

How to Perform IUS- Refresher

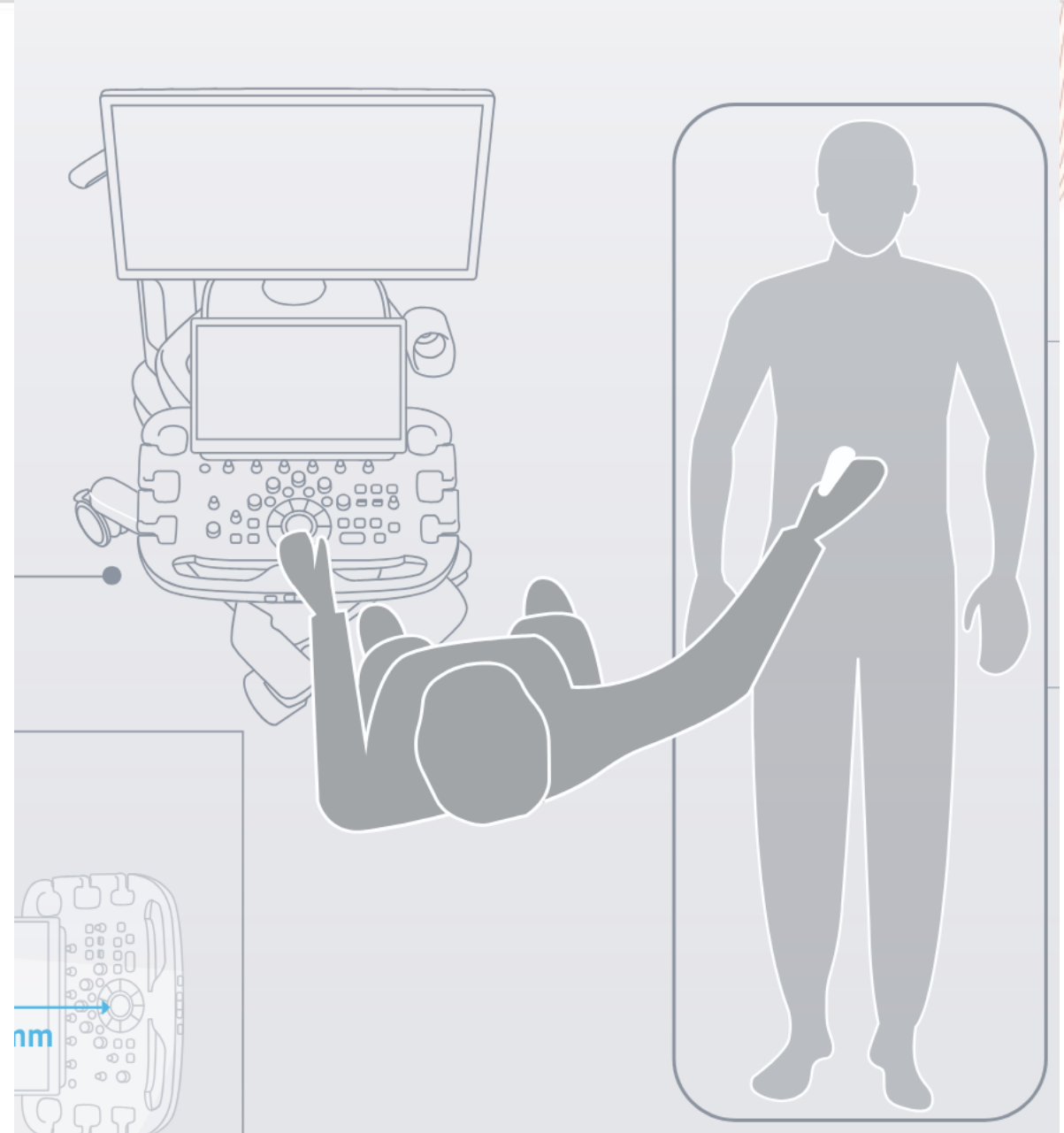
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Vancouver, Canada



Chicago, USA – November 4th, 2025

Refresher Objectives

- Probe Selection
- Finding and tracking the bowel
- Assessing the bowel
- What to do when you find inflammation



Probes- basics



Higher frequency, higher resolution
Finer details
Ideal for bowel <5cm from probe

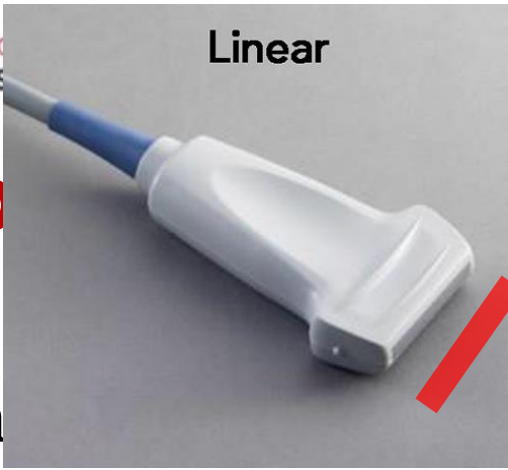


Lower frequency, lower resolution
Deeper penetration
Useful for details further from probe

Probe tips:

- Start with curvilinear for general overview
 - *Can check the probe matches machine selection*

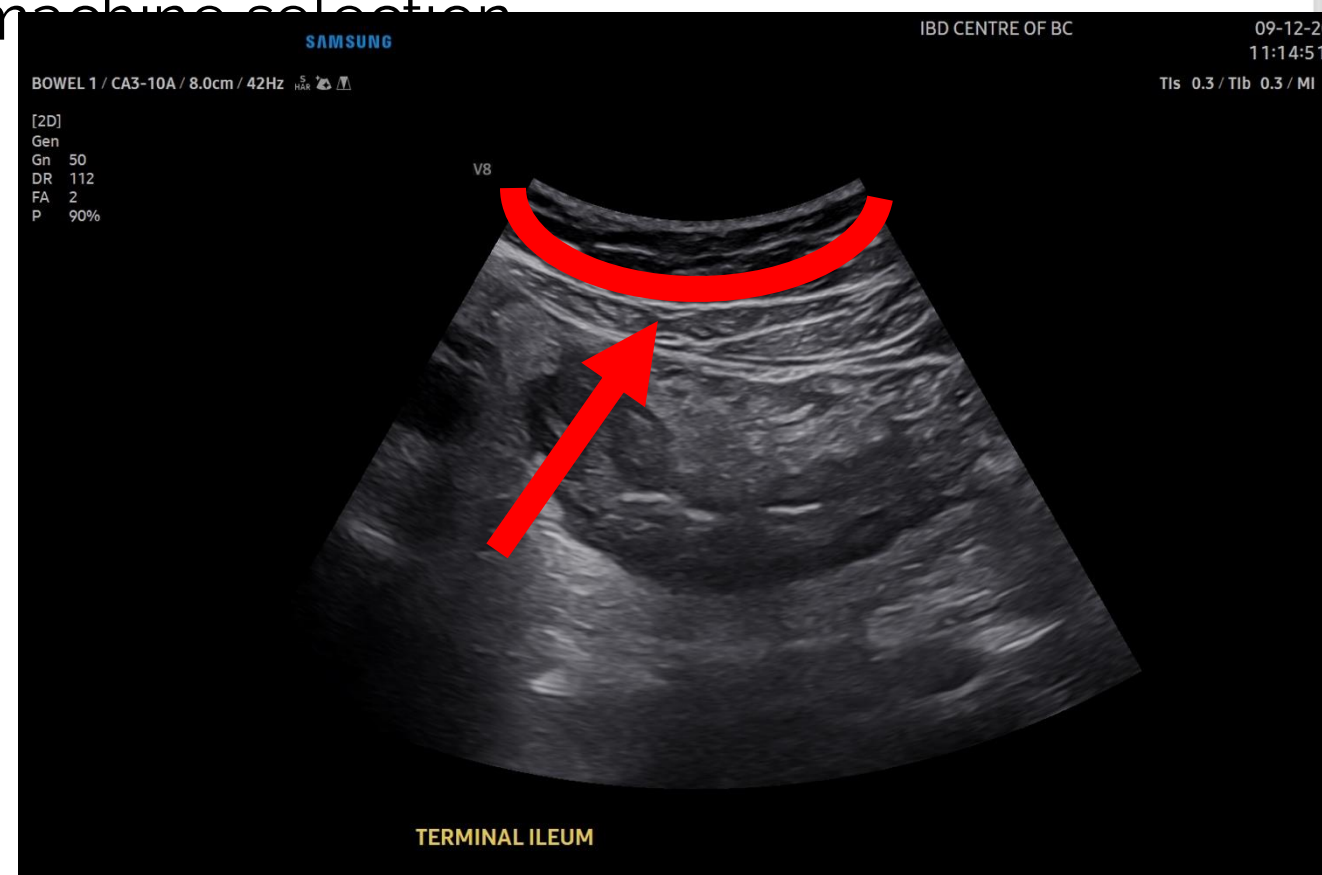
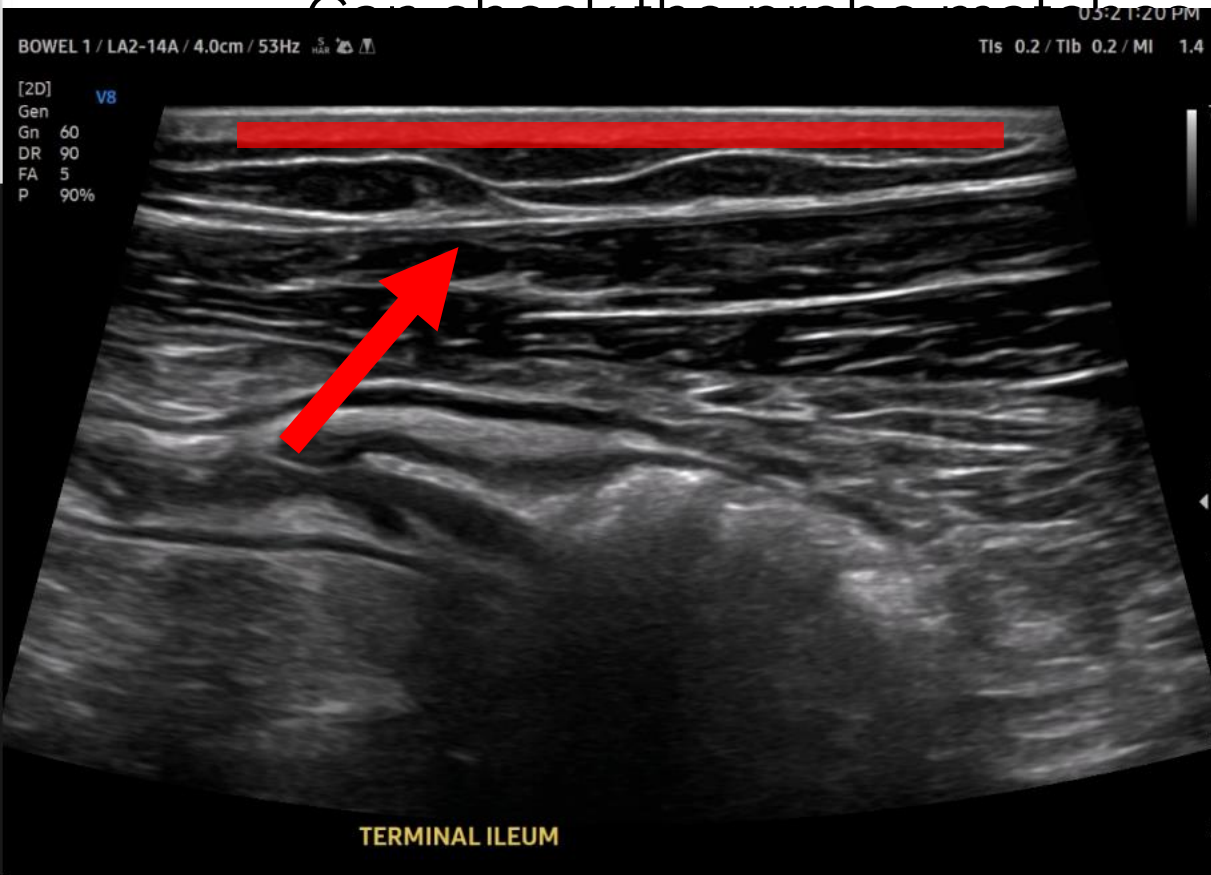
Linear



Problem

- Standard linear for general overview

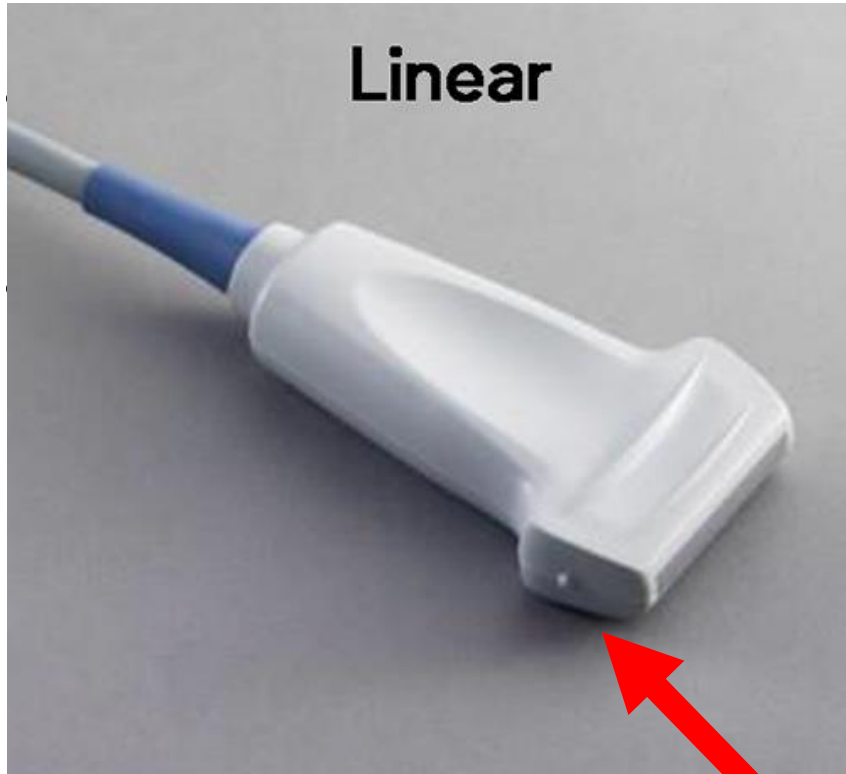
Curvilinear



Probe tips:

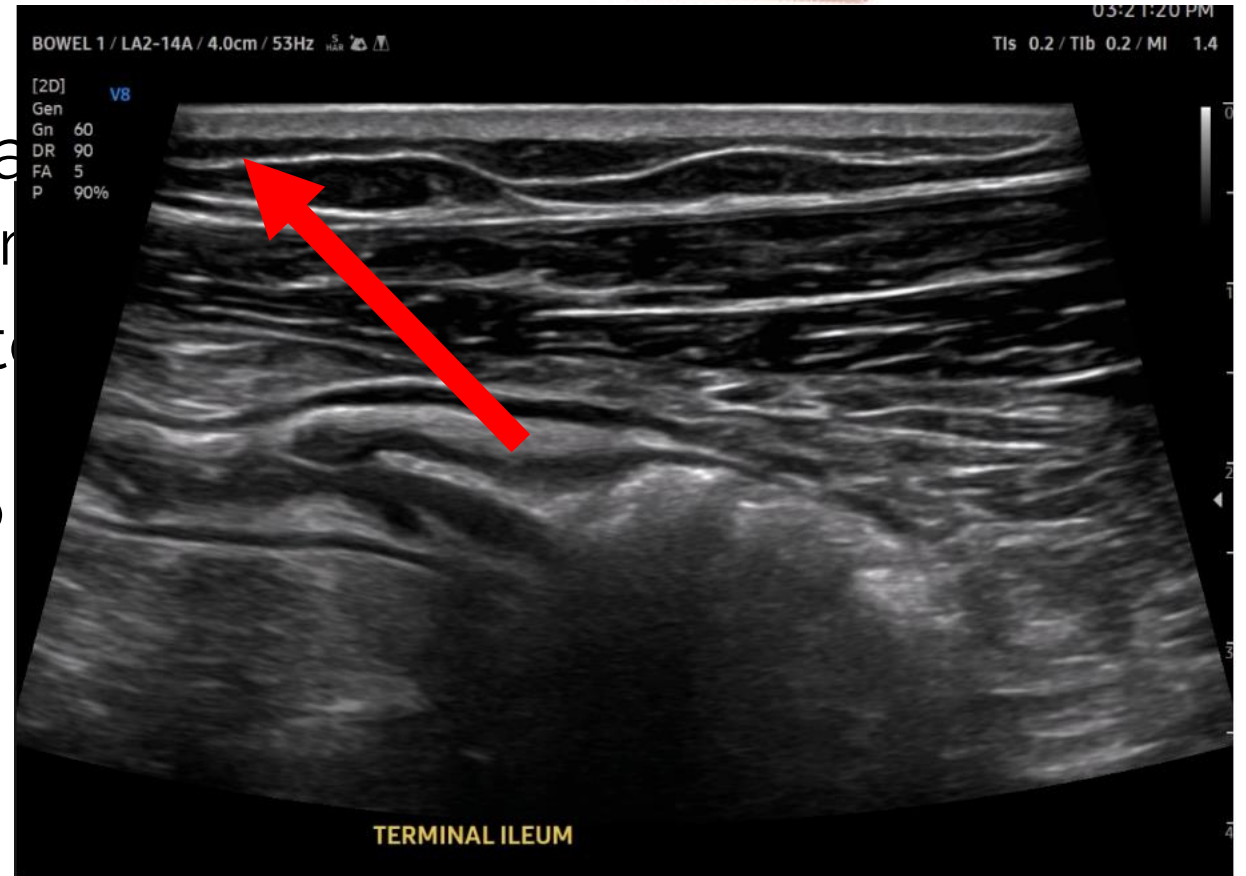
- Start with curvilinear for general overview
 - *Can check the probe matches machine selection*
- Pay attention to where side notch/groove is to understand screen orientation
 - *notch=left side of screen; thumb side/up*

Probe tips:

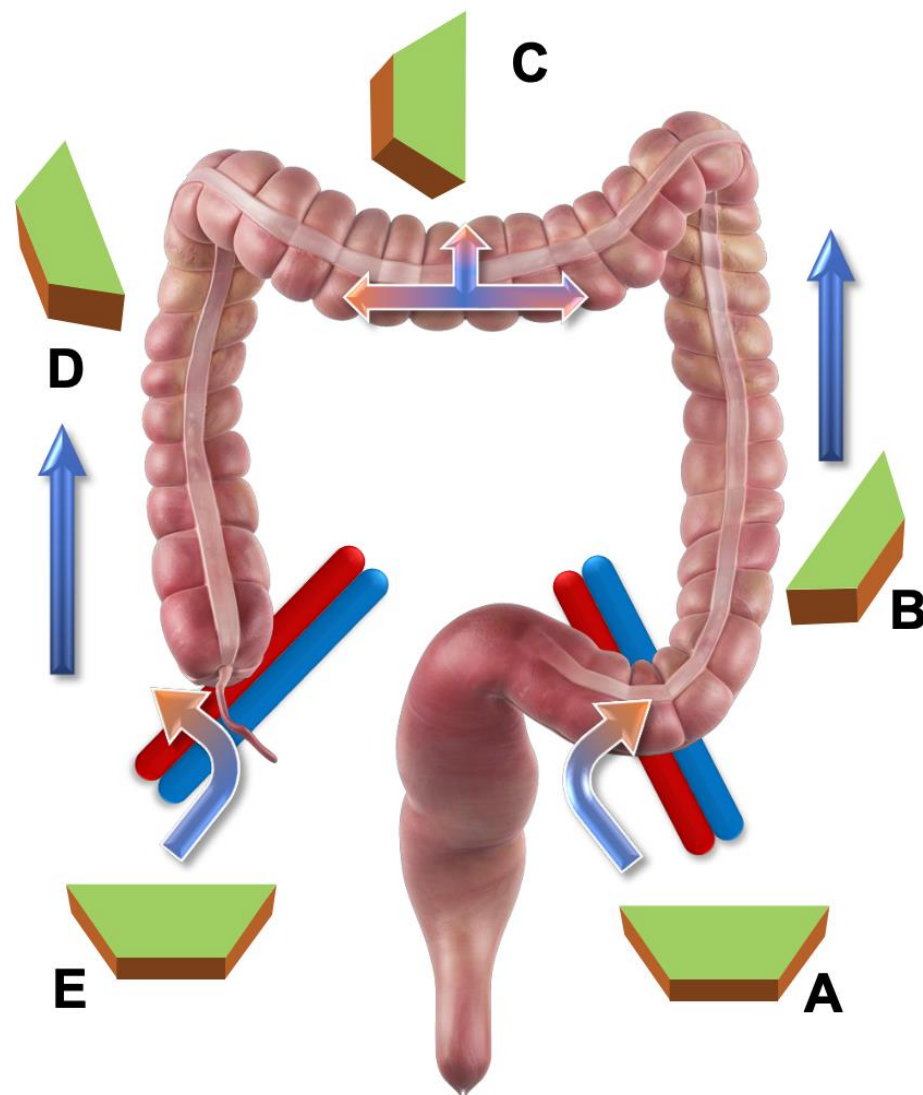


Linear

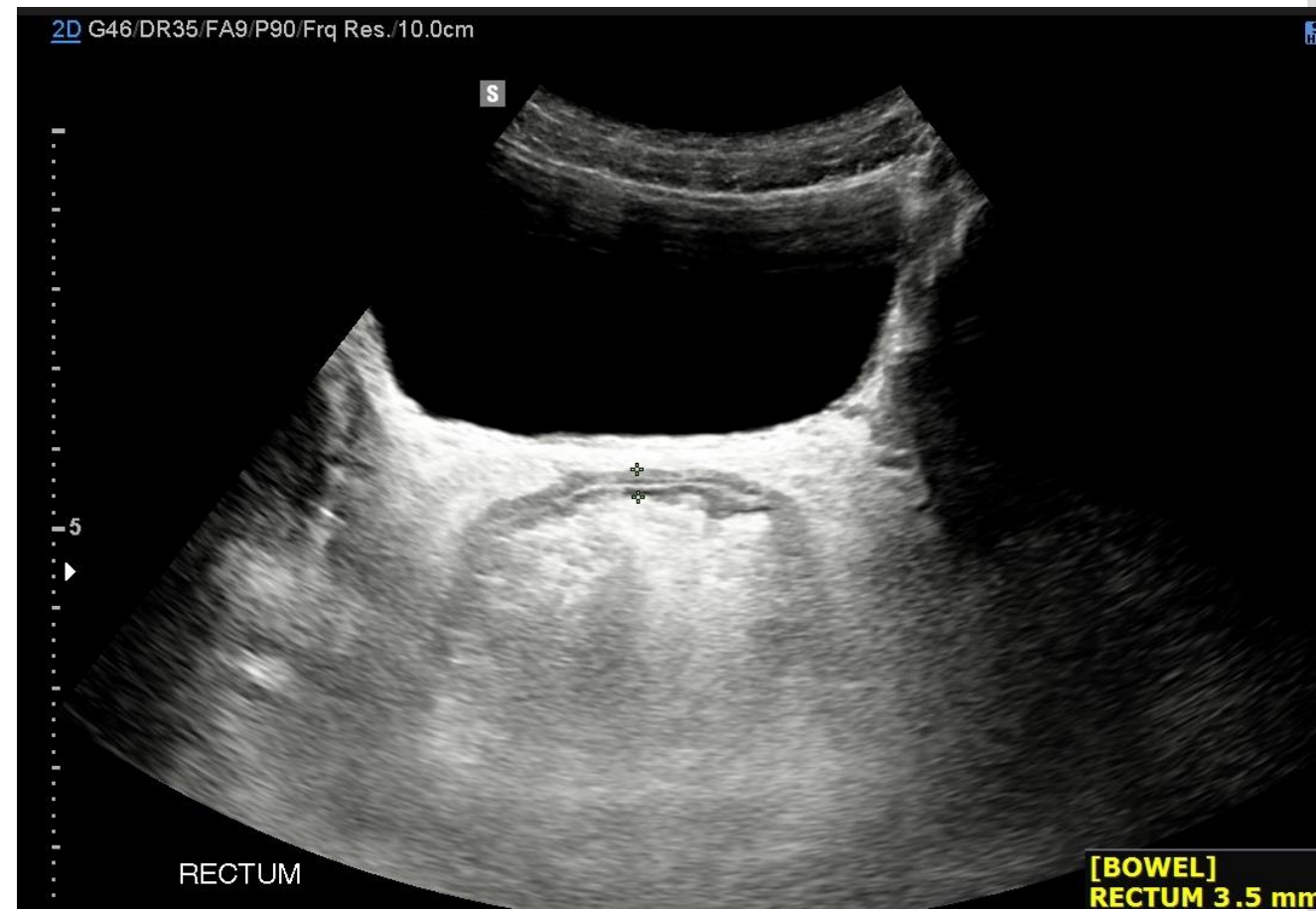
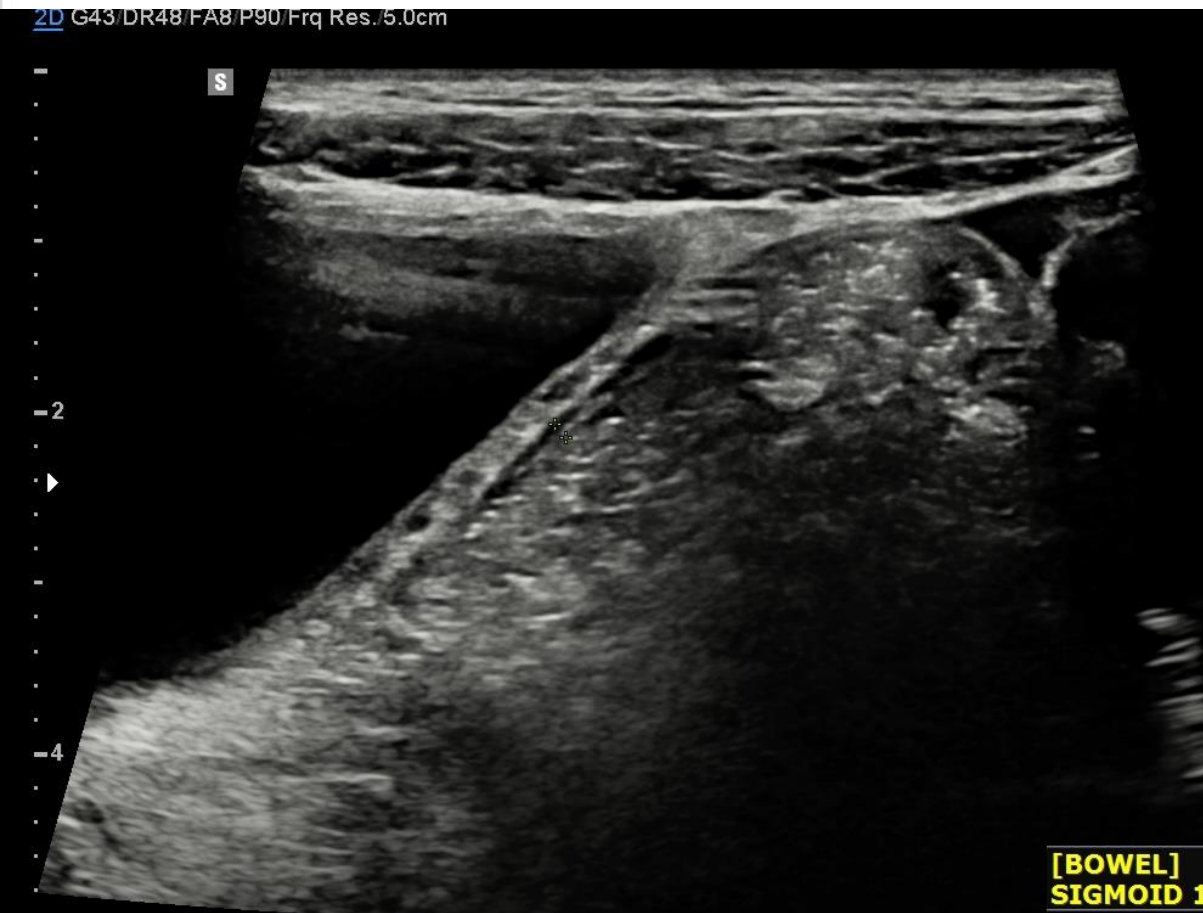
or genera
matches
side not
een; thumb



Systematic approach



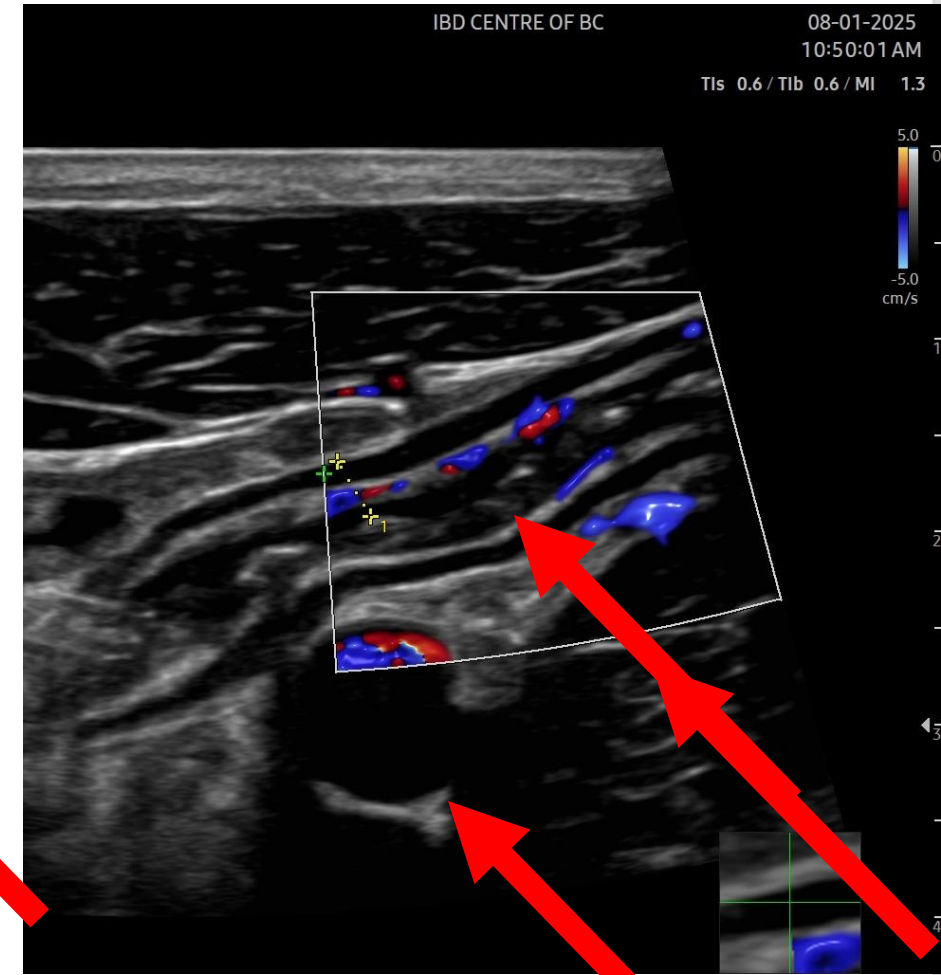
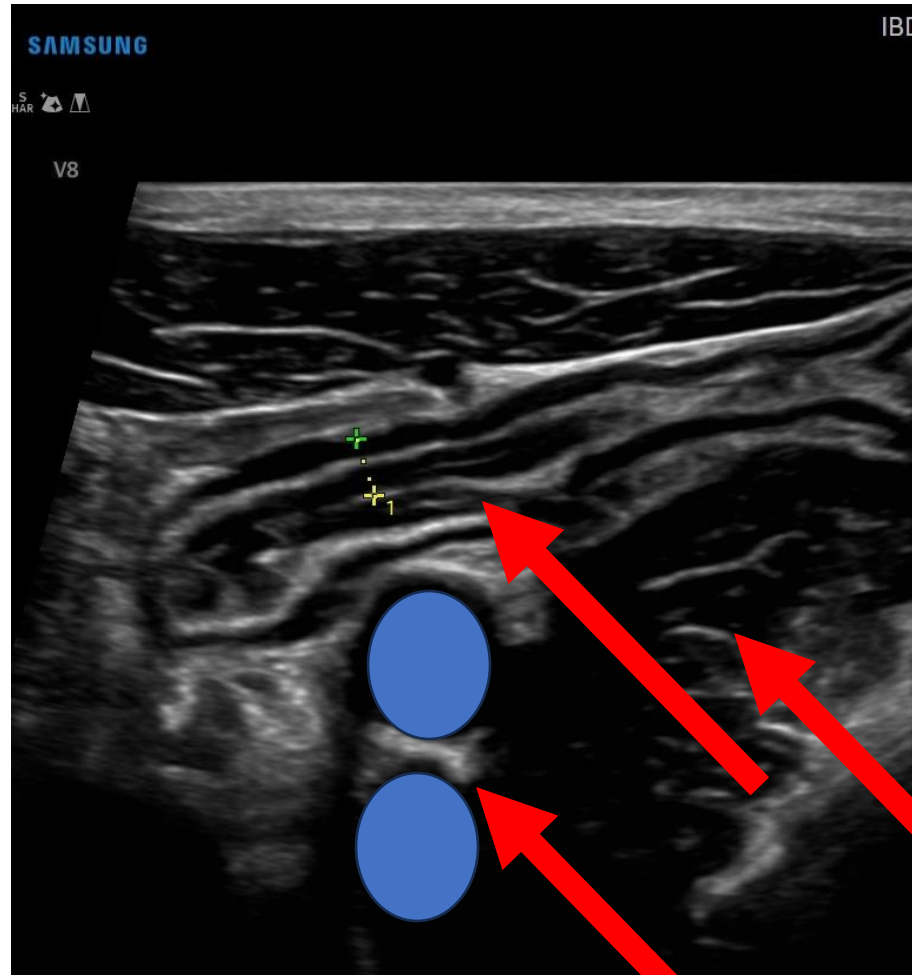
Rectum



Systematic approach- Sigmoid



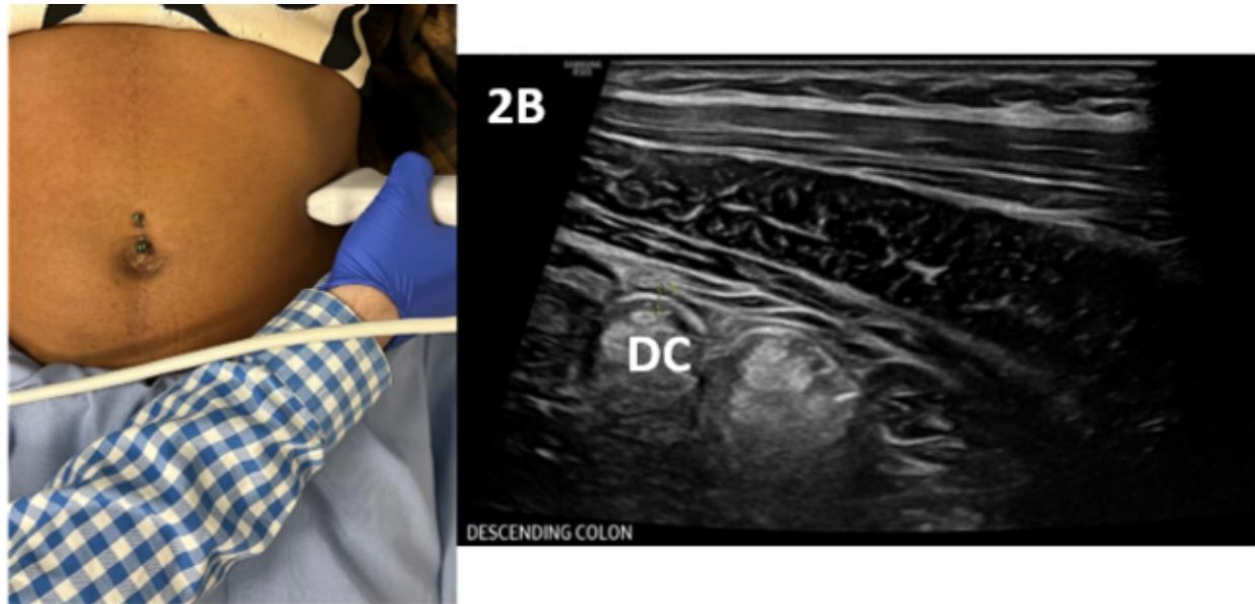
Systematic approach- Sigmoid



Systematic approach- Sigmoid

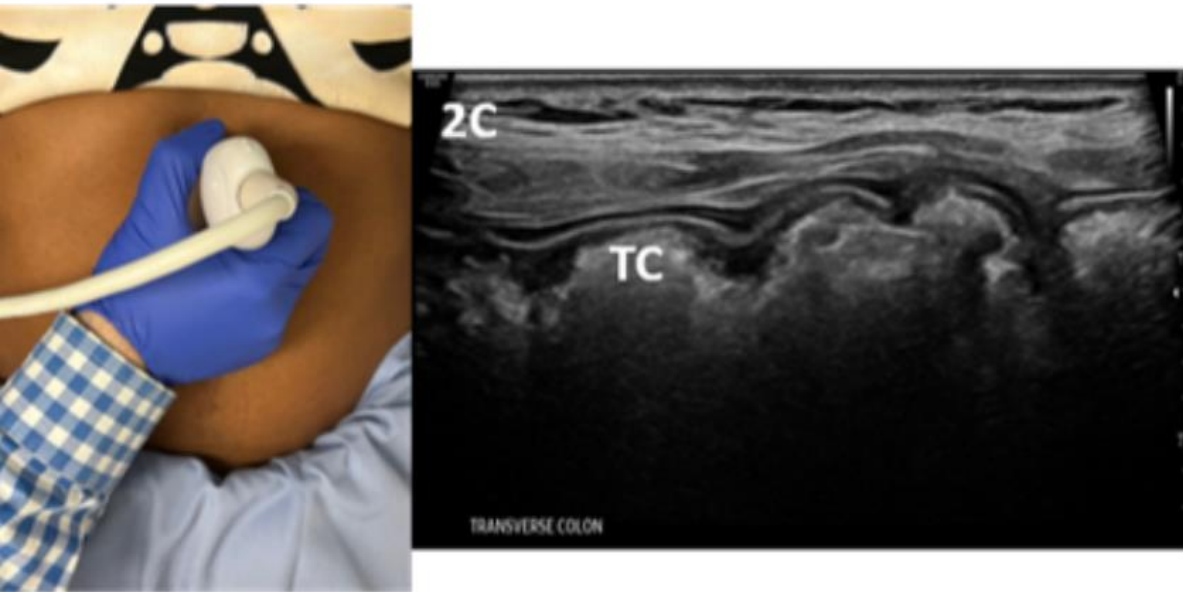
- Psoas and vessels are the anchor points, however they run together over a long distance
- If struggling to find intestine:
 - Start low: track the vessels/psoas deep into the pelvis
 - Find the bladder (now you know you're in the pelvis) and confidently fan up
- Once you find the sigmoid: track back into pelvis
 - Transverse colon often drops into this view and can be confused for sigmoid (transverse will not track down into pelvis, sigmoid will)

Systematic approach- Descending Colon



- DC is most lateral bowel
- When lots of SB (**peds), try coming more lateral
- DC is anchored in left flank below spleen: you can reliably find it there

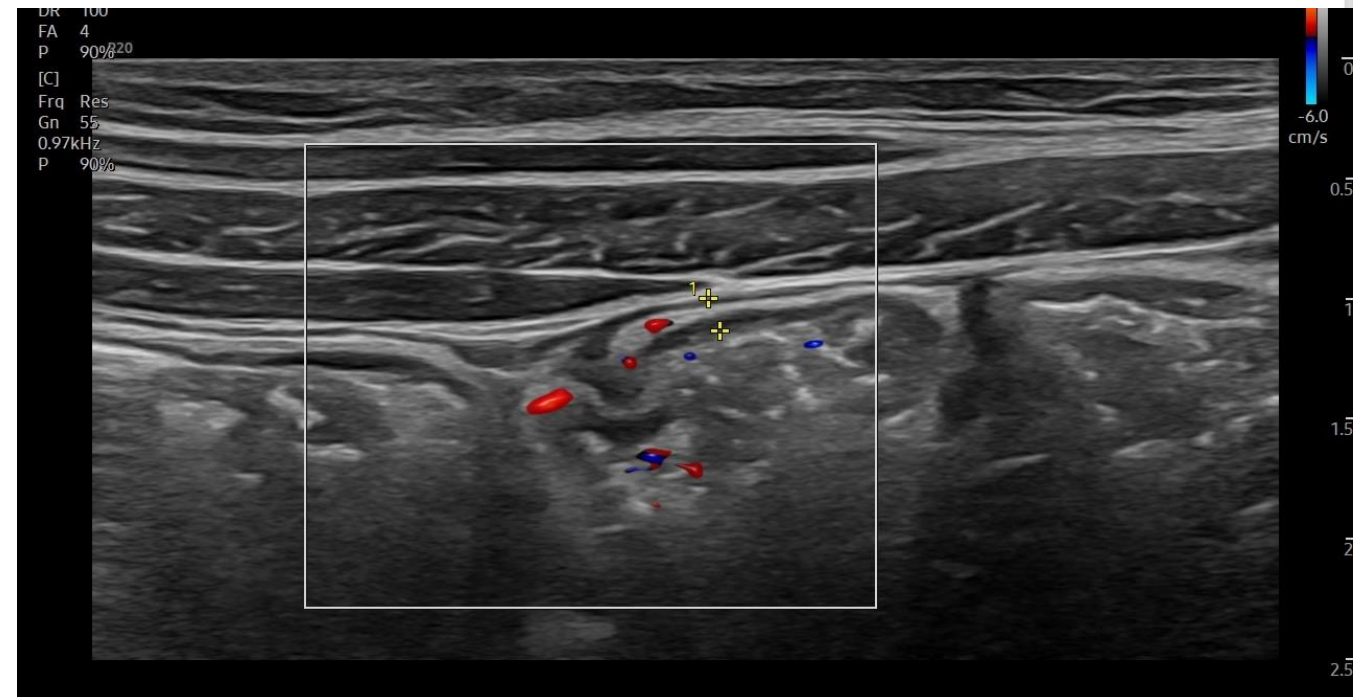
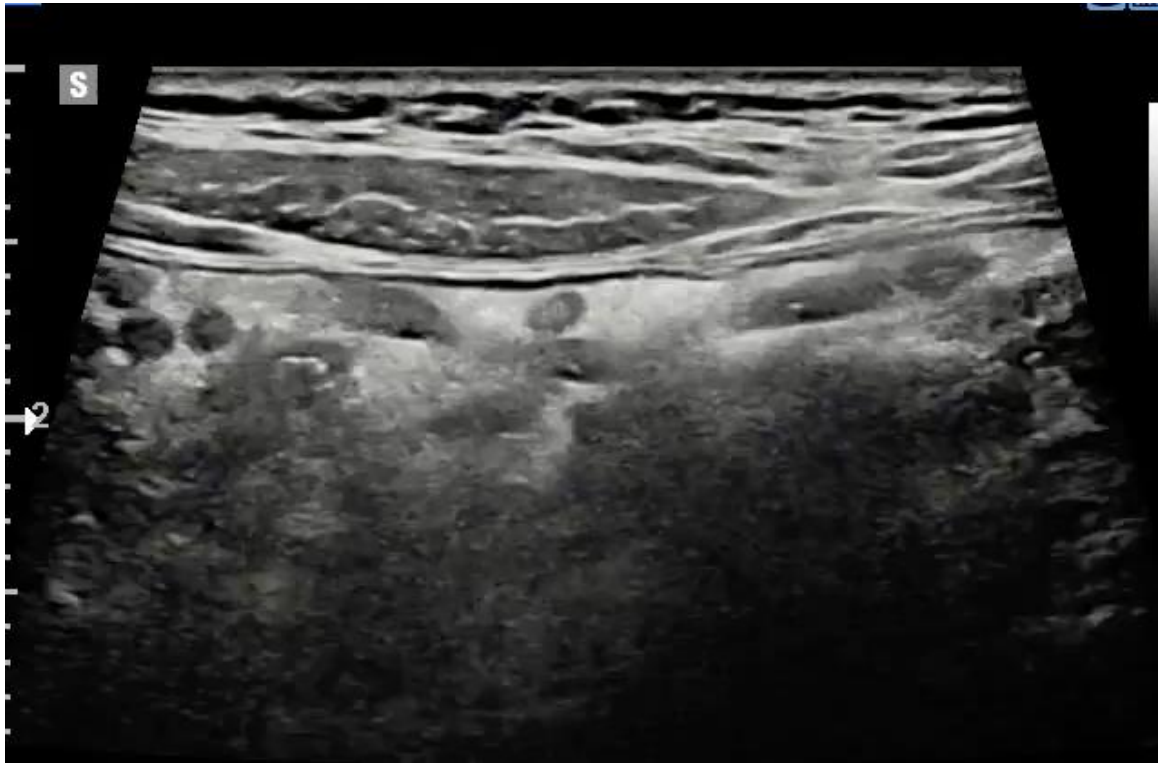
Systematic approach-Transverse Colon



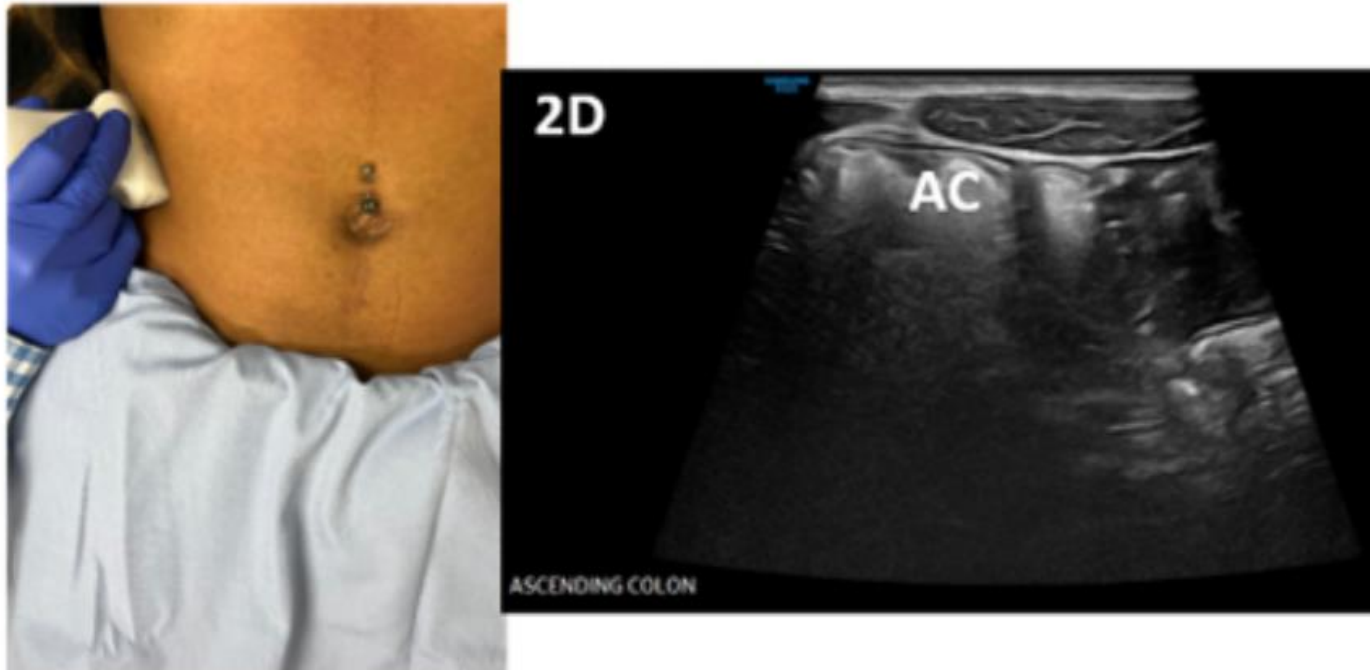
- Start as superior as possible (higher than you think)
- Find the stomach
- Track inferior until you see haustration
- TC can be very high (esp pregnancy) or very low (esp kids, even under umbilicus)

Systematic approach-Transverse Colon

- Stomach vs TC
- Haustration
- Content differences

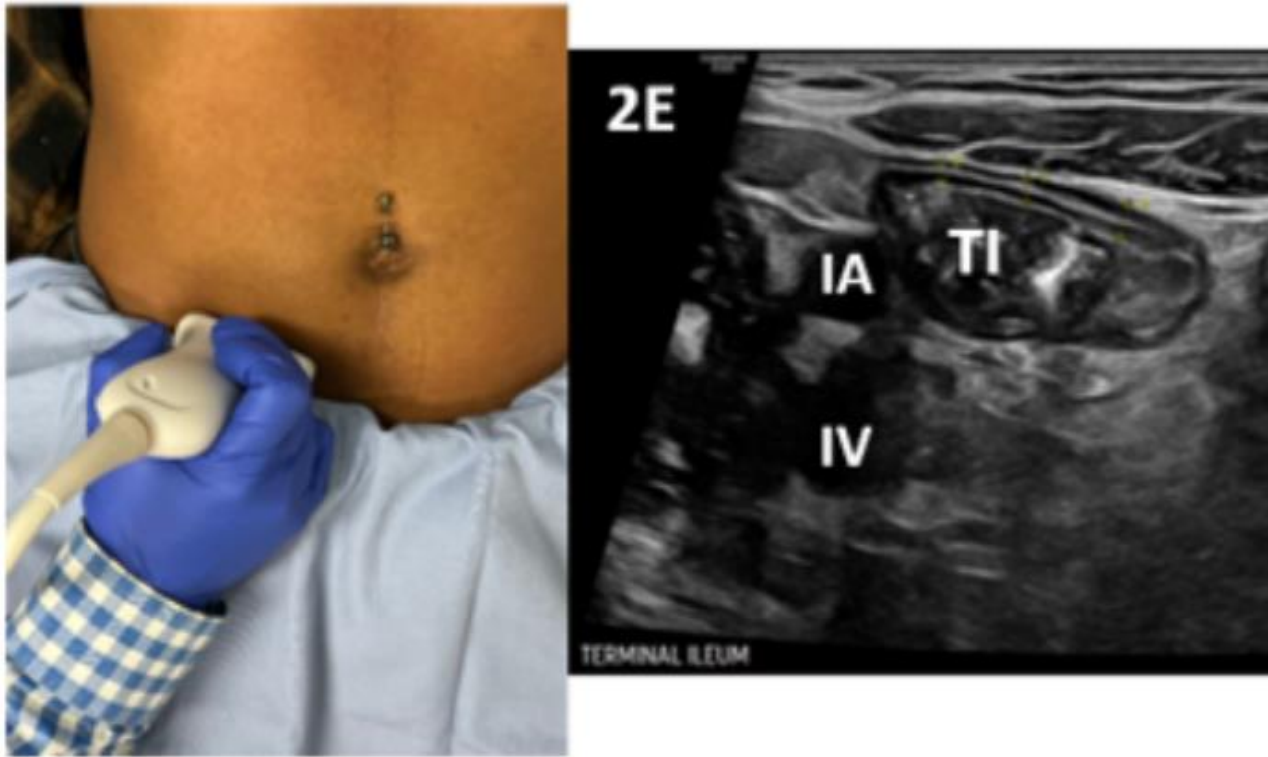


Systematic approach- Ascending Colon



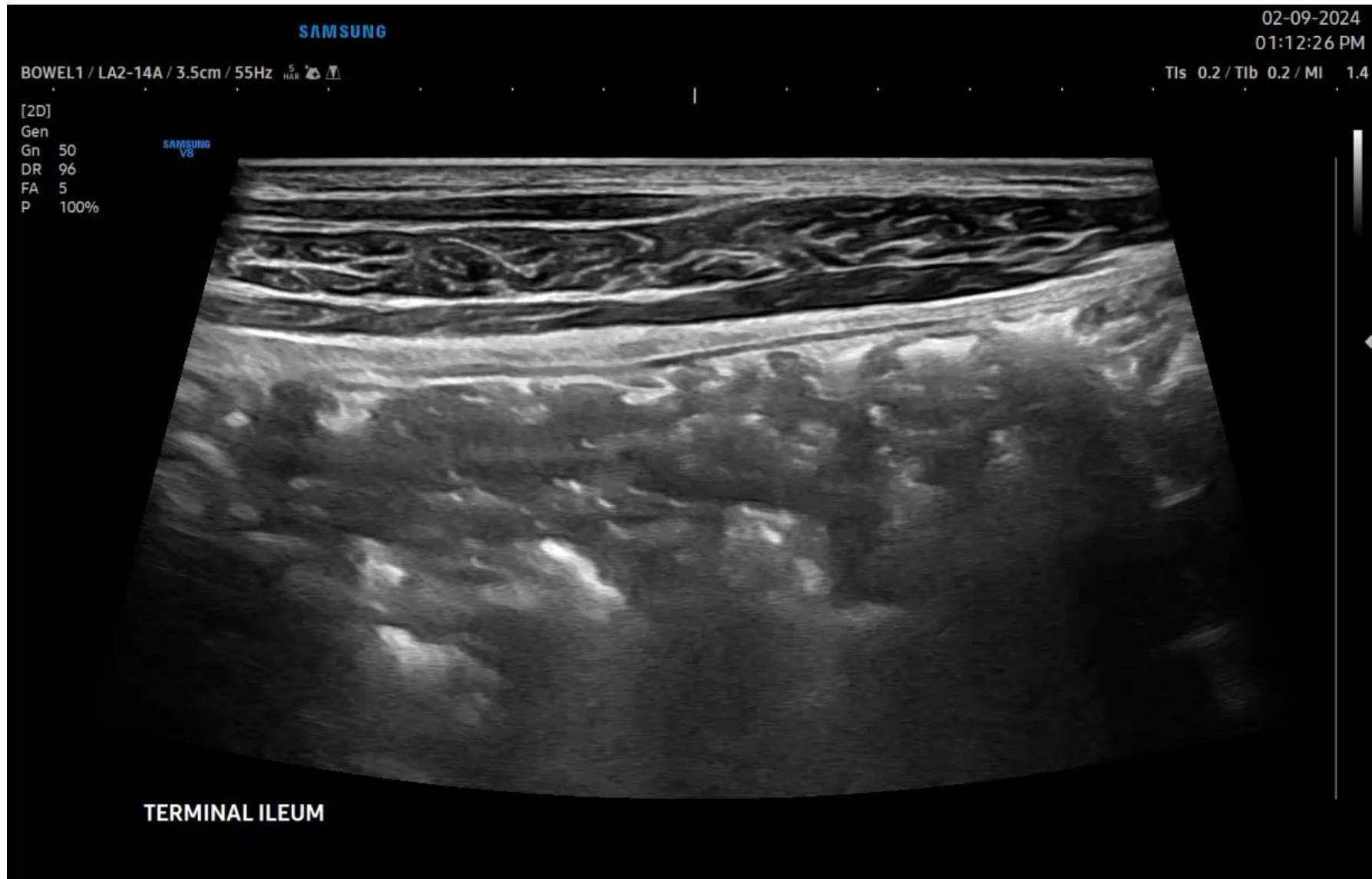
- Is the most lateral bowel on right flank
- Look for AC from under liver
- Track inferior to ICV/TI

Systematic approach- Terminal Ileum

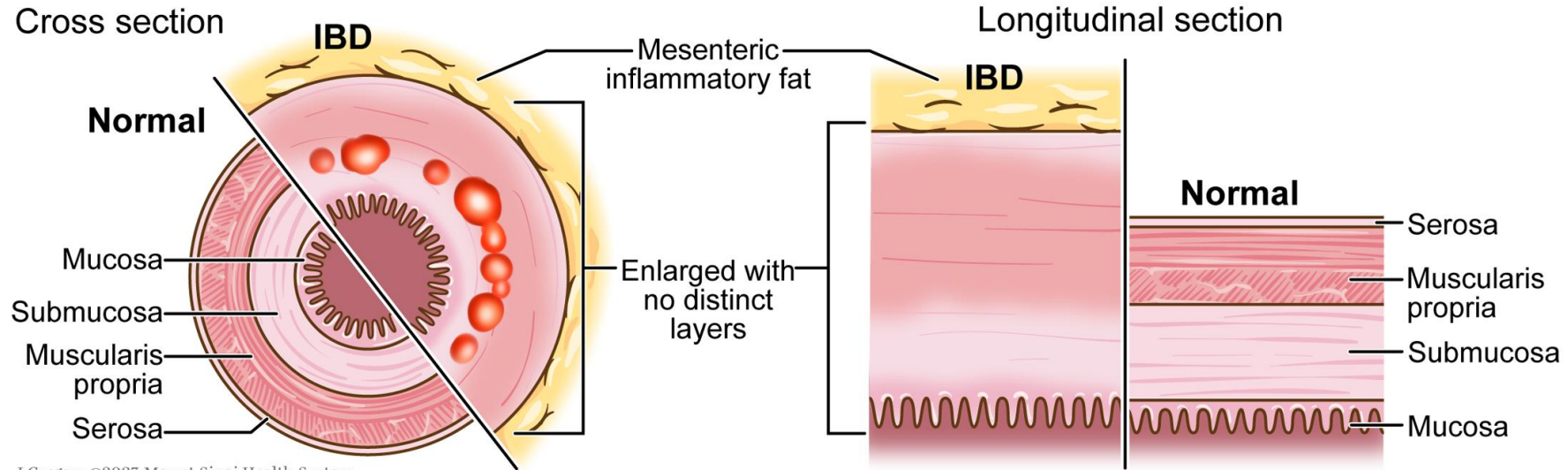


- Similar to Sigmoid
- Vessels + psoas + starting in pelvis and fan into AC
- Position of ICD variable: may be lateral at level of umbilicus all the way into pelvis

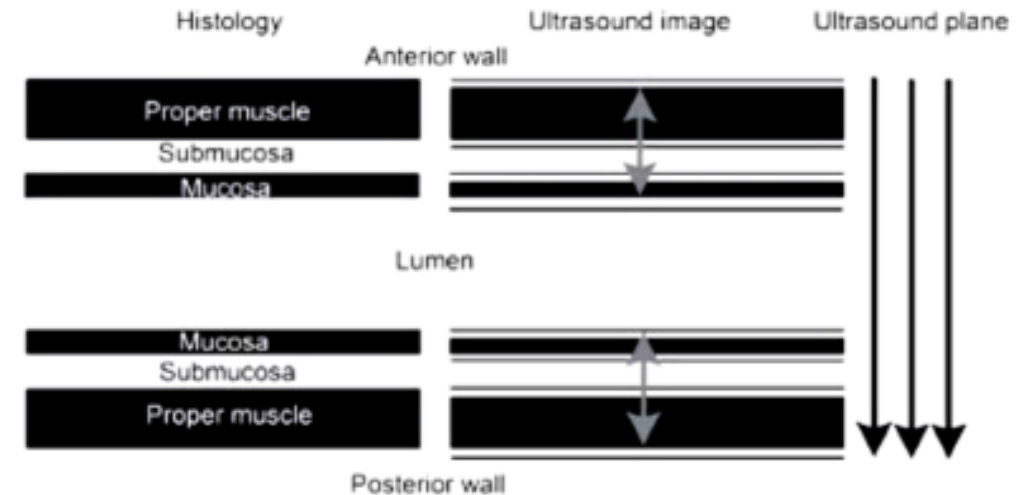
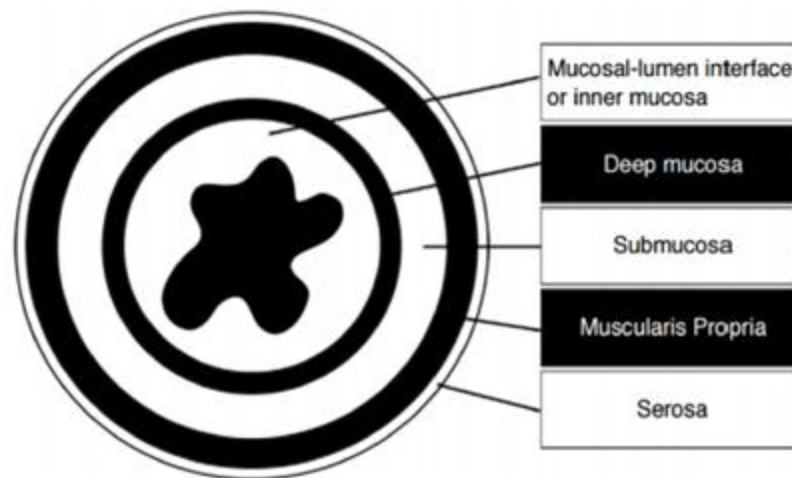
Systematic approach- Terminal Ileum



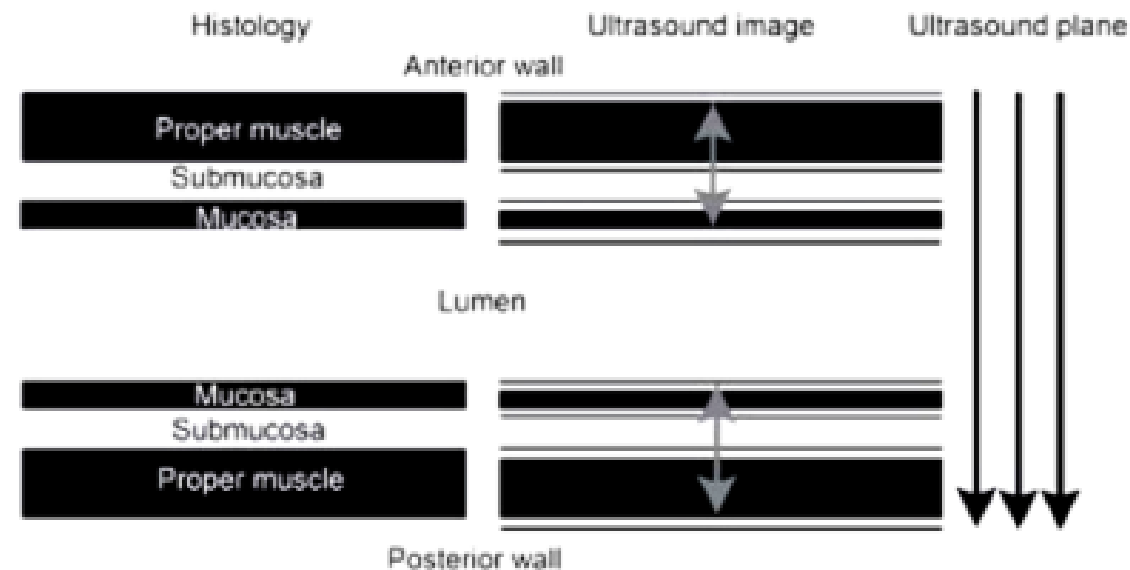
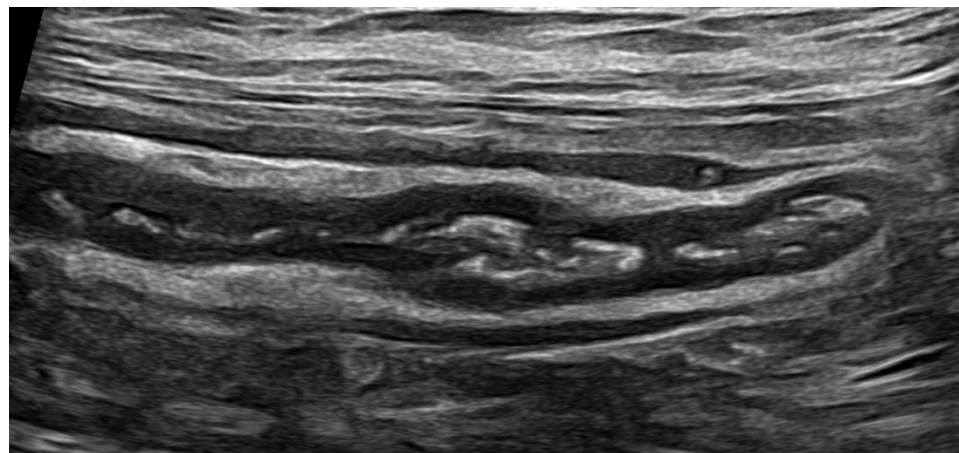
Review: Assessing bowel in 2 planes



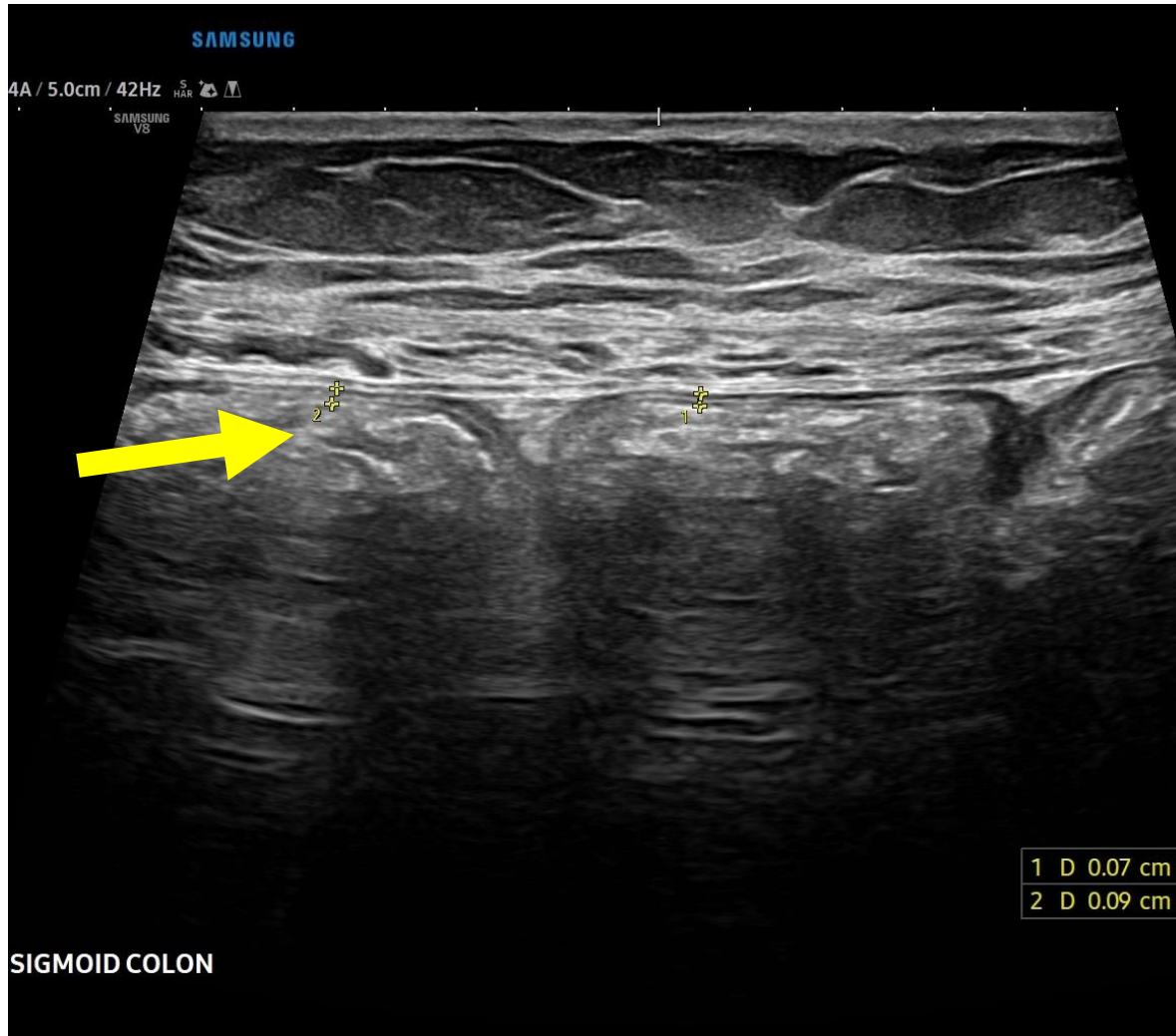
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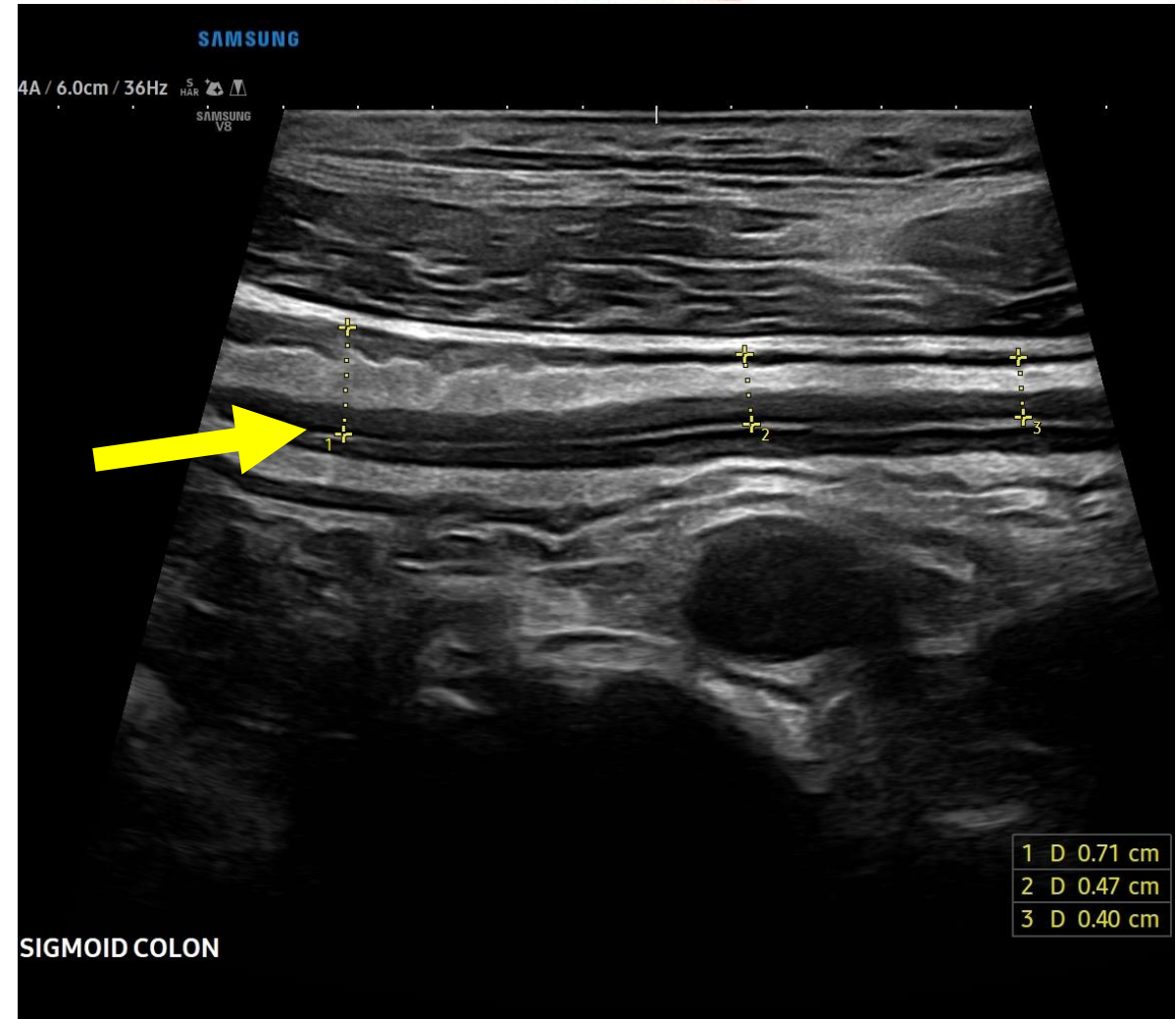
Review: Bowel layers on IUS



Bowel wall thickness/Haustration

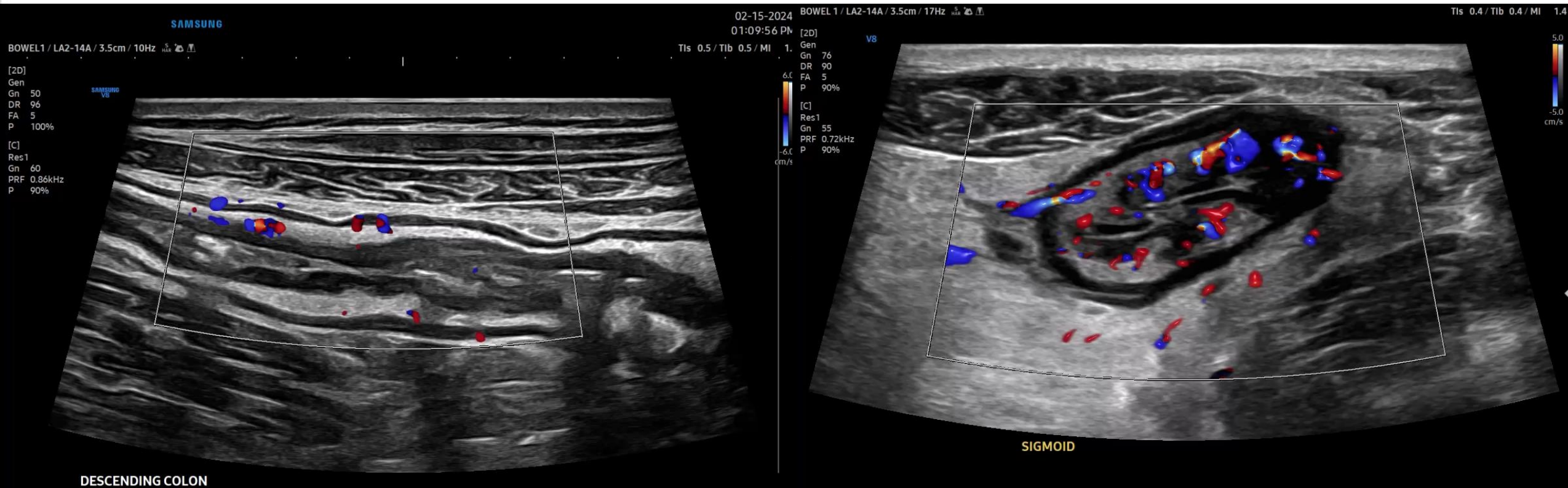
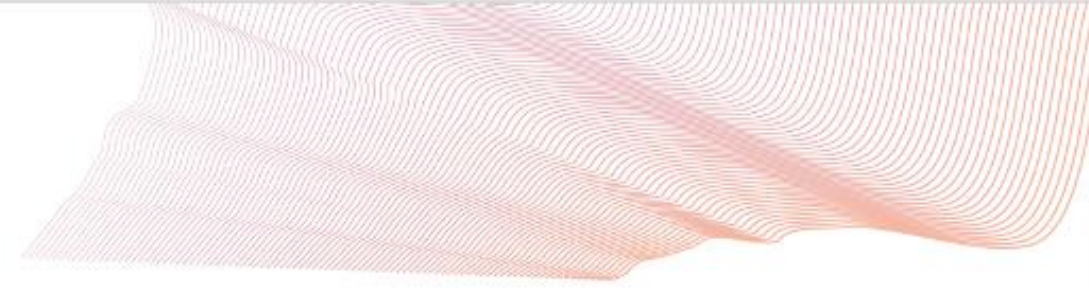


Normal bowel wall thickness, normal haustration

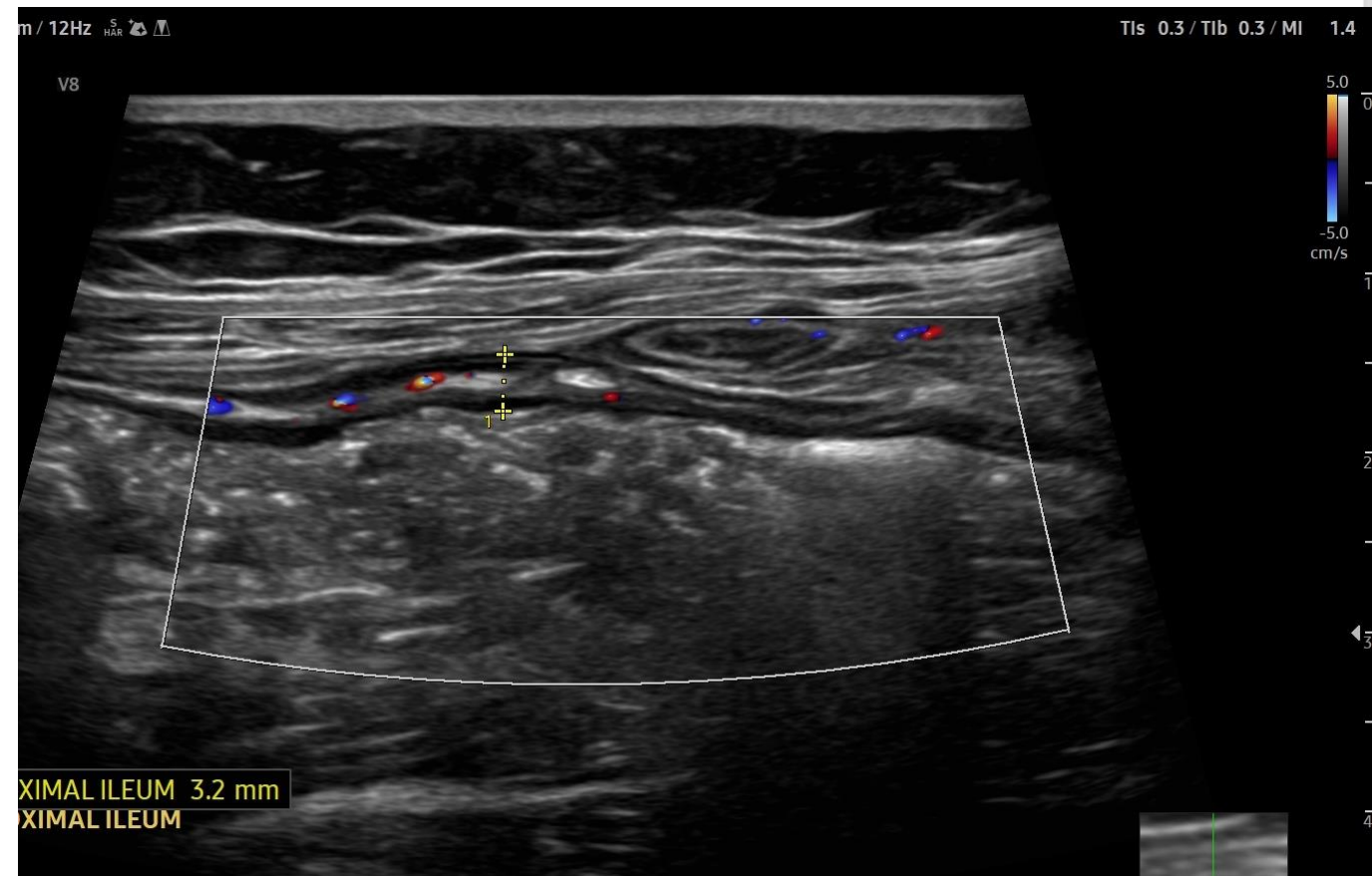
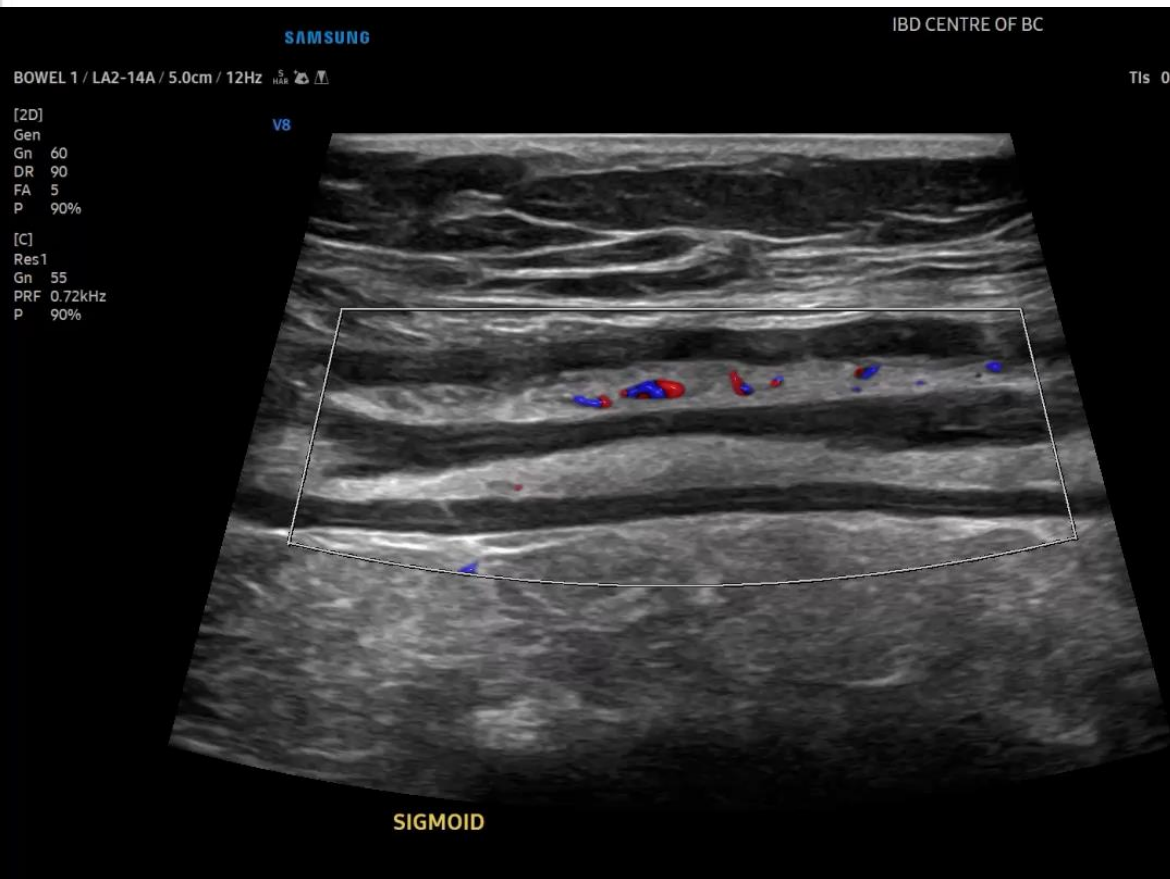


Increased bowel wall thickness, loss of haustration

Hyperemia



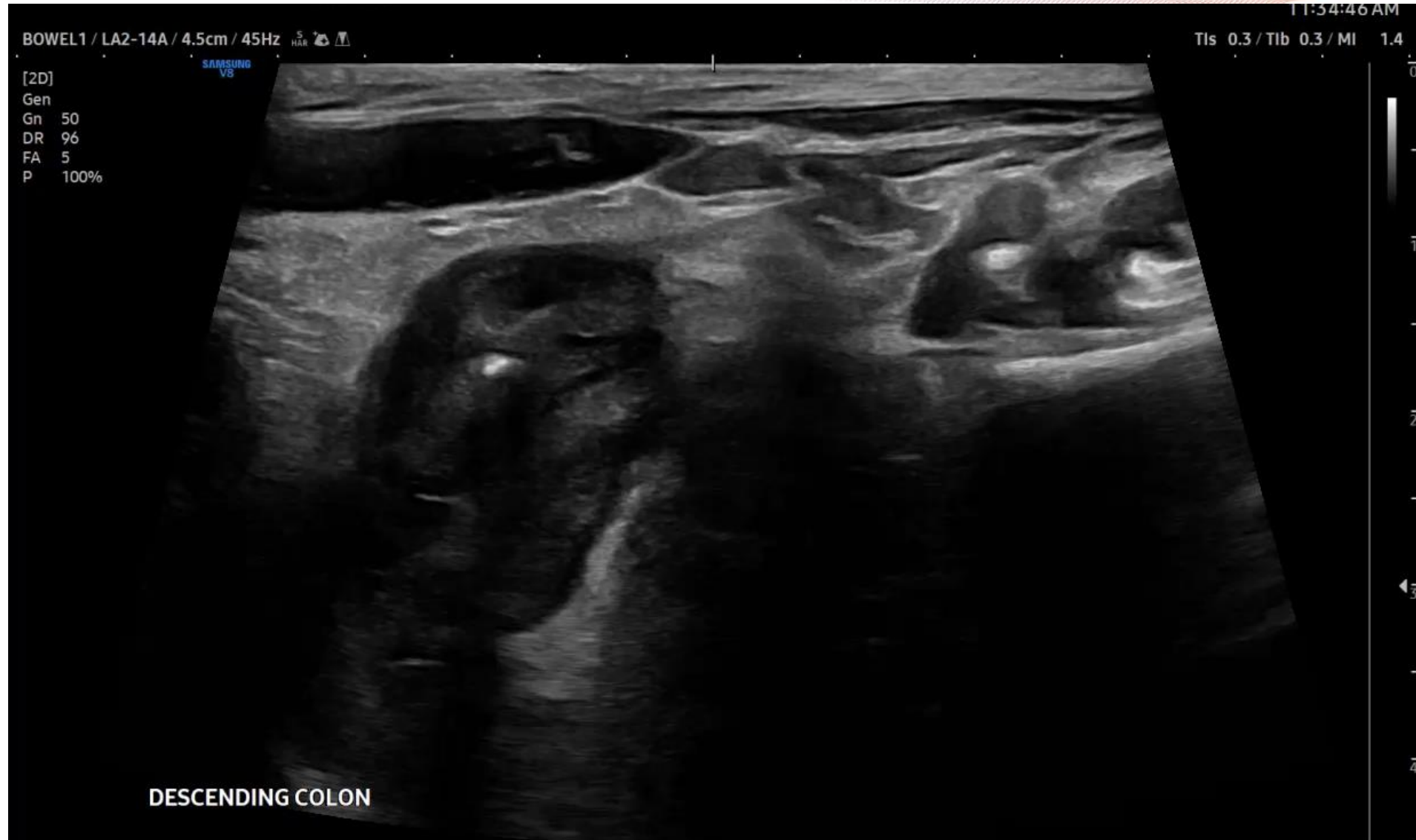
Hyperemia



Inflammatory Fat, Lymphadenopathy



Bowel Wall Stratification



What to do when you find inflammation?

- Determine **length of inflammation**
 - Track proximal and distal until normal
 - Is it all equally inflamed, or is it variable along segment
- In longitudinal + Cross section, determine:
 - BWT (2 measurements/plane)
 - Hyperemia (Modified Limberg Score)
 - Presence/loss of bowel wall stratification
 - Presence of lymphadenopathy, inflammatory fat (partial/complete)
- Evaluate for presence of complications (stricture, abscess, fistula)
 - Every inflamed segment should be evaluated with curved + linear probes
 - This is done in real time: take your time and assess the same segment multiple times, assessing a different aspect each time (ie anterior wall, posterior wall, extra-luminal features etc)

A comment on Pediatric patients

- TONS of small bowel:
 - *Starting as lateral as possible, and move medial for DC/AC
 - *Starting low in the pelvis and move superior for TI/Sigmoid
 - Enjoy the excellent quality images (bowel often <3cm from probe)
- Visualization changes over time: repeat maneuvers to get a better view
 - If at first you don't get the view, try again
 - Your probe is physically moving small bowel & bowel gas
 - Repeating the above maneuvers* will bring bowel of interest into focus
- Beware of lack of normal values for small children
 - Small children more likely to have: hyperemia, lymphadenopathy in the absence of macroscopic inflammation
 - Presence of macroscopic inflammation in setting of BWT<3.0

Summary

- Curvilinear probe for overview, deeper segments, complications
- Linear probe preferred for detailed assessment, measurement
- Systematic approach every time
- Assess each segment in 2 planes
- Make note of: BWT, hyperemia, bowel wall stratification, presence of inflammatory fat, lymphadenopathy

