 months later is 20
- Repeat colonoscopy shows endoscopic remission

Conclusion

- If concerns for IBD, basic blood work (CBC, ferritin, Anti-TTG, CRP) and stool workup should be ordered. If coverage, FC can be useful.
- If symptomatic, can use 5-ASA therapy. Very safe
- Avoid steroids, unless discussed with GI
- Avoid Narcotics
- Address primary preventative measures: Pap, vaccination, (CXR/ TST if relevant)
- Mental health screening is incredibly important in ongoing management
- Nutritional status are crucial to assess: Vitamin D, Ferritin, Zinc, albumin
- Counselling on smoking cessation
- Address fertility concern and sexual health