

## Supplementary Material

### IBD Serologic Markers

Anti-glycan Antibodies	Anti-microbial antigens
anti-Saccharomyces cerevisiae (ASCA)	anti-outer membrane porin C (anti-OmpC)
anti-laminaribiose (ALCA)	anti-Cbir1 flagellin
anti-chitobioside (ACCA)	anti I2
anti-laminarin (anti-L)	p-ANCA
anti-chitin (anti-C)	

### Disease Activity in Crohn's Disease – Activity indices

#### Crohn's Disease Activity Index CDAI

CDAI – The Crohn's Disease Activity index is a tool used in clinical trials to try to give a number to mild, moderate and severe disease and to use changes in this number to define a response to an intervention.(377) This is a weighted subjective tool that includes scores for liquid bowel movements per day, general well being, abdominal pain and extra-intestinal manifestations. This index does require 7 days of measurements making it difficult to use in the clinic setting. Due to the subjective nature of some of the measurements it is not an optimal tool for measuring disease activity and is generally not used in routine clinical practice. In terms of the CDAI a score of < 150 is considered remission, 150 -220 mild, 220 -450 moderate and > 450 severe.(377)

Clinical or laboratory variable	Weighting factor
Number of liquid or soft <a href="#">stools</a> each day for seven days	x 2
<a href="#">Abdominal pain</a> (graded from 0-3 on severity) each day for seven days	x 5
General well being, subjectively assessed from 0 (well) to 4 (terrible) each day for seven days	x 7
Presence of complications*	x 20

<b>Taking Lomotil or opiates for diarrhea</b>	x 30
<b>Presence of an abdominal mass (0 as none, 2 as questionable, 5 as definite)</b>	x 10
<b><u>Hematocrit</u> of &lt;0.47 in men and &lt;0.42 in women</b>	x 6
<b>Percentage deviation from standard weight</b>	x 1

One point is added for each of the following complications

1. Arthralgias/Arthritis
2. Iritis/Uveitis
3. Erythema nodosum/pyoderma gangrenosum, aphthous ulcers
4. Anal fissures, fistulae or abscesses
5. Other fistulae
6. Fever during the previous week.

CDAI below 150 = remission

### **Harvey Bradshaw Index HBI**

HBI – The Harvey Bradshaw Index is a simple activity index that does not require diary data to calculate. There are 5 variables that include general well being, abdominal pain, number of liquid stools per day, abdominal mass and complications. This easier to use in the clinic but also includes multiple subjective measures.(377)

- general well-being (0 = very well, 1 = slightly below average, 2 = poor, 3 = very poor, 4 = terrible)
- abdominal pain (0 = none, 1 = mild, 2 = moderate, 3 = severe)
- number of liquid stools per day
- abdominal mass (0 = none, 1 = dubious, 2 = definite, 3 = tender)
- complications, with one point for each.
  - Arthralgias/Arthritis

- Iritis/Uveitis
- Erythema nodosum/pyoderma gangrenosum, aphthous ulcers
- Anal fissures, fistulae or abscesses
- Other fistulae
- Fever during the previous week.

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A score of less than 5 = clinical remission.

### **Patient Reported Outcome Measurement**

**PRO** – Patient reported outcomes are currently being developed as primary endpoints in clinical trials.(378) These outcomes include quality of life measures, depression scores, and work productivity. These PROs will eventually replace the CDAI in the evaluation of patients in clinical trials. Familiarization of quality of life questions is important for the practitioner taking care of the Crohn’s disease patient but formal questionnaires and assessment is cumbersome in the clinic and likely will be reserved for clinical trials. The CCFA Partners study has defined 6 domains that relate to patient reported outcomes.(379)

### **Domains used in CCFA Partners Study**

- Anxiety
- Depression
- Fatigue
- Sleep disturbance
- Satisfaction with Social Role
- Pain interference

### **Rutgeert’s Score**

Scoring system used to assess postoperative recurrence in patients with ileal resection. (136)

<b>i-0</b> <b>No lesions</b>
<b>i-1</b> <b>≤5 aphthous ulcers</b>
<b>i-2</b> <b>&gt; 5 aphthous ulcers with normal intervening mucosa, or lesions confined to the ileocolonic anastomosis, or skip areas of larger lesions</b>
<b>i-3</b> <b>Diffuse aphthous ileitis</b>
<b>i-4</b>

Diffuse inflammation with large deep ulcers or narrowing

**SES-CD (Simple Endoscopic Score- Crohn's Disease) (57)**

	Rectum	Sigmoid and left colon	Transverse Colon	Right Colon	Ileum	Total
Size of Ulcers						
Ulcerated Surface						
Affected Surface						
Narrowings						

	Score = 0	Score = 1	Score = 2	Score = 3
Size of Ulcers	None	Aphthous ulcers (0.1 – 0.5 cm)	Large ulcers (0.5 – 2.0)	Very large ulcers (> 2.0 cm)
Ulcerated Surface	None	< 10%	10- 30%	> 30%
Affected Surface	Unaffected segment	< 50%	50 – 75%	> 75%
Narrowings	None	Single can be passed	Multiple can be passed	Cannot be passed

Score ranges from 0 – 60

**CDEIS ( Crohn's Disease endoscopic Index of Severity) (56)**

	Rectum	Sigmoid/Left Colon	Transverse Colon	Right Colon	Ileum	Total
Deep ulcerations (12 if present, 0 if absent)						Total 1 +
Superficial ulcerations (6 if present, 0 if absent)						Total 2 +
Surface involved by disease (cm)						Total 3 +

Surface involved by ulcerations (cm)						Total 4 =
						Total A
Number of	Segments	totally or	partially	explored	(1-5)	n
						Total A/n =
		Ulcerated	Stenosis	Add 3 =		C
		Non-ulcerated	Stenosis	Add 3 =		D
		B + C + D =	CDEIS			

The surface involved is off of a visual analog scale where 10 cm = 100% involvement

Scores range from 0 - 44

#### Montreal Classification (380)

Descriptor	Classification
Age at diagnosis	A1 below 16 years
	A2 between 17 and 40 years
	A3 above 40 years
Location	L1 ileal
	L2 colonic
	L3 ileocolonic
	L4 isolated upper disease *
Behavior	B1 non-stricturing, non penetrating
	B2 stricturing
	B3 penetrating
	P perianal disease modifier

- L4 is a modifier that is added to L1-L3 when there is also upper gastrointestinal disease.