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NYSGE
New York Society for Gastroenterology and Endoscopy

Resection Needs Closing? Tips and Tricks

Kavel Visrodia, MD
Assistant Professor
Program Director, Interventional Endoscopy Fellowship
Division of Digestive and Liver Diseases
Columbia University Irving Medical Center

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Disclosures

- Speaker: Boston Scientific, Pentax

Outline

- Why close
- When to close
- What and how to close with
  - Standard clipping - TTS
  - Innovative clipping – OTSC, Mantis, DAT
  - X-tack
  - Suturing

Why

- Electrosurgical cautery inherently risks delayed bleeding, immediate/delayed perforation with associated morbidity
- Closure benefits…

Patients

Hospitals

Yourself

Albeniz E, et al. AJG, 2021.

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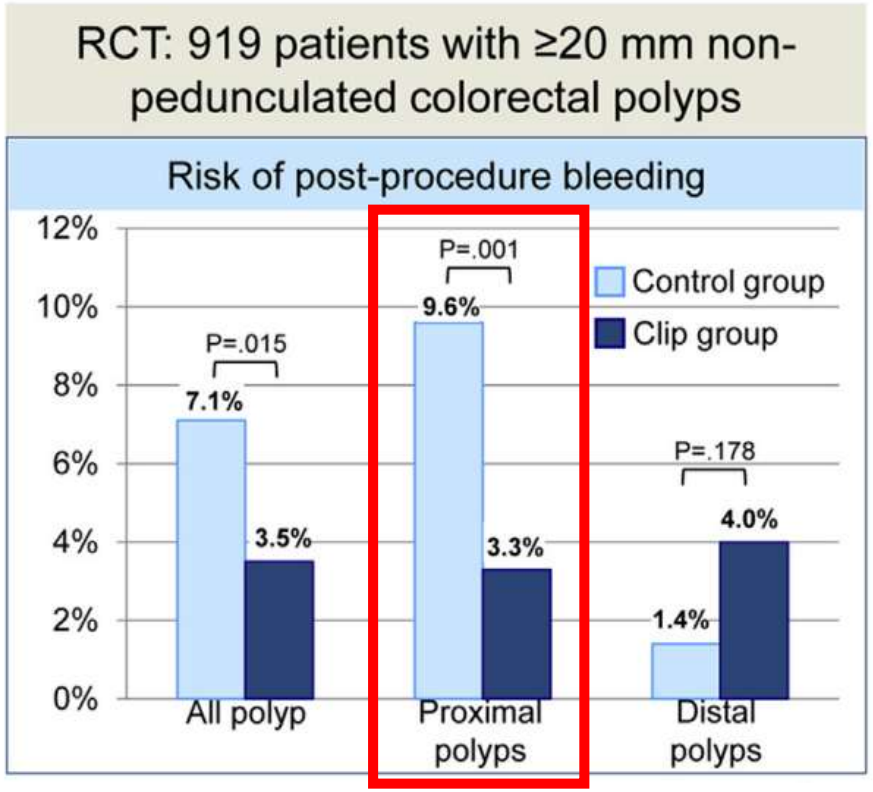
When – bleeding

- Risk factors for post-EMR bleeding:
  - > 2 cm, right colon, antithrombotics
  - 5-10% risk of hemorrhage



- Meta-analysis of individual patient data 4 RCTs (n = 1248) of prophylactic clipping after EMR of proximal large polyps

	Clip	No clip
Delayed bleeding	3.5%	9.0%

	Delayed bleeding (%)
Location	
Cecum	9.1
Ascending/hepatic flexure	6.1
Transverse	1.0
Type of closure	
Full closure	2.6
Partial closure	1.7
No attempted closure	9.0

Pohl H, et al. Gastro, 2019.
Forbes N, et al. GIE, 2022.

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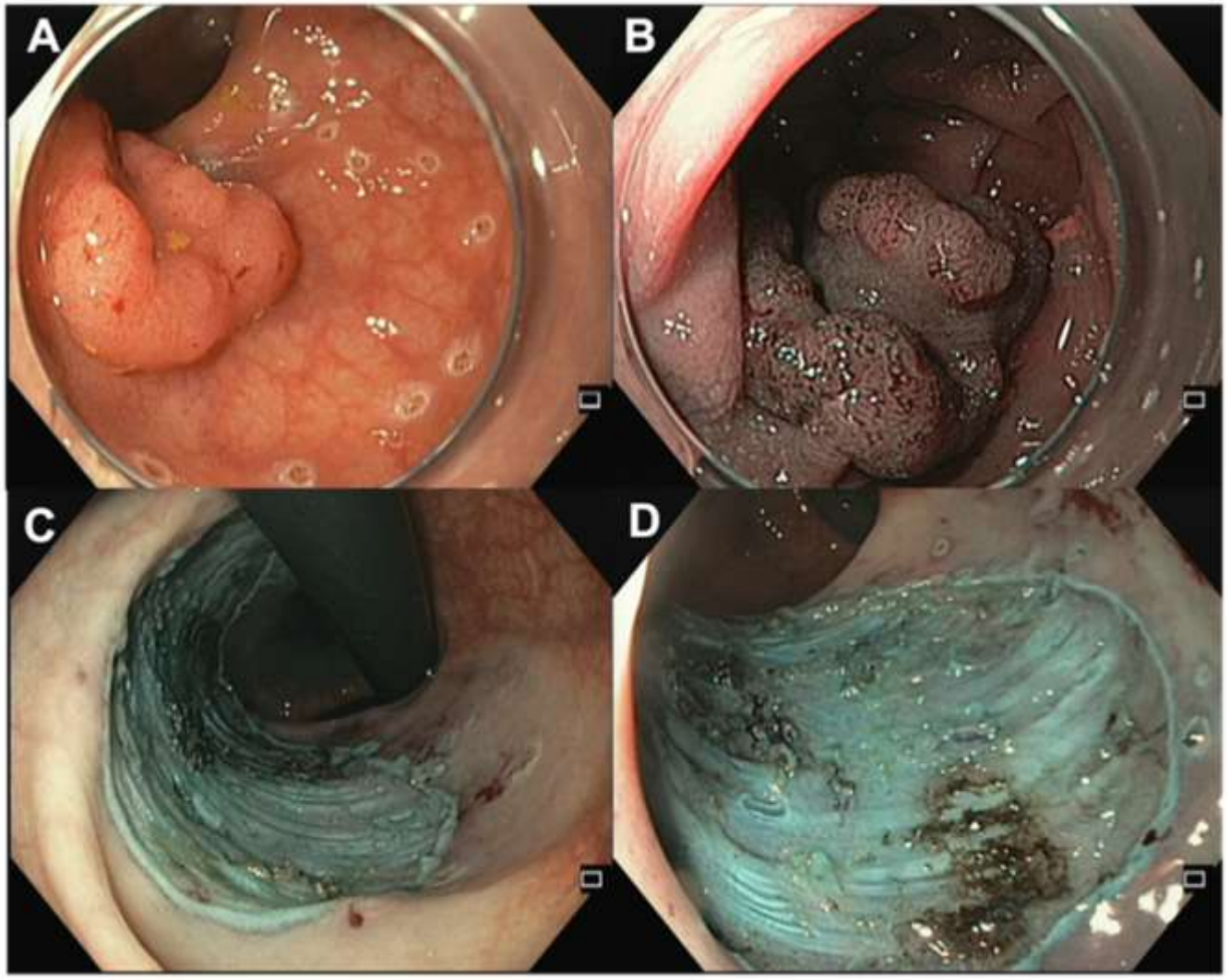
When – bleeding

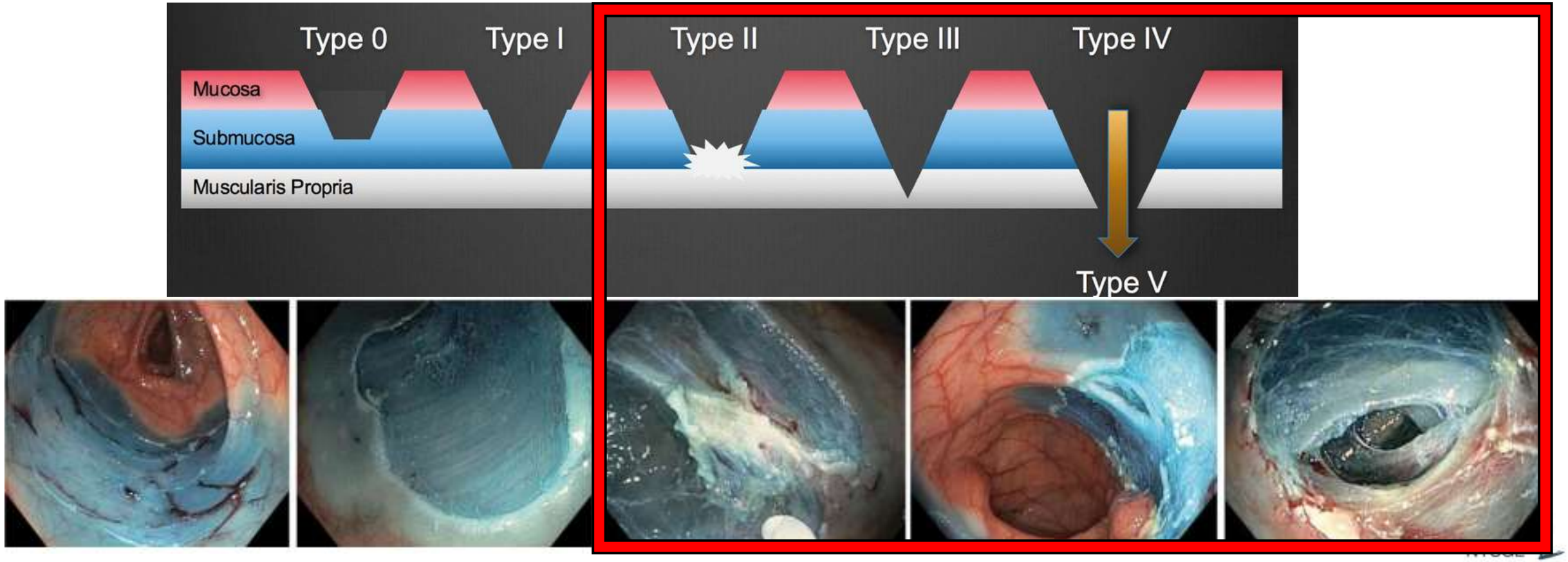
- Meta-analysis colonic ESD (22 studies)
- Risk factors for post-ESD bleeding
  - Rectum
  - Lesion size > 30-40 mm
  - Antithrombotic therapy
  - Possibly fibrosis



Santos J, et al. European Journal of Gastro and Hepatol, 2021.
Moreira P, et al. J Clin Med, 2023.

When – perforation

- Sydney classification - deep mural injury graded by muscularis propria injury after EMR



Burgess et al. Gut, 2017.

Toolbox

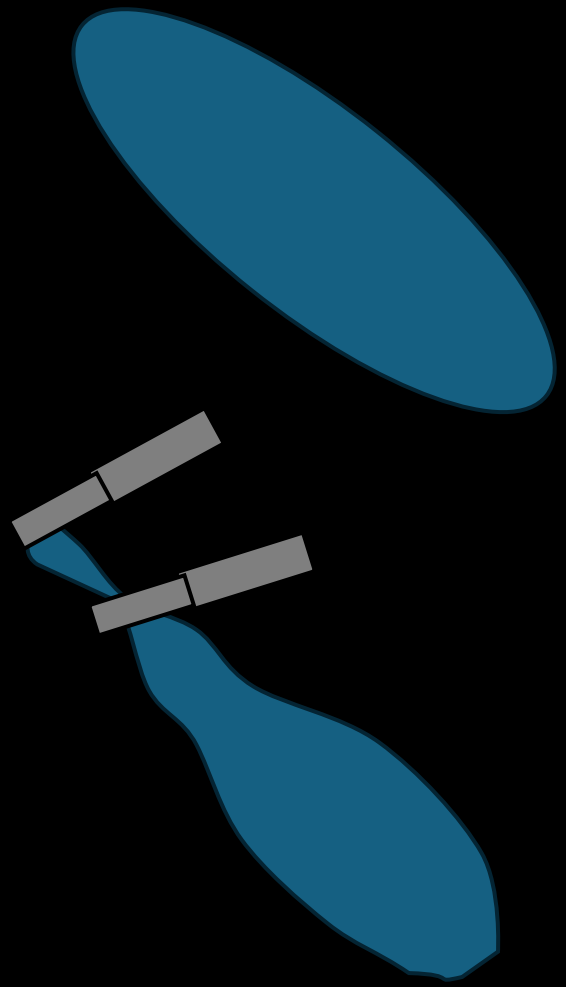


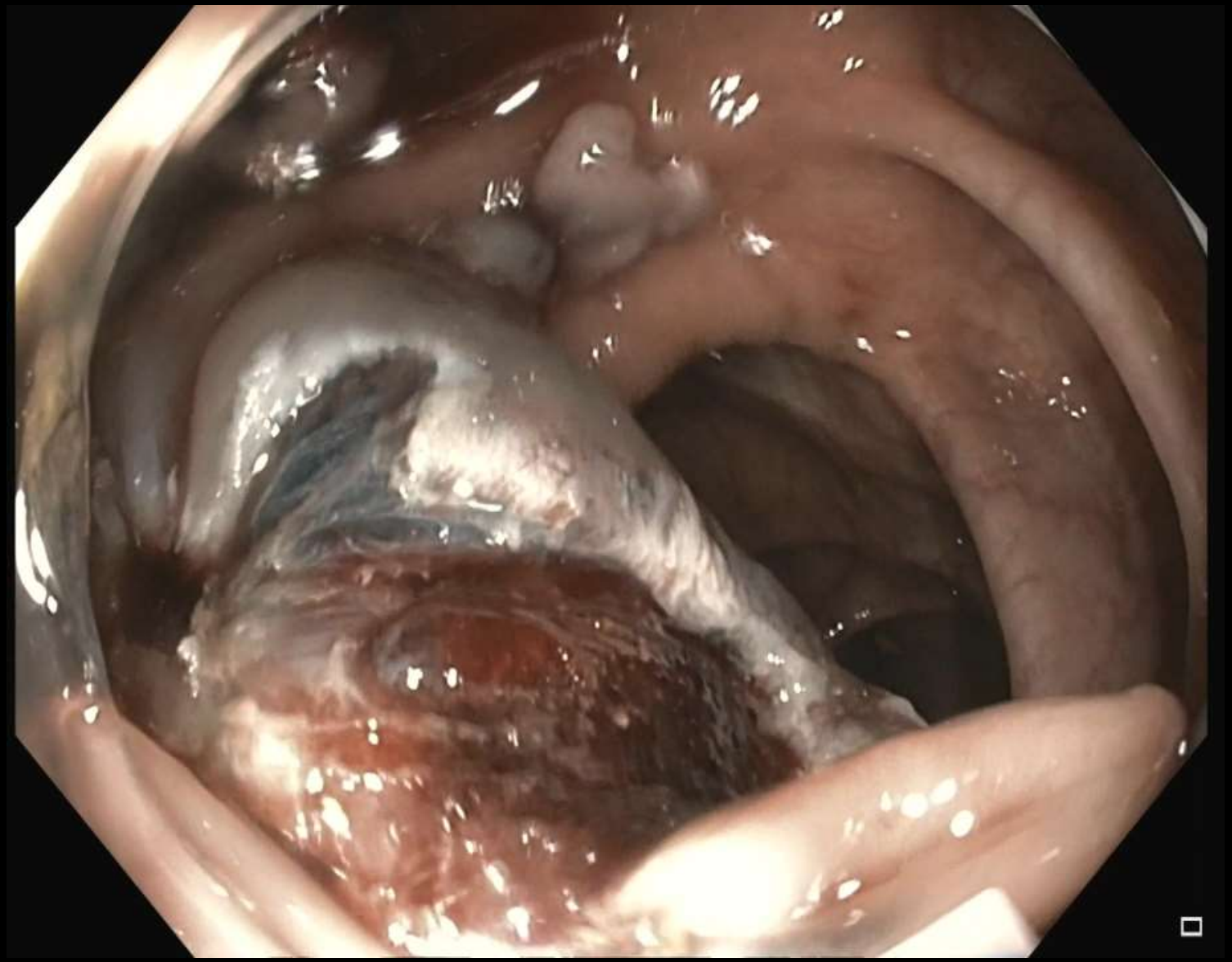


	TTS	OTSC	MANTIS / DAT	X-tack	Suturing
Defect size	Limited by wingspan (up to 20 mm)	10-20 mm	~30 mm	30-40 mm per set of tacks	No limit
Scope withdrawal	No	**Yes**	No	No	**Yes**
Challenges	Lower grasp strength (fibrotic resection bed); multiple clips for larger defects; incomplete closure ~30-40%	Narrowed or angulated lumen (left sided diverticulosis), or advancement to proximal colon	Angulated lumen; curling of mucosal edge	Multiple sets for very large defects; supplemental TTS learning curve (tech)	Advancement to proximal colon (overtube); learning curve

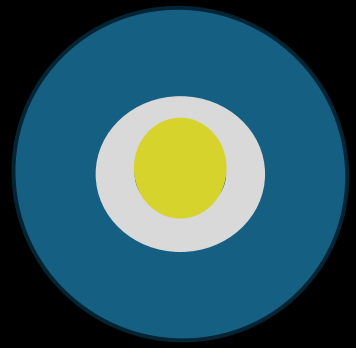
Adapted from Dr. Joo Ha Hwang

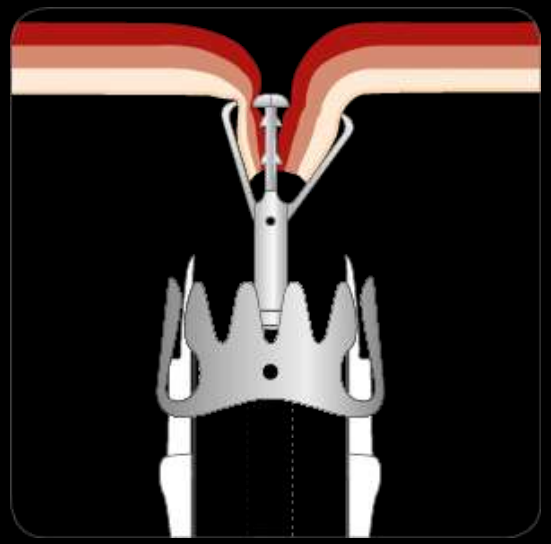
TTS

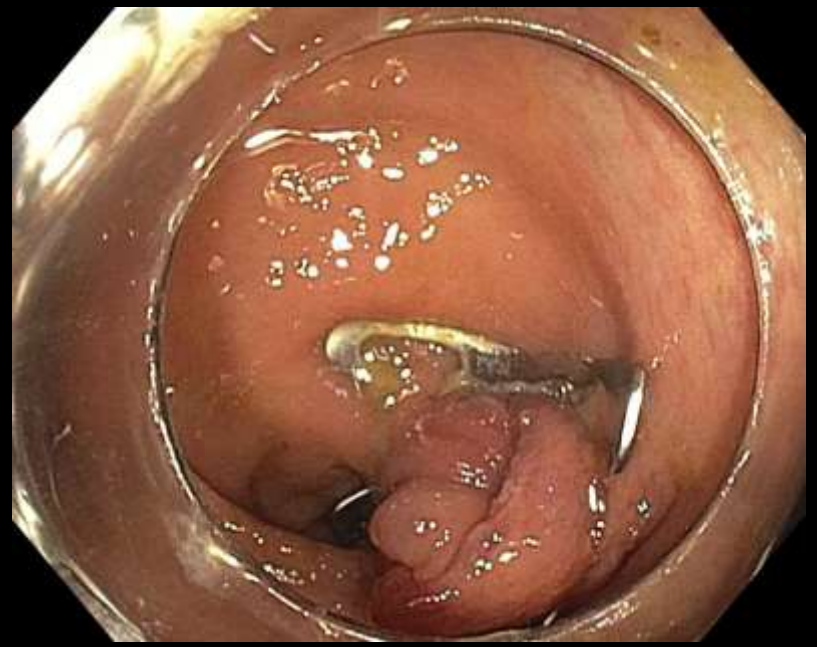




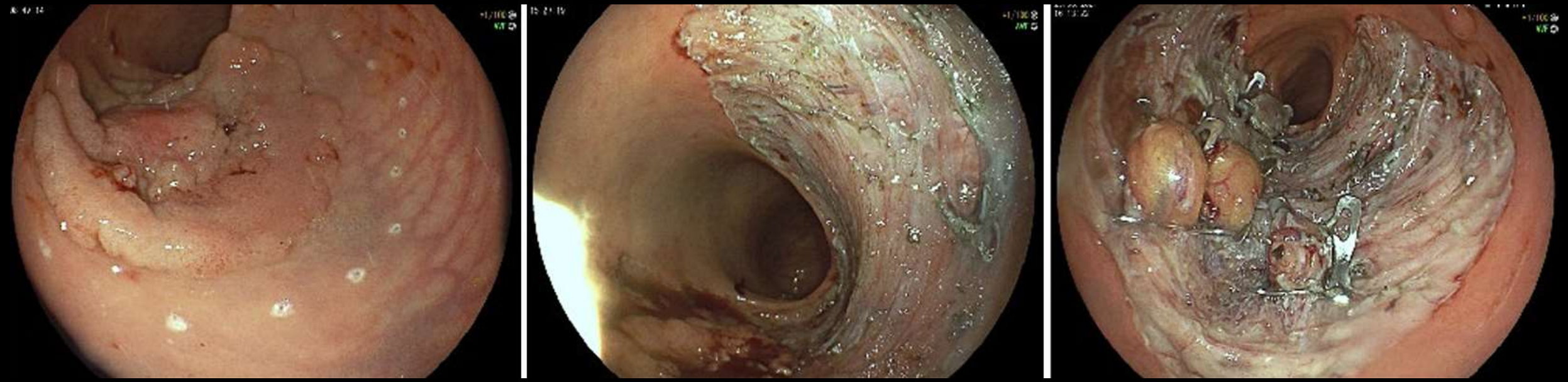
OTSC





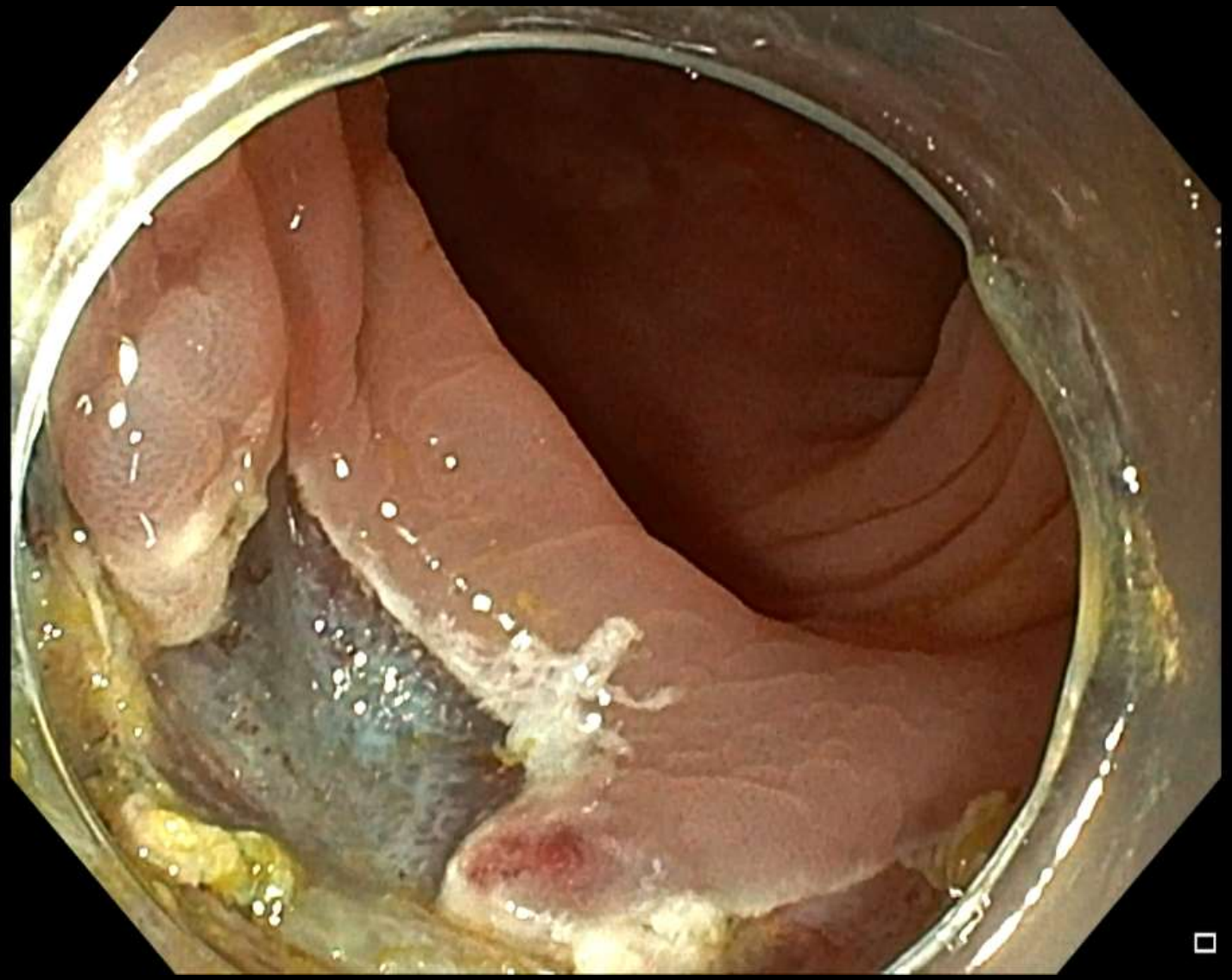


OTSC

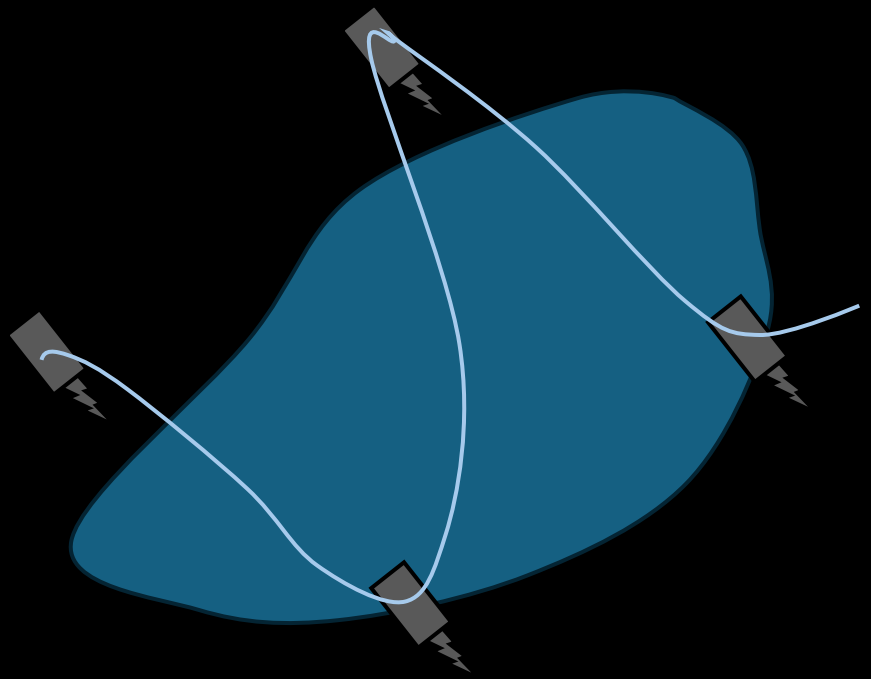


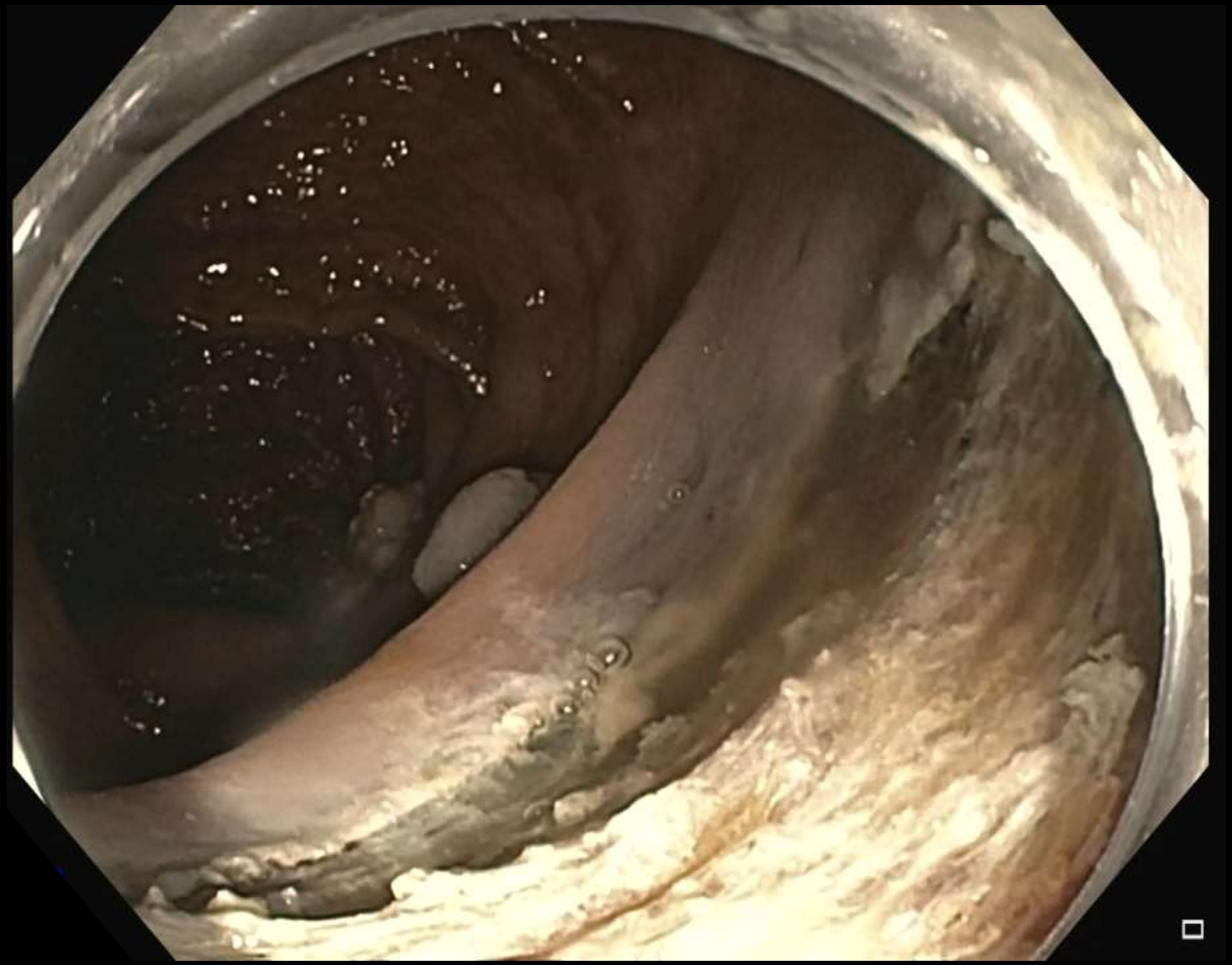
Blasberg T, Jochberger J et al. Surg Endosc, 2023.

MANTIS

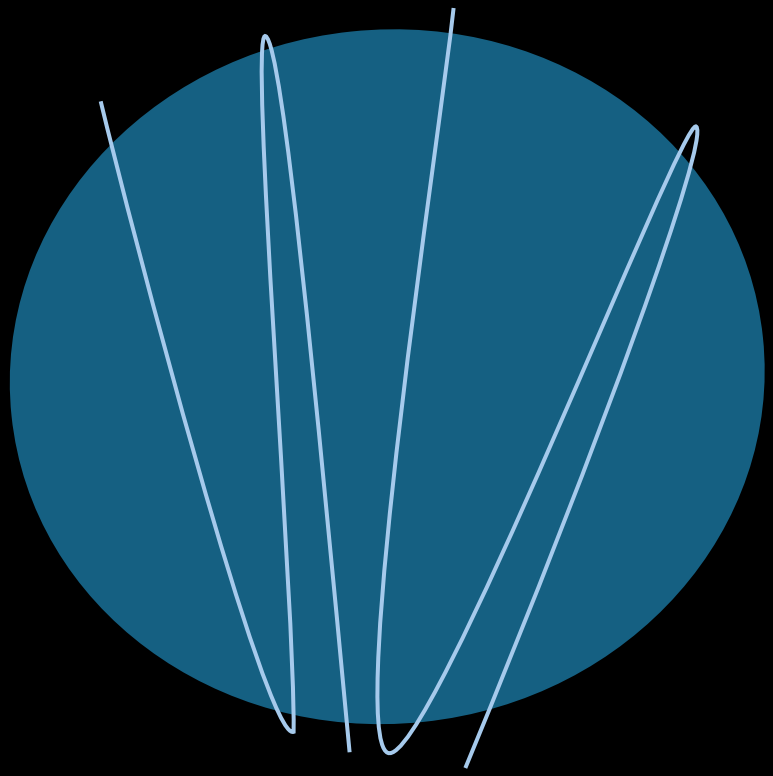


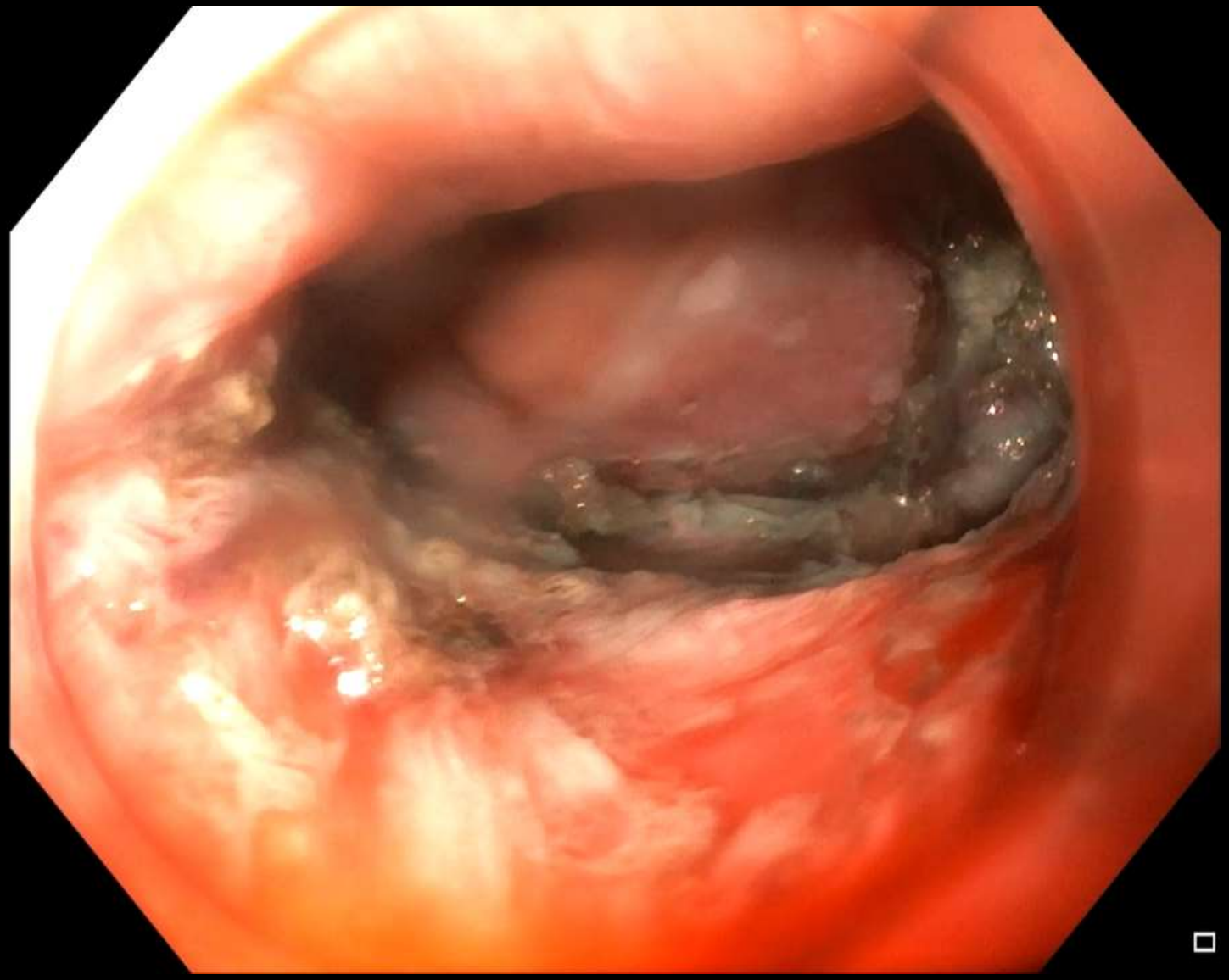
X-Tack



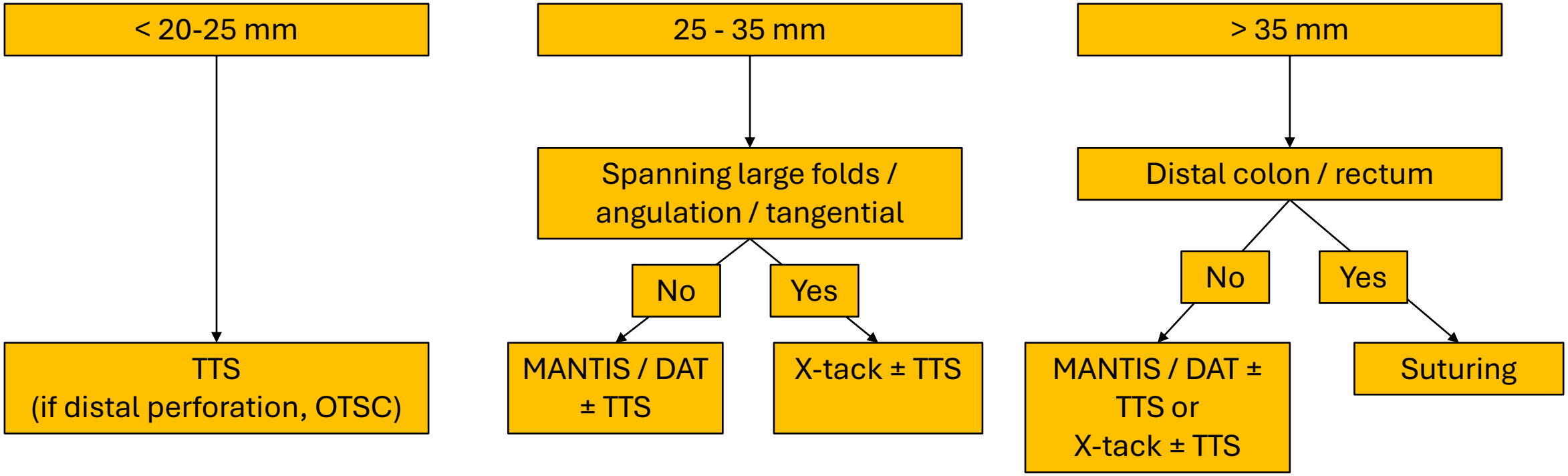


Suturing





Algorithm



Adapted from Dr. Saowanee Ngamruengphong

Thank you

khv2105@cumc.Columbia.edu

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