



THE UNIVERSITY
OF BRITISH COLUMBIA

Providence
HEALTH CARE

Reconstruction after low anterior resection

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2017 SON fall update



 stpaul's

LAR Reconstruction: What I do ...

- **Assure proximal cut end of colon is tension-free & well vascularized**
 - Splenic flexure mobilization
 - Arterial pulsation cut end proximal colon
- **Side to end anastomosis**
- **Temporary ileostomy**



Key points 1: Mobilization

- No RCT's on mandatory splenic flexure takedown
- No RCT's on high vs low IMA ligation
- *Goal ... Tension free, well-vascularized anastomosis*

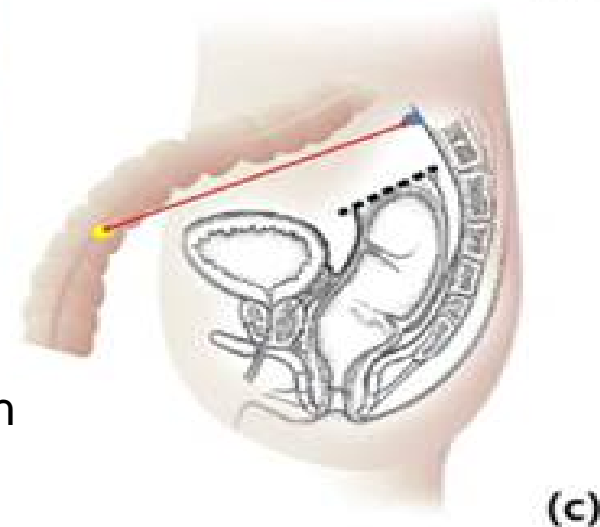
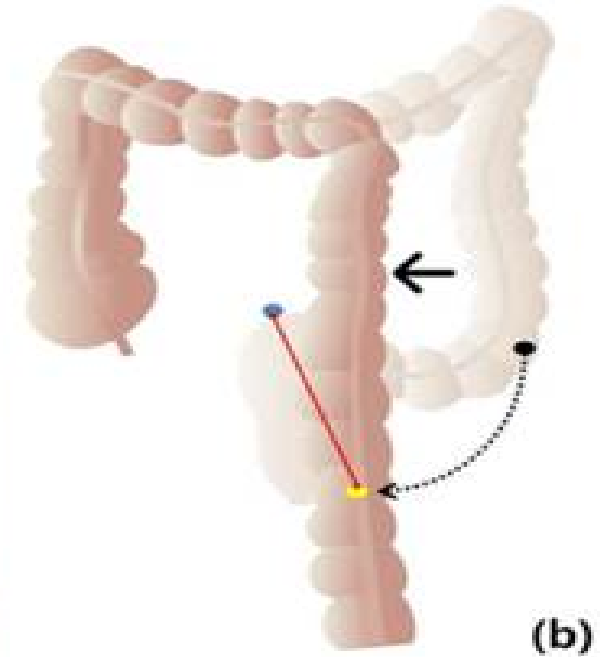


Key points 2: Anastomosis

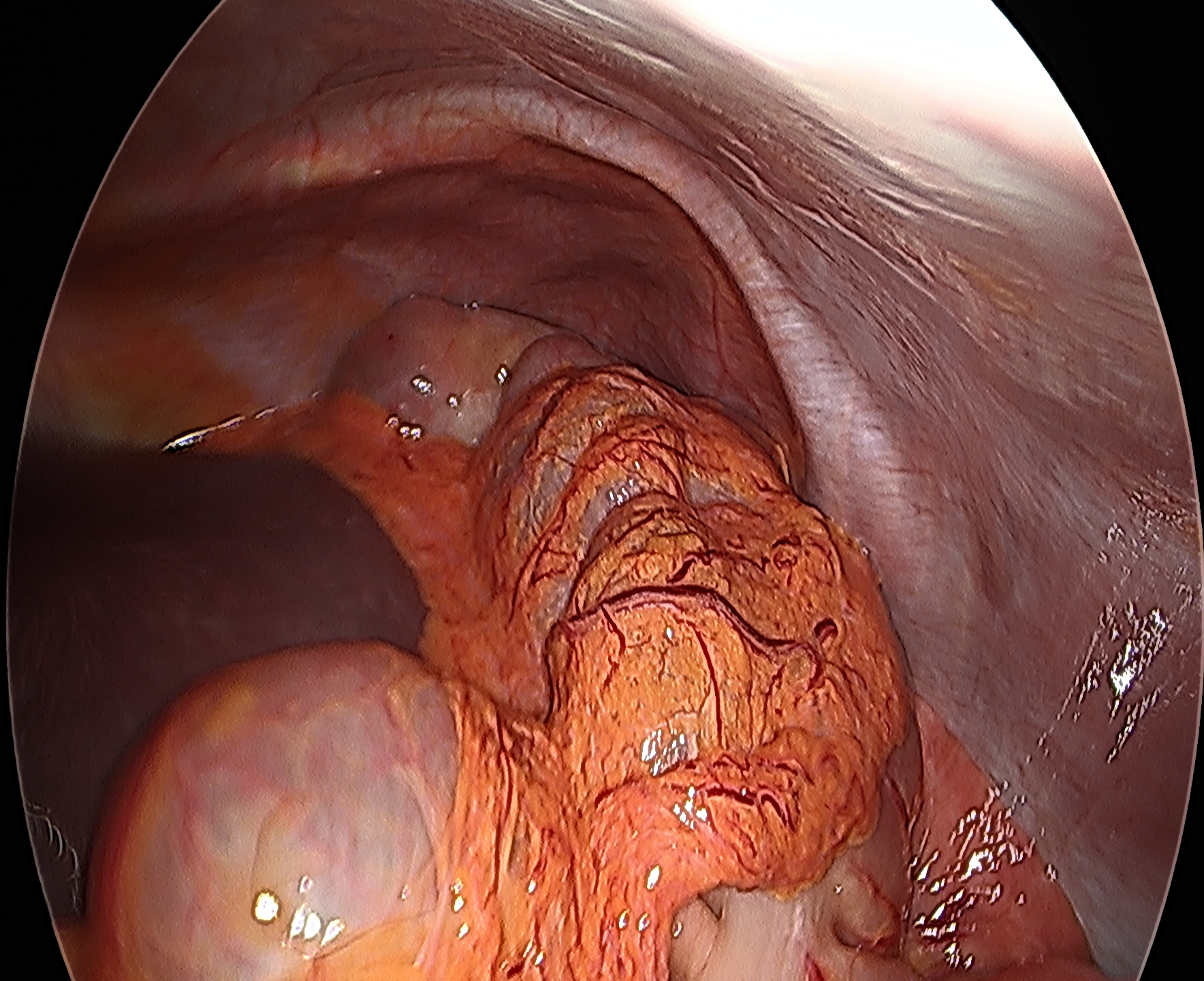
- LAR results in rectal dysfunction
- Early rectal dysfunction is less with colon pouch ... RCT data
- *Side to end \cong colon pouch ... RCT data*



1st Goal of mobilization: PROXIMAL CUT END REACHES PUBIC SYMPHYSIS



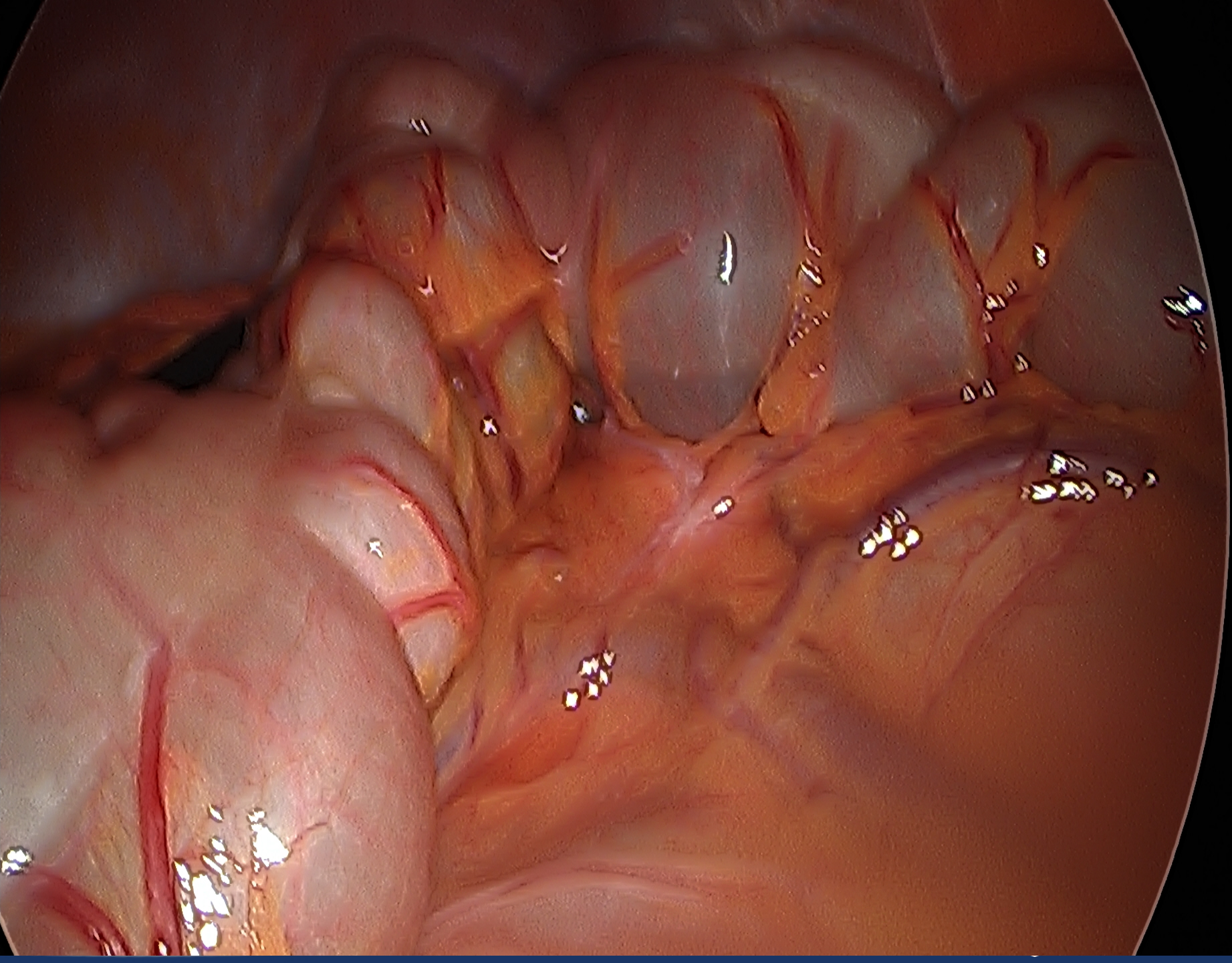
Splenic flexure mobilization = 30 cm additional length



Splenic flexure takedown

- Dissect splenic flexure away from left kidney, spleen, tail of pancreas
 - Lateral to medial
 - Medial to lateral

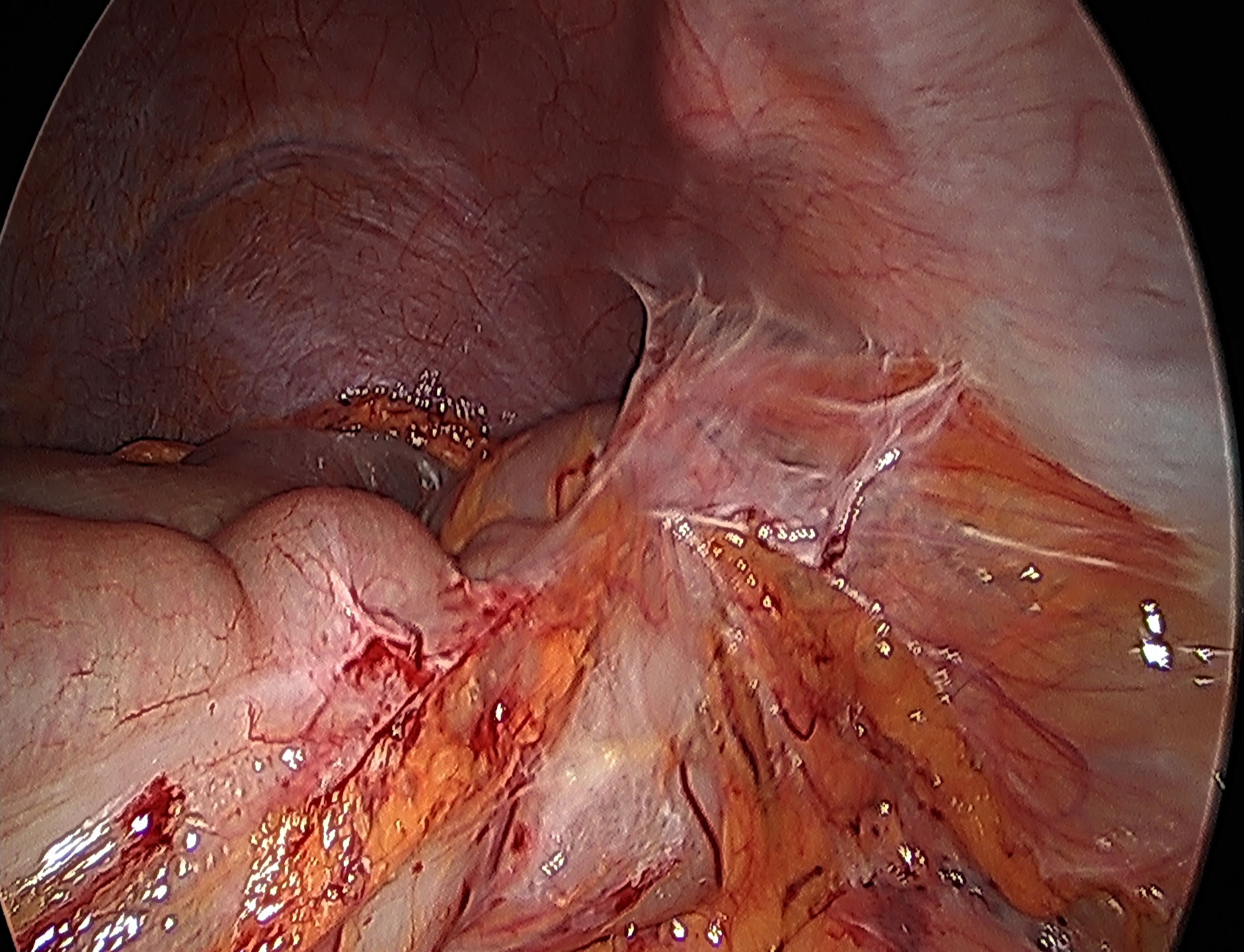


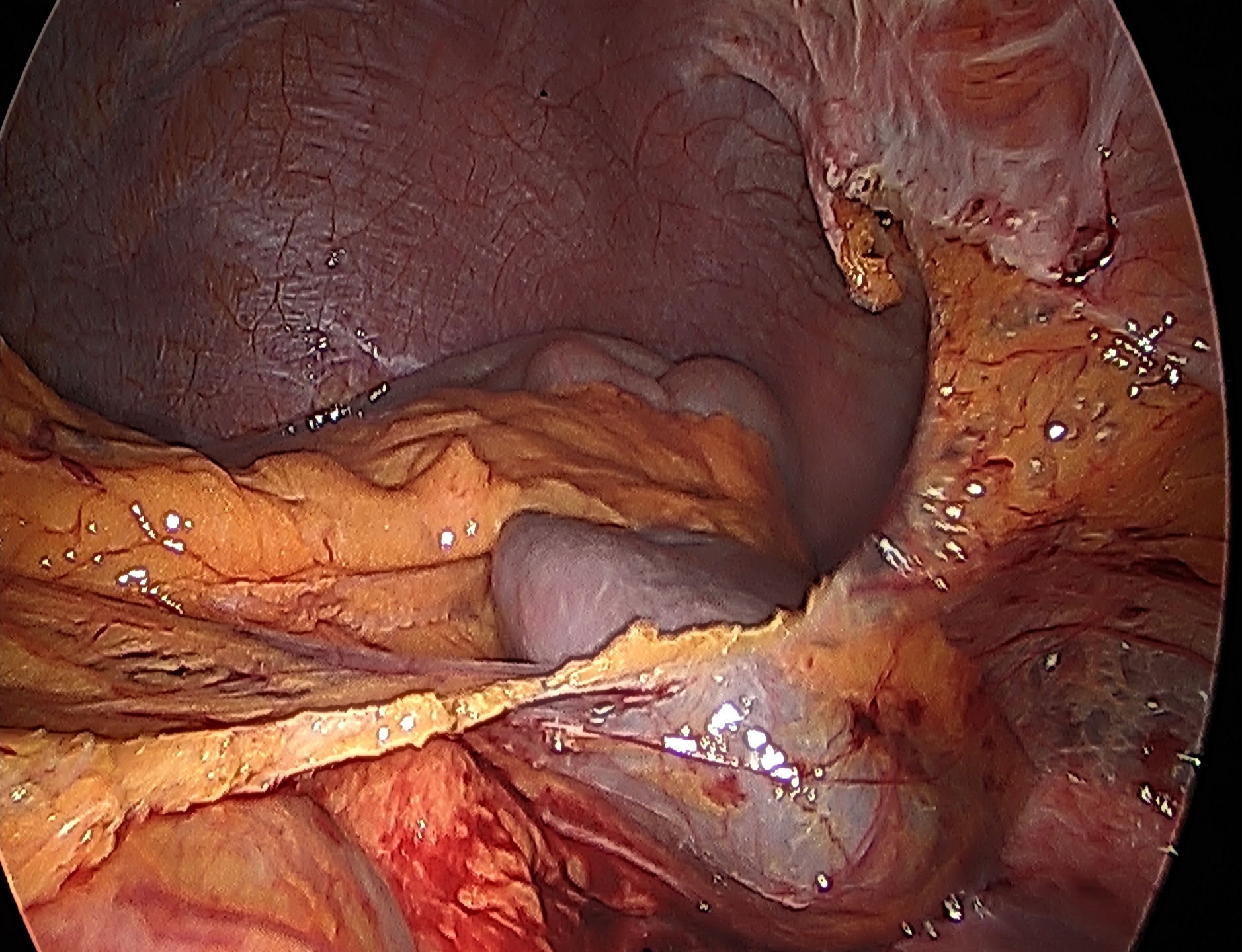


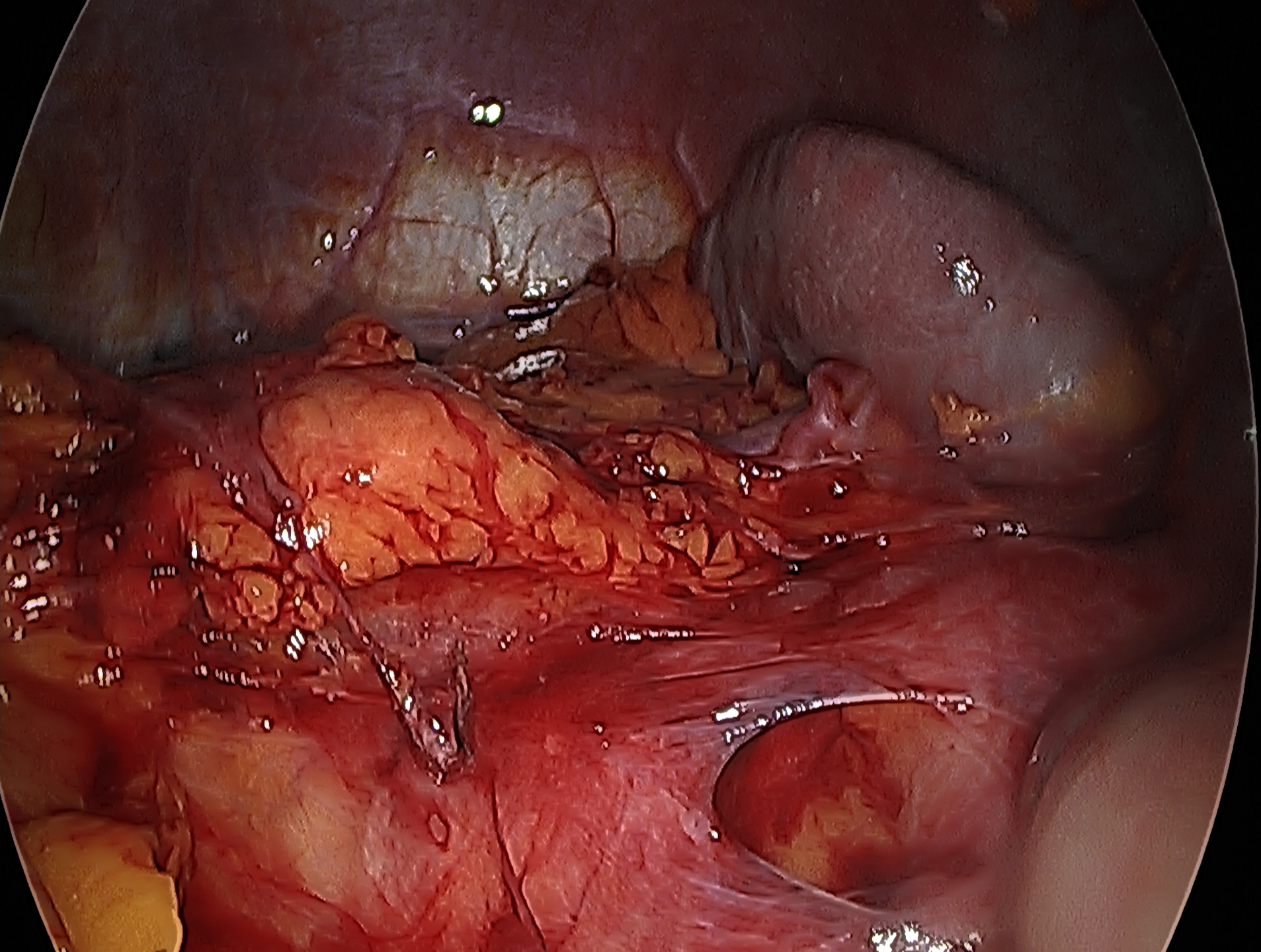
Further colon mobilization

- Dissect omentum away from left transverse colon and left colon
- Dissect left transverse colon mesentery away from stomach and lesser sac adhesions
- Dissect left transverse mesentery off pancreas
- Maintain marginal vessel / Riolan at splenic flexure





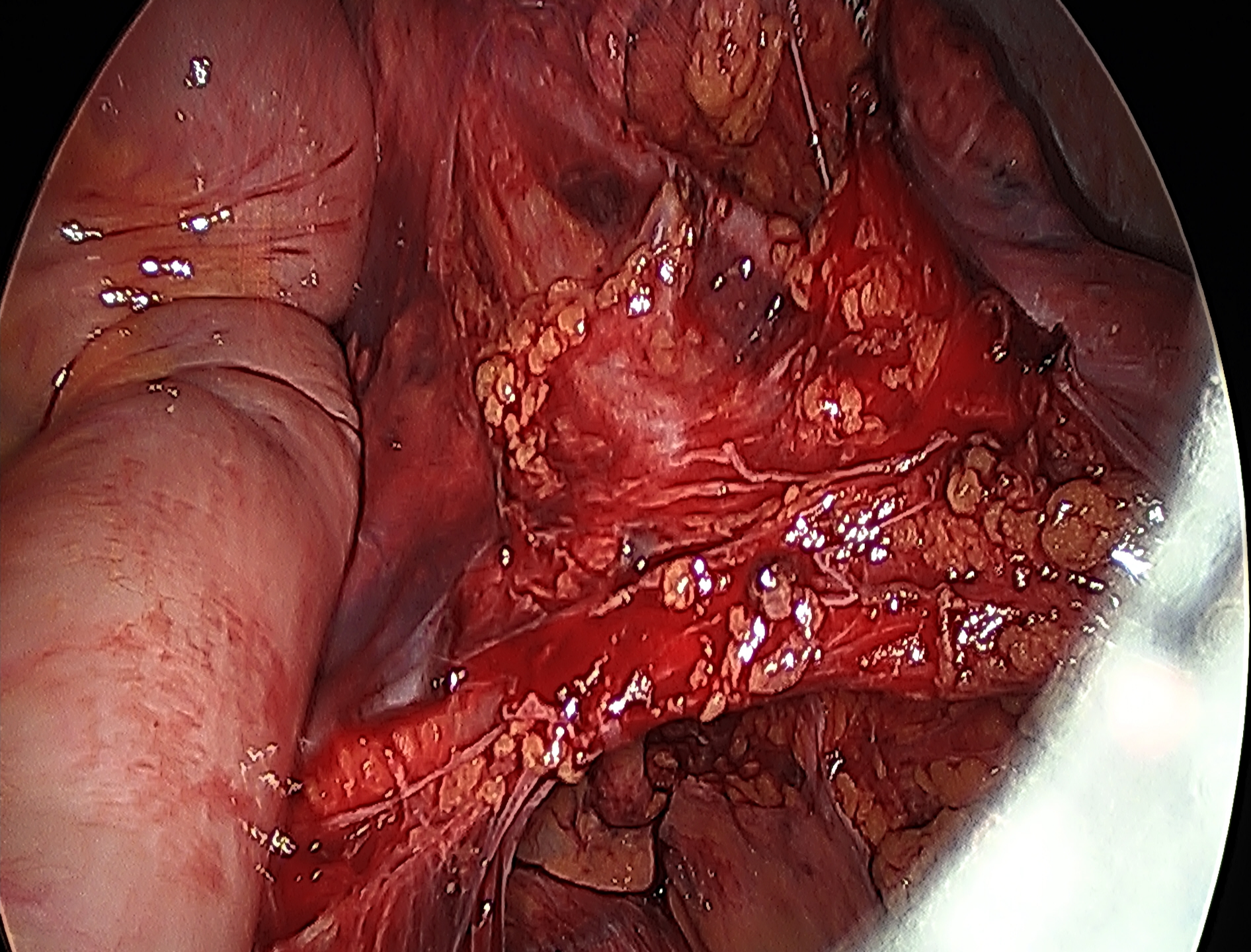




Assure good arterial blood flow to proximal cut end

- If sigmoid anastomosis, more sigmoid length:
 - Less MCA flow
 - Divide proximal superior rectal artery; keep IMA / LCA trunk intact
- If left colon anastomosis, more mobilization needed:
 - Divide IMV below pancreas for more length
 - Divide IMA trunk proximal to LCA
 - Maintain Riolan / MCA flow





Further lengthening of mesentery – Last step, perilous

- Ligation of left colic artery
 - After IMA division, blood flow to proximal resection margin dependent on MCA flow & marginal vessel
 - Trial of occluding LCA before dividing

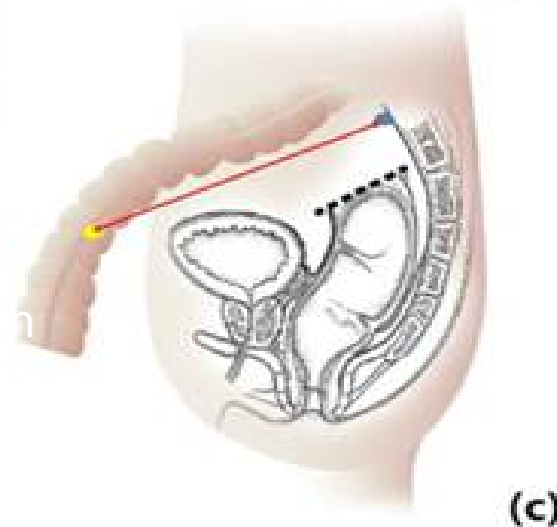
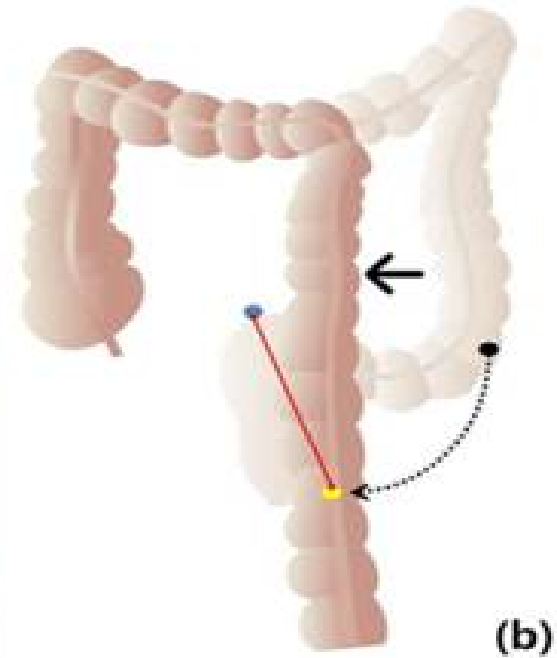


KEYPOINT:

- Assess for pulsatile arterial flow at cut end!!!



2 Goals of mobilization: PROXIMAL CUT END REACHES PUBIC SYMPHYSIS AND HAS PULSATILE ARTERIAL FLOW



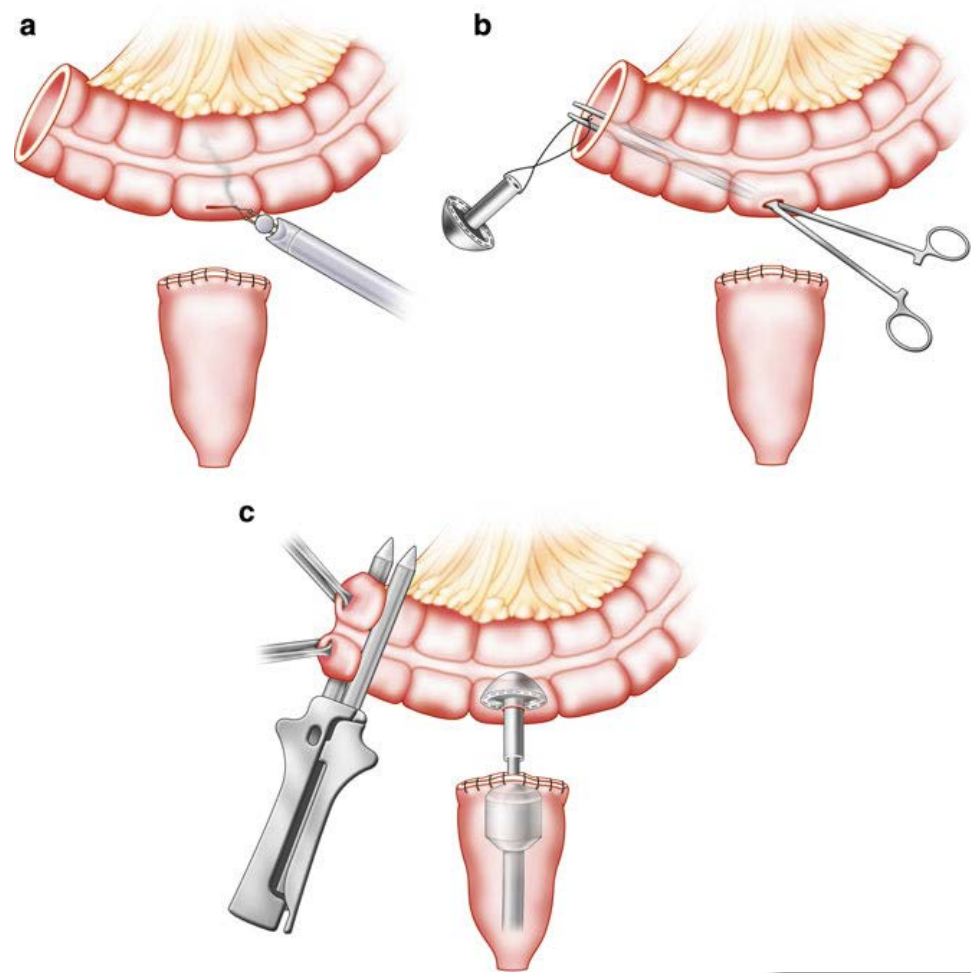
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Rectal Dysfunction ... LARS, Low anterior resection syndrome

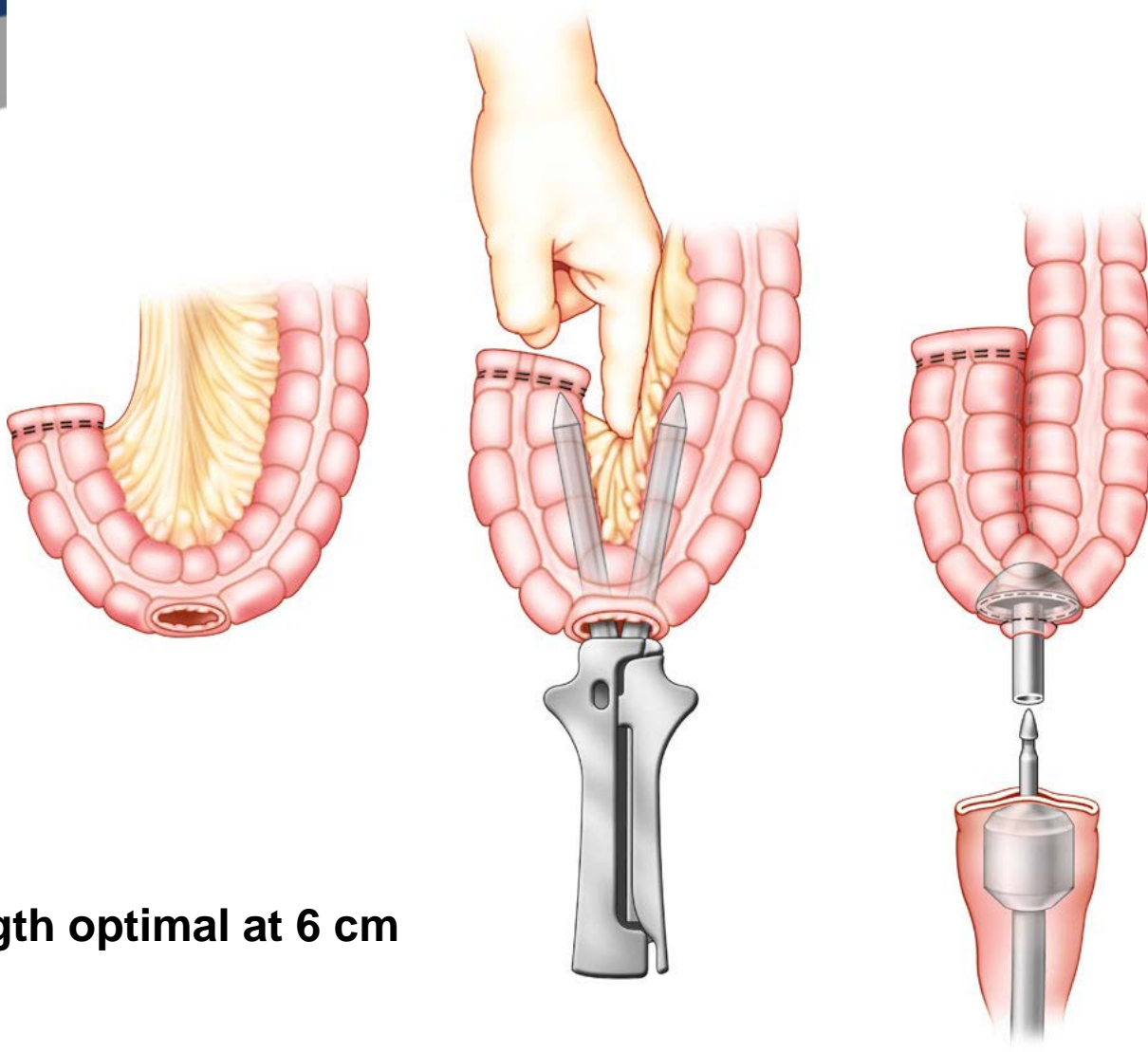
- Low anterior resection syndrome ... loss of rectal reservoir
 - Urgency, increased stool frequency, incomplete evacuation / fragmentation
- *Anorectal function slightly better for colon pouch or side to end anastomosis over straight anastomosis ... RCT evidence*
 - Brown CJ, Fenech DS, McLeod RS. Reconstructive techniques after rectal resection for rectal cancer . Cochrane Database Syst Rev. 2008
 - Si C, Zhang Y, Sun P. Colonic J-pouch versus Baker type for rectal reconstruction after anterior resection of rectal cancer. Scand J Gastroenterol. 2013;



Anastomosis: Side to End ... simpler than colon pouch



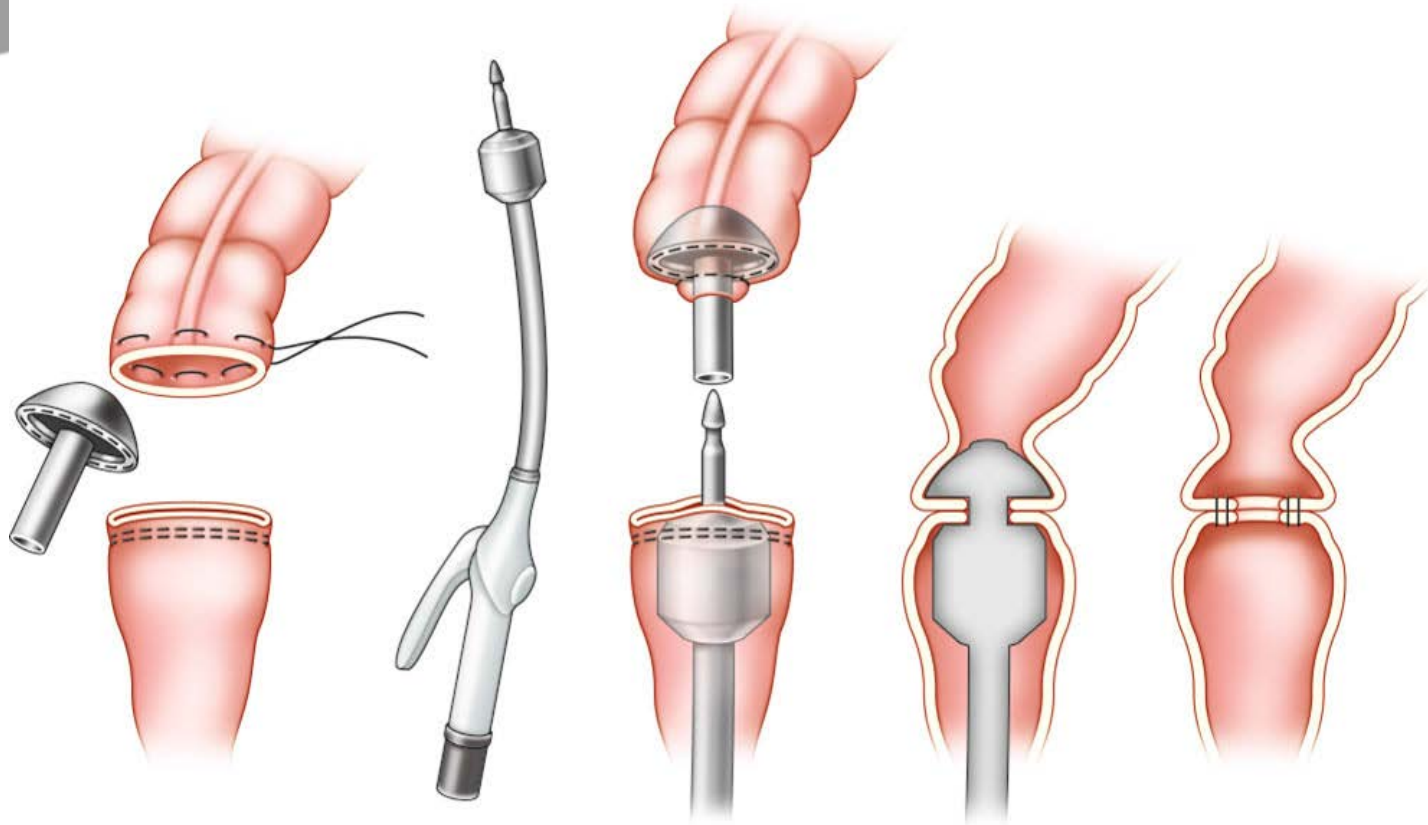
Anastomosis: Colon pouch ... side to end with extra staple line



Pouch length optimal at 6 cm



Anastomosis: Straight EEA



- Anastomotic height more than 7 cm
- When mesentery too bulky to reach into low pelvis



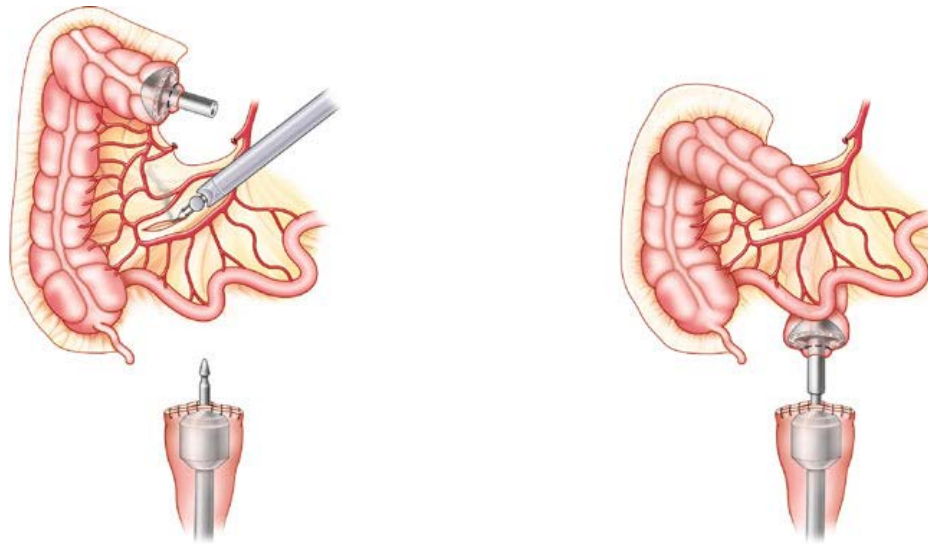
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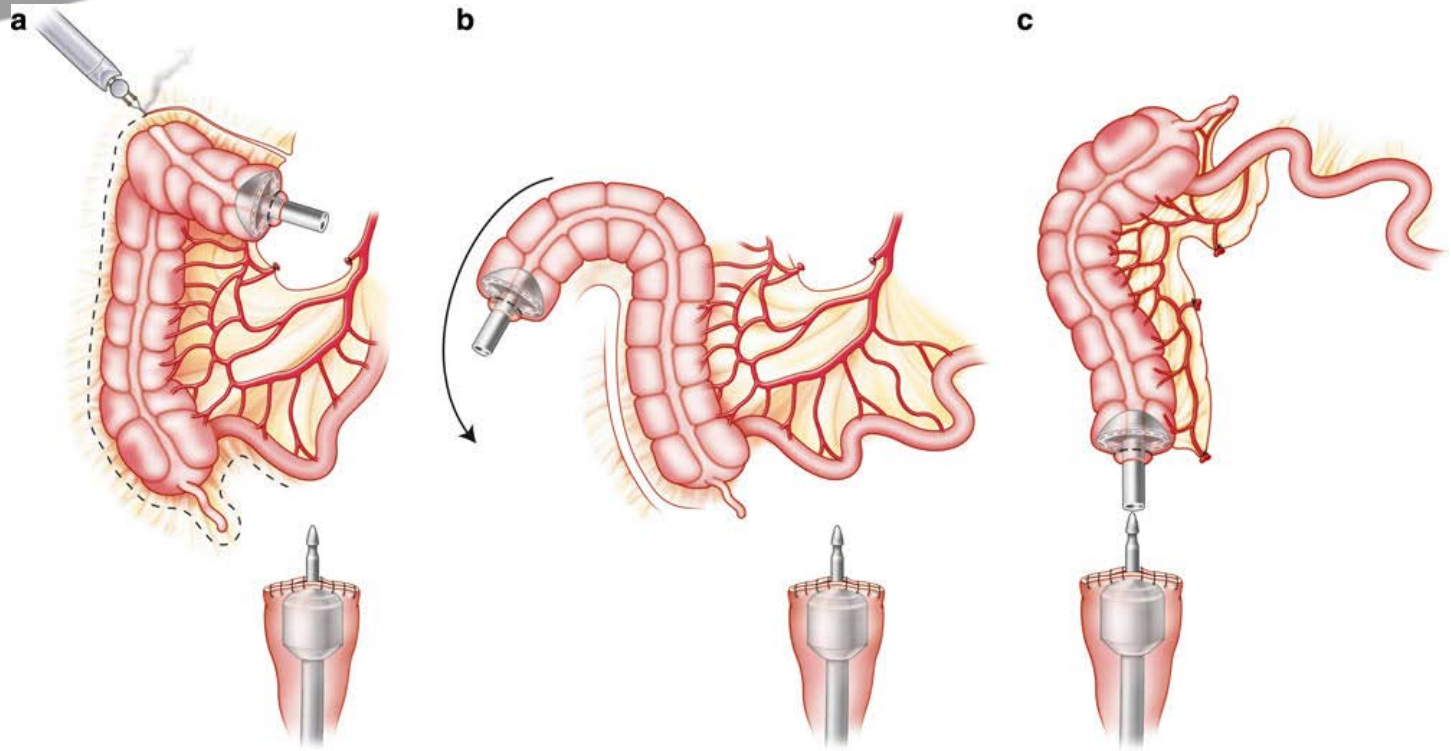


Retro-Ileal pull-through (absent middle colic artery)



Deloyer I

Counter-clockwise rotation (absent middle colic)



Deloyer II

