

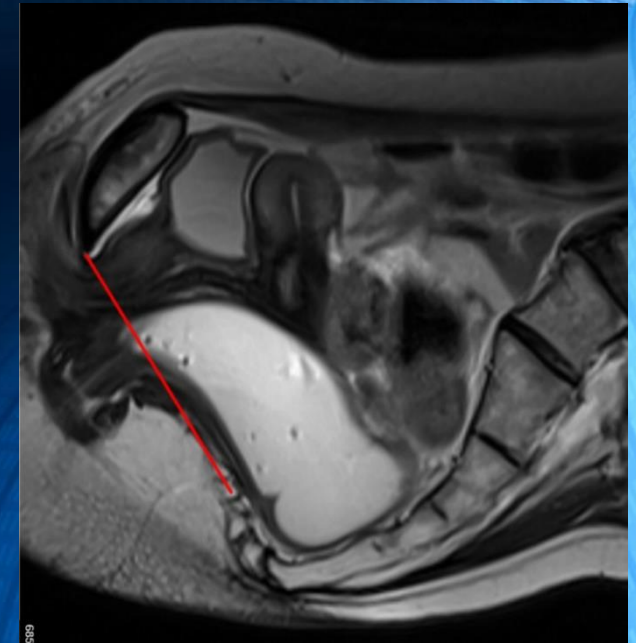
Robotic Low Anterior Resection- Step by Step

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Fundamental concepts

- Identify anatomy
- Identify pathology
- Colon & rectum
 - occupy multiple quadrant
 - Redundant
- Return to embryological position
- Set up, ergonomics of traction-Counter-T_UH MAYO CLINIC

LAR: Main Steps

- Medialize sigmoid and left colon
- Identification of superior hemorrhoidal / IMA
- Vascular control
- Splenic flexure mobilization
- Divide mesentery towards future transection point
- Rectal dissection
- Stapling
- Anastomosis

Medialization of sigmoid and left colon

- Embryological midline position
- Lateral to medial
- Medial to lateral
- Secure left ureter and hypogastric nerves
- Keep uretero hypogastric fascia intact
 - => access left side of upper pelvis in correct plane

Identification of superior hemorrhoidal vessels and IMA

- Put them under tension (set-up)
- Follow Caudate => TME
- Trace cephalad => IMA

- Secure hypogastric nerves and left ureter

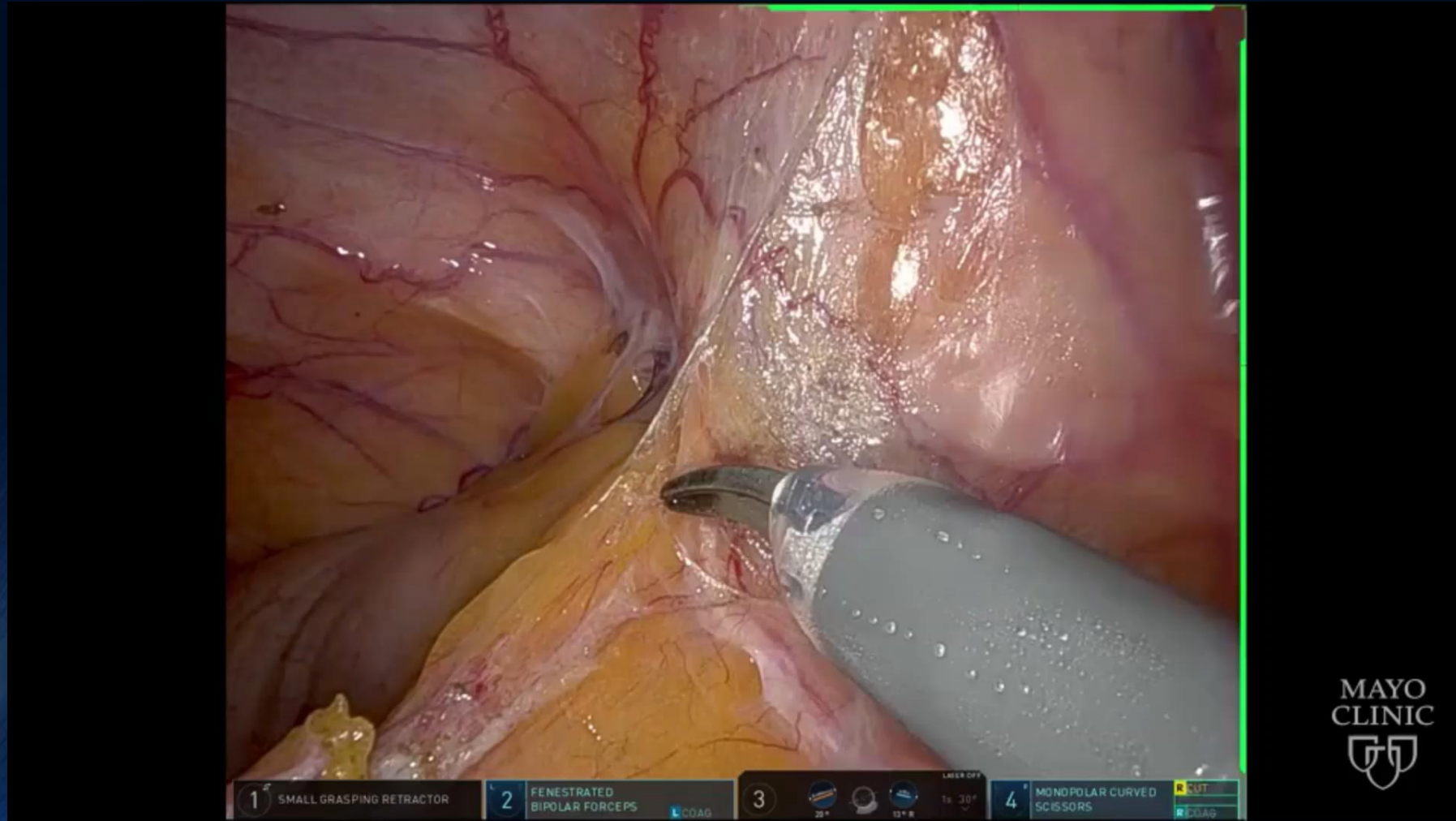
Vascular control

- IMA
 - => high vs. Low ligation
- IMV
 - Low ligation : every case
 - High ligation: for reach
 - Combined with splenic flexure mobilization

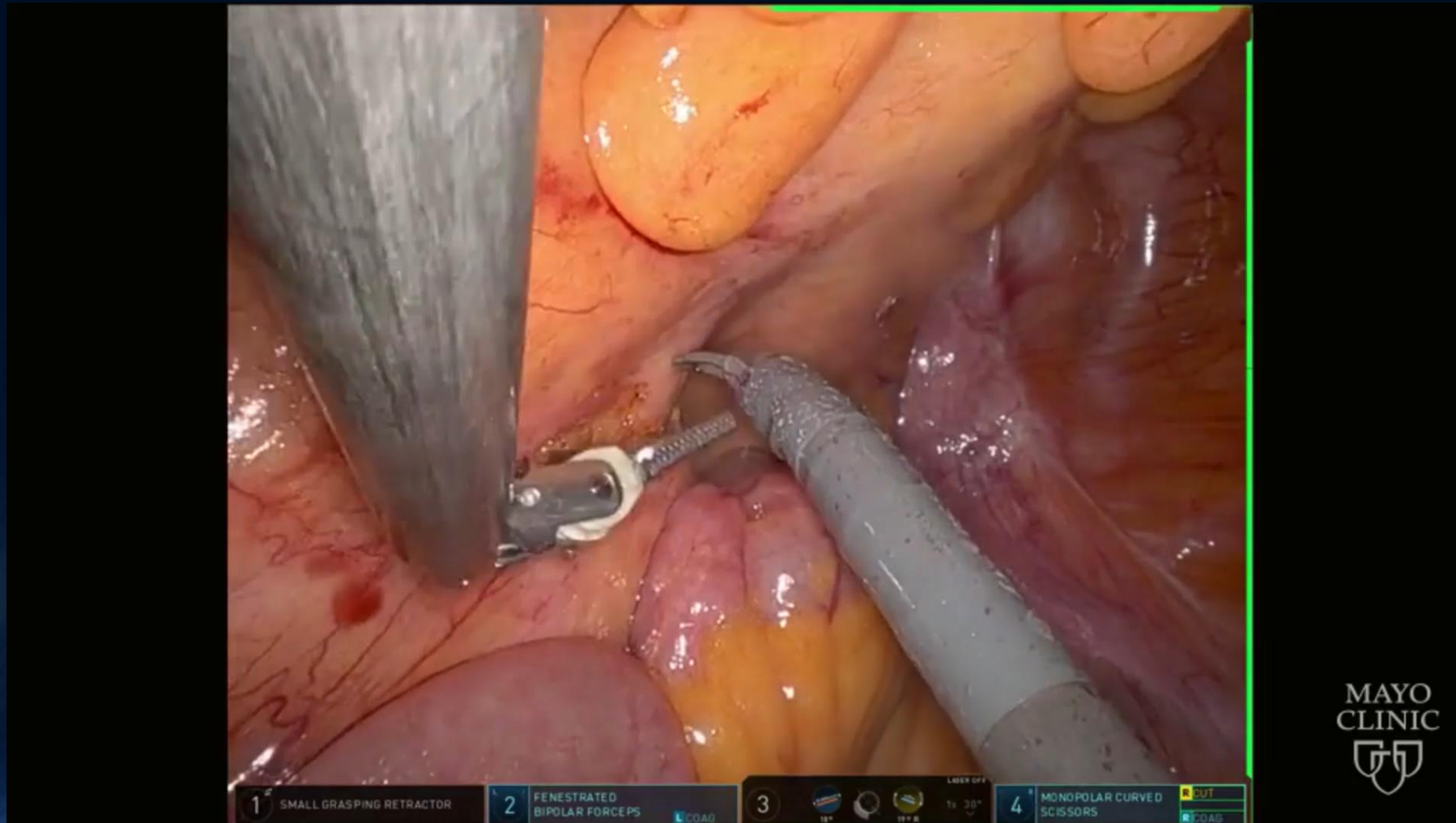
Divide mesentery towards the future transection point

- Intra-corporeal procedures
 - Ability to extract; suprapubic location
 - Avoid tearing
- Low division of IMV
- Division of left colic vessels
- Division of marginal vessel
- ICG (before anastomosis)

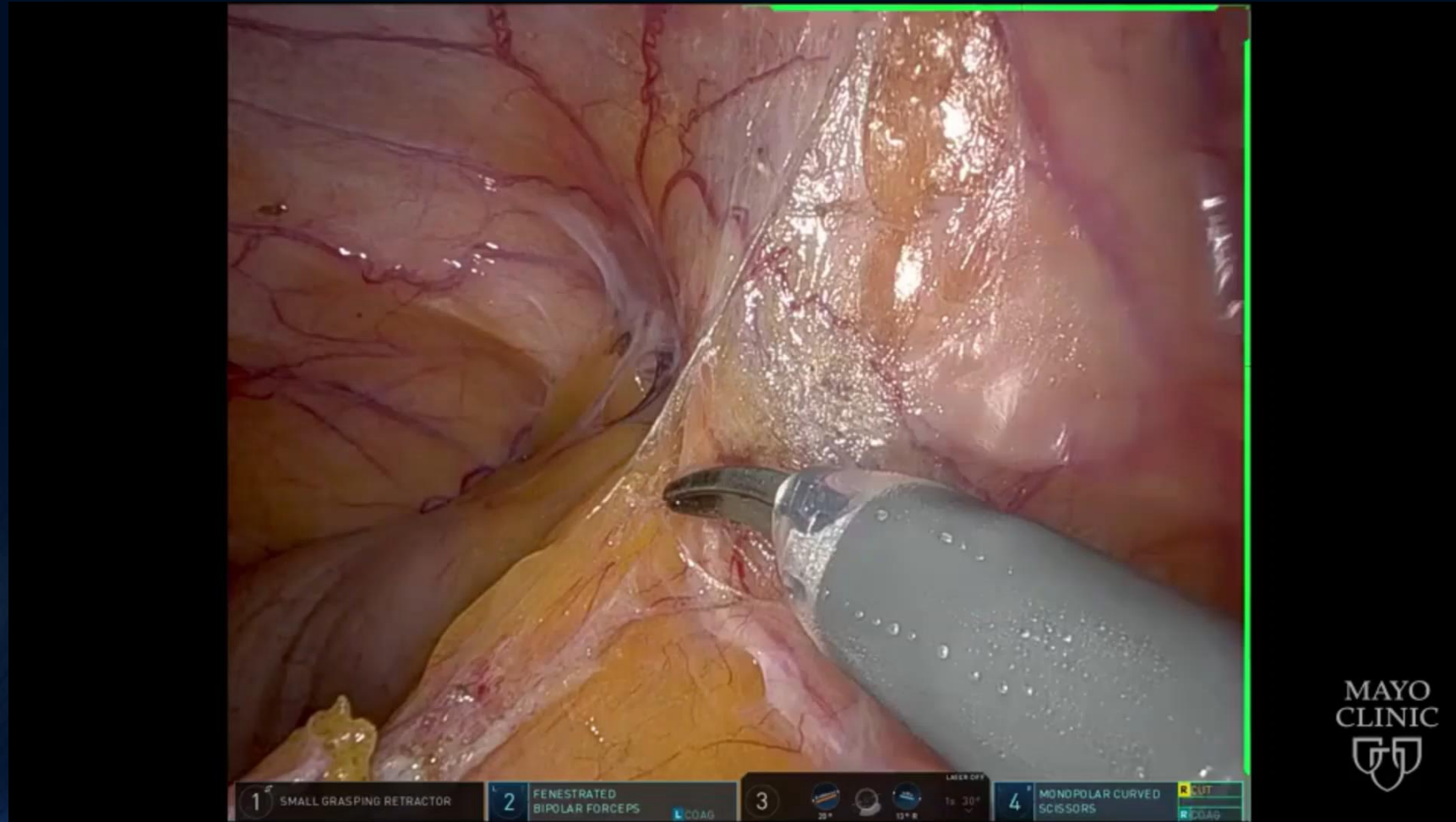
Lateral to Medial



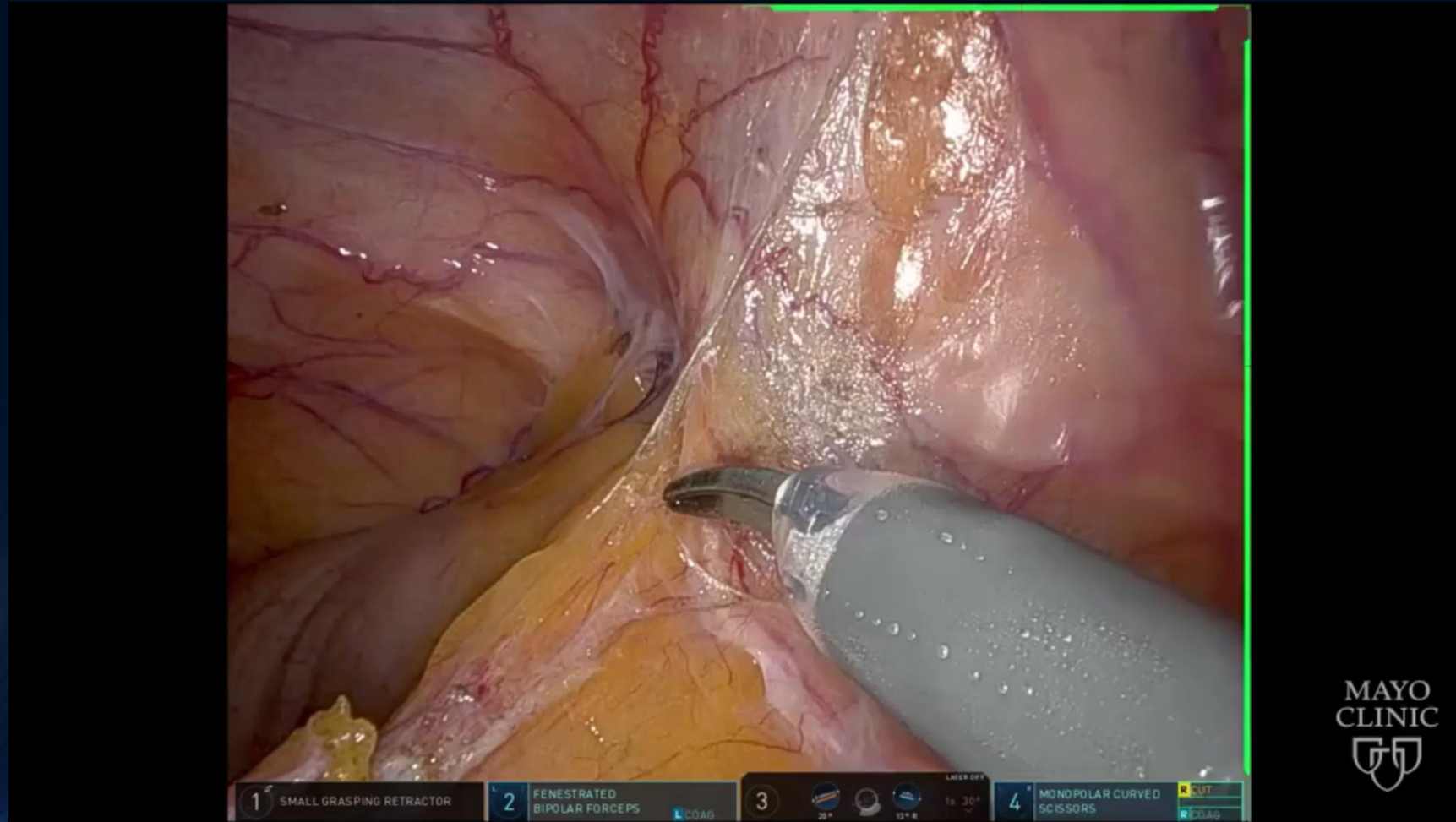
Medial to Lateral



Vascular Control



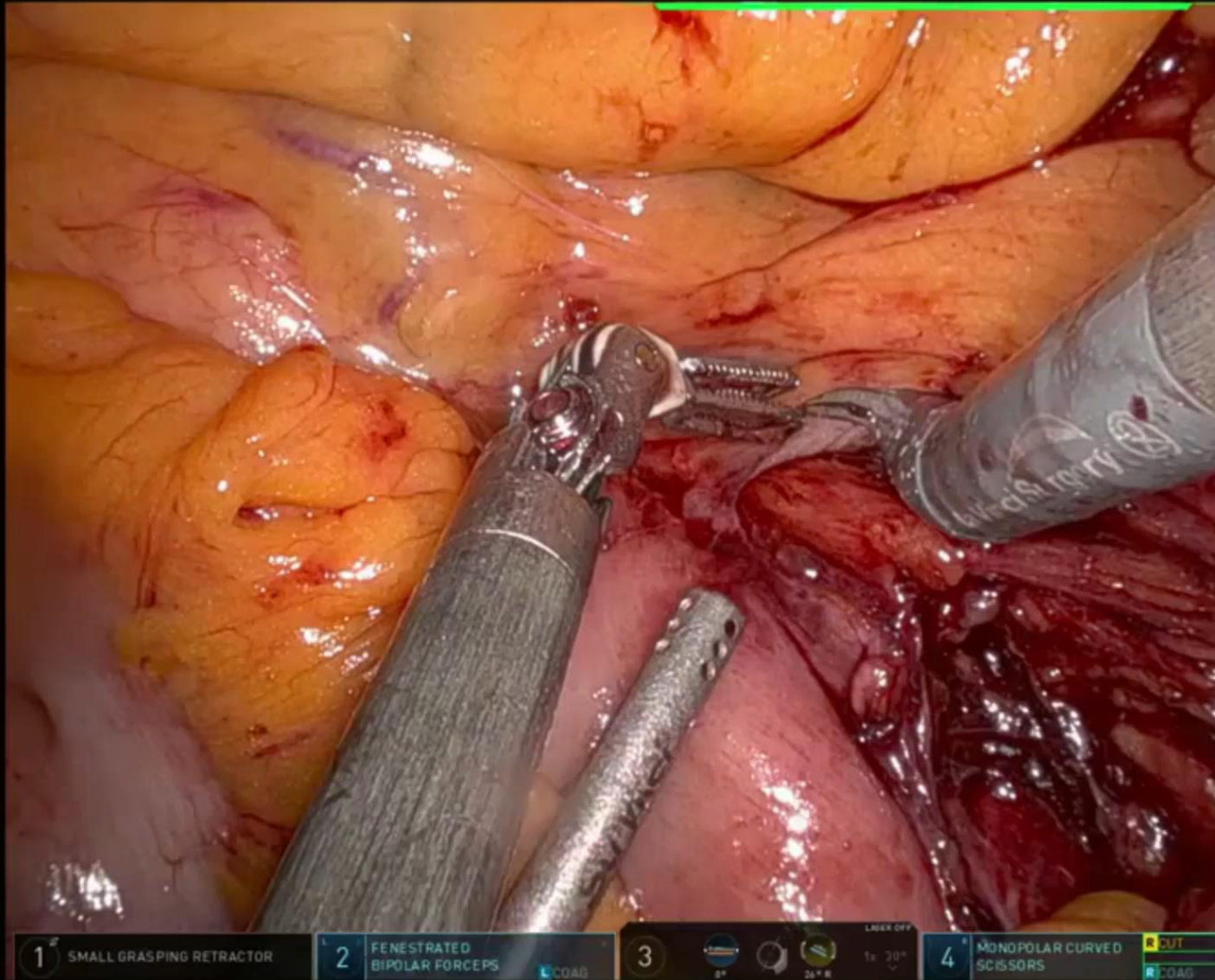
Vascular Control



Splenic Flexure Mobilization

- For reach and tension free colonic conduit
 - Will start with if needed
- Release attachments with:
 - Spleen & Diaphragm
 - Pancreatic body
 - Divide IMV @ inferior border of the pancreas

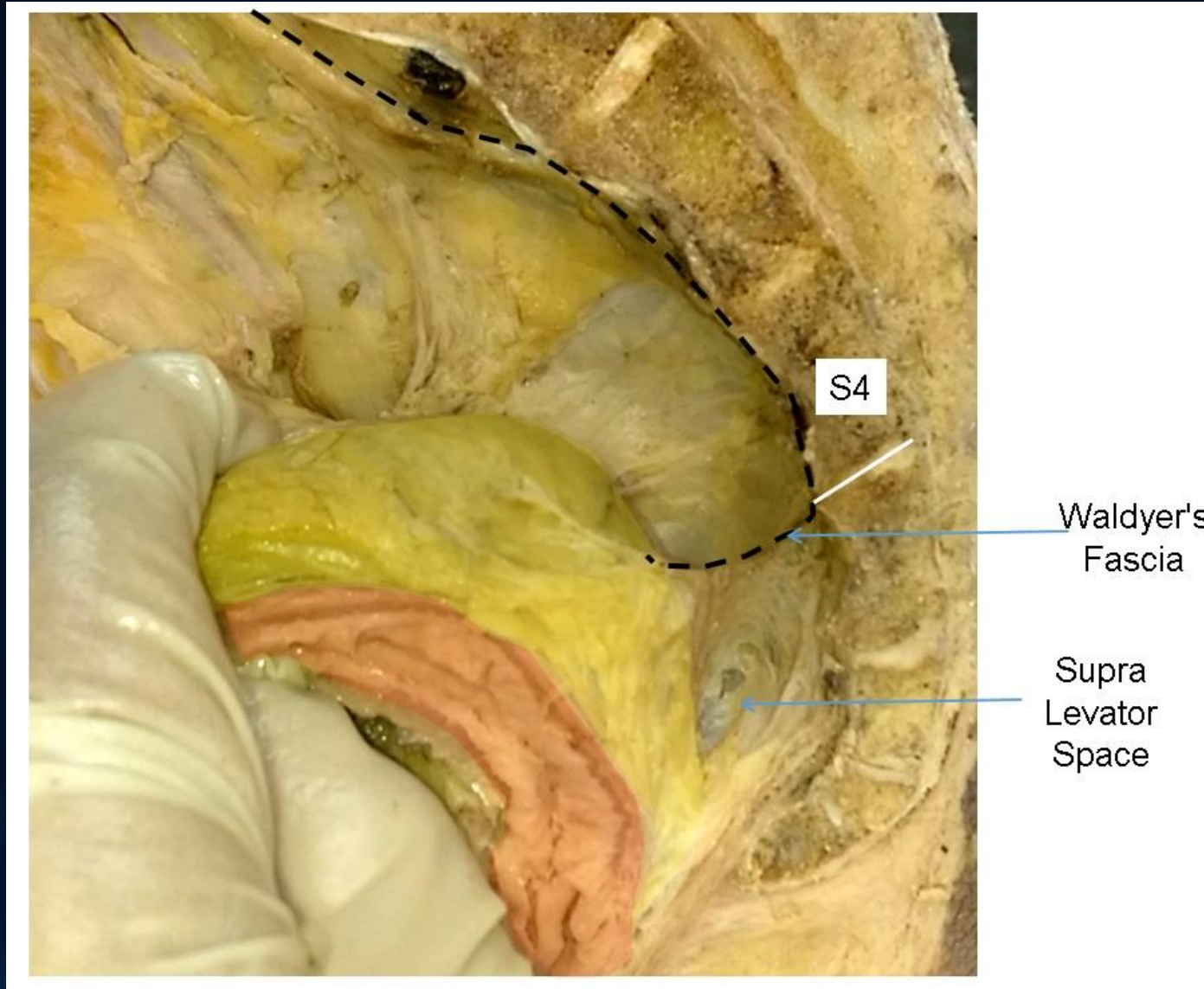
IMV, Pancreatic attachments



Rectal dissection

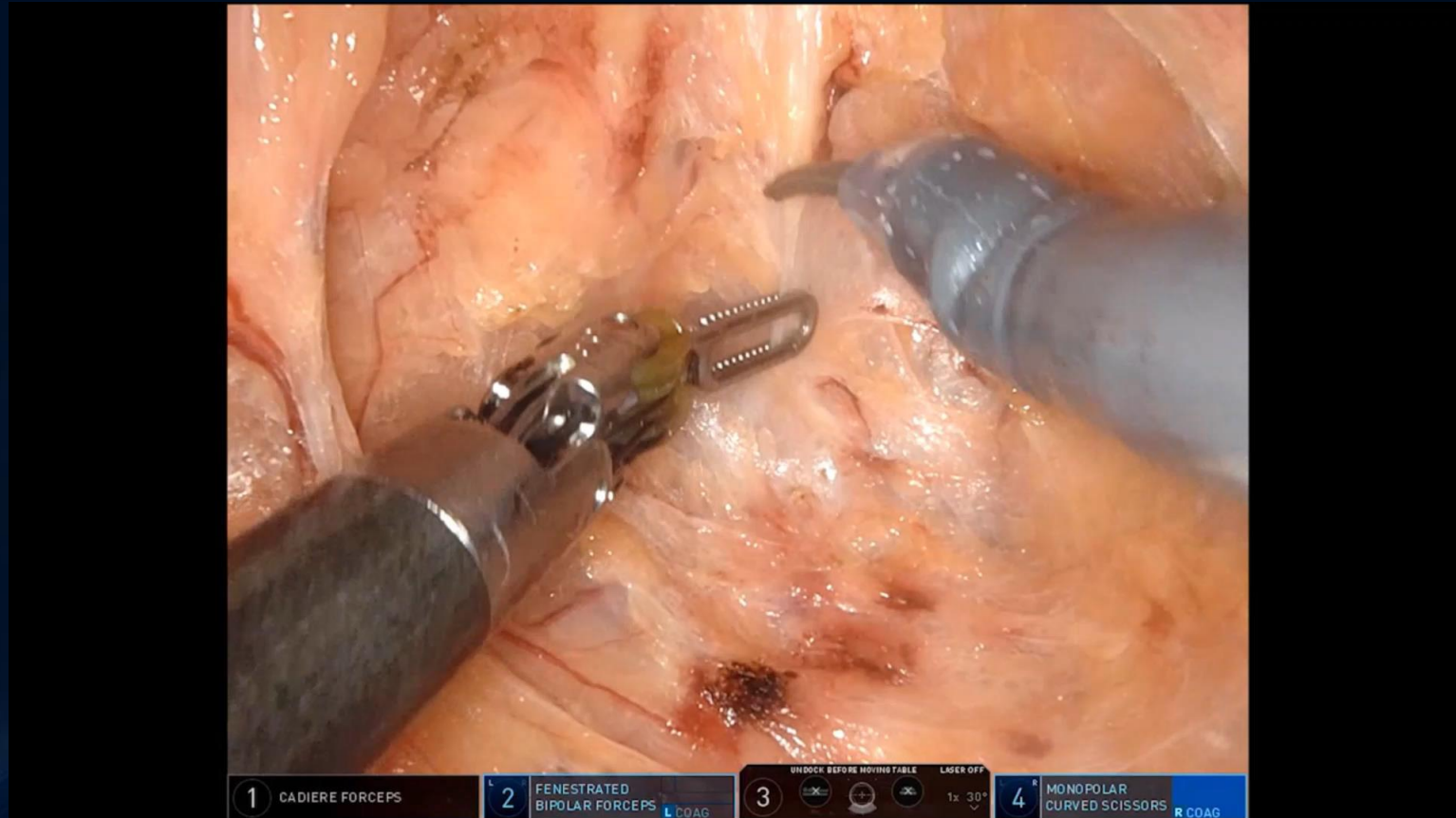
- Set-up
- Ergonomics of pelvic traction/counter T
- TME plane
- Extent of dissection
 - TME specific vs. complete mesorectal excision
- Define distal transection point
 - Distal margin + safe margin
 - Better stapling
 - Avoid injuries
- Clean the rectum
 - Avoid angulation

Waldeyer's Fascia

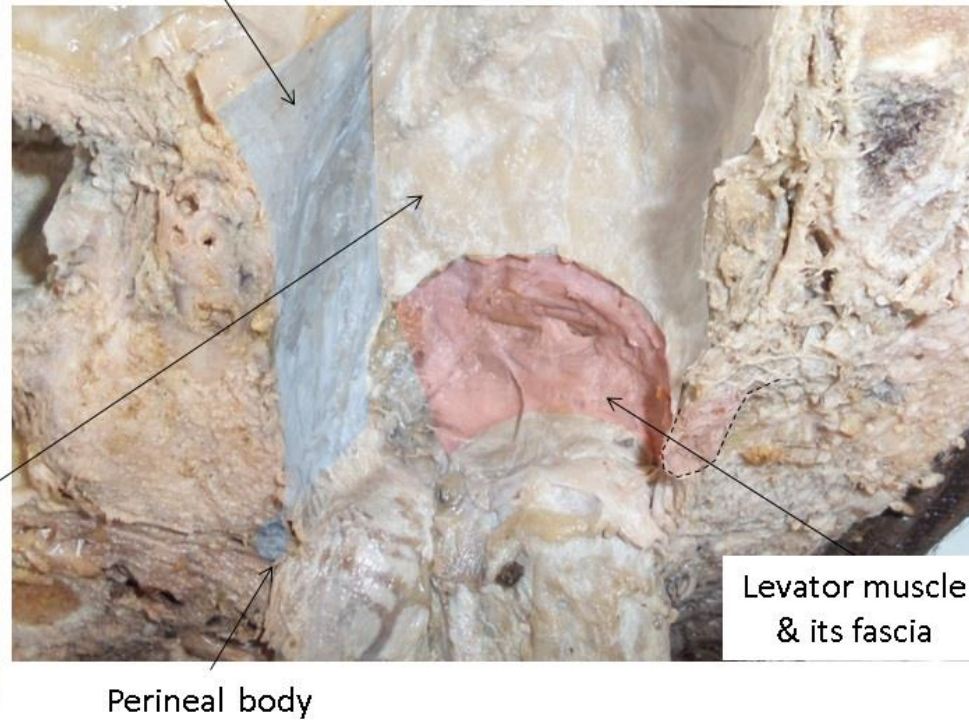
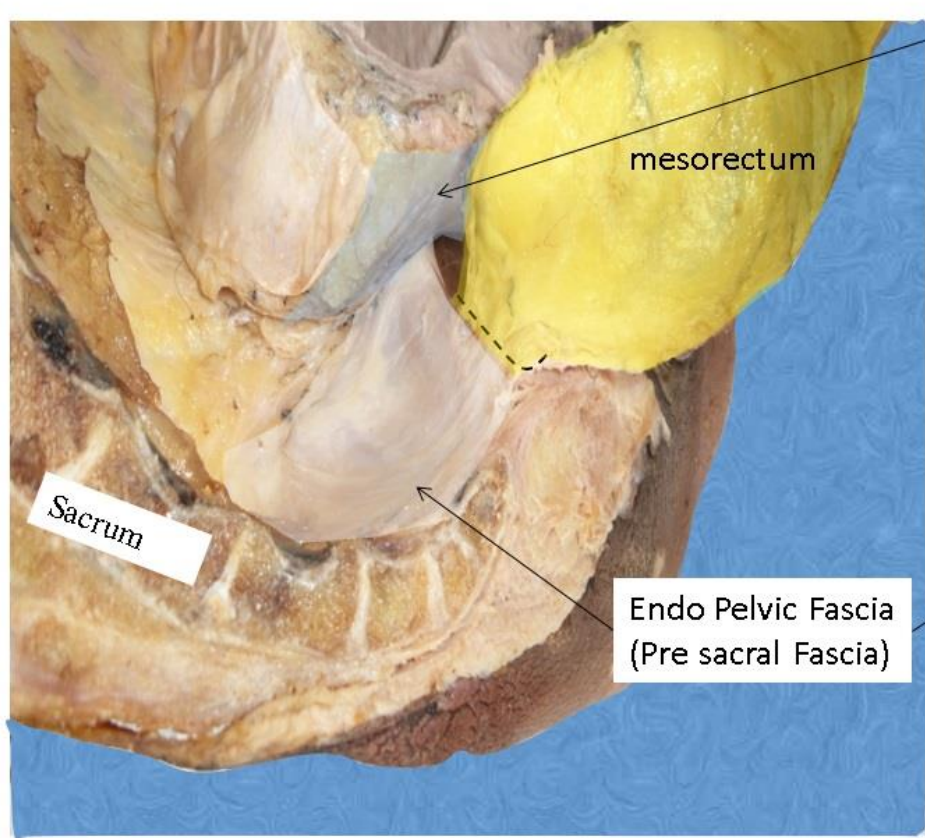


Courtesy of
Dr. Waleed Ghareeb
China

Waldeyer's Fascia

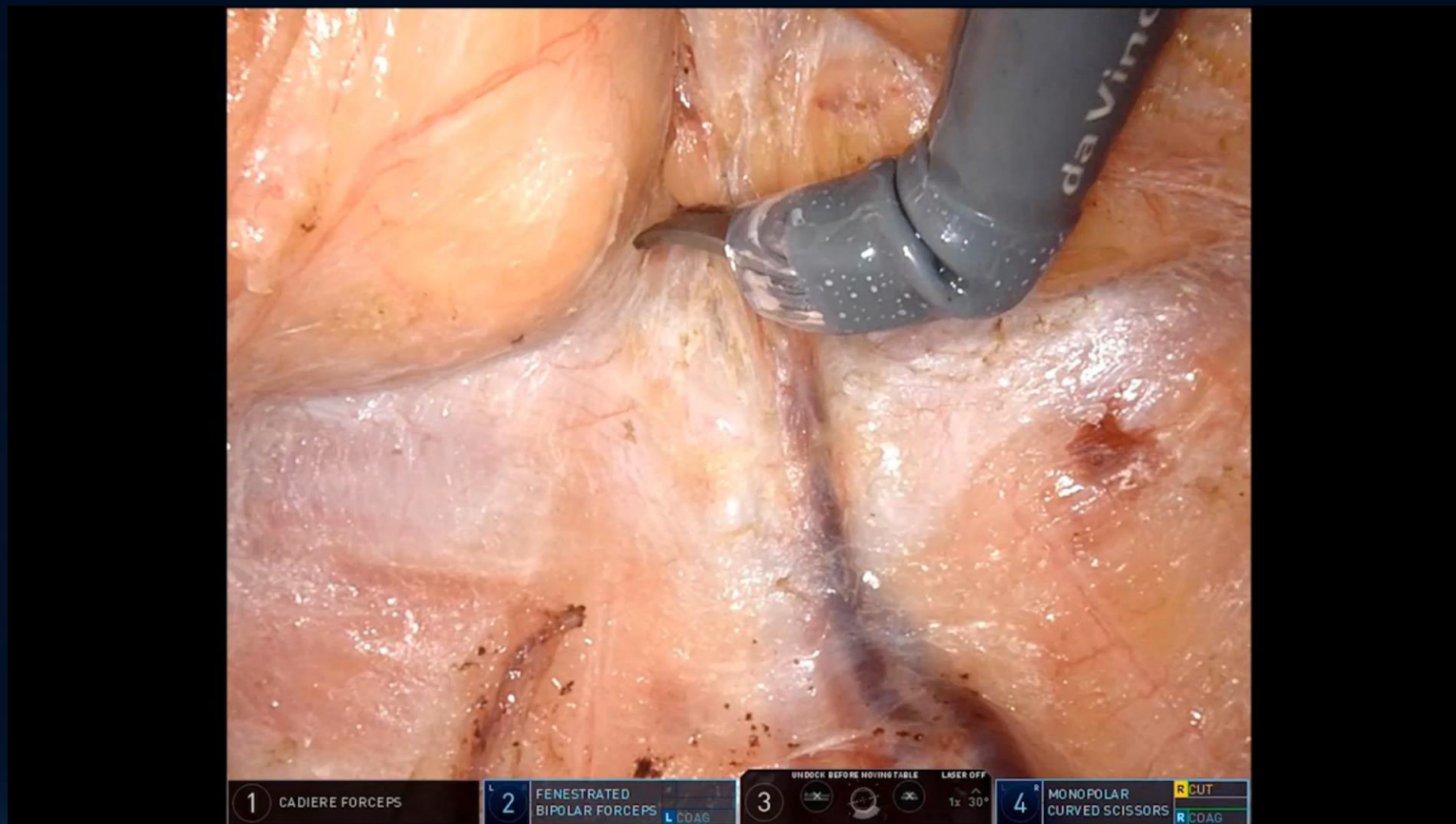


Endopelvic Fascia

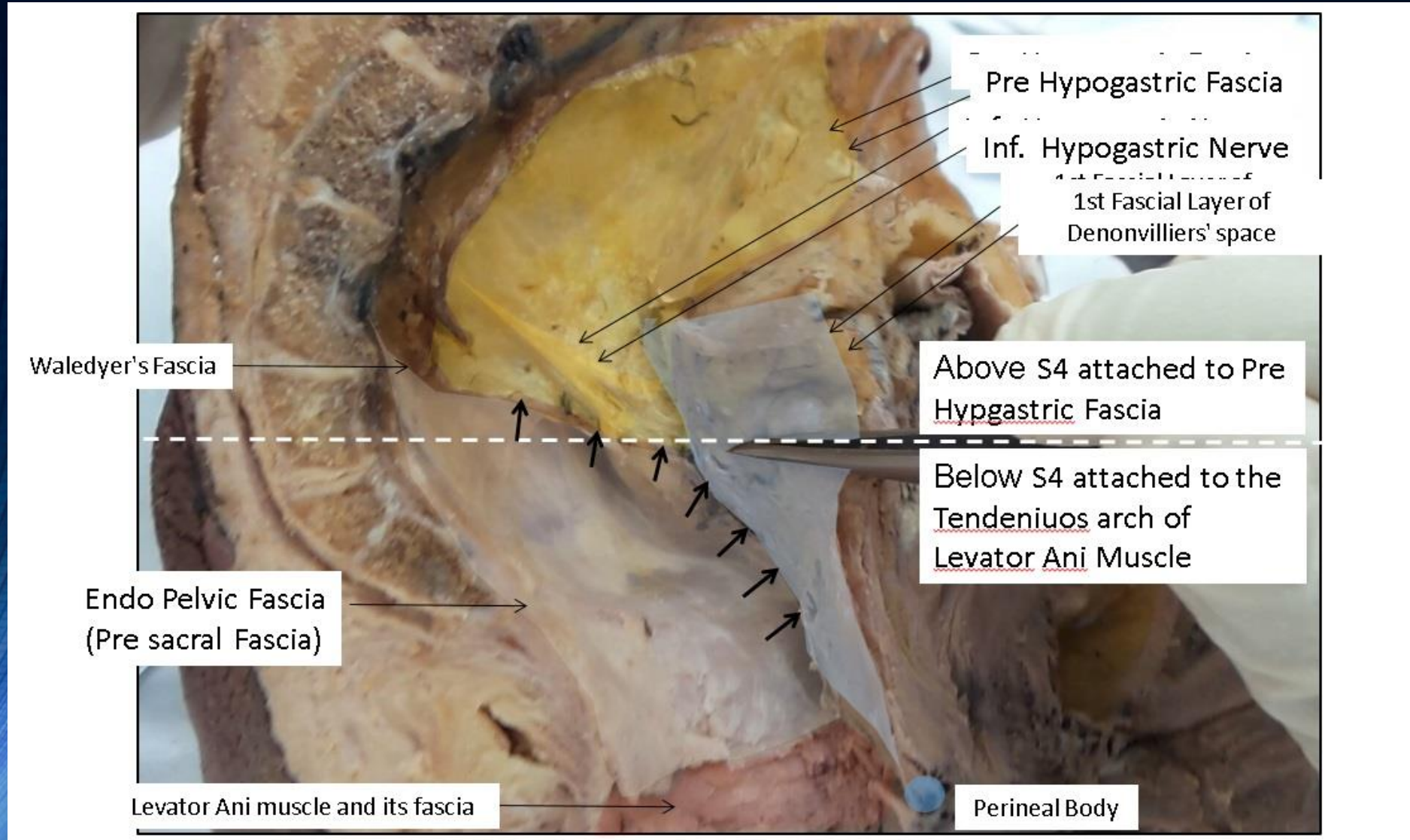


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Endopelvic Fascia

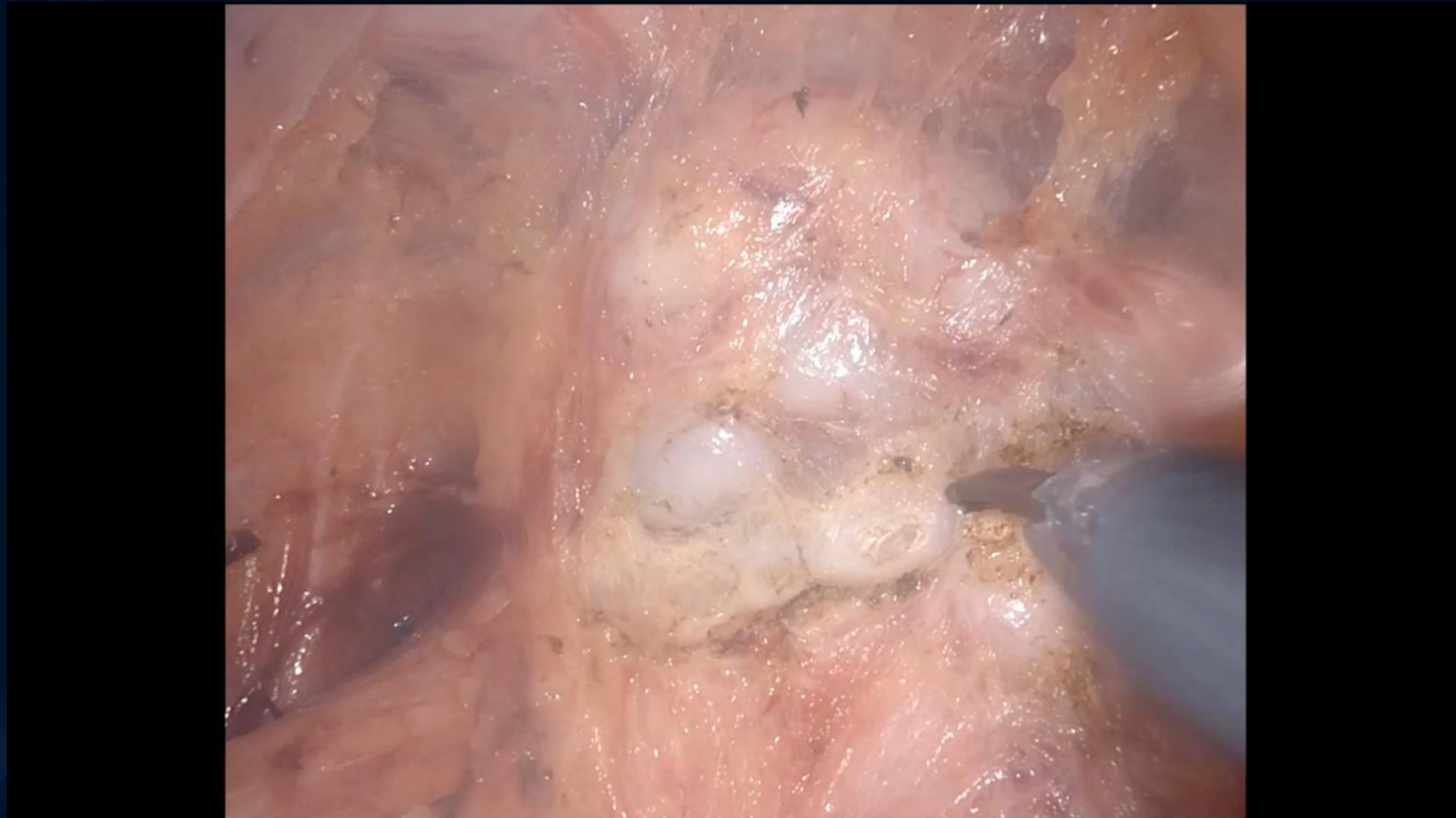


Fascia of Denonvilliers'

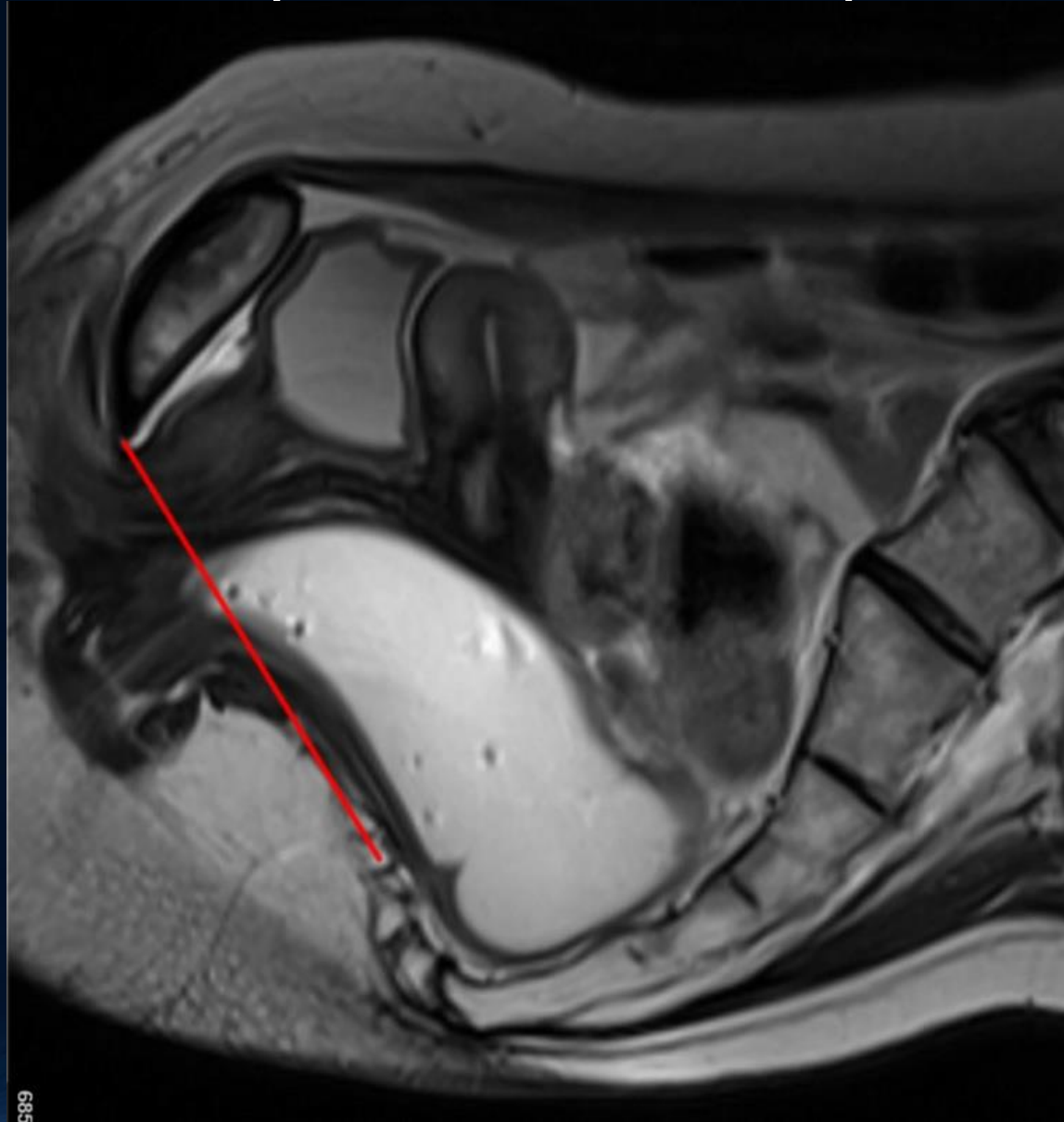


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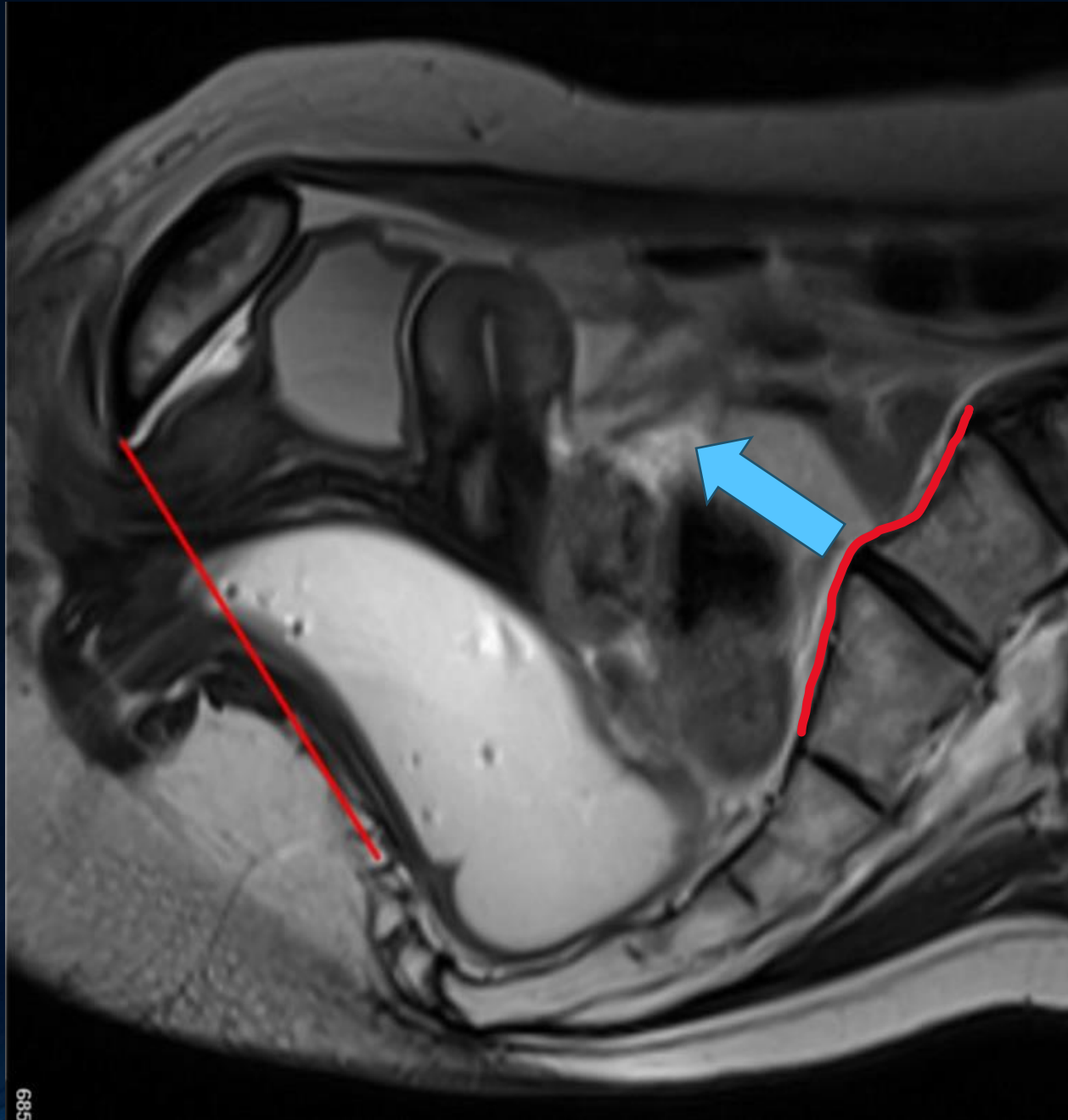
Denonvilliers'



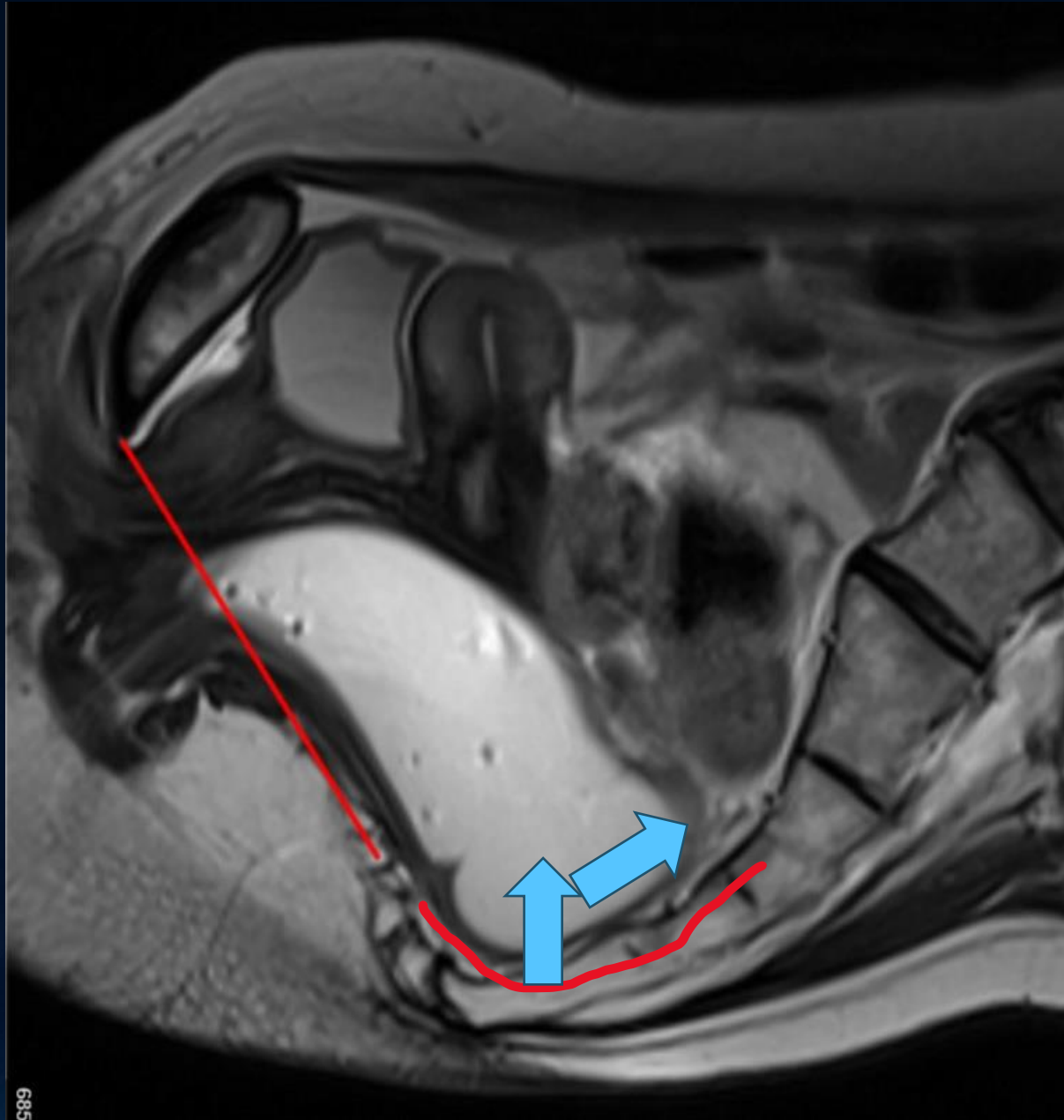
Ergonomics of pelvic traction / Counter-T



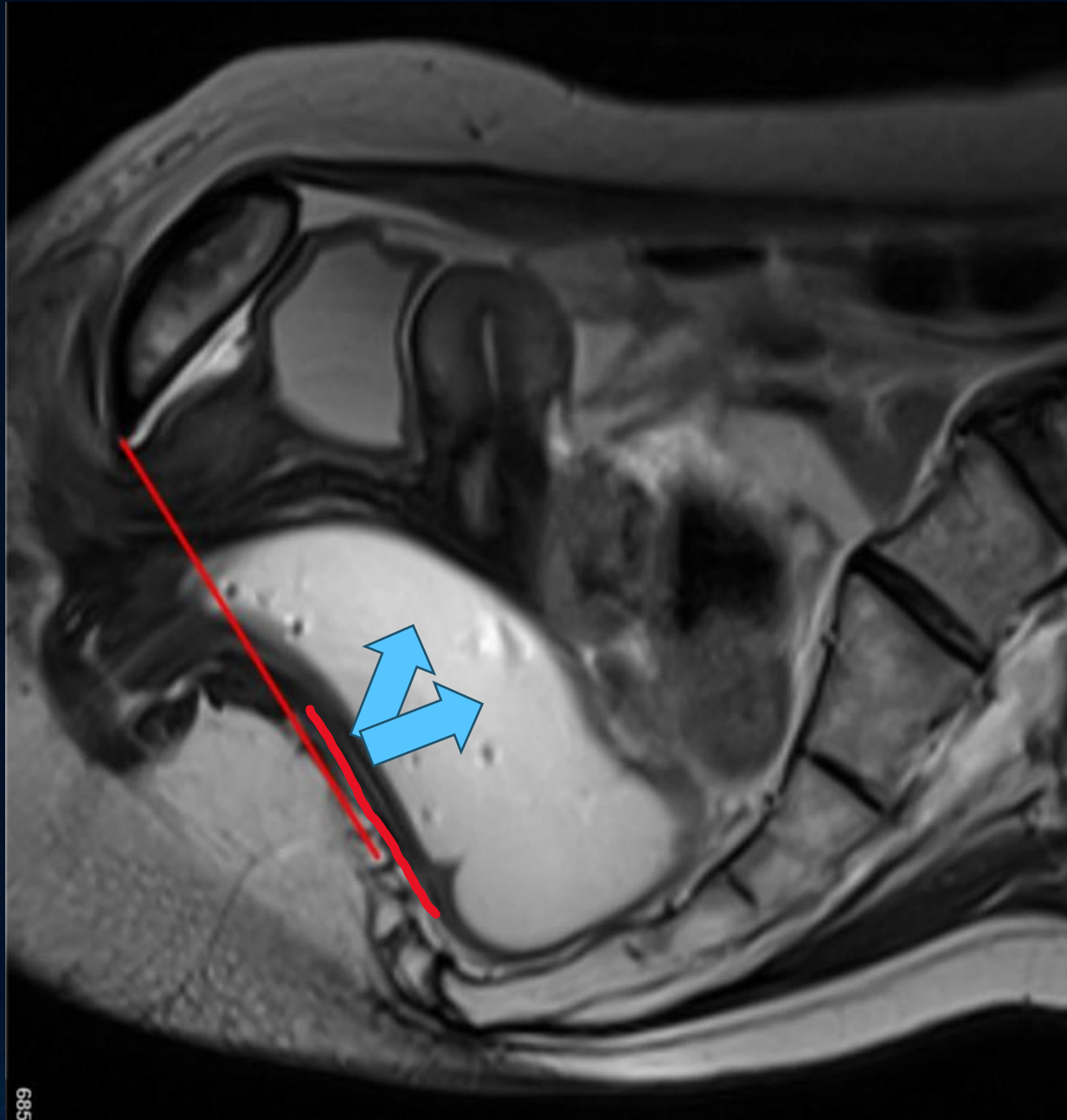
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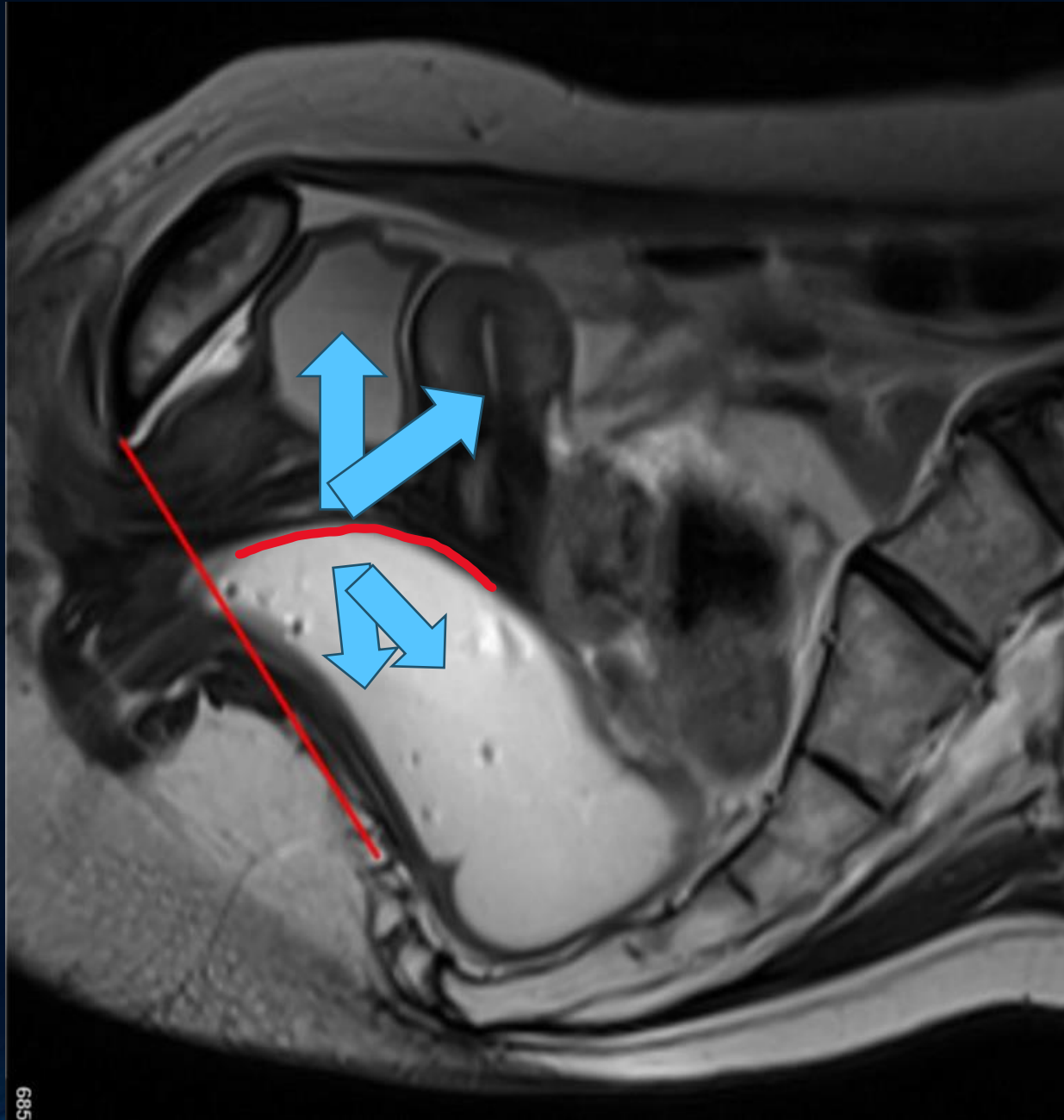


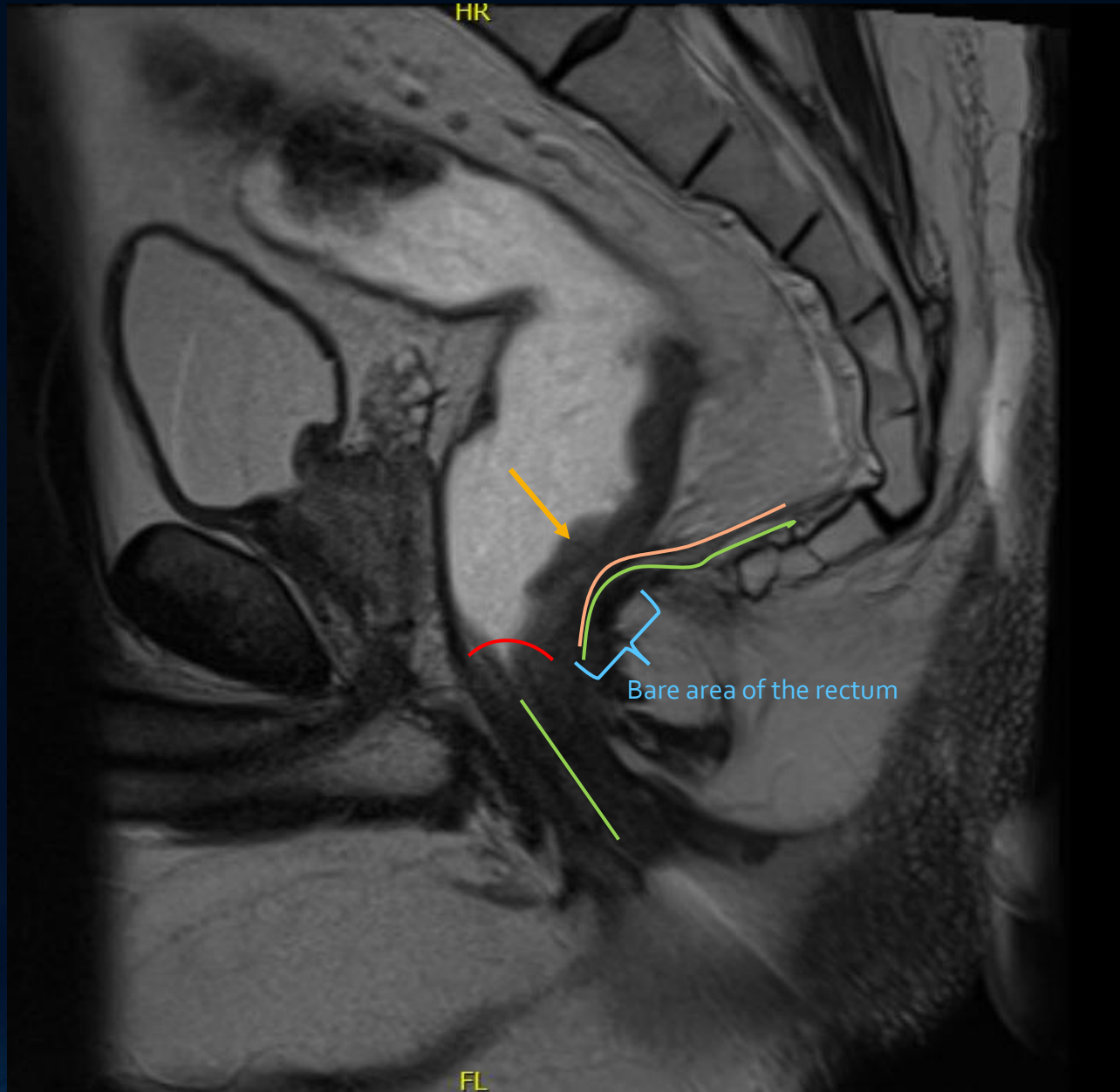
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Dissection Strategy

- Posterior dissection all the way till the levator hiatus
- Extend bilaterally as much as possible following the plane
- Lateral pararectal attachments – secure NVB
- Enter the anterior plane
- Release distal pelvic floor attachments
 - Middle rectal vessels – if present
- Access Levator hiatus
 - Inter-sphincteric dissection if needed



1 SMALL GRASPING RETRACTOR 2 FENESTRATED BIPOLAR FORCEPS COAG 3 LASER OFF 14° 20° R 4 MONOPOLAR CURVED SCISSORS CUT COAG





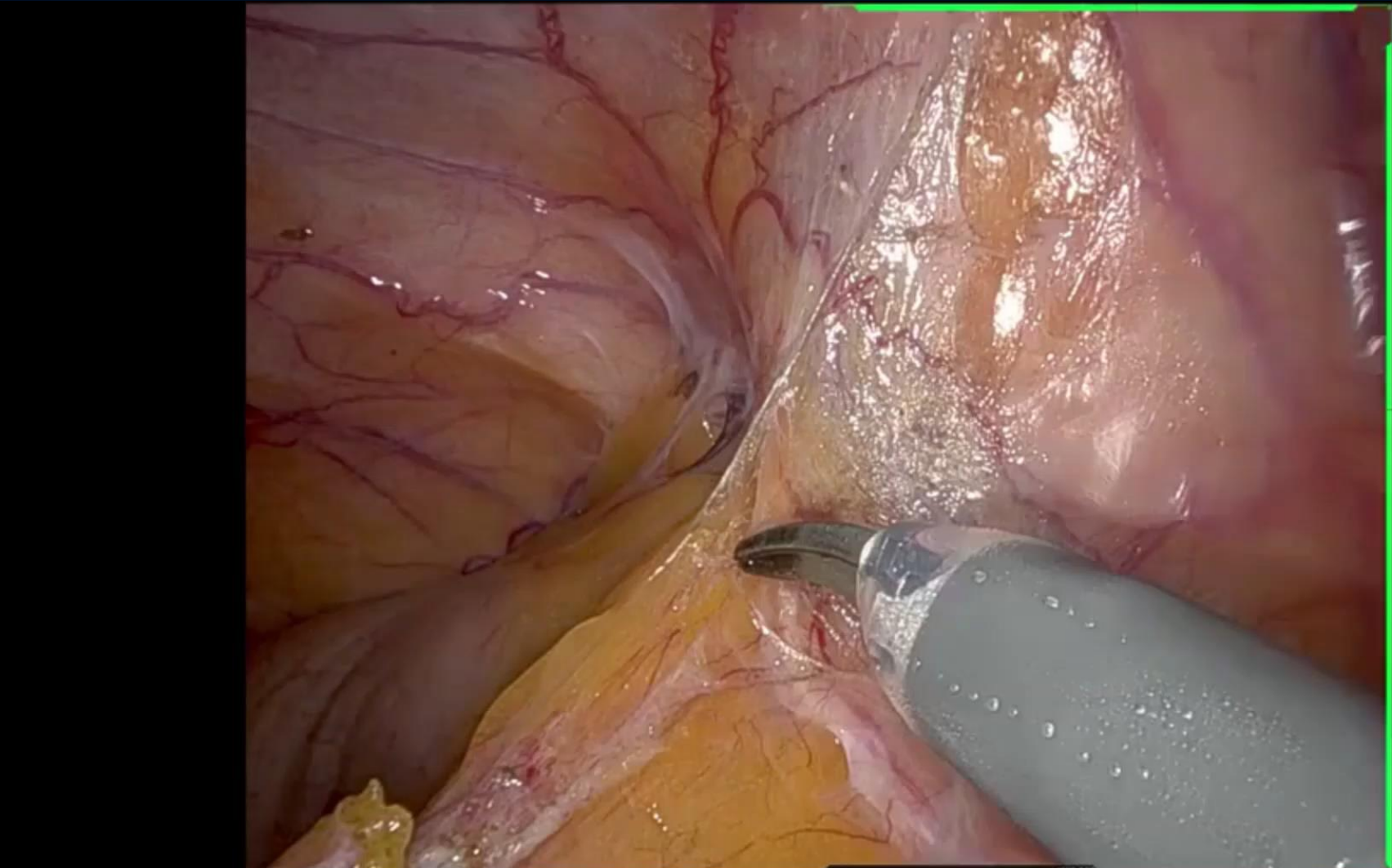
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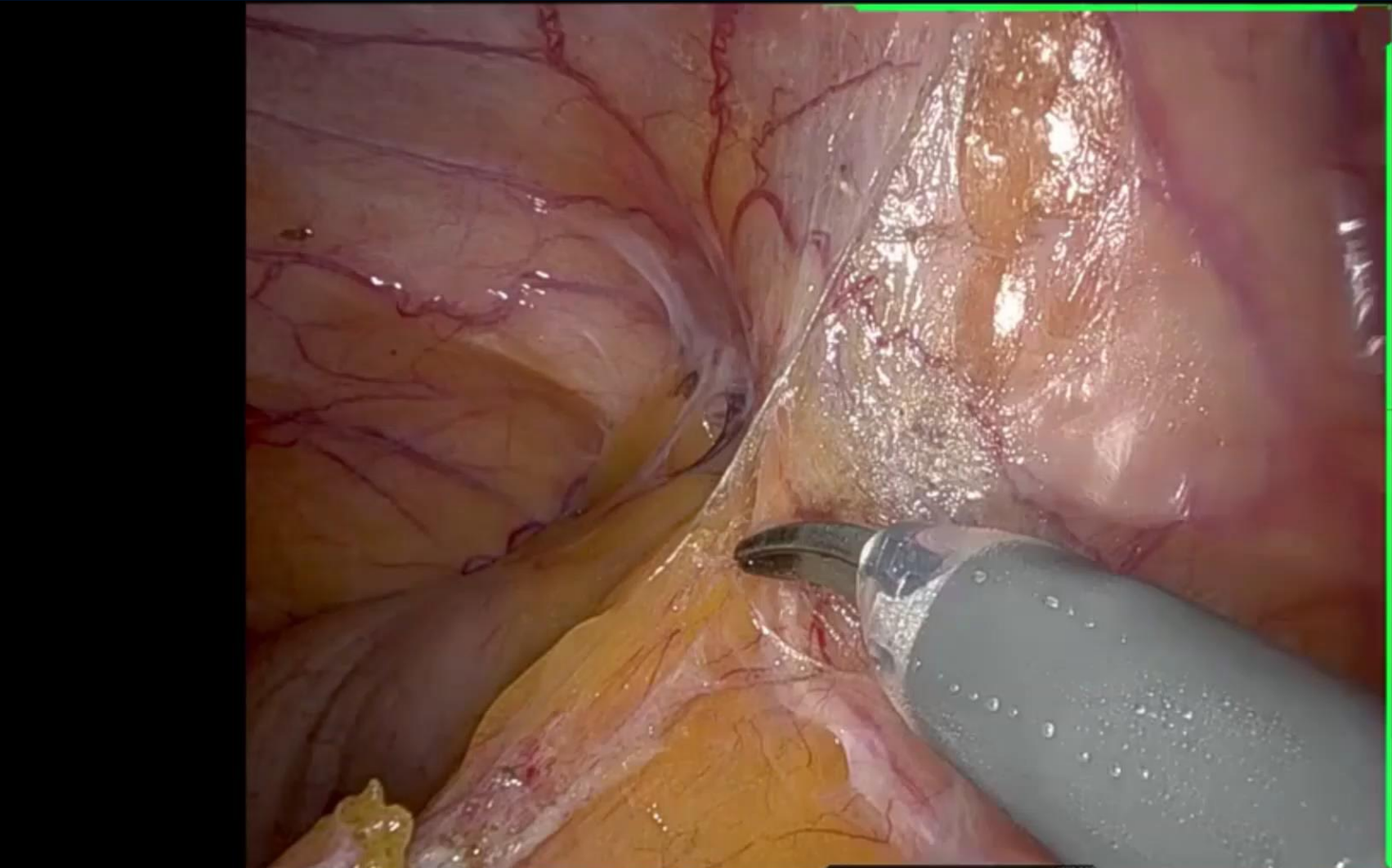


1 SMALL GRASPING RETRACTOR 2 FENESTRATED BIPOLAR FORCEPS COAG 3 LASER OFF 30° 13° R 1x 30° 4 MONOPOLAR CURVED SCISSORS R SMT R COAG



Rectal Transection & Anastomosis

- The rectum must be Straight structure
- Mesenteric division => perpendicular
 - Avoid devascularization (transmural supply)
- Staple at any angle (as long as you are comfortable)
- Tension BEFORE anastomosis
- Colonic conduit orientation
- Evaluate anastomosis integrity



1 SMALL GRASPING RETRACTOR 2 FENESTRATED BIPOLAR FORCEPS COAG 3 LASER OFF 30° 13° R 1x 30° 4 MONOPOLAR CURVED SCISSORS R SMT R COAG



- Thank you

- Questions