POLYPECTOMY UPDATE 2026

THINGS TO DO (OR NOT DO) TO BE SUCCESSFUL

Rachid Mohamed, MD

University of Calgary

Endo Skills 2026 PRESENTER DISCLOSURE

Relationships with financial sponsors:

- Any direct financial relationships, including receipt of honoraria: Conmed (Honoraria)

- Membership on advisory boards or speakers' bureaus: None

- Patents for drugs or devices: None

ENDO SKILLS 2026
DISCLOSURE OF COMMERCIAL SUPPORT

- Endo Skills 2026 is presented by the Alberta Society for Endoscopic Practice (ASEP)
- ASEP: not for profit organization, whose goal is to provide education, resources and collaboration for endoscopists and their teams
- Endo Skills planning is independent from the exhibitors
- ASEP covers expenses and provides small honorarium to speakers and planning committee

OBJECTIVES

- Review broad, high level topics around polypectomy
- Identify techniques to build safety and success around polypectomy
- Highlight the importance of communication and collaboration to optimize patient care

POTENTIAL PITFALLS

- Small polyp → Incomplete resection
- Pedunculated polyp → Immediate bleeding
- Bulky sessile polyp → Impacted snare
- Large flat / spreading polyp
  - → poor planning
  - → when / where to biopsy and tattoo
  - → delayed bleeding prevention

#1 - THE SMALL POLYP

- Cold snare resection used (should be) in >95% of polyps
- Technique enhances complete resection
  - Thin wire (0.3mm) superior for complete resection
- Defect inspection post resection

Maruoka D et al. Endoscopy 2018
Ishibashi F et al. Dig Endosc 2023

BUT WE NEED TO BE BETTER.....

Rates of Incomplete Resection of 1- to 20-mm Colorectal Polyps: A Systematic Review and Meta-Analysis

Roupen Djinbachian,[1,2] Ryma Iratni,[2,3] Madeleine Durand,[1,2] Paola Marques,[2,4] and Daniel von Renteln[2,5]

- Cold snare IRR 17.3% vs 14.2% for hot snare (not statistically different)
- Cold snare IRR higher for polyps >10mm compared to <10mm (20.8% vs 15.9%)

Incomplete Polyp Resection During Colonoscopy—Results of the Complete Adenoma Resection (CARE) Study

HEIKO POHL,[1,2] AMITABH SRIVASTAVA,[3] STEVE P. BENSEN,[2] PETER ANDERSON,[2] RICHARD I. ROTHSTEIN,[2] STUART R. GORDON,[2] L. CAMPBELL LEVY,[2] ARIFA TOOR,[2] TODD A. MACKENZIE,[4] THOMAS ROSCH,[5] and DOUGLAS J. ROBERTSON[1,2]

- Factors associate with incomplete resection
  - Piecemeal resection vs. en bloc removal (20.4% vs 8.4%)
  - Size – 10-19mm (18%) vs. 5-9mm (7%)
  - Pathology – serrated (31%) vs adenoma (7.2%)
  - Endoscopist – range of 6-23%

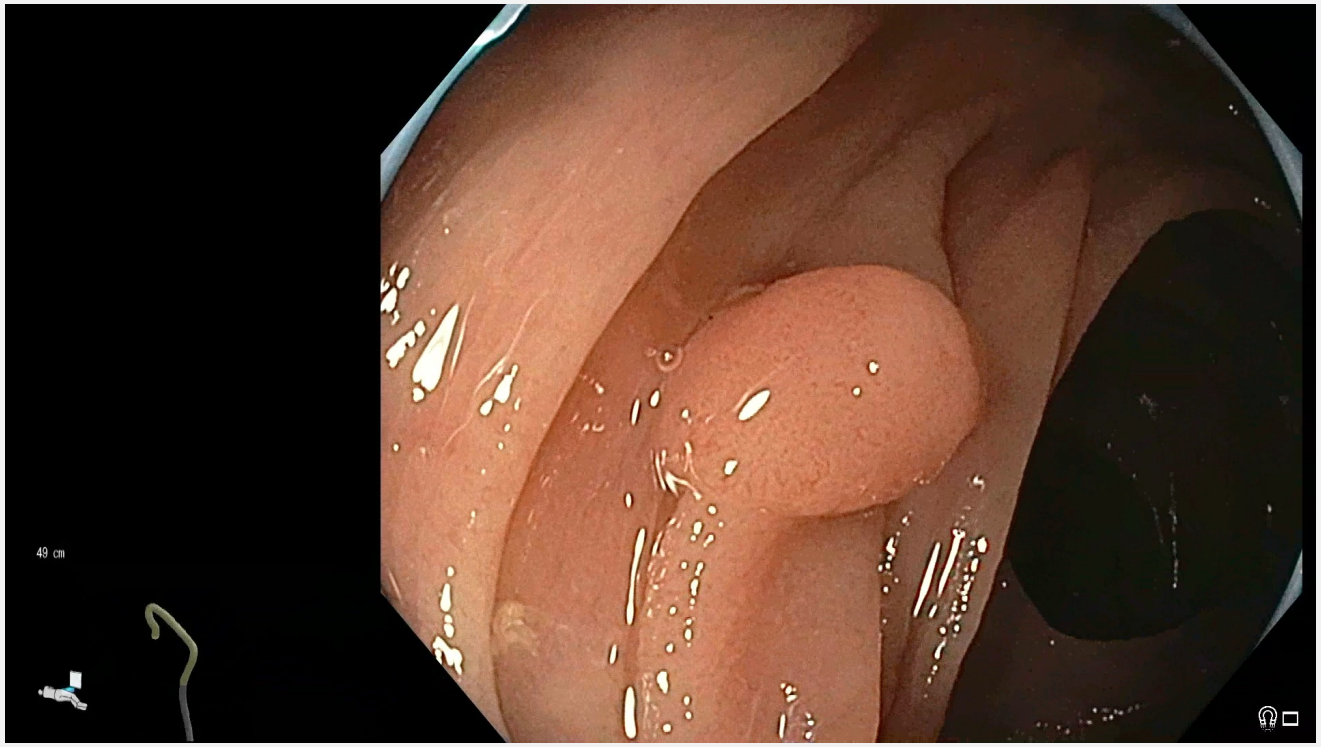
WHY DO SMALL POLYPS MATTER

- Most common lesion encountered
- Most common lesion to be incompletely resected
- Concept of ‘biological age’

COLD SNARE POLYPECTOMY

- Technique pearls
  - Snare selection – small, thin wired
  - Keep lumen *inflated*
  - Use of downward tip deflection to anchor sheath of snare
  - Resection inclusive of normal tissue margin / inspection post removal
    - Look for the 'halo' of normal tissue
    - Irrigate defect to evaluate margins

SMALL POLYP REMOVAL

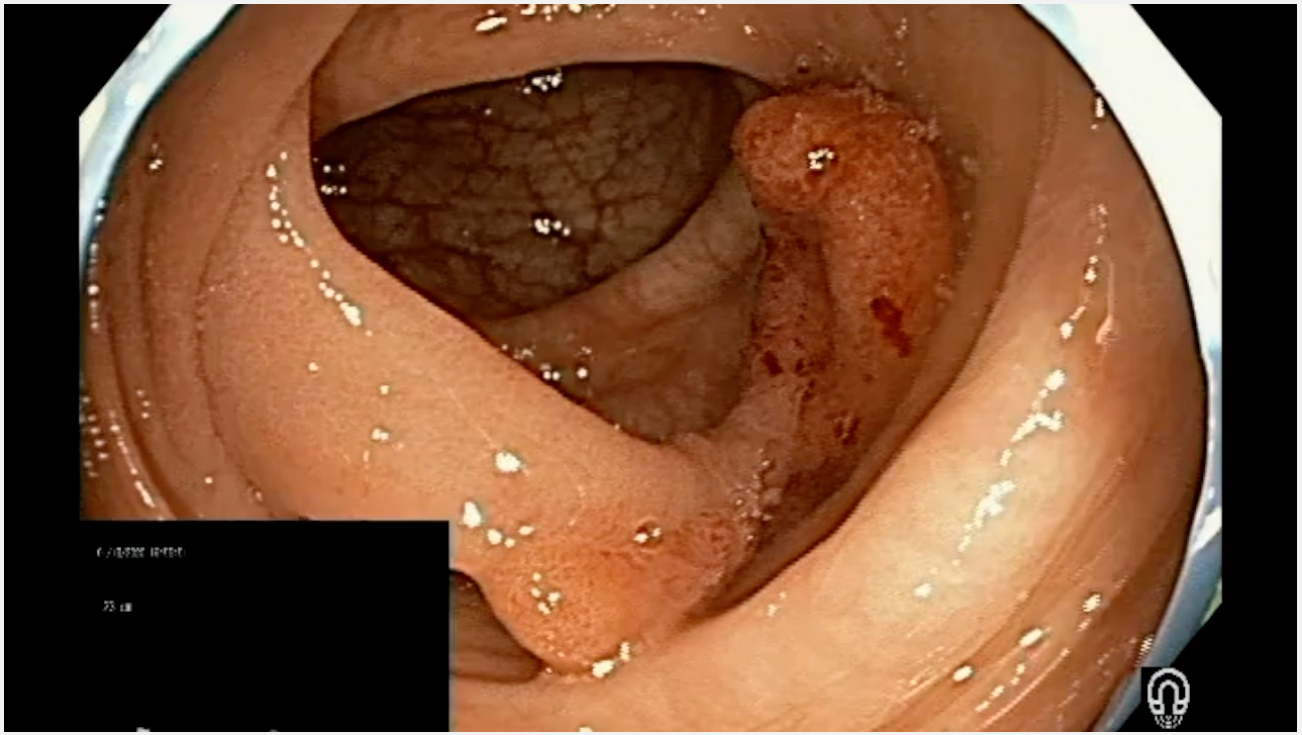


THE PEDUNCULATED POLYP

#2 - THE PEDUNCULATED POLYP

- Two important considerations
  - Complete resection of adenomatous portion
    - Inspection of lesion for demarcation of polyp portion
  - Mitigation of risk, namely bleeding
    - Stalk houses vascular supply to polyp head
    - Risk is largely that of immediate bleeding, but delayed bleeding should be noted

PEDUNCULATED POLYP ASSESSMENT

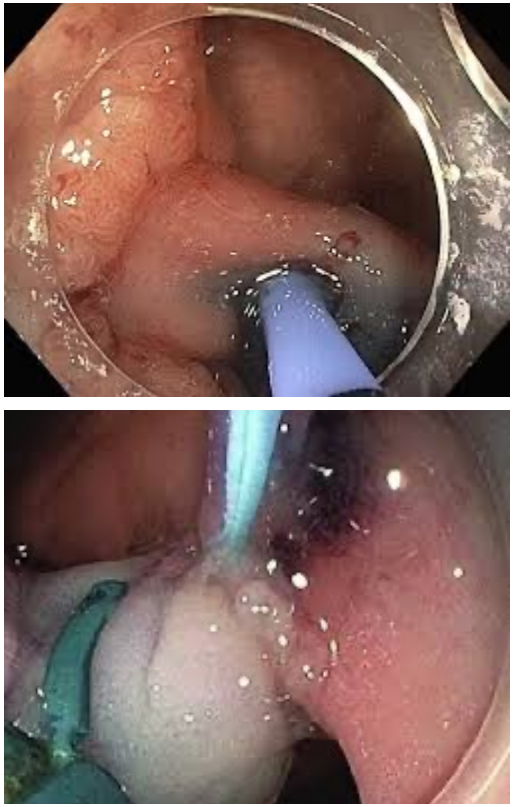


COMPLETE PEDUNCULATED LESIONS

- Which stalks warrant pre-treatment consideration?
  - Stalk diameter > 5mm
  - Polyp head > 20mm
  - Difficult positioning
  - Patient factors for increased bleeding – ASA, NSAIDs, renal disease, etc

PRETREATMENT OPTIONS

- Goal is to reduce (eliminate) immediate bleeding and prevent delayed bleeding
  - Pharmaceutical
    - Epinephrine for vasoconstriction
  - Mechanical
    - Clips
    - Ligature/loops
  - Electrocautery



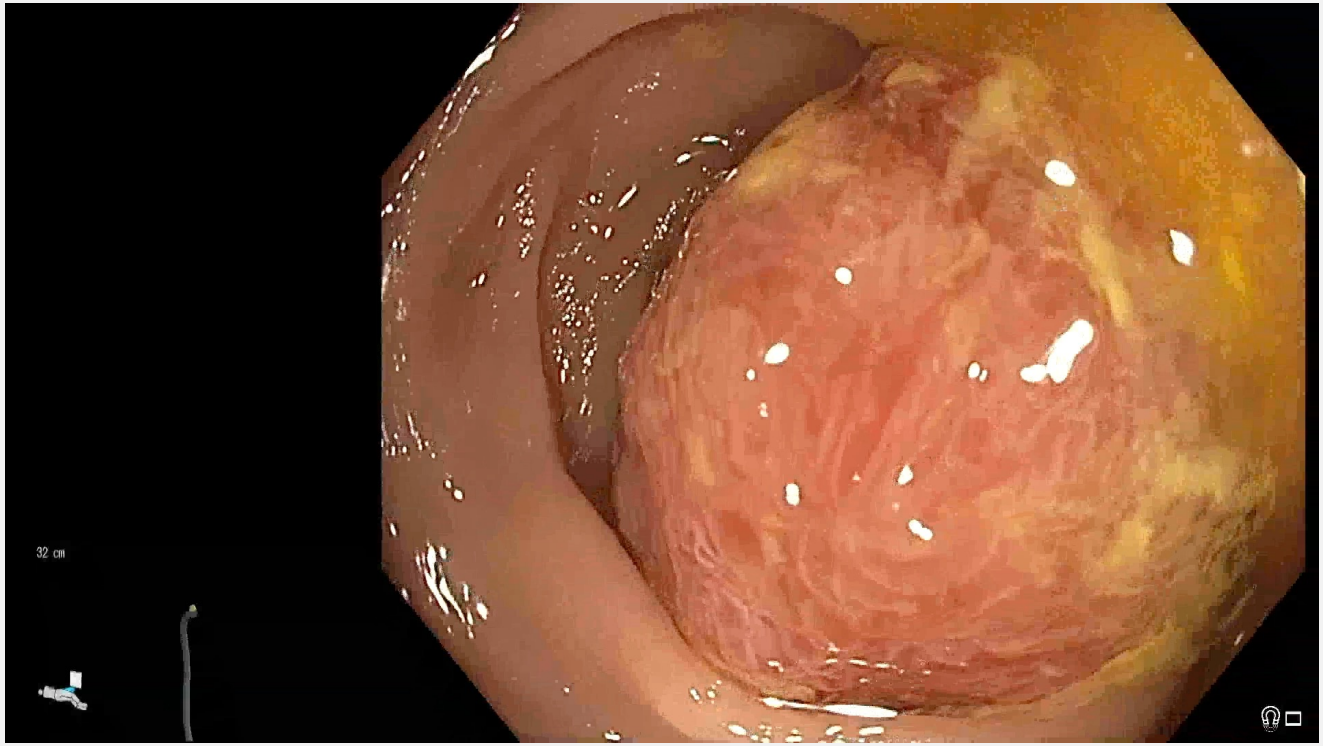
EPINEPHRINE TREATMENT

- Limited data
- Small case series (n – 3) suggested reduced size of head and increased en bloc removal with 4-8cc of 1:10000 injection
- Comparison to mechanical ligation shows relative inferiority for immediate and delayed bleeding

Hogan RB GIE 2007

Kouklakis G Surg Endosc 2009

EPINEPHRINE TREATMENT



MECHANICAL LIGATION

- Clips
  - Benefits include familiarity, rotatability, ease of application
  - Downside could be potentiation of cautery leading to wall injury
- Loops
  - Allow for secure, reliable control of stalk
  - Highly user dependent

COMPARISON OF PROPHYLACTIC CLIP AND ENDOLOOP APPLICATION FOR THE PREVENTION OF POSTPOLYPECTOMY BLEEDING IN PEDUNCULATED COLONIC POLYPS: A PROSPECTIVE, RANDOMIZED, MULTICENTER STUDY.

JI, JEONG-SEON; LEE, SEUNG-WOO; KIM, TAE HO; CHO, YOUNG-SEOK; KIM, HYUNG-KEUN; LEE, KANG-MOON; KIM, SANG-WOO; CHOI, HWANG

- N = 195 patient
- Polyp size > 10mm and/or stalk > 5mm

KEY OUTCOME → No difference in bleeding rate between clips and loops (~5%)

CLIPPING

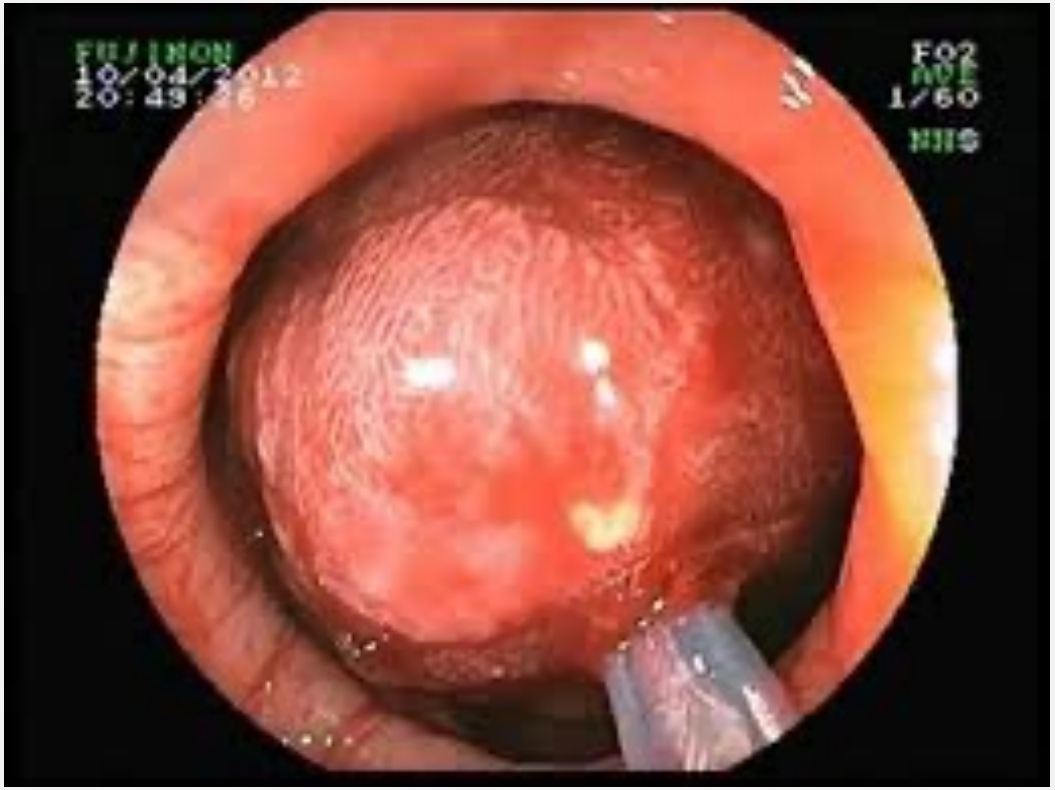
ENDOLOOP

TAKE AWAY POINTS

- Be prepared and plan ahead
    - If you are going to use the snare straight away, have clips ready and position the patient accordingly
    - If you are going to pretreat, use what you are comfortable with – epi, clips, loops

#3 – THE IMPACTED SNARE

- What is it?
  - The snare fails to transect tissue as desired and becomes 'stuck' on the polyp
- When does it happen?
  - Often on large sessile polyps where the snare is tangentially transecting tissue
- Why does it happen?
  - Tissue ensnared dries out and limits transmission of cutting current



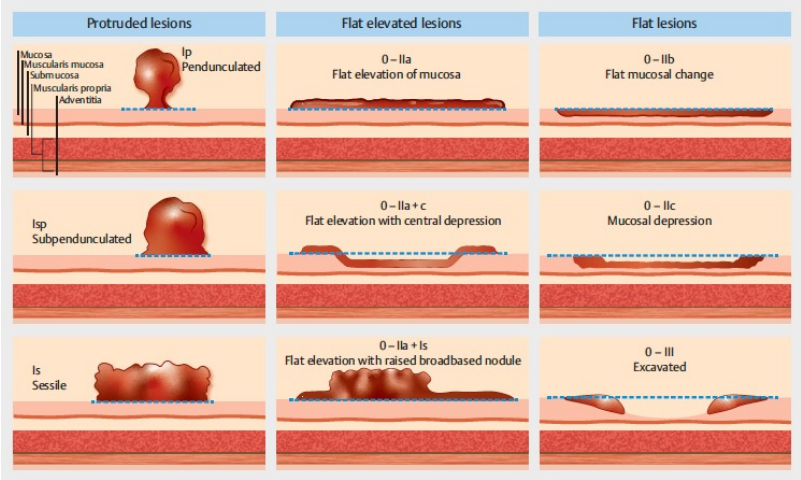
IMPACTED SNARE – WHAT TO DO?

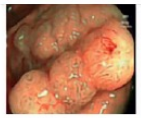
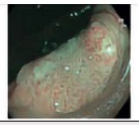
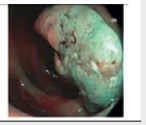
- Don’t panic (at least not right away)

- Troubleshoot
  - Check the grounding pad and connections
  - Consider swapping out ESU (if that is an option)
  - Use the cutting current / adjust cautery settings (DISCLAIMER!!)
  - Try opening the snare to release it
  - Hail Mary!!!!!

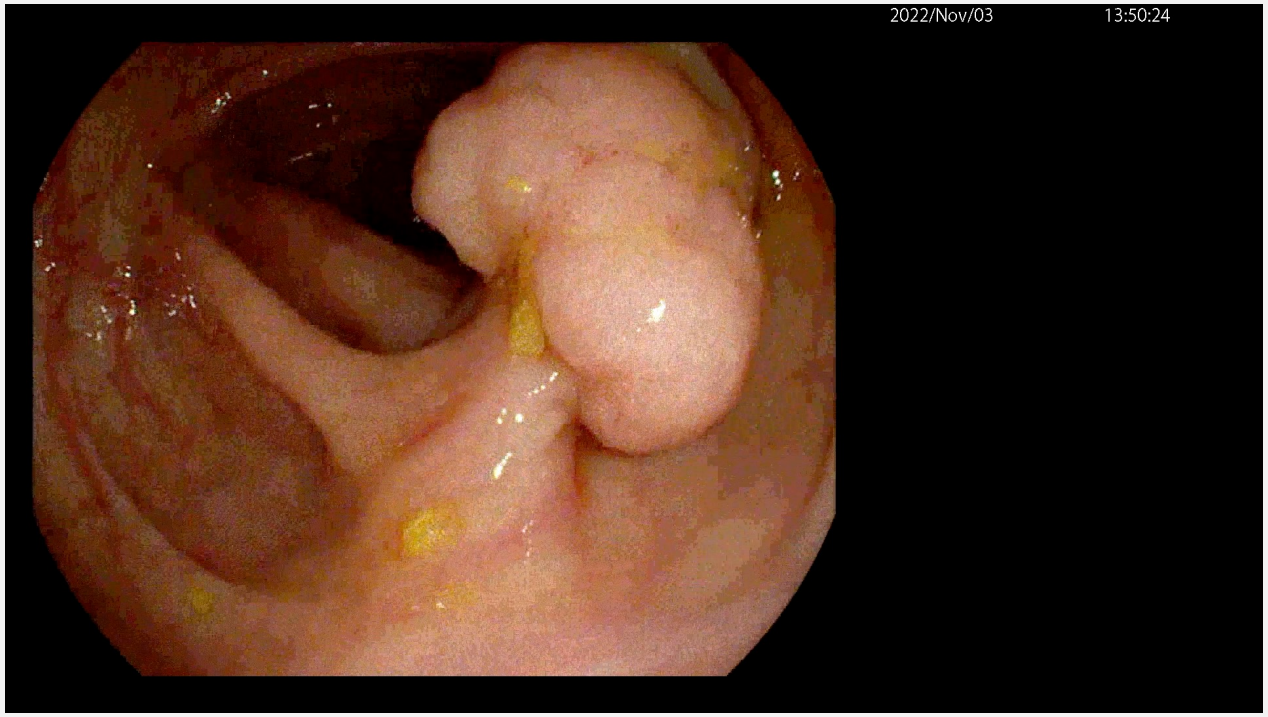
#4 – THE LARGE SPREADING POLYP

- Is this polyp endoscopically resectable?
  - Careful assessment of morphology and surface features
- Is this polyp resectable by me? Today?
  - Time?
  - Equipment?
  - Expertise?
  - Consent?



NBI	Type 1	Type 2A	Type 2B	Type 3
Vessel pattern	Invisible*	Regular caliber; regular distribution (meshed/ spiral pattern)**	Irregular distribution	Loose vessel areas; interruption of thick vessels
Surface pattern	Regular dark or white spots; similar to surrounding normal mucosa	Regular (tubular/branched/ papillary)	Irregular or obscure	Amorphous areas
Most likely histology	Hyperplastic polyp/ sessile serrated lesion	Low grade intramucosal neoplasia	High grade intramucosal neoplasia/superficial submucosal invasive cancer***	Deep submucosal invasive cancer
Example image				

POLYP ASSESSMENT



TAKE AWAY MESSAGE

- Don't get bogged down in classification systems and nuance. Instead, focus on patterns that alter management strategy that will guide correct decisions

Nice 2 sessile lesion
- Refer / prepare for EMR
- Tattoo
- Biopsy only if uncertain

Nice 3 sessile lesion
- Do not removed
- Tattoo
- Biopsy high risk areas

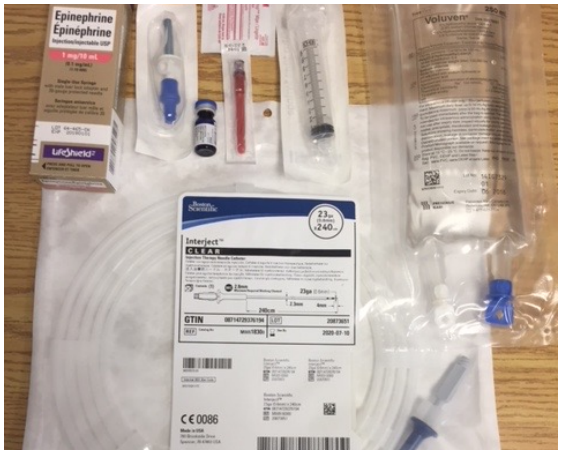
TIPS FOR TATTOO

- **1. Location**
  - ~3-5cm away from lesion
  - Distal only
  - Multiple sites / orientations
- **2. Technique**
  - Shallow angle
  - Saline bleb
- **3. Documentation**
  - Be specific in report

LARGER POLYPS – PREPARING FOR REMOVAL

- Submucosal injection
- Resection technique options
- Complication managment

SUBMUCOSAL INJECTION



MULTIPLE OPTIONS

RESECTION TECHNIQUES

- Dependent on multiple factors
  - Polyp size / morphology
  - Polyp pathology
  - Polyp position
  - Expertise / comfort / experience

HOT VS COLD EMR

HOT EMR

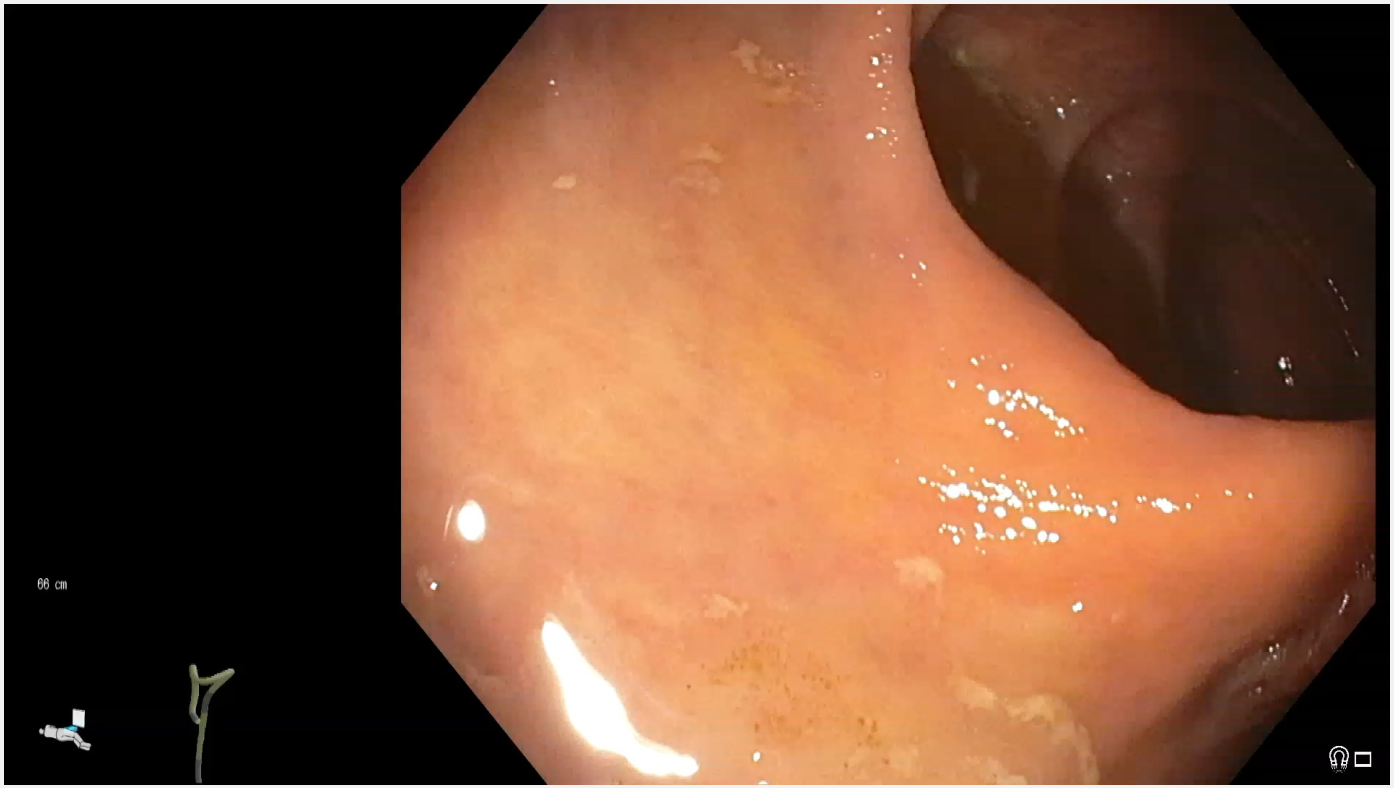
- Traditionally used with laterally spreading adenoma
- Measurable important risks
  - DMI ~ 5%
  - Delayed bleeding ~ 3%

COLD EMR

- Useful in serrated lesions with favourable safety profile and low recurrence (~1%)
- Submucosal injection not essential but recommended for delineation
- Not routinely recommended *first line* for adenoma > 10mm due to higher recurrence rate (~11%)

Bourke ESGE 2024 Guidelines

PIECEMEAL CSP



? Role of STSC

UEMR – NEW(ISH) KID ON THE BLOCK

- Underwater EMR first described in 2012
- Premise is to use water immersion to 'float' the polyp, removing the need for submucosal injection
- The lack of injection and air insufflation allows for larger segment resection

UEMR VS CEMR

- RCT of 81 patients with lesions > 20mm [Nagle S et al. Gastro 2021]

- En bloc resection – **33% uEMR** vs 18% cEMR
- R0 resection – **32% uEMR** vs 16% cEMR
- Lower recurrence for 20-40mm lesions - **6% uEMR** vs 43 % cEMR
- Shorter procedure time – **7 min uEMR** vs 13 min cEMR
- Comparable bleeding and perforation risk between the two

RECOMMENDATION

ESGE suggests that underwater EMR can be considered an alternative to conventional hot EMR for the treatment of adenomatous LNPCPs.

UEMR

MANAGEMENT OF COMPLICATIONS

POLYPECTOMY COMPLICATIONS

- Pain
  - Important to rule our perforation
  - Other causes – distention, epinephrine, post polypectomy syndrome
- Bleeding
  - Generally low risk overall
  - Risk factors – proximal location, size
- Deep mural injury

BLEEDING

- Most will slow/stop with irrigation and time
- Local therapy – snare tip soft coagulation
  - Effect 4, 80W – blue pedal
- Clipping
- other

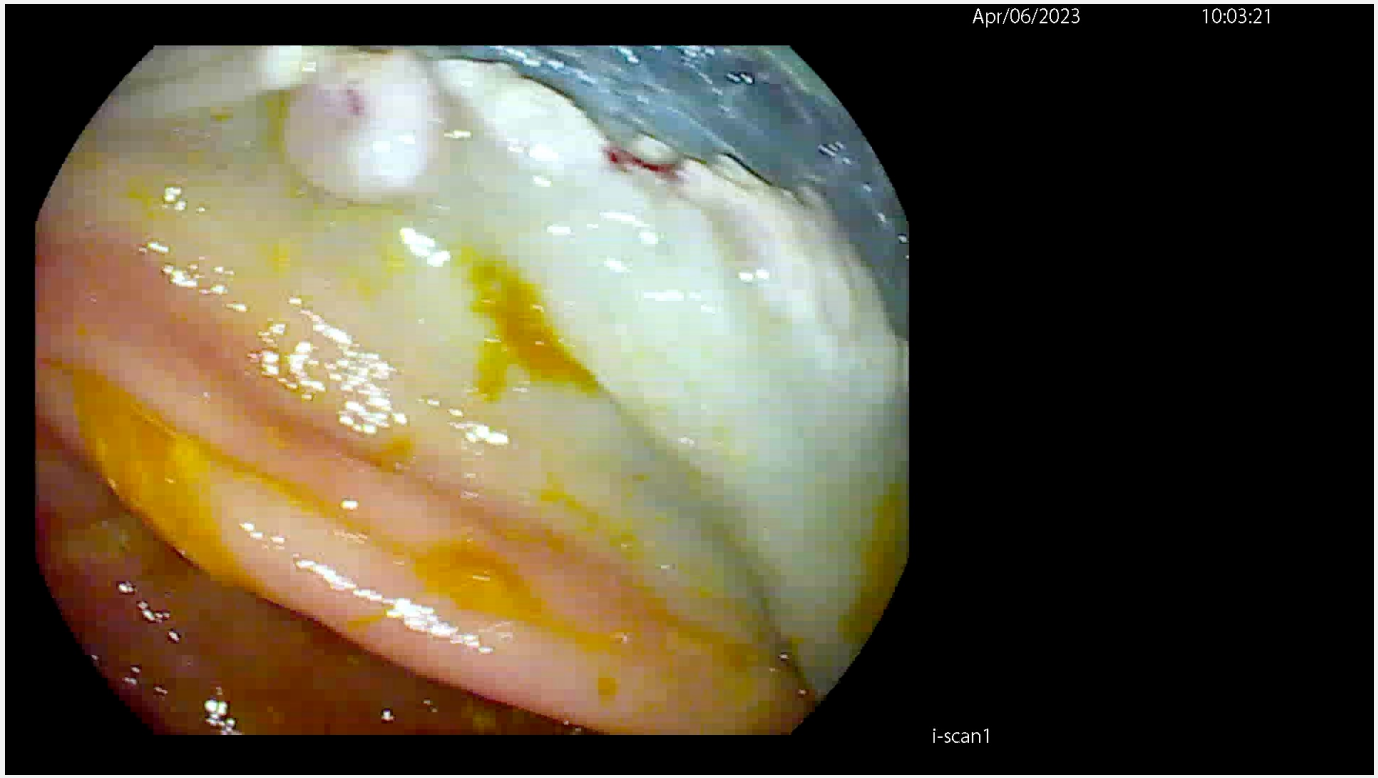
IMPORTANCE OF CLIPPING

- Meta-analysis (Forbes et al. GIE)

  - clipping defect reduces bleeding and is cost effective for lesions in the right colon (>20mm)

  - no effect on perforation risk reduction

DEFECT CLOSURE



SUMMARY

KEY TAKE HOME POINTS

1. Attention to detail with CSP to ensure *complete* lesion resection
2. Prediction of and preparation to prevent immediate bleeding in pedunculated polyps will increase success
3. Careful and detailed assessment of larger polyps to predict likelihood of SMI will aid in correct decision making
4. Considering and utilizing different resection strategies for moderate/large lesions
5. Preparation for and management of potential resection complications is as important as resection of the lesion


Thank You
Any Questions?