



international bowel  
ULTRASOUND GROUP

# IUS in CD

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Municipal Hospital of Lüneburg, Germany

# Intended Learning Outcomes

By the end of this session, the learner will be able to:

1. Apply bowel wall thickness (BWT) measurements according to standard and research criteria.
2. Identify and describe mural and extramural IUS signs suggestive of inflammation in Crohn's disease.
3. Integrate and weigh the importance of multiple individual IUS signs to form a comprehensive assessment of Crohn's disease activity and potential complications.
4. Evaluate the overall diagnostic and monitoring performance of IUS for Crohn's disease assessment against established reference standards (e.g., endoscopy, cross-sectional maging, histology).
5. Understand the relative time course over which different IUS parameters typically respond to effective treatment in Crohn's disease.
6. Define different IUS response and remission definitions used in Crohn's disease assessment and explain how they can be used to predict and monitor disease activity over time.

## 27y: ileal CD initial diagnosis 1.5 years ago

Recurrent abdominal cramping, diarrhoea (2-5x/d), occasional blood → stable for last year

No current medication

Colonoscopy 1.5 years ago: Budesonid for a few weeks, no further therapy since then

# IUS same day: August 23rd

Im: 1/816  
Se: 1  
Lossy compression (JPEG)

LOGIQ  
S8



Sonografie Abdomen  
Sonografie Abdomen

2"



4"

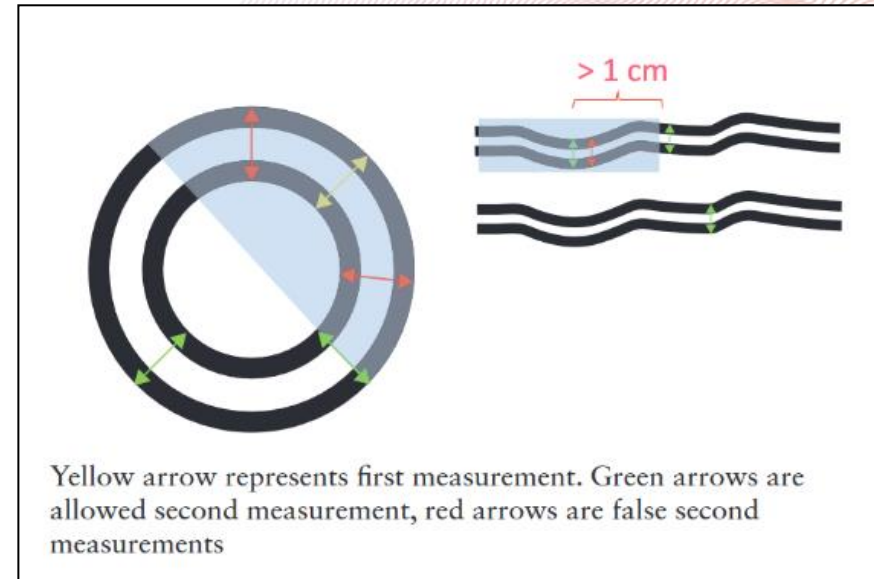


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## Expert Consensus on Optimal Acquisition and Development of the International Bowel Ultrasound Segmental Activity Score [IBUS-SAS]: A Reliability and Inter-rater Variability Study on Intestinal Ultrasonography in Crohn's Disease

Kerri L Novak,<sup>a</sup> Kim Nylund,<sup>b,c</sup> Christian Maaser,<sup>d</sup> Frauke Petersen,<sup>e</sup> Torsten Kucharzik,<sup>e</sup> Cathy Lu,<sup>a</sup> Mariangela Allocca,<sup>f,g</sup> Giovanni Maconi,<sup>h</sup> Floris de Voogd,<sup>i,o</sup> Britt Christensen,<sup>j,o</sup> Rose Vaughan,<sup>j</sup> Carolina Palmela,<sup>k</sup> Dan Carter,<sup>l</sup> Rune Wilkens<sup>m,n,o</sup>, IBUS Group



| Table 2. Core activity |            |               |                                         |
|------------------------|------------|---------------|-----------------------------------------|
|                        | Norm       |               |                                         |
| BWT                    | ≤3 mm      |               |                                         |
| i-fat                  | 0 = Absent |               |                                         |
| CDS                    | 0 = Absent |               |                                         |
| BWS                    | 0 = Normal | 1 = Uncertain | 2 = Focal [≤ 3 cm]                      |
|                        |            |               | 3 = Long signals inside & outside bowel |
|                        |            |               | 3 = Extensive [≥ 2 cm]                  |

BWT, bowel wall thickness; i-fat, inflammatory fat; CDS, colour Doppler signal; BWS, bowel wall stratification; NA, not applicable

+ Rule out complications:

- Stricture?
- Fistula?
- Abscess?

# IUS same day: August 23rd

Im: 1/816  
Se: 1  
Lossy compression (JPEG)

LOGIQ  
S8



Sonografie Abdomen  
Sonografie Abdomen

2"



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WL: 128 WW: 256 [D]

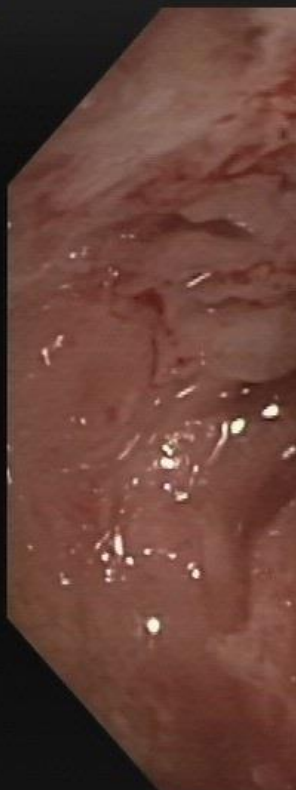
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## 27y: ileal CD initial diagnosis 1.5 years ago

WBC normal, Hb 11.0 g/dl (13.5-17.2),  
platelets 529/nl (150-370), CRP 33.1 mg/l  
( $<5.0$ ), Transferrin saturation 5.97% (16-45),  
Ferritin 40 ng/ml (30-400)

→ colonoscopy

Marcel 27years old



# ECCO-ESGAR-ESP-IBUS 2025 multi-society guideline for Diagnostics and Monitoring of Patients with IBD: **Initial Diagnosis**

## Recommendation 1

The diagnosis of Crohn's disease (CD) and ulcerative colitis (UC) is based on a **combination of clinical symptoms, laboratory tests, endoscopy, histology and imaging** (EL5). We recommend ileocolonoscopy with biopsies combined with imaging evaluation with **intestinal ultrasound and/or magnetic resonance enterography** as first line examinations in patients with suspected IBD (EL5). (94% agreement)

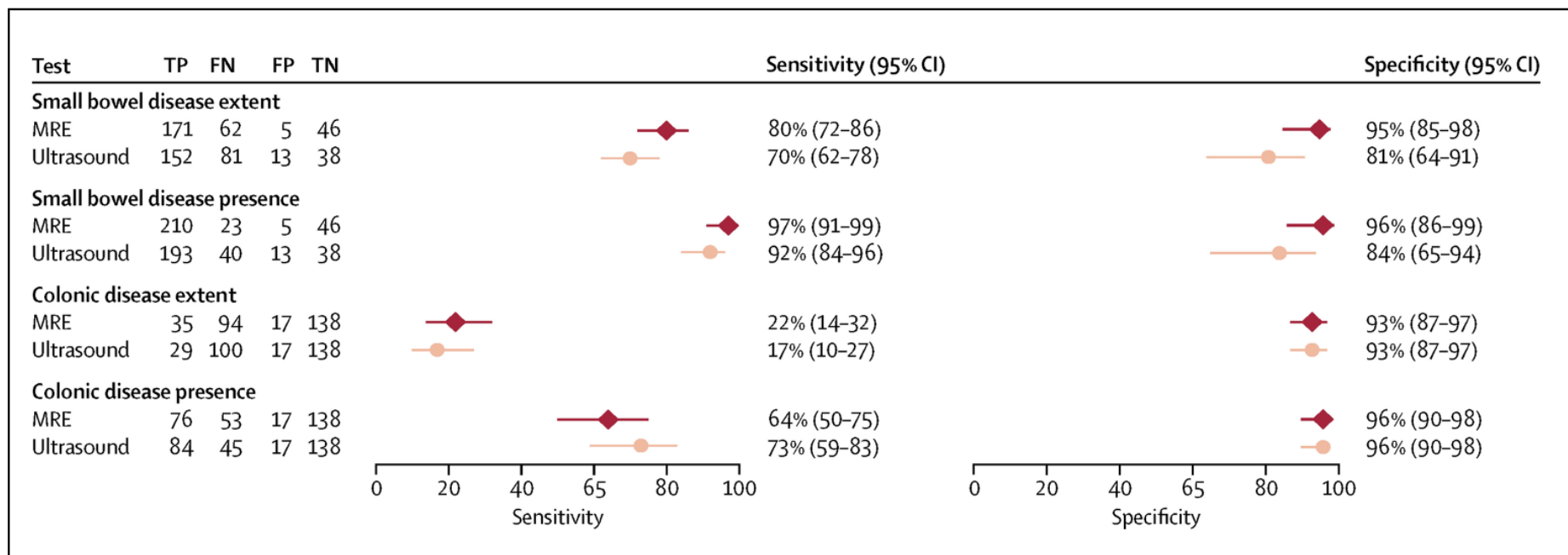
## Recommendation 2

Small bowel assessment should be performed in all newly diagnosed Crohn's disease patients using MR enterography and/or intestinal ultrasound (EL 2). (85% agreement)

## Recommendation 3

Consider upper GI endoscopy in adults with newly diagnosed Crohn's disease (EL4). (89% agreement)

# Diagnostic accuracy of magnetic resonance enterography and small bowel ultrasound for the extent and activity of newly diagnosed and relapsed Crohn's disease (METRIC): a multicentre trial



- Patients had newly diagnosed CD, or established disease with suspected relapse
- 284 patients completed the trial

**Both IUS & MRE achieve excellent diagnostic accuracy for extent & activity in small bowel CD**



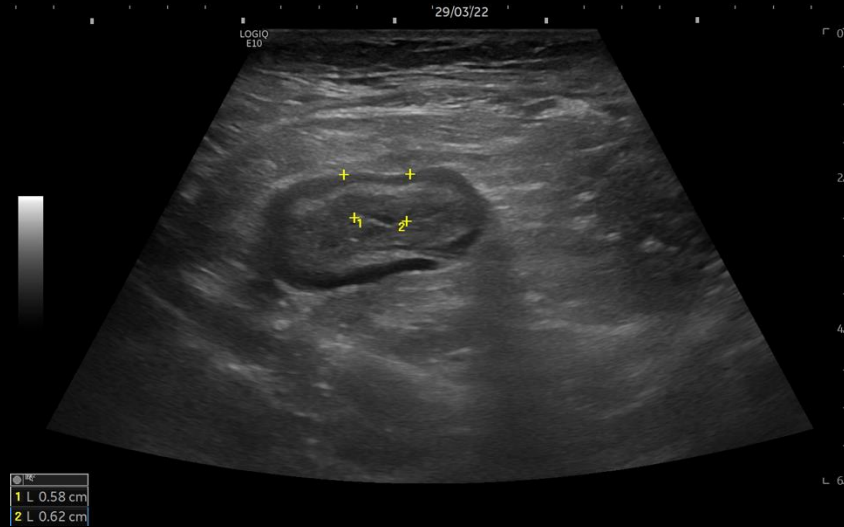
# ECCO-ESGAR-ESP-IBUS 2025 multi-society guideline for Diagnostics and Monitoring of Patients with IBD: **Monitoring CD**

## Recommendation 11

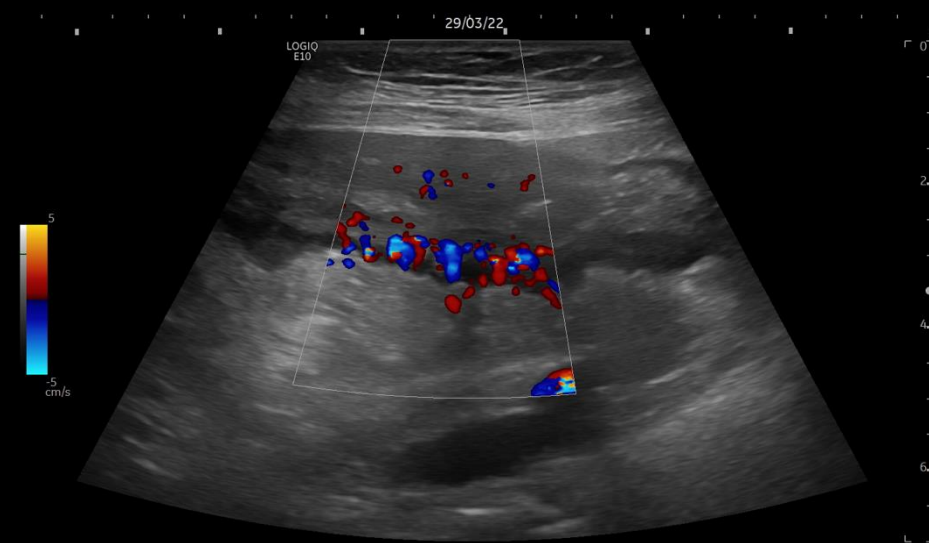
Patients with CD in need of **treatment initiation** or optimization should be assessed clinically and biochemically (EL1), and by endoscopy (EL1), cross sectional imaging (IUS or MRE) **and/or** capsule endoscopy (EL3) at baseline. (95% agreement)

# Inflammatory Activity Parameters Crohn's

Wall thickness mm



Vascularisation Limberg 0-3



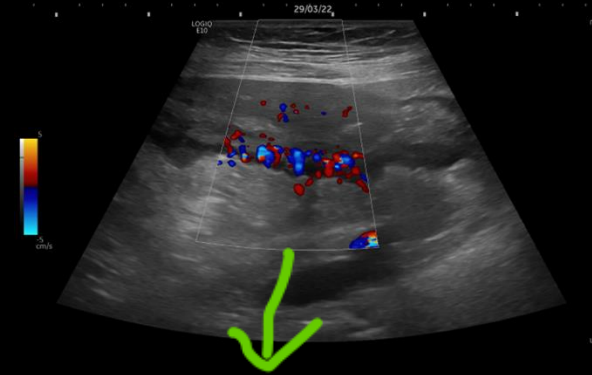
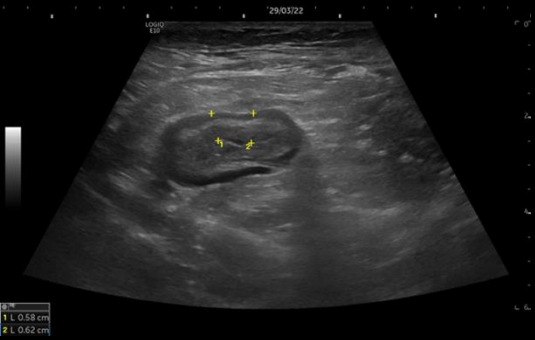
Inflammatory adipose tissue 0,?,+



Loss of stratification 0, ?, <3cm, >3cm



# CD-activity score: IBUS-SAS-Score

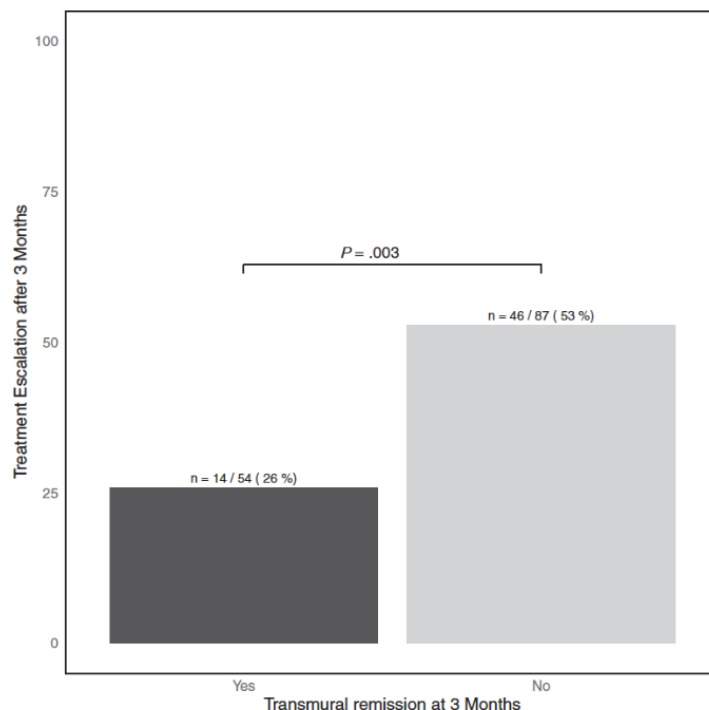


$$\text{IBUS-SAS}(0-100) = 4 \cdot \text{BWT} + 15 \cdot \text{i-fat} + 7 \cdot \text{CDS} + 4 \cdot \text{BWS} = 88$$



# Predictive Value of IUS in early CD

**Prospective population-based cohort of newly diagnosed adult Crohn's patients:** 201 patients were followed up with symptoms, biochemical parameters, IUS and endoscopy.



**Figure 3.** Treatment escalation after 3 months stratified by transmural remission.

**TMR at 3M** was achieved in 38% of patients

- associated with CSFR at all follow-ups within the first year
- **lower risk of treatment escalation during follow-up until 12 months** (26% vs 53%; P=0.003)

**TMR at 12M** was achieved in 41% of patients

**IBUS-SAS** in the terminal ileum at diagnosis was the **best predictor of ICR** during the first year, with an optimal **threshold of 63** (area under the curve [AUC], 0.92; sensitivity, 100%; specificity, 73%).

# CD patient Marcel: IBD clinic Oct 8th

6 weeks after start of steroids:

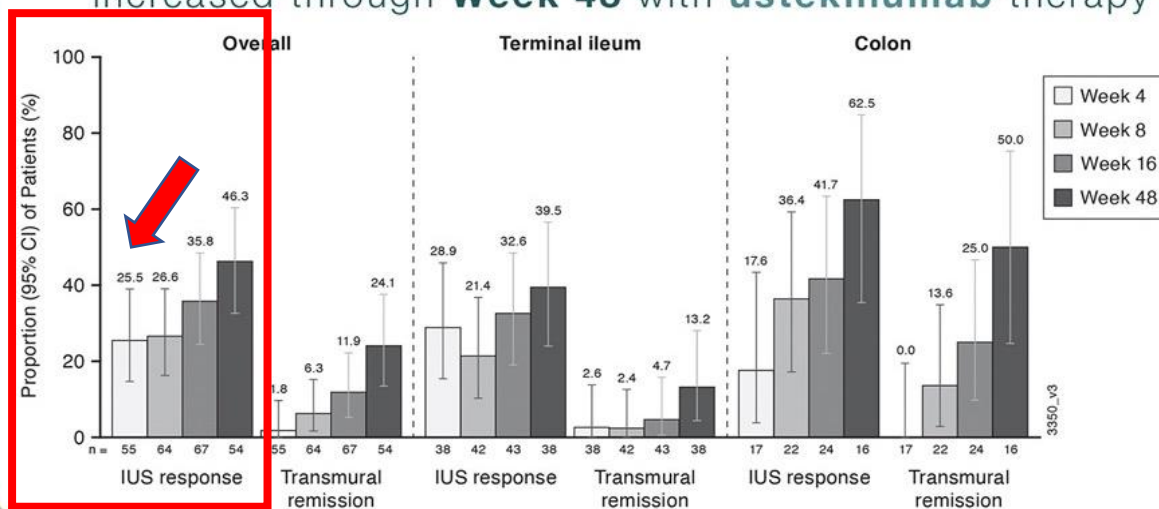
Gained 10 kg, only mild abdominal symptoms left,  
normal stool frequency almost solid, no blood

# Intestinal Ultrasound Response as early as 4 weeks after start of treatment with Ustekinumab in CD



## RESULTS

Overall **IUS** response\* & transmural remission† rates increased through **Week 48** with **ustekinumab** therapy



**77** patients were evaluated



Most affected segments at baseline:  
**terminal ileum (65%) & colon (35%)**



IUS responses as early as **Week 4**



The most robust responses to **ustekinumab** therapy were observed in the **colon** (62.5% for IUS response at Week 48 vs. 39.5% for the terminal ileum) and in **biologic-naïve** patients (59.1% vs. 37.5% for patients previously exposed to 1 biologic therapy)

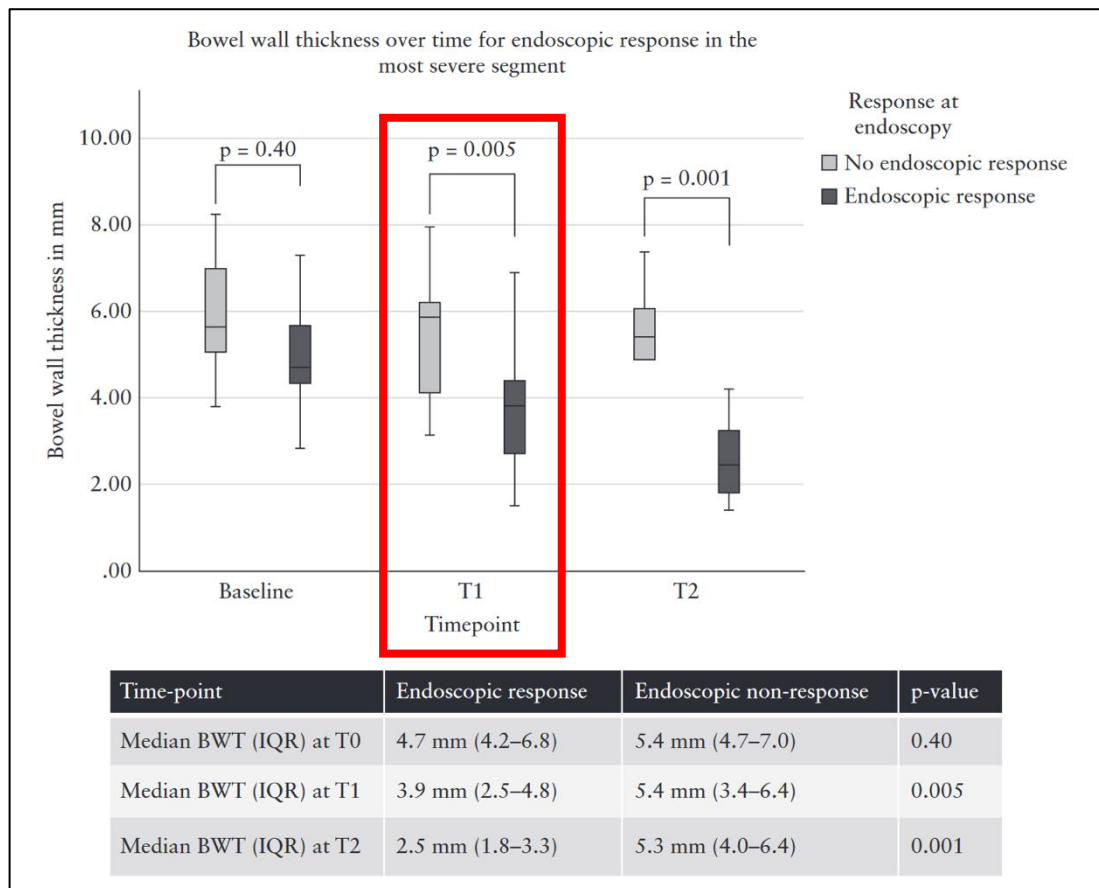
\*IUS response was defined as a reduction in bowel wall thickness (BWT) of  $\geq 25\%$ . †Transmural remission was defined as normalization of blood flow, bowel all stratification, inflammatory mesenteric fat, and BWT (ie,  $\leq 3$  mm in the colon and  $\leq 2$  mm in the ileum).

# Intestinal Ultrasound at **4-8 weeks** Predicts Endoscopic Response to Anti-TNF $\alpha$ Treatment in CD

- 40 patients with anti-TNF $\alpha$
- 14 reached endoscopic remission (SES-CD=0; 17 endoscopic response = 17 (decrease in SES-CD  $\geq$  50%))
- IUS: T0, T1 week 4-8 and T2 week 12-34
- Endoscopy: T0 and T2

## Results:

- **Reduction in BWT already after 4-8 weeks of follow-up predicted endoscopic response and remission**
- BWT of 3.2 mm at T2 = determine endoscopic remission
- CEUS parameters were of limited value





# Early Intestinal Ultrasound Response to Biologic Therapy Predicts Endoscopic Remission in Children with Ileal Crohn's Disease: Results from the Prospective Super Sonic Study

Michael Todd Dolinger<sup>a, ID</sup>, Illya Aronskyy<sup>a</sup>, Amelia Kellar<sup>a, ID</sup>, Elizabeth Spencer<sup>a</sup>, Nanci Pittman<sup>a</sup>, Marla C. Dubinsky<sup>a</sup>

*Journal of Crohn's and Colitis*, 2024, **18**, 1002–1011

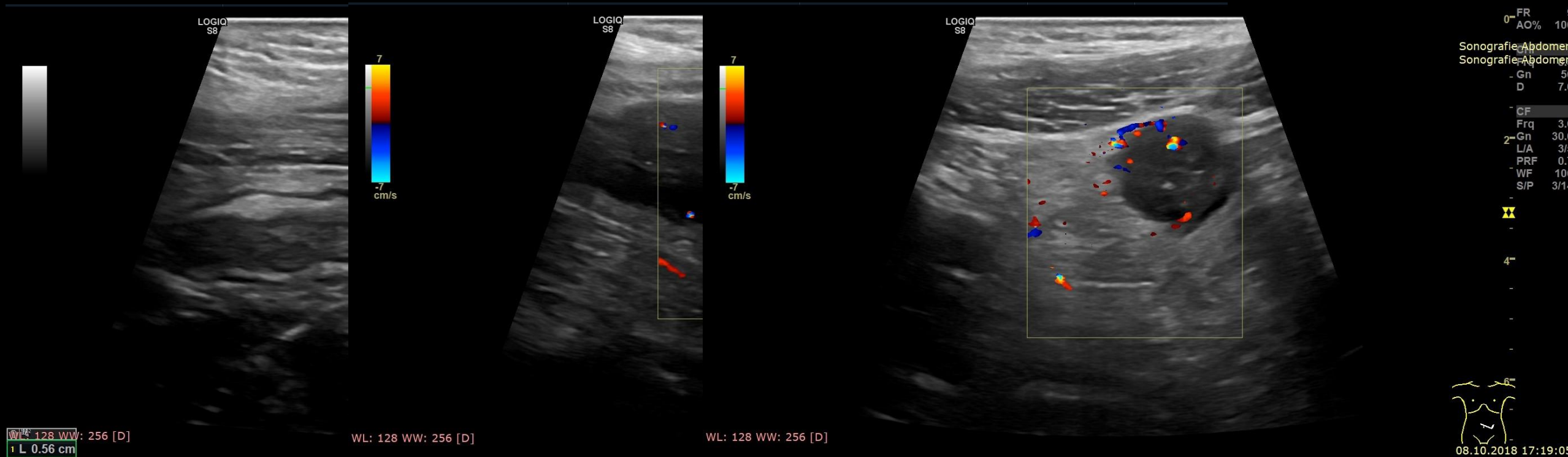
→ IUS at week 8 predicted endoscopic remission within 1 year

# ECCO-ESGAR-ESP-IBUS 2025 multi-society guideline for Diagnostics and Monitoring of Patients with IBD: **Monitoring CD**

## Recommendation 12

In patients with CD following treatment initiation or optimization, we recommend **early (within 12 weeks)** clinical [EL1], biochemical [EL1] and **cross-sectional imaging (IUS [EL2] or MRE [EL2]) assessment of response**. Endoscopic response assessment should be performed within 12 months [EL1]. Results should be interpreted on the basis of prior baseline assessment. (89% agreement)

# CD patient Marcel: IBD clinic Oct 8th



$$\text{IBUS-SAS}(0-100) = 4 \cdot \text{BWT} + 15 \cdot \text{i-fat} + 7 \cdot \text{CDS} + 4 \cdot \text{BWS} = 80$$

CRP 11.7 mg/l (<5.0), WBC 17.9/nl (3.9-10.2)



# CD patient Marcel: IBD clinic Oct 16th

Aza started, planned first IFX infusion

Clinically severe perianal pain, on inspection normal

# ECCO-ESGAR-ESP-IBUS 2025 multi-society guideline for Diagnostics and Monitoring of Patients with IBD: **CD perineal**

## Recommendation 22

Patients with IBD suspected of perianal disease should undergo a clinical and endoscopic examination, including digital rectal exam to assess for anal stricture, in addition to a **pelvic MR or transrectal US (TRUS)** and an examination under anaesthesia (EUA) if indicated (EL1). **Transperineal ultrasound (TPUS) could be used alternatively (EL3).** (91% agreement)

# CD patient Marcel: IBD clinic Oct 16th

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WL: 128 WW: 256 [D]

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-  
Sonografie Abdomen  
Sonografie Abdomen

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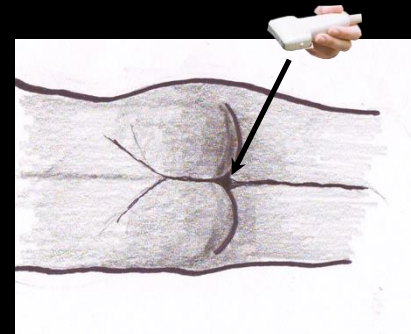
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# CD patient Marcel:

Next morning: Abscess drainage, transsphincteric drainage

26.11.18: IFX + Azathioprine

24.1.19: 2 weeks after 3rd IFX-infusion

# CD patient Marcel: Jan 24th, 2weeks post 3rd IFX-infusion

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Se: 5  
Lossy compression (JPEG)



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S8



Sonografie Abdomen  
Sonografie Abdomen

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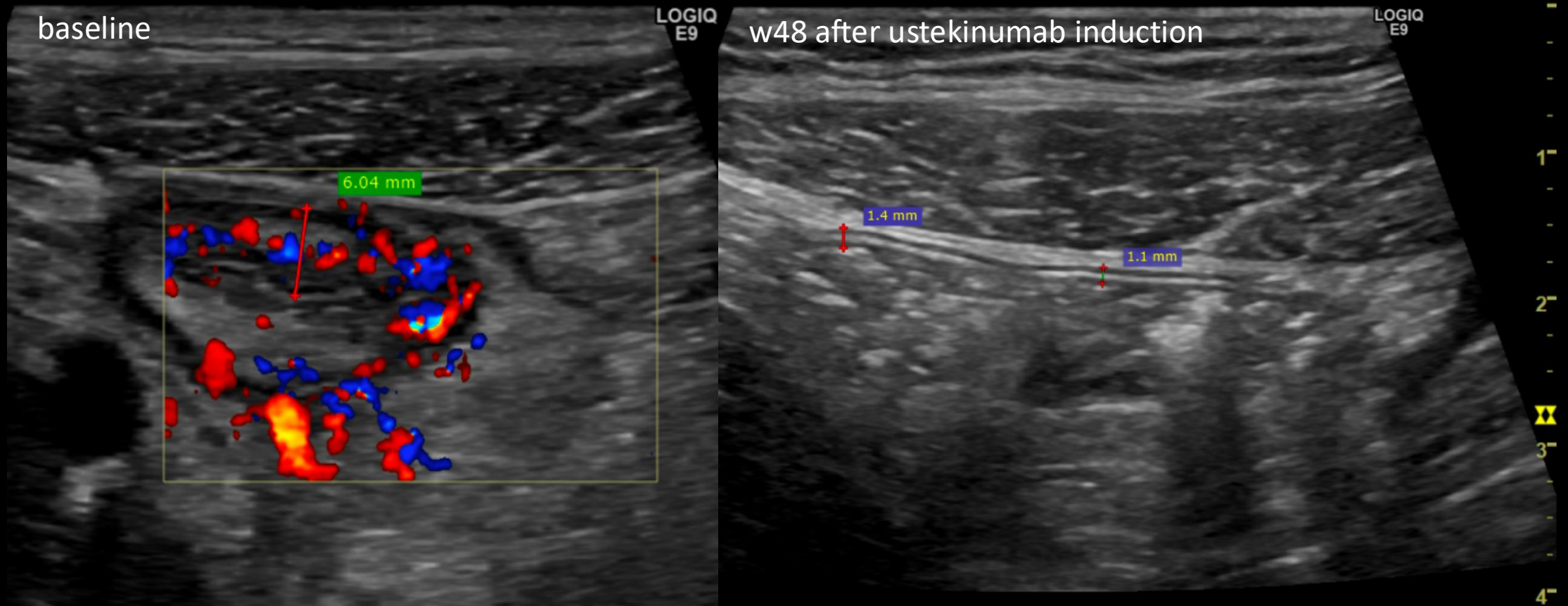
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# CD patient Marcel: IBD MDT meeting

Surgical therapy:

Ileo-cecal resection, side-to-side- ileo-ascendostomie  
March 15th

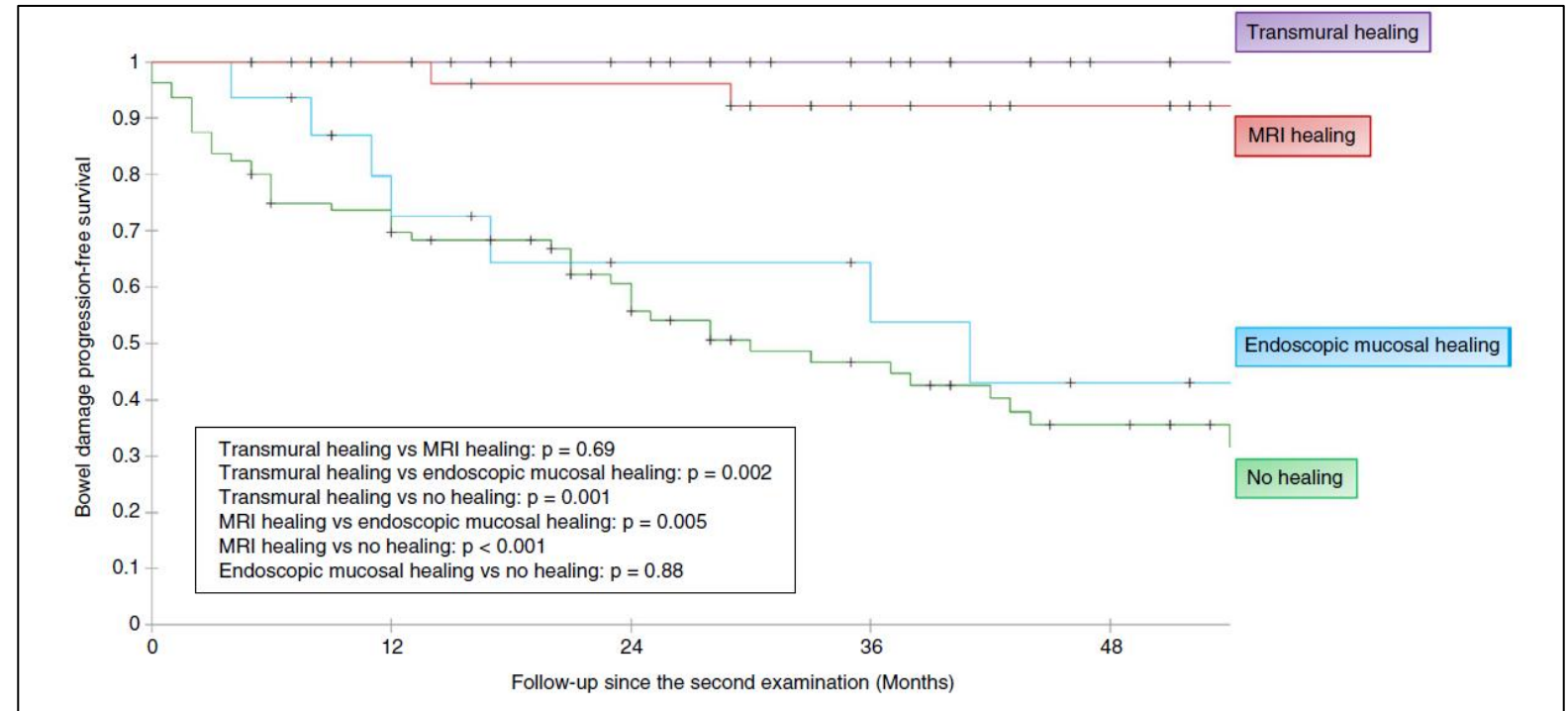
# Transmural Remission in Response to Therapy



## *Transmural healing and MRI healing are associated with lower risk of bowel damage progression than endoscopic mucosal healing in CD*

### Retrospective study

- 154 CD patients
- **Mucosal healing**: no ulceration or aphthoid lesion
- **MRI healing**: no MRI signs of inflammation and no complication
- **Transmural healing**: endoscopic and transmural healing



**Bowel damage progression** = bowel resection, new stricture or fistula, or worsening of pre-existing stricture (increase in pre-stenotic dilation on imaging or occurrence of major obstructive symptoms) or fistula (new abscess or new fistula tract)

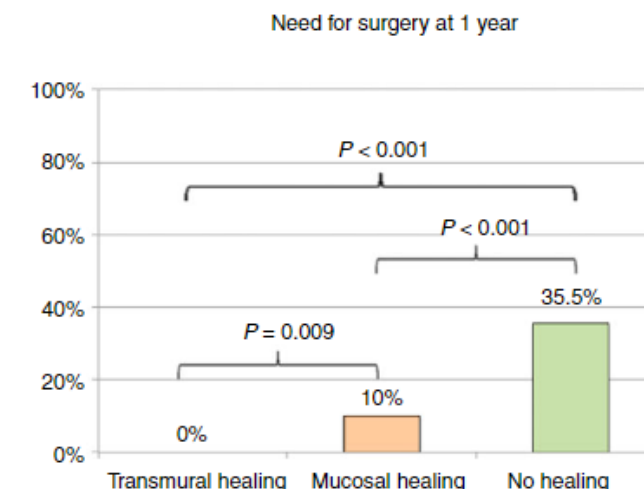
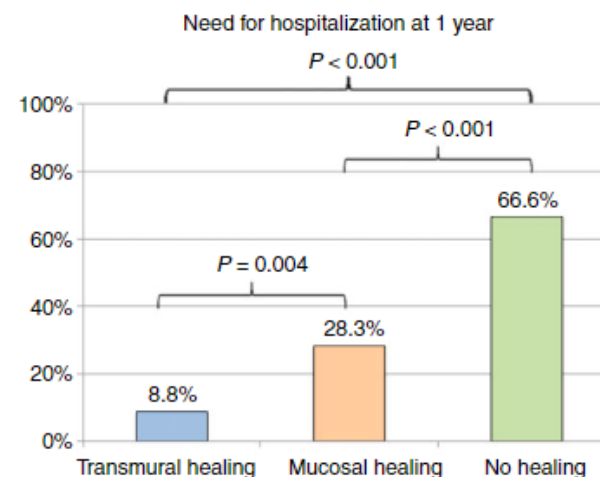
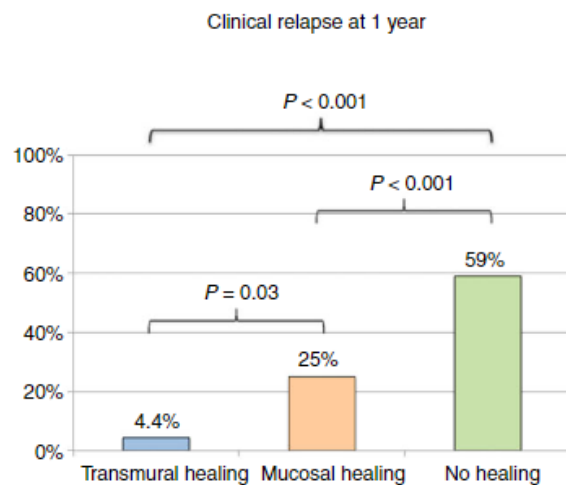
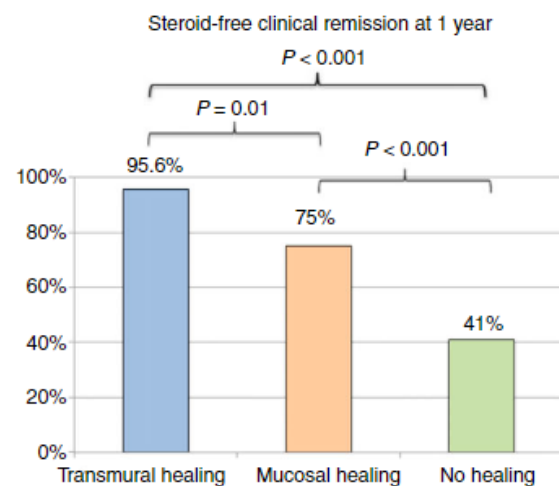
# One-year clinical outcomes with biologics in Crohn's disease: transmural healing compared with mucosal or no healing



N = 231 CD patients that continued a 2yr treatment period with ADA or IFX



Prospective observational single center study in Italy 2014-2018



No healing: SES-CD>2 and BWT>3 mm

Mucosal healing: SES-CD≤2

Transmural healing: BWT ≤3

# Toward transmural healing: Sonographic healing is associated with improved long-term outcomes in patients with CD



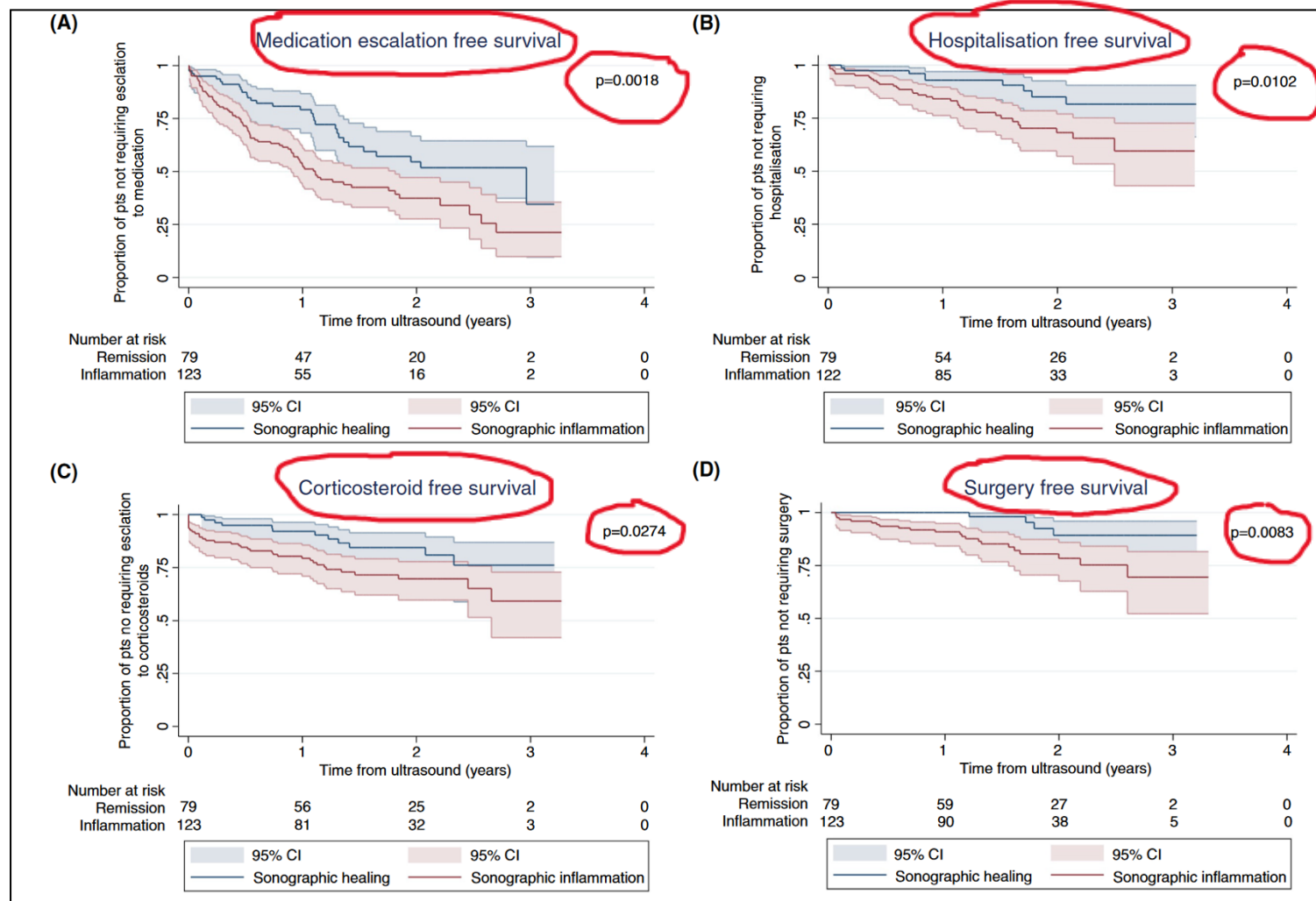
202 CD patients in remission ( $\text{HBI} \leq 4$ )



Median Follow-up:  
19 (IQR 13–27) month

## Sonographic (transmural) healing:

- $\text{BWT} \leq 3\text{mm}$
- no hyperemia on color doppler
- no inflammatory fat
- normal bowel wall stratification





**CD patient Marcel: June = 3 month post surgery**

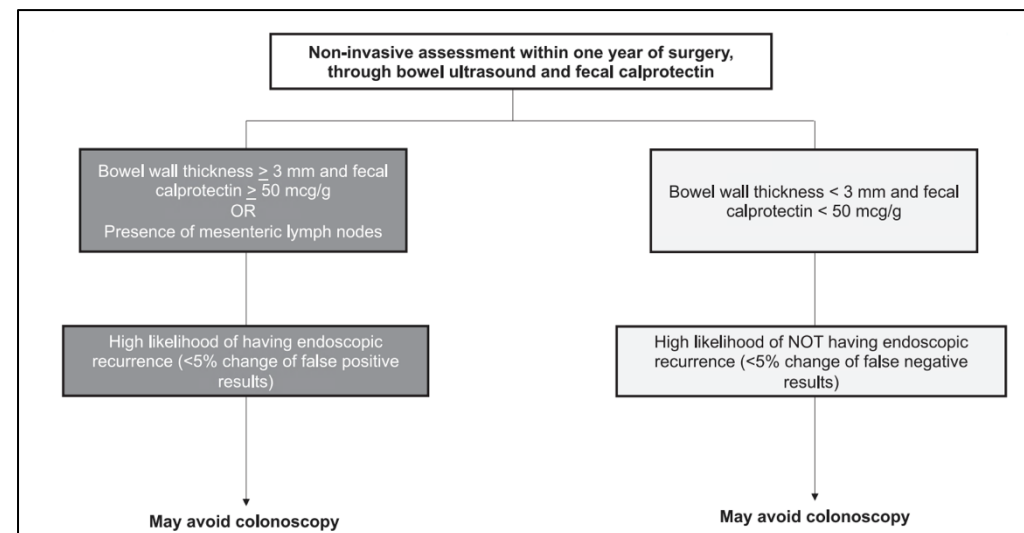
→ Postsurgical monitoring?

# Noninvasive Assessment of Postoperative Disease Recurrence in Crohn's Disease: A Multicenter, Prospective Cohort Study on Behalf of the Italian Group for IBD

- 91 CD patients prospectively in 3 Italian centers
- Ileocolonoscopy within 1 year post ileocecal resection
- Rutgeert's score  $\geq$  i2 = endoscopic recurrence
- IUS within 3 month from ileocolonoscopy

**Table 3.** Diagnostic Accuracy of Noninvasive Parameters Alone or in Combination in Detecting Endoscopic Recurrence (95% CI): Per-patient Analysis

|                                                        | Sensitivity,<br>% (95% CI) | Specificity,<br>% (95% CI) | Accuracy,<br>% (95% CI) | PPV,<br>% (95% CI) | NPV,<br>% (95% CI) |
|--------------------------------------------------------|----------------------------|----------------------------|-------------------------|--------------------|--------------------|
| BWT $\geq$ 3 mm                                        | 77 (64–87)                 | 65 (45–81)                 | 73 (62–81)              | 81 (68–90)         | 59 (41–75)         |
| FC $\geq$ 50 mcg/g                                     | 83 (70–91)                 | 64 (44–81)                 | 76 (65–85)              | 81 (68–90)         | 67 (46–83)         |
| Presence of lymph nodes                                | 35 (23–48)                 | 97 (83–100)                | 56 (45–66)              | 95 (77–100)        | 43 (32–56)         |
| BWT $\geq$ 3 mm and FC $\geq$ 50 mcg/g                 | 65 (51–78)                 | 93 (76–99)                 | 75 (64–84)              | 94 (81–99)         | 59 (43–74)         |
| BWT $\geq$ 3 mm and FC $\geq$ 50 mcg/g and lymph nodes | 33 (20–48)                 | 100                        | 66 (55–75)              | 100                | 59 (47–70)         |
| BWT $\geq$ 3 mm or FC $\geq$ 50 mcg/g                  | 93 (83–98)                 | 34 (18–54)                 | 74 (63–83)              | 74 (63–84)         | 71 (42–92)         |
| BWT $\geq$ 3 mm or FC $\geq$ 50 mcg/g or lymph nodes   | 97 (88–100)                | 34 (18–54)                 | 76 (66–85)              | 75 (64–84)         | 83 (52–98)         |



→ **Lueneburg standard 3 month post surgery:**  
clinical symptoms  
+ fCalpro  
+ IUS

# IUS for postoperative monitoring:

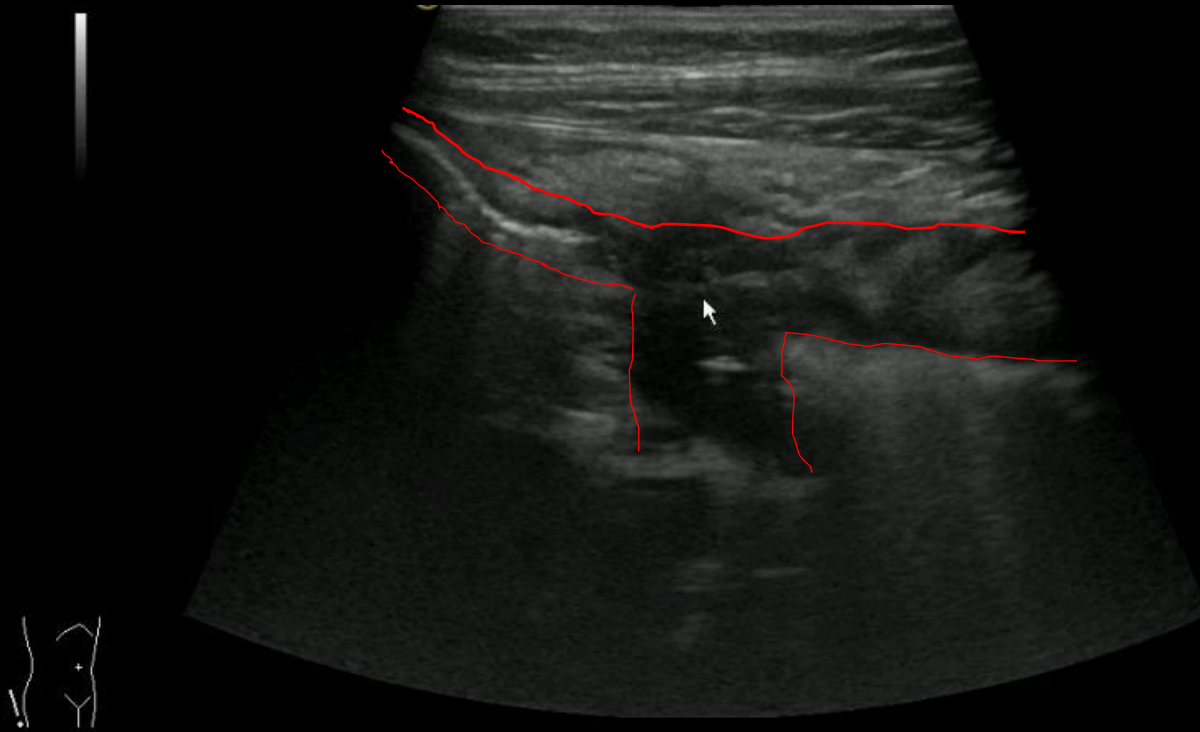


fCalprotectin: 250

## Recommendation 18

In patients with Crohn's disease who underwent ileocaecal resection, we recommend endoscopy 6-12 months after surgery [EL2]. **Cross-sectional imaging (IUS [EL3] or MRE [EL3]) in combination with FCP 3-6 months after surgery [EL3]** could be used to detect early recurrence. Small bowel capsule endoscopy can be considered as a noninvasive alternative [EL3]. (90% agreement)

# Disease Monitoring in the clinically asymptomatic patient



## Recommendation 14

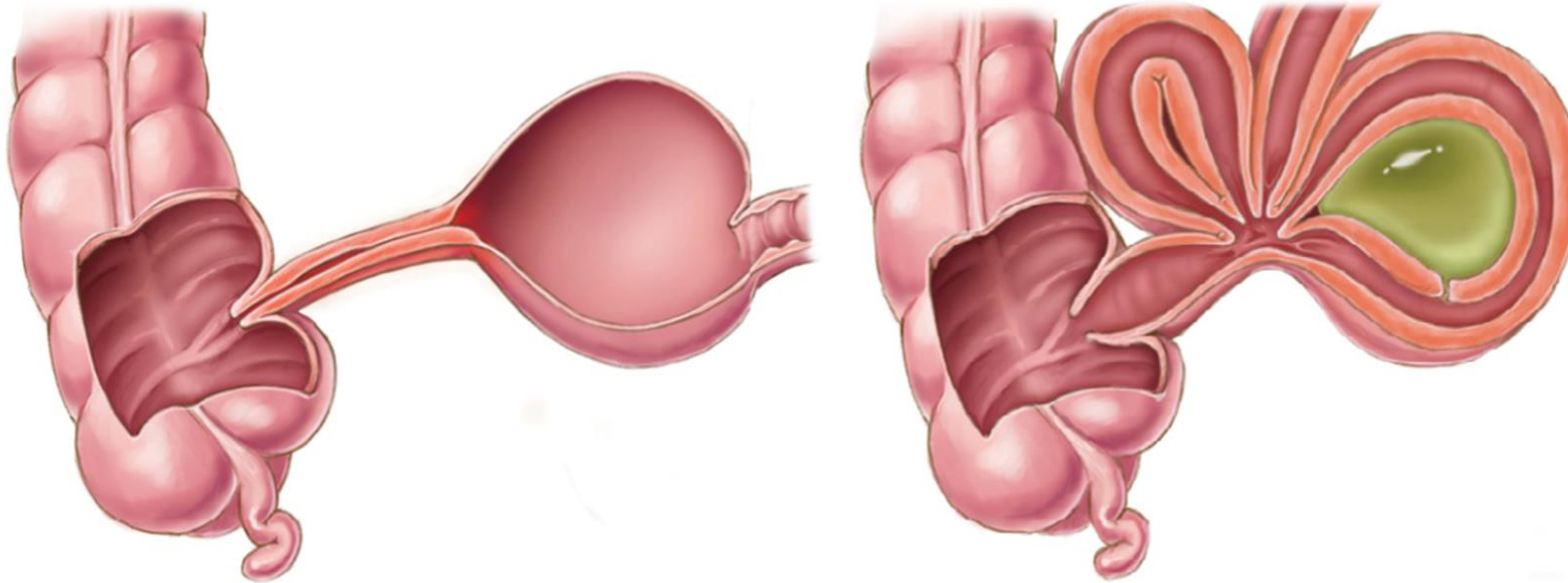
In patients with Crohn's disease **in clinical remission** we suggest **proactive** monitoring for subclinical inflammation by PRO and **objective markers of disease activity (biomarkers and cross sectional imaging (IUS or MRE))** every 6-12 months [EL3]. (86% agreement)

ECCO-ESGAR-ESP-IBUS Diagnostic Guideline JCC 2025

fCalprotectin: 180  
CRP: normal



# Detecting Complications: Federica Furfaro





# 56y-old patient Frank: CD since 2017

- Crohn's ileitis
- Adalimumab since 2019
- For the last few days diarrhoea up to 10x/d, bloody discharge, severe abdominal cramping, nausea/vomiting, no fever

# Same Day Intestinal Ultrasound: TI

Im: 1/2473

Se: 8

Lossy compression (JPEG)

LOGIQ  
S8

Sonografie spezielle Darmsonographie  
Sonografie spezielle Darmsonographie



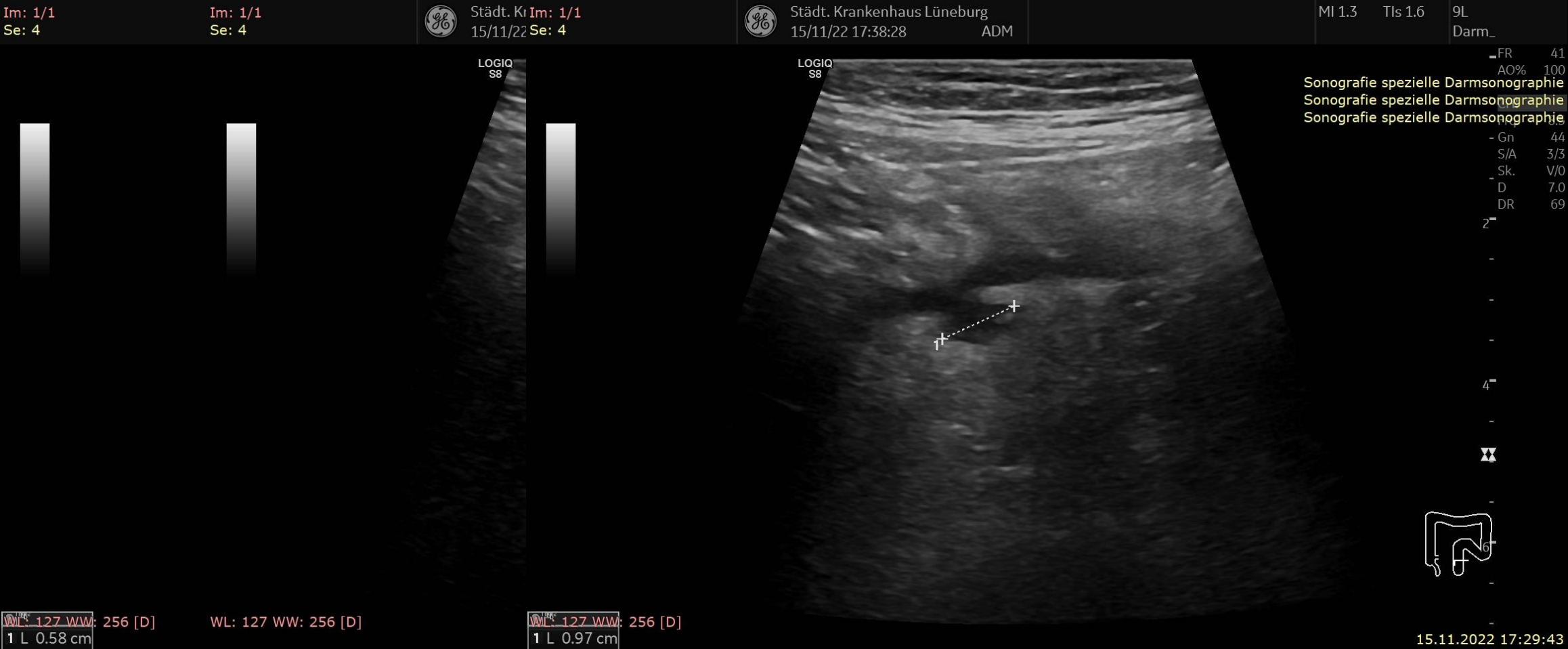
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# Same Day Intestinal Ultrasound: Sigmoid



## **Problem: (ileal) CD often diagnosed too late**



# ***Nonspecific ileitis: Impact of histopathology and gastro-intestinal ultrasound in achieving the diagnosis of CD***

**Table 2** Colonoscopy indications and histology findings for 35 patients with nonspecific ileitis undergoing gastrointestinal ultrasound follow-up within 6 months

|                                  | No diagnosis of Crohn's disease | Diagnosed with Crohn's disease | P-value             |
|----------------------------------|---------------------------------|--------------------------------|---------------------|
| <b>Number</b>                    | 30 (86%)                        | 5 (14%)                        |                     |
| <b>Age</b> , median (IQR), years | 47 (34–57)                      | 62 (35–74)                     | 0.282 <sup>‡</sup>  |
| <b>Female sex</b> , (%)          | 60%                             | 40%                            | 0.6313 <sup>§</sup> |

**Nonspecific ileitis on endoscopy**  
**→ follow-up IUS = differentiate CD vs. non-specific ileitis**

|                                           |               |               |                     |
|-------------------------------------------|---------------|---------------|---------------------|
| Bleeding per rectum                       | 4 (13%)       | 1 (20%)       |                     |
| Other                                     | 4 (13%)       | 1 (20%)       |                     |
| <b>Ileal histology<sup>†</sup>, n (%)</b> |               |               |                     |
| Acute ileitis                             | 13 (43.3%)    | 1 (20%)       | 0.586 <sup>†</sup>  |
| Acute and chronic ileitis                 | 7 (23.3%)     | 2 (40%)       |                     |
| Normal histology                          | 10 (33.3%)    | 2 (40%)       |                     |
| <b>Sonographic findings</b>               |               |               |                     |
| Bowel wall thickness, median (range) mm   | 2.0 (1.3–4.0) | 5.0 (4.4–6.7) | 0.0002 <sup>‡</sup> |
| Bowel wall vascularity                    | 3 (10%)       | 5 (100%)      | 0.0002 <sup>§</sup> |

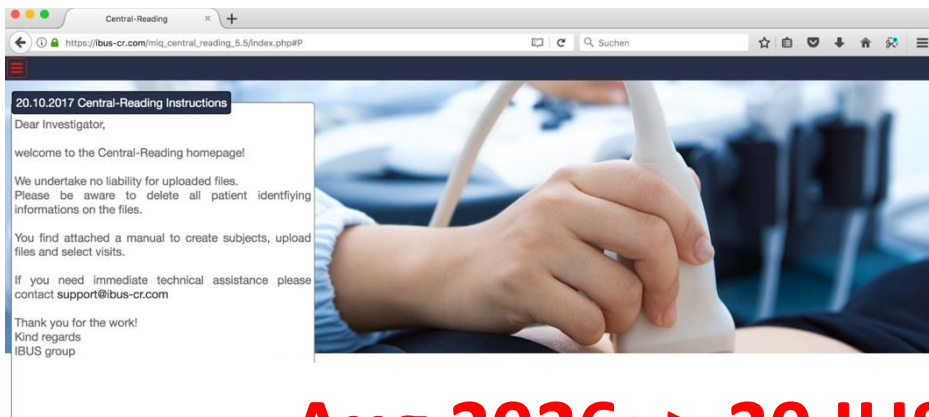
# Reliability of IUC in CD

24 CD patients and 6 gastroenterologists participated in a 2-day workshop where each participant underwent 6 IUS scans in total, IUS disease activity were blindly assessed by the 6 local readers and 4 central readers.

| IUS parameter                                                                                                      | Segment                | Local readers (n = 6)    |                          | Central readers (n = 4)  |                          |
|--------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                                                                                                                    |                        | Inter-rater ICC (95% CI) | Intra-rater ICC (95% CI) | Inter-rater ICC (95% CI) | Intra-rater ICC (95% CI) |
| BWT, mm                                                                                                            | Terminal ileum         | 0.67 (0.40–0.85)         | 0.75 (0.55–0.89)         | 0.94 (0.91–0.96)         | 0.97 (0.95–0.99)         |
|                                                                                                                    | Ascending colon        | 0.76 (0.29–0.87)         | 0.76 (0.32–0.89)         | 0.84 (0.36–0.91)         | 0.88 (0.44–0.96)         |
|                                                                                                                    | Transverse colon       | 0.46 (0.04–0.66)         | 0.50 (0.14–0.67)         | 0.82 (0.30–0.91)         | 0.89 (0.43–0.95)         |
|                                                                                                                    | Descending colon       | 0.60 (0.17–0.72)         | 0.83 (0.55–0.92)         | 0.88 (0.54–0.95)         | 0.93 (0.67–0.97)         |
|                                                                                                                    | Sigmoid colon          | 0.72 (0.30–0.82)         | 0.74 (0.37–0.85)         | 0.80 (0.57–0.88)         | 0.91 (0.79–0.96)         |
|                                                                                                                    | Worst affected segment | 0.62 (0.34–0.79)         | 0.75 (0.57–0.86)         | 0.82 (0.68–0.90)         | 0.89 (0.78–0.95)         |
| BWS (normal or abnormal)                                                                                           | Terminal ileum         | 0.65 (0.33–0.85)         | 0.84 (0.71–0.95)         | 0.32 (0.10–0.53)         | 0.63 (0.46–0.77)         |
|                                                                                                                    | Ascending colon        | 0.47 (0.00–0.84)         | 0.63 (0.12–0.93)         | 0.37 (0.00–0.62)         | 0.63 (0.13–0.78)         |
|                                                                                                                    | Transverse colon       | 0.60 (0.00–0.92)         | 0.64 (0.09–0.94)         | 0.83 (0.00–1.00)         | 0.86 (0.00–1.00)         |
|                                                                                                                    | Descending colon       | 0.72 (0.00–1.00)         | 0.79 (0.19–1.00)         | 0.50 (0.00–0.63)         | 0.58 (0.05–0.69)         |
|                                                                                                                    | Sigmoid colon          | 0.47 (0.00–0.85)         | 0.58 (0.04–0.92)         | 0.20 (0.00–0.37)         | 0.42 (0.09–0.58)         |
|                                                                                                                    | Worst affected segment | 0.35 (0.11–0.52)         | 0.58 (0.42–0.73)         | 0.33 (0.16–0.49)         | 0.61 (0.48–0.71)         |
| CDS<br>(0 = none;<br>1 = short stretches;<br>2 = long stretches;<br>3 = reaching into the mesentery <sup>a</sup> ) | Terminal ileum         | 0.61 (0.35–0.74)         | 0.71 (0.53–0.83)         | 0.72 (0.56–0.81)         | 0.89 (0.81–0.94)         |
|                                                                                                                    | Ascending colon        | 0.65 (0.00–0.79)         | 0.65 (0.22–0.81)         | 0.79 (0.44–0.87)         | 0.83 (0.48–0.90)         |
|                                                                                                                    | Transverse colon       | 0.82 (0.00–0.87)         | 0.89 (0.00–0.94)         | 0.77 (0.00–0.85)         | 0.78 (0.01–0.85)         |
|                                                                                                                    | Descending colon       | 0.55 (0.00–0.63)         | 0.66 (0.05–1.00)         | 0.73 (0.00–0.83)         | 0.80 (0.02–0.90)         |
|                                                                                                                    | Sigmoid colon          | 0.75 (0.00–0.93)         | 0.87 (0.42–1.00)         | 0.68 (0.26–0.81)         | 0.74 (0.38–0.85)         |
|                                                                                                                    | Worst affected segment | 0.58 (0.33–0.71)         | 0.66 (0.51–0.80)         | 0.53 (0.30–0.68)         | 0.76 (0.62–0.86)         |
| i-fat (absent or present)                                                                                          | Terminal ileum         | 0.53 (0.26–0.74)         | 0.66 (0.44–0.84)         | 0.62 (0.42–0.77)         | 0.78 (0.66–0.88)         |
|                                                                                                                    | Ascending colon        | 0.68 (0.00–0.90)         | 0.69 (0.34–1.00)         | 0.65 (0.00–0.83)         | 0.70 (0.01–0.84)         |
|                                                                                                                    | Transverse colon       | 0.61 (0.16–0.80)         | 0.61 (0.19–0.80)         | 0.71 (0.00–0.91)         | 0.72 (0.00–0.91)         |
|                                                                                                                    | Descending colon       | 0.76 (0.00–1.00)         | 0.93 (0.49–1.00)         | 0.75 (0.31–0.95)         | 0.75 (0.35–0.95)         |
|                                                                                                                    | Sigmoid colon          | 0.89 (0.59–1.00)         | 0.89 (0.59–1.00)         | 0.55 (0.14–0.77)         | 0.67 (0.28–0.85)         |
|                                                                                                                    | Worst affected segment | 0.46 (0.17–0.66)         | 0.59 (0.33–0.78)         | 0.46 (0.25–0.63)         | 0.65 (0.46–0.79)         |

- Five IUS parameters demonstrated at least moderate (ICC  $\geq 0.41$ ) inter- and intra-rater reliability (BWT, CDS, i-fat, submucosal prominence, and affected segment length)
- Reliability was generally better with central reading
- IUS parameters are most reliable when evaluated in the worst affected segment

# IUS as secondary/exploratory endpoint



**Aug 2026: > 20 IUS pharamaterials  
including IUS**



international bowel  
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## **VECTORS - A Study to Evaluate Transmural Healing as a Treatment Target in Crohn's Disease (VECTORS)**

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ARTICLE: INFLAMMATORY BOWEL DISEASE

# Determining the Accuracy of Intestinal Ultrasound Scores as a Prescreening Tool in Crohn's Disease Clinical Trials

 Dolinger, Michael T. MD, MBA<sup>1,2,\*</sup>;  Aronskyy, Illya BA<sup>1,\*</sup>;  Kellar, Amelia MD<sup>1,2</sup>; Gao, Michael BA<sup>1</sup>;  Spencer, Elizabeth A. MD, MS<sup>1,2</sup>; Pittman, Nanci MD<sup>1,2</sup>;  Dubinsky, Marla C. MD<sup>1,2</sup>

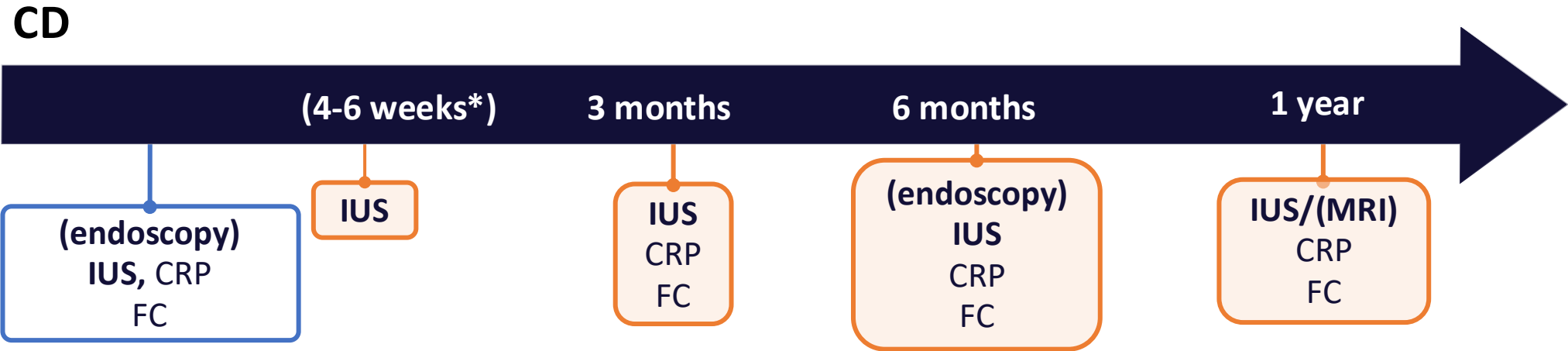
[Author Information](#) 

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## CONCLUSION:

Segmental IUS BWT is highly accurate to detect moderate-to-severe endoscopic inflammation

# CD Monitoring in Lueneburg



- Determine Transmural Response short-term
- Monitoring with objective markers
- Rule out complications
- Optimising therapy
- Determine Endoscopic Remission and Transmural Remission long-term

\*depending on disease activity

# IBD clinic Setup Lüneburg

