STANDARDIZED DOCUMENTATION AND REPORTING

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IBUS Hands-on Workshop Module 1
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UDS Université de Sherbrooke

DISCLOSURE

Honorarium for presenting at conferences

Abbvie, Amgen, Celltrion, Janssen, Lilly, Organon, Pendopharm, Pfizer, Takeda

Honorarium for participation in advisory committees

Abbvie, Amgen, Bristol Myers Squibb, Celltrion, Ferring, Janssen, Lilly, Merck, McKesson, Pendopharm, Sandoz, Takeda

Grant for education, clinical practice, or research

Abbvie, Advanz, Amgen, Celltrion, Mckesson, Organon, Pfizer, Sandoz, Takeda

OBJECTIVES

By the end of this presentation, participants will be able to:

- Describe the benefits of an appropriate documentation
- Define the key elements of a standardized and optimized IUS report
- Examine the process of IUS data storage for clinical and research use

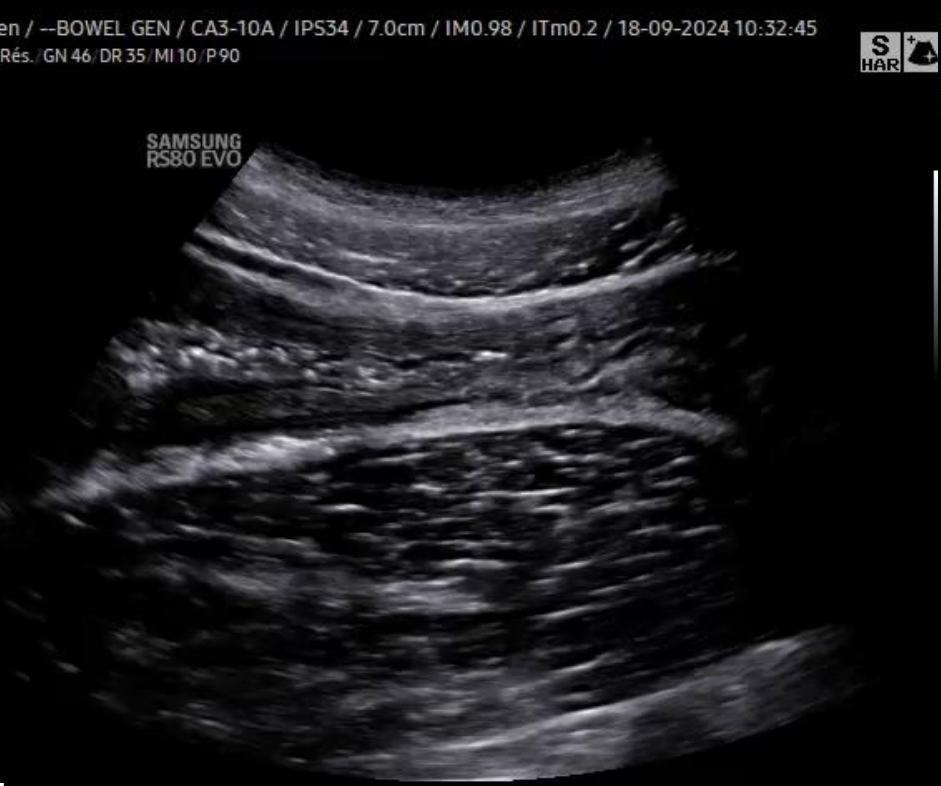
DESCRIBE THE BENEFITS OF AN APPROPRIATE DOCUMENTATION

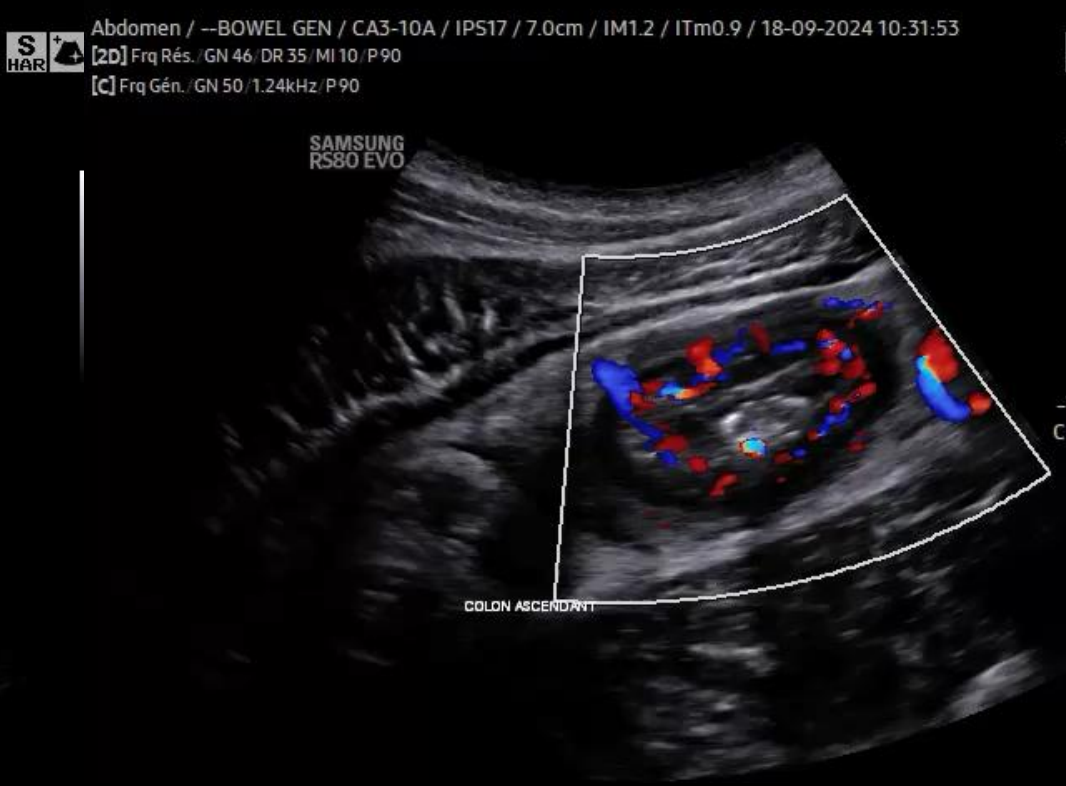
CLINICAL CASE

- 20-year-old male with ileocolonic Crohn's disease, diagnosed in 2020.
- Previous therapy with prednisone and azathioprine.
- Previous therapy with infliximab, started in 2020 during an hospitalization at the children's hospital.
- Endoscopic remission, confirmed in 2021.
- Blood test and fecal calprotectin within the normal range in 2022.
- Transfer to adult cares.

CLINICAL CASE

- Therapy discontinued by the family due to fear of side effects.
- Clinical remission, but transmural activity in 2023.
- No interest for an advanced therapy.
- Scheduled appointment 3 months later: no show.
- Urgent appointment 6 months later: progressive abdominal pain, bloating, nausea, non-bleeding diarrhea and weight loss reported.
- No recent venous or fecal testings.


en / --BOWEL GEN / CA3-10A / IPS34 / 7.0cm / IM0.98 / ITm0.2 / 18-09-2024 10:32:45
Rés. / GN 46 / DR 35 / MI 10 / P 90
SAMSUNG
RS80 EVO


Abdomen / --BOWEL GEN / CA3-10A / IPS17 / 7.0cm / IM1.2 / ITm0.9 / 18-09-2024 10:31:53
[2D] Frq Rés. / GN 46 / DR 35 / MI 10 / P 90
[C] Frq Gén. / GN 50 / 1.24kHz / P 90
SAMSUNG
RS80 EVO
COLON ASCENDANT

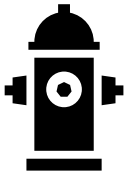
CLINICAL CASE

- Adalimumab and prednisone started.
- 1 month later, clinical response confirmed and family requested to move to Alberta.

CLINICAL CASE

- Mild challenge:
  - Excellent image quality
  - Active disease with inflammatory behavior
  - Concordance with symptoms and transmural activity
- Obvious challenge though to transfer all the information to my amazing colleagues.

BENEFITS OF AN APPROPRIATE DOCUMENTATION

		
Establish confidence in your findings et maximize the clinical impact	Allow monitoring of the response to treatment	Allow evaluation of a potential recurrence or complication of the disease

BENEFITS OF AN APPROPRIATE DOCUMENTATION

- An appropriate documentation:
  - Uses an appropriate terminology
  - Has a standardized structure
  - Includes all important disease features
  - Describes the examination itself and the findings
  - Determines the level of confidence
  - Improves communication with your colleages

Pitfall 1
Believe you are doing this for you only

DEFINE THE KEY ELEMENTS OF A STANDARDIZED AND OPTIMIZED INTESTINAL ULTRASOUND REPORT

KEY ELEMENTS

Journal of Crohn's and Colitis, 2022, 523–543
https://doi.org/10.1093/ecco-jcc/jjab180
Advance Access publication October 10, 2021
ECCO Topical Review

OXFORD

ECCO Topical Review

JCC JOURNAL of CROHN'S and COLITIS

ECCO-ESGAR Topical Review on Optimizing Reporting for Cross-Sectional Imaging in Inflammatory Bowel Disease

Torsten Kucharzik[a,*], Jeroen Tielbeek[b,*], Dan Carter[c], Stuart A. Taylor[d], Damian Tolan[e], Rune Wilkens[f], Robert V. Bryant[g], Christine Hoeffel[h], Isabelle De Kock[i], Christian Maaser[j], Giovanni Maconi[k], Kerri Novak[l], Søren R. Rafaelsen[m], Martina Scharitzer[n], Antonino Spinelli[o,†], Jordi Rimola[p,†]

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OPTIMIZING ACQUISITION

- How can I make this image better?
- Position? Depth? Focus? Gain?
- Acquisition in each segments:
  - Images and cineloops (3-10 seconds)
  - Longitudinal and cross-sectional views with/without CDS
- Annotations

Pitfall 2
Structured acquisition = structured documentation

OPTIMIZING REPORTING

- Exam description:
  - Indication
  - Disease characteristics: phenotype, previous surgery, previous therapy, actual therapy, symptoms, etc.
  - Fasting? Oral or IV constrast?
  - Machine, probes and settings
  - Technical limitations
  - Quality of imaging

OPTIMIZING REPORTING

- Exam findings:
  - Disease extent: number, location and length of segments with inflammation
  - Disease severity: detailed evaluation of the most severe segment (average of 2 measurements in cross and longitudinal axis)
  - Distinct presentation of findings for the rectum, colon, ileum, and upper GI tract is likely to be useful

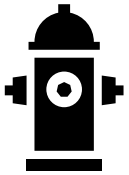
OPTIMIZING REPORTING

- Findings to be assessed on a segment basis:
  - Bowel wall thickness (mm)
  - Color Doppler Signal (modified Limberg)
  - Bowel wall stratification (preserved, decreased, absent, uncertain)
  - Inflammatory fat (yes, no, uncertain)
  - Lymph nodes (yes, no)

OPTIMIZING REPORTING

- Findings to be assessed on a segment basis:
  - Motility (normal, increased, decreased, uncertain)
- Complications to be described:
  - Stricture with location, length, BWT, luminal narrowing, prestenotic dilatation, inflammation, relation with anastomosis
  - Fistula and/or sinus with location, involved organs, relation with stricture
  - Inflammatory mass or abscess

OPTIMIZING REPORTING

	
Exam quality	Conclusion and follow-up

Pitfall 3
Position yourself

EXAMINE THE PROCESS OF IUS DATA STORAGE FOR CLINICAL AND RESEARCH USE

IUS DATA STORAGE

Options are not numerous :

	Picture archiving and communication system (PACS)
	Internal memory of the machine

IUS DATA STORAGE

Options are not numerous :

	Unlimited storage Backup and support
	Limited storage No backup and less support

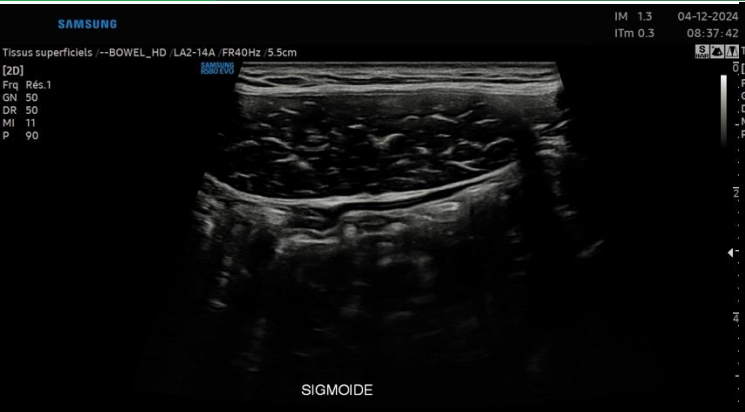
Pitfall 4

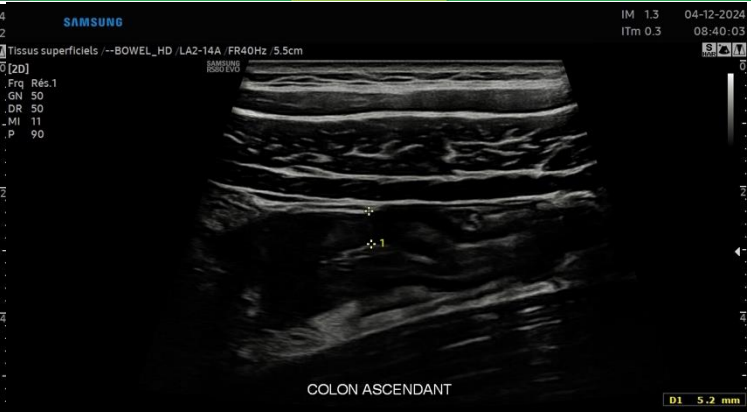
Remember that loosing 1 year of work in 1 second is possible

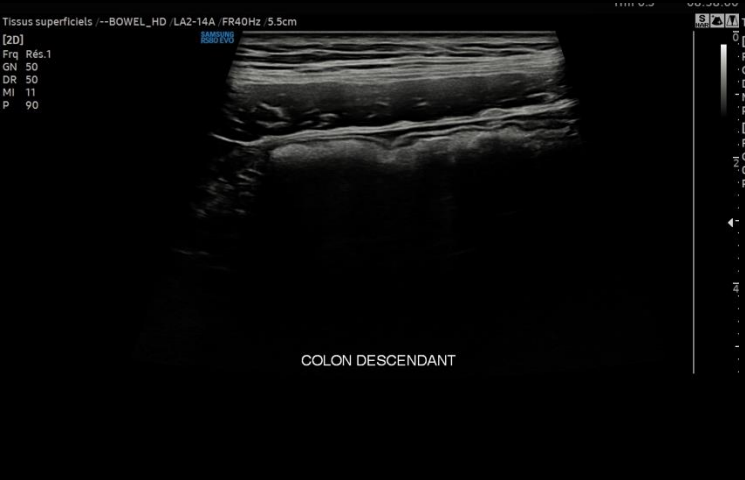
IUS DATA STORAGE

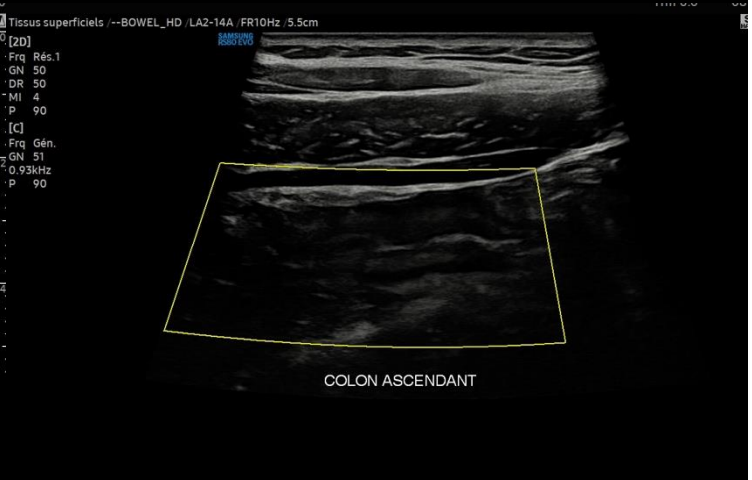
- Ensure that the hardware and software are compatible with the local system.
- Ensure that the room has network connections.
- Involve your IT department early in the process!
- Involve your radiology department? Not necessary, but possibly a smart move.

CLINICAL CASE









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REPORT

INTESTINAL ULTRASOUND REPORT

@NAME@ consented for an intestinal US which was performed at the bedside, by non-radiologists, as part of the comprehensive clinical assessment.

TECHNICAL CHARACTERISTICS

BMI	@BMI@
Examination quality	{ExamQuality:53334}
Fasting	{fasting:53335}
US Machine used	{USMachine:103912}
Probes used	{Probes:53337}

INTESTINAL ULTRASOUND FINDINGS

	Rectum	Sigmoid	Descending	Transverse	Ascending	TI/NTI	Proximal SB
BWT (mm)							<3
Limberg Score	N/A	{LimbergScore:53338}	{LimbergScore:53338}	{LimbergScore:53338}	{LimbergScore:53338}	{LimbergScore:53338}	{LimbergScore:53338}
Echostratification	{EchostratIUS:53341}	{EchostratIUS:53341}	{EchostratIUS:53341}	{EchostratIUS:53341}	{EchostratIUS:53341}	{EchostratIUS:53341}	{EchostratIUS:53341}
Inflammatory Fat	{InflammFAT:53342}	{InflammFAT:53342}	{InflammFAT:53342}	{InflammFAT:53342}	{InflammFAT:53342}	{InflammFAT:53342}	{InflammFAT:53342}
Complications	{Yes/NoLN:53343}	{Yes/NoLN:53343}	{Yes/NoLN:53343}	{Yes/NoLN:53343}	{Yes/NoLN:53343}	{Yes/NoLN:53343}	{Yes/NoLN:53343}
Length of compromise (cm)	{N/AIUS:53344}	{N/AIUS:53344}	{N/AIUS:53344}	{N/AIUS:53344}	{N/AIUS:53344}	{N/AIUS:53344}	{N/AIUS:53344}

Complications		Location	Comments
Strictures	{Yes/NoLN:53343}	{N/AIUS:53344}	
Fistulas	{Yes/NoLN:53343}	{N/AIUS:53344}	
Abscess	{Yes/NoLN:53343}	{N/AIUS:53344}	
Spiculations	{Yes/NoLN:53343}	{N/AIUS:53344}	
Inflammatory mass	{Yes/NoLN:53343}	{N/AIUS:53344}	
Motility alterations	{Yes/NoLN:53343}	{N/AIUS:53344}	

IMPRESSION: {IUSIMPRESSION:53345}

REPORT

Consent for an IUS performed at the bedside, by non-radiologists,
as part of the comprehensive clinical assessment.
The sigmoid, descending, transverse, and ascending colon were visualized.
Image quality was excellent. Bowel wall thickening up to 6.8 mm in the
ascending colon. At previous examination, 12.3 mm.
No Doppler signal in the wall (mL0).
Decreased echostratification and inflammatory fat seen. No lymph nodes.
Abnormal segment length of 10 cm.
No abnormalities elsewhere in the colon.
The rectum was visualized. No abnormalities.
The ileum was visualized. No abnormalities.
The 4-quadrant examination showed normal small bowel loops
Normal peristalsis was observed.
No complication were identified.
Overall, transmural response to treatment.
Confidence: high.

CONCLUSIONS

CONCLUSIONS

The first challenge when you start out is acquiring images.

The second is interpreting them.

Documentation may seem less of a priority in this context, but that is not the case.

It is what gives credibility to your work and builds trust.

CONCLUSIONS

Remembrer :

If MRE, CTE, and IUS are all non-invasive modalities to assess disease activity, IUS is the only that can assess easily the disease at different timepoints.

Take your time, document and enjoy 3, 6 or 12 months later!


QUESTIONS?