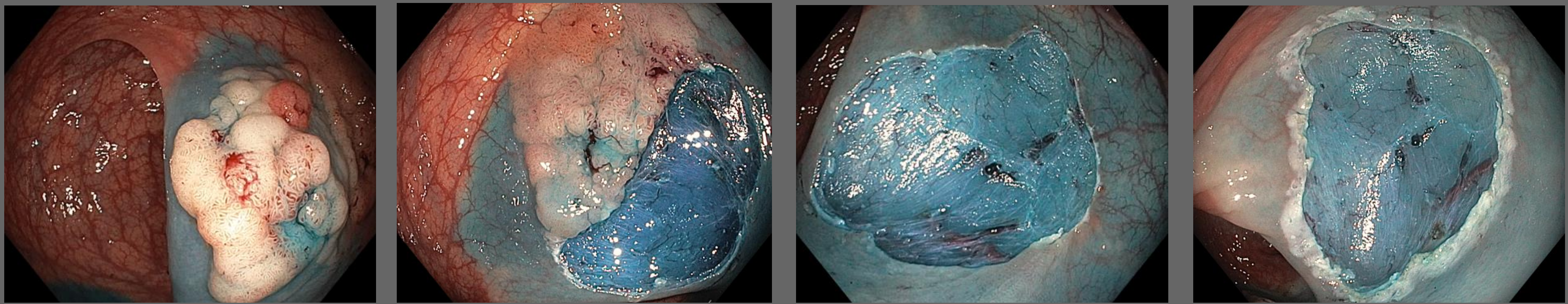

Colonoscopy Education Day: October 25, 2017

Top 10 Things To Do (Or Not To Do) When You Find a Polyp and During Polypectomy

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FORZANI & MACPHAIL | COLON CANCER SCREENING CENTRE

UNIVERSITY OF CALGARY
CUMMING SCHOOL OF MEDICINE

Faculty/Presenter Disclosure

- Faculty: Steven Heitman
- Relationships with commercial interests:
  - Grants/Research Support: None
  - Speakers Bureau/Honoraria: None
  - Consulting Fees: None
  - Other: None

Objectives

- To discuss the critical importance of pre-resection planning which enables effective and safe polypectomy
- To review common blunders during polypectomy that make it less effective and unsafe

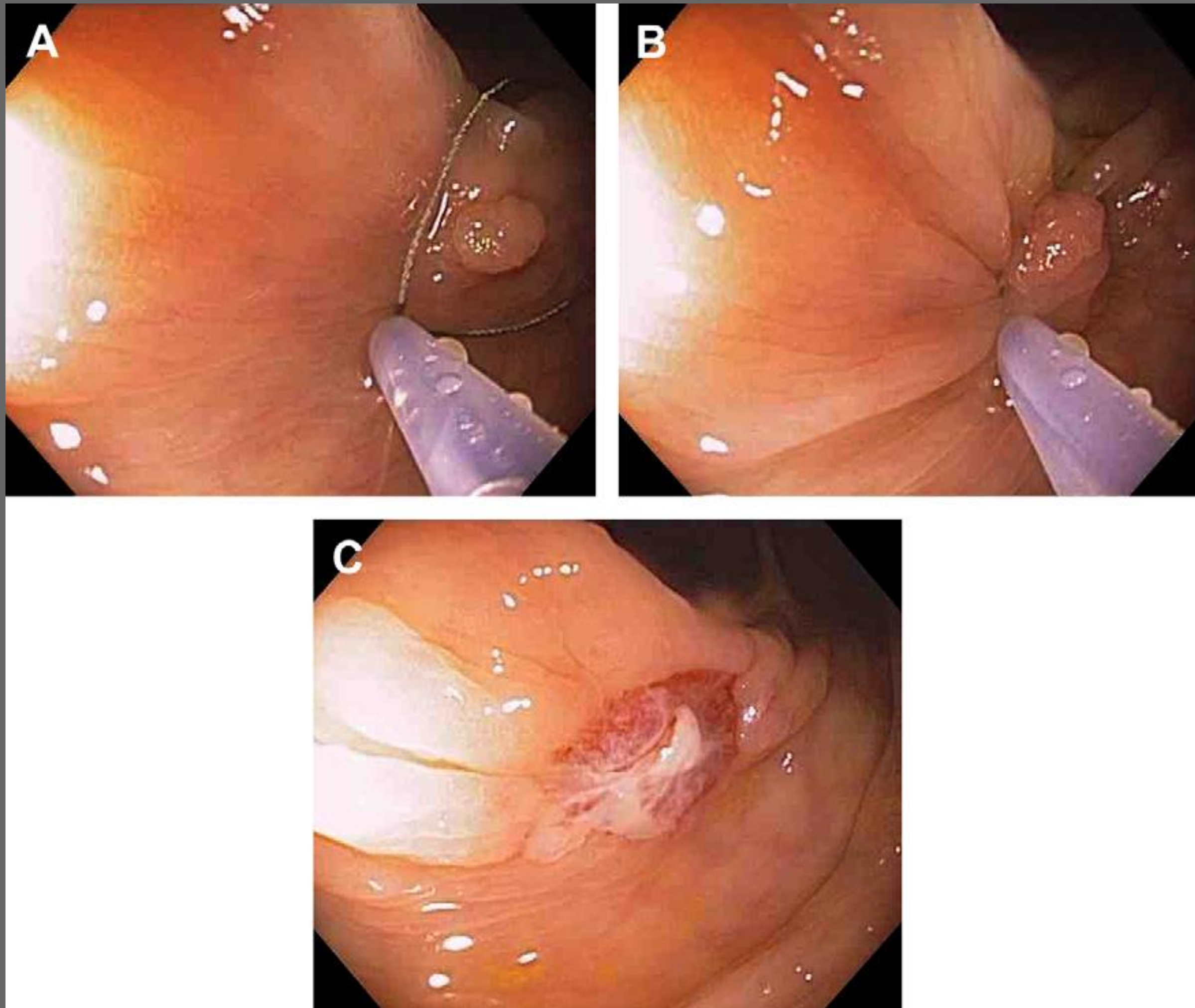
Ready…Set

Then Go!

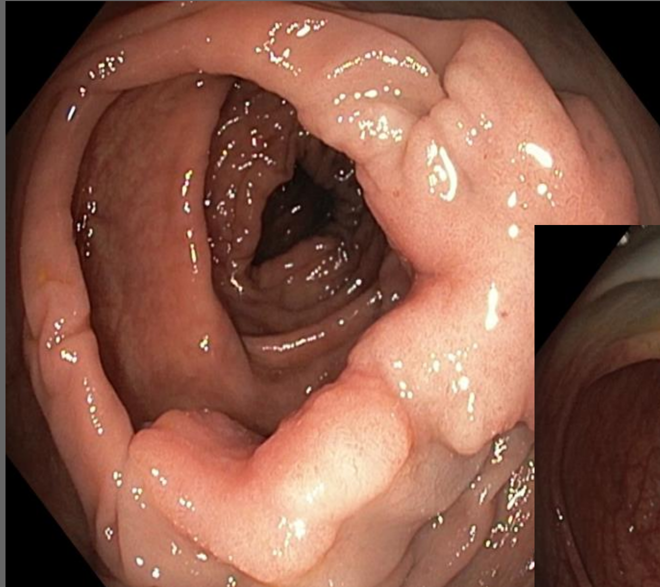
1. ALL Polyps Should be Carefully Assessed for Suitability of Endoscopic Resection and Features Suggestive of Poor Outcome.

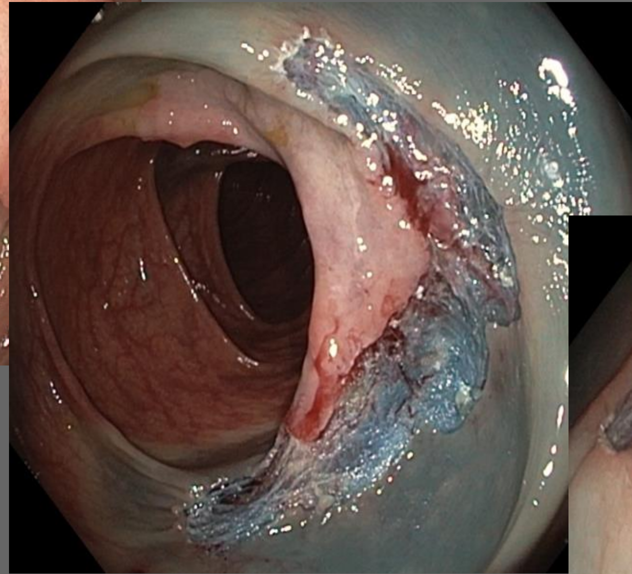
- Is there a significant risk of submucosal invasive cancer (SMIC)?
  - Is surgery necessary?
- Do I fully appreciate the nature of the lesion?
- Can and should “I” remove the lesion?

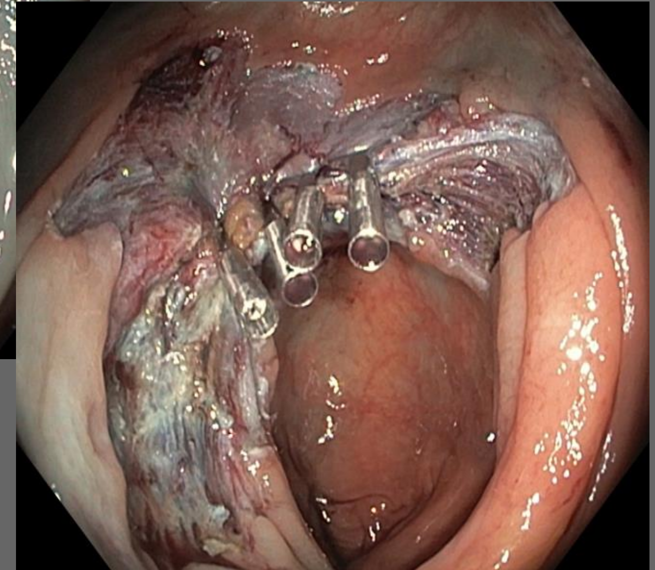
This is straightforward.



This is not at all straightforward!







2. Don't Attempt Complex Polypectomy During an Index Procedure.

- **Consent**
- Staffing and equipment
- Additional time

CCSC Generic Consent

Name *(last, first)*	
Birthdate *(yyyy-Mon-dd)*	Gender ○ M ○ F
PHN/ULI	

Consent to Treatment Plan or Procedure
(Policy PPR-01)

Instructions: If the person providing consent disagrees to an item on this consent form, strikeout the text and have them initial beside it.

Patient Name

Details of Treatment Plan or Procedure *(write in full without abbreviations)*

Colonoscopy with possible biopsy or polypectomy under conscious sedation: examination of rectum and colon with a video scope after the administration of sedative drugs through a needle in a vein. Removal of identified polyps. As described in information brochure: Colonoscopy Information (colonoscopy_information_Oct2010).
Risks: 1 in every 1,000 to 2,000 people will experience a serious complication. Complications include bleeding after removal of a polyp, tearing or perforation of the colon, heart or lung complications from the sedation and chemical imbalances or severe dehydration causing fainting from the bowel preparation. Occasionally large polyps or even cancers can be missed.

I confirm that the nature, benefits, risks, consequences, and alternatives of the treatment plan or procedure *(as detailed above)* and related matters have been explained to me. I am satisfied with and understand the information I have been given, and I consent to the treatment plan or procedure.

Consent

3 elements of consent:

- Voluntary
- Capacity
- Informed

Informed consent:

- Explain details of diagnosis
- Explain planned treatment and associated risks
- Indicate chances of success
- Explain available alternatives and their risks
- Explain consequences of no treatment

Patients cannot consent for complex polypectomy during an index procedure!

Complex Polypectomy: Staffing, Equipment

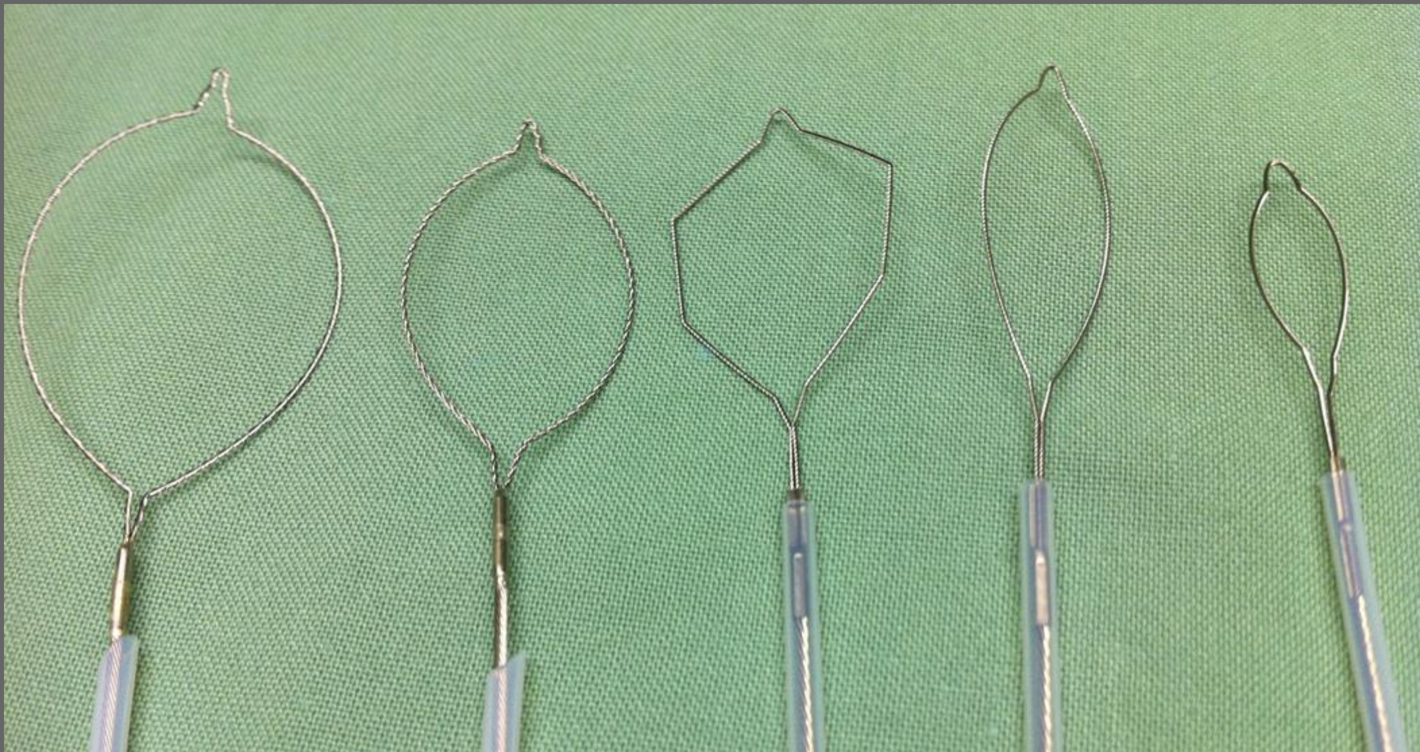
- Advanced endoscopist
- Assistants
  - 2 individuals!
    - 2 RNs or 1 RN and an experienced resident
- Equipment:
  - CO_2 - *extremely important*
  - Voluven/chromic dye (meth blue/indigo carmine)/dilute epi
  - Variety of snares
  - Coagulating forceps
  - Clips (rotatable)
  - Endoloops
- Medications:
  - Antibiotics +/- ropivacaine for rectal EMR

3. Understand your equipment.

Electrosurgical Unit (ESU)

Snare Selection

Lesion size, location and morphology should drive the selection of an appropriate snare



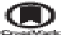
Voluven/methylene blue/dilute epi (1:100,000)

Voluven = hydroxyethyl starch

MENTORING, EDUCATION, AND TRAINING CORNER

Prateek Sharma, Section Editor

How to Perform High-Quality Endoscopic Mucosal Resection During Colonoscopy



Amir Klein[1] and Michael J. Bourke[2,3]

[1]Gastroenterology and Hepatology Department, Rambam Health Care Cam... [2]Department of Medicine, University of Sydney, and [3]Department of Gastroenterology and Hepatolog... Australia

Gastroenterology 2017;152:466–471

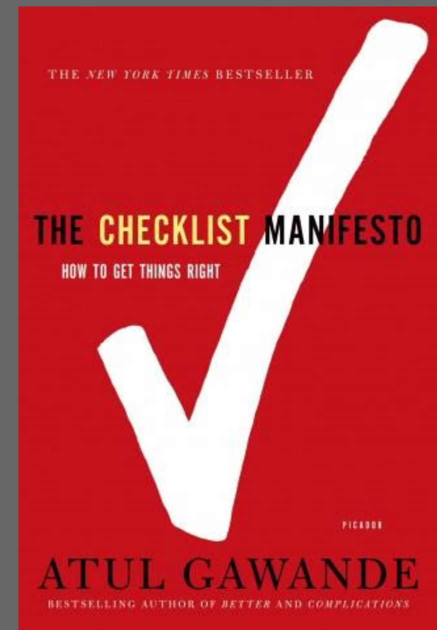
EQUIPMENT	CLINICAL IMPACT & EVIDENCE
Microprocessor-controlled electrosurgical generators (ESU) for fractionated current snare excision & soft coagulation	• ↓ Deep tissue injury during snare resection & delayed bleeding • Coagulation of bleeding –Snare Tip SC
CO2 Insufflation	↓ Post procedural pain & Admission
Colloid solution for submucosal injection Succinylated gelatin/ Hydroxyethyl starch	Superior to normal saline in a RCT: ↓ Injections & resections, and ↓ time
Inert dye in the Injectate: 80 mg indigo carmine or 20 mg methylene blue in 500 mL solution	Topical SM Chromo-endoscopy: Facilitates detection of deep mural injury

MJ Bourke

4. Use a Polypectomy Equipment Checklist.

Not having the equipment you need is a preventable problem!

"What do you mean we don't have any clips?"



Month/Year:_______________ **PROCEDURE ROOM DAILY SLATE CHECKLIST** PROCEDURE ROOM:_________

Nurse to restock room to minimum room quotas at end of every list.

MORNING:

Equipment	Equipment Number	Room Min.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Snaremaster 10 [special order]	SD-210U-10	10																															
Snaremaster 15 [special order]	SD-210U-15	10																															
Snaremaster 20 Spiral	SD-230U-20	5																															
Exacto Cold Snare [special order]	711115	10																															
Captiflex 13 Micro [warehouse item]	114004	10																															
Captiflex 27mm [warehouse item]	158621	10																															
Captivator II 20mm [special order]	M00561240	10																															
Biopsy Forceps [warehouse item]	114005	10																															
Interject [warehouse item]	114020	5																															
Roth Net [special order]	711050/715150	5																															
Boston Scientific Clips [warehouse item]	208916	10																															
Vantage Rotatable Clips [special order]	ROCC-D-2	10																															

AFTERNOON:

Equipment	Equipment Number	Room Min.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Snaremaster 10 [special order]	SD-210U-10	10																															
Snaremaster 15 [special order]	SD-210U-15	10																															
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Vantage Rotatable Clips [special order]	ROCC-D-2	10																															

Therapeutic Cart Checklist

MONTH & YEAR : ____________

Complete check daily in morning before therapeutic procedure. Initial to verify.

If deficiencies in unit stock, communicate immediately to Nurse Clinician

Equipment All Special Orders	Cart Min.	Ordering Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Voluven	3																																
Polyloop	3	HX-400U-30																															
Coagrasper	2	FD-411UR																															
Acusnare Hexagonal	3	G22700																															
Acusnare Needletip	3	G22897																															
URGENT INTERVENTION KIT ENSURE KIT CONTAINS:																																	
Hemospray	1	G57572																															
Polyloop Cutter*	1	n/a																															

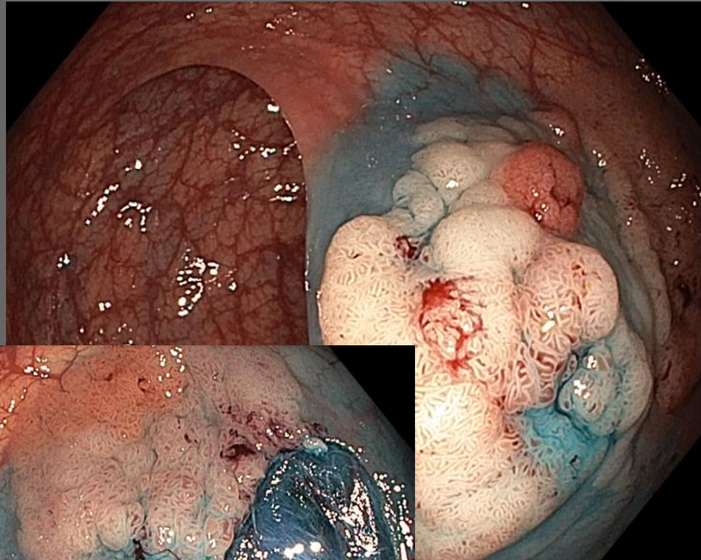
*POLYPLOOP CUTTER REQUIRES CENTRAL MDR REPROCESSING IF OPENED, REUSABLE MEDICAL DEVICE, DO NOT DISCARD

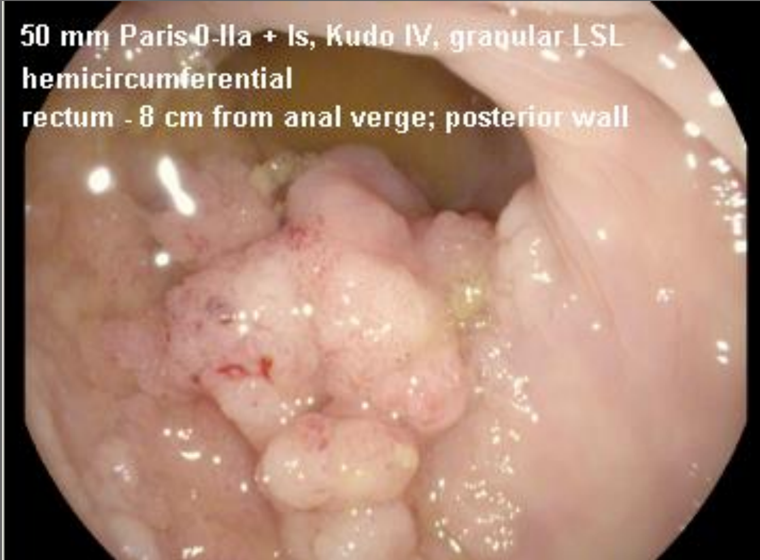
THERAPEUTIC NURSES TO RESTOCK CART FOLLOWING THERAPEUTIC PROCEDURE

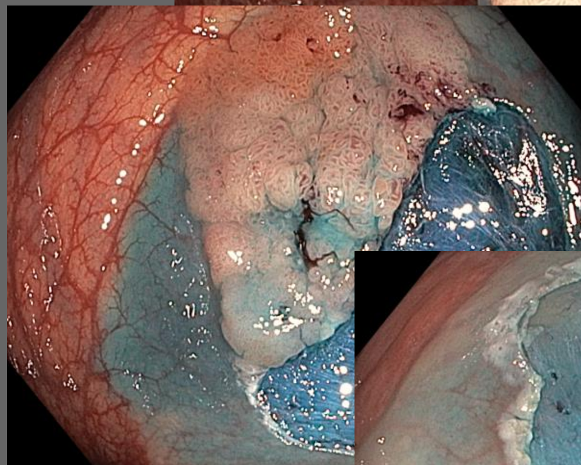
5. Schedule enough time.

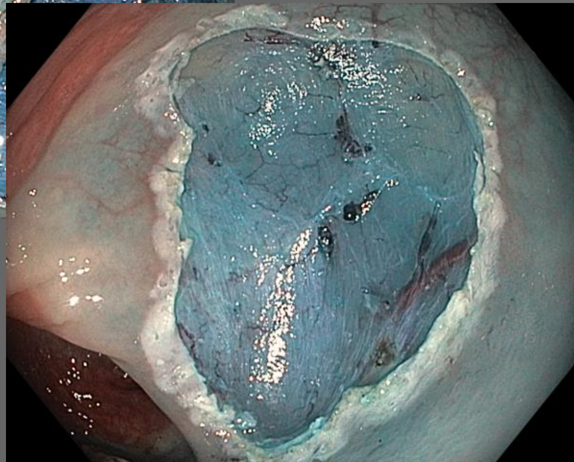
- If a procedure will take an hour (or longer), why schedule it for 30 minutes?
- Time pressure:
  - rushing
  - errors
  - unintended consequences
    - less time for other patients
    - disruption of unit flow
  - stress!

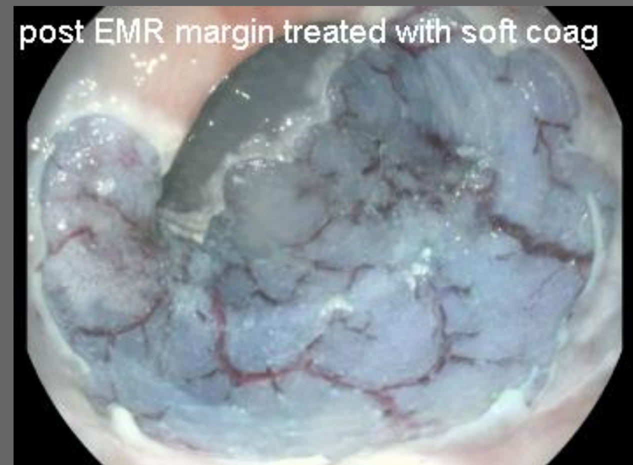
These polyps can and should be removed endoscopically…





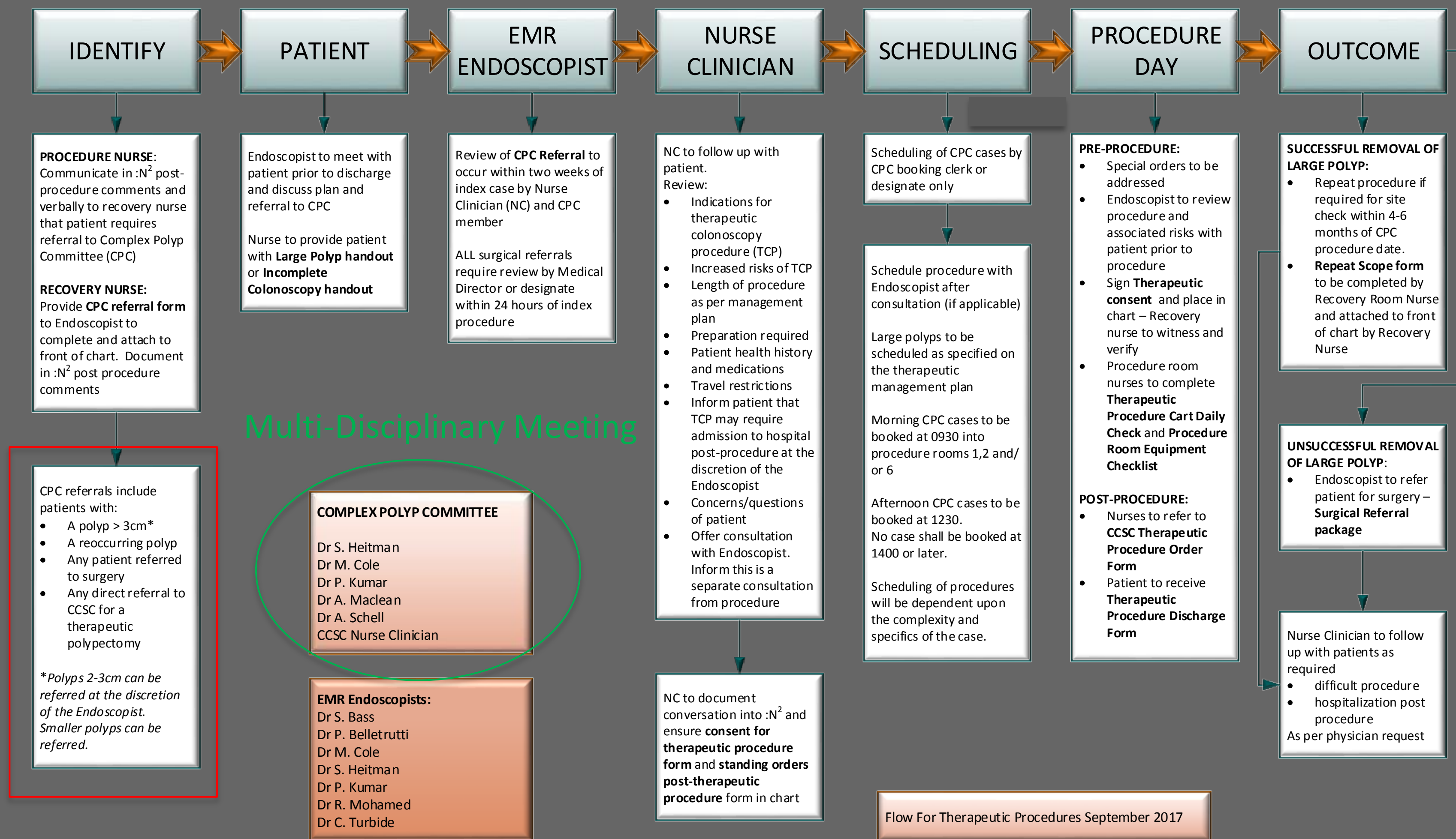






…but only after careful planning and NOT on an index procedure.

6. Centralized complex polypectomy pathway.

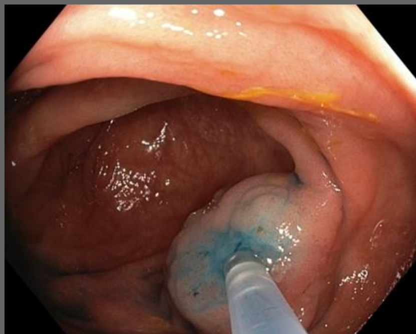
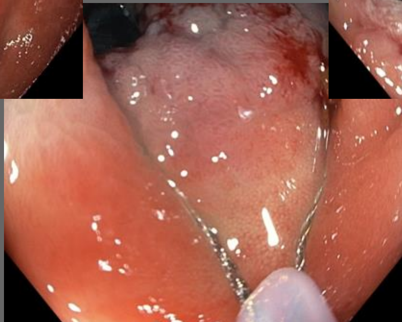
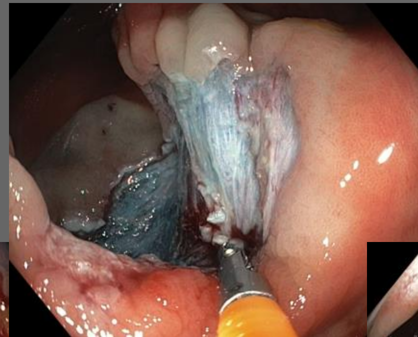
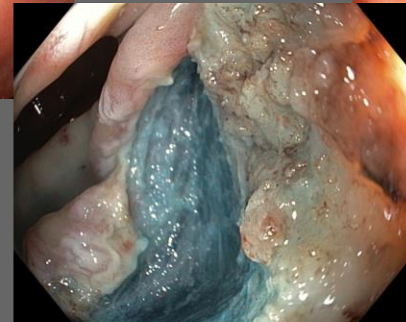
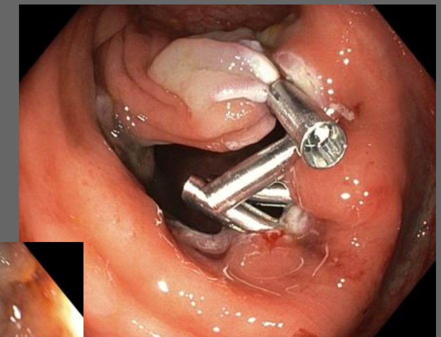


Polyps without evidence of deep SMIC should not be referred for surgery prior to consulting with an expert endoscopy center for evaluation for polypectomy/EMR

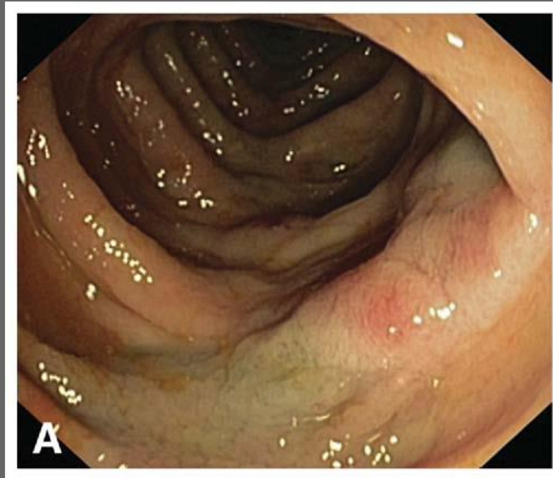
ESGE Clinical Guideline *Endoscopy* 2017

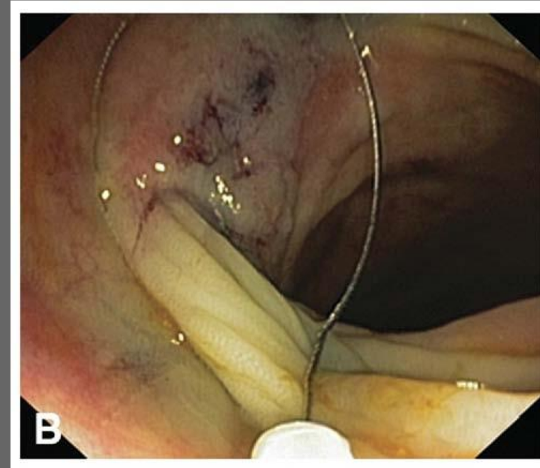
7. Do not start an endoscopic resection unless you intend to finish.

- Previous intervention is an independent predictor of resection failure.
  - OR = 3.75
    - Moss et al. Gastroenterology 2011
- Previously attempted non-lifting lesions can be successfully removed endoscopically, but they are MUCH more difficult!

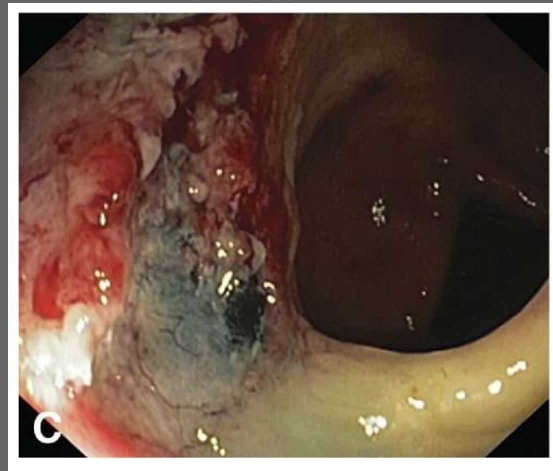






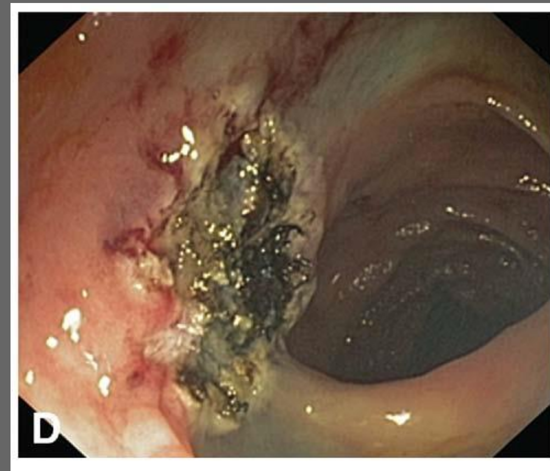
8. Never tattoo under a polyp to mark it!





non-lifting



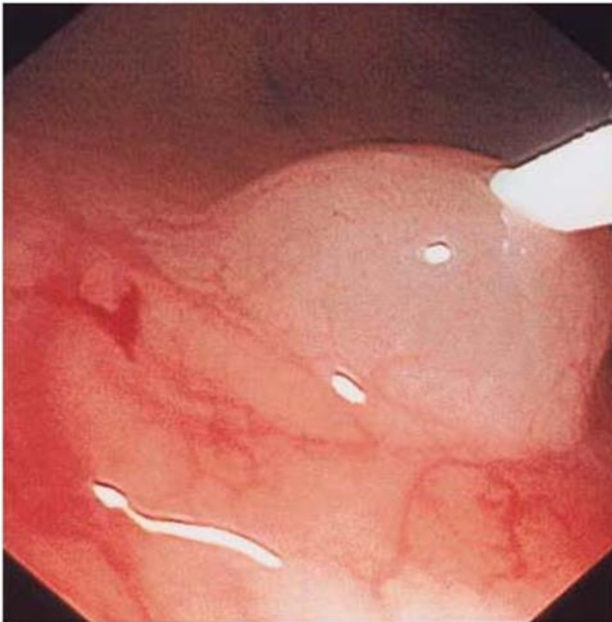


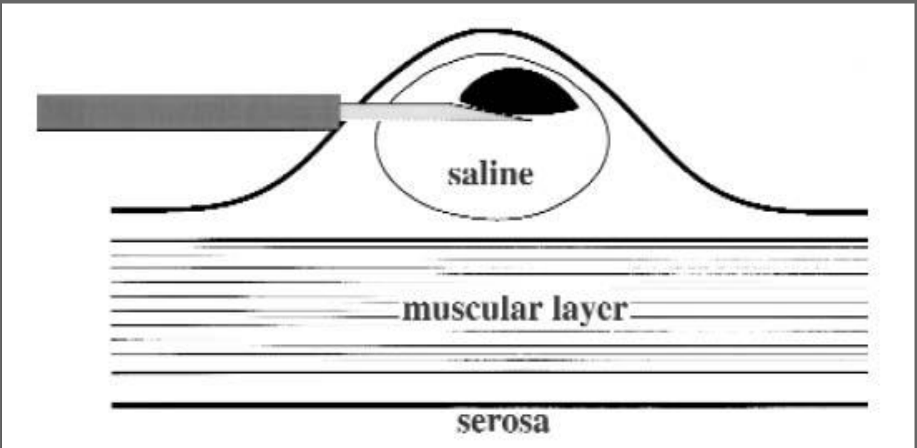
Post-EMR Tattooing

- **How**
    - ~3cm *distal* (towards anus) and inline with site
    - Distal means towards anus
    - NEVER into the lesion
  - If surgery – at least 2 locations
    - 2nd on opposite wall to first
    - Mesenteric + anti-mesenteric border
  - Create a saline "bleb" to identify correct plane then inject SPOT into cushion
  - No more than 3cc of SPOT

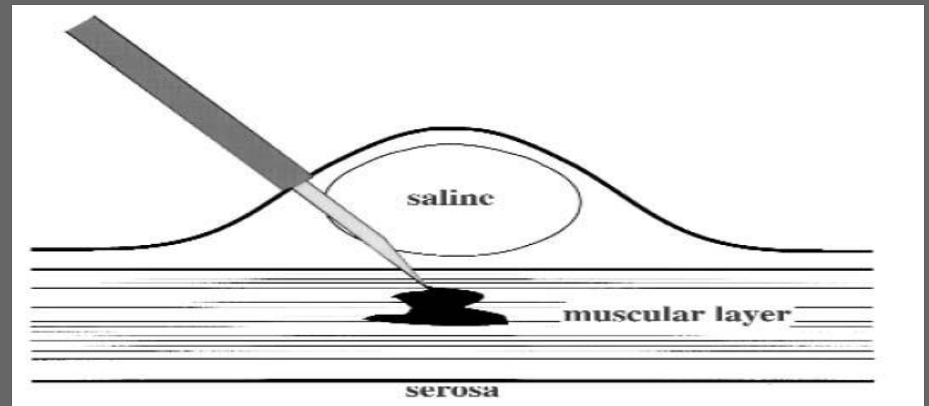
Moss et al. GIE 2011. 74:214-18

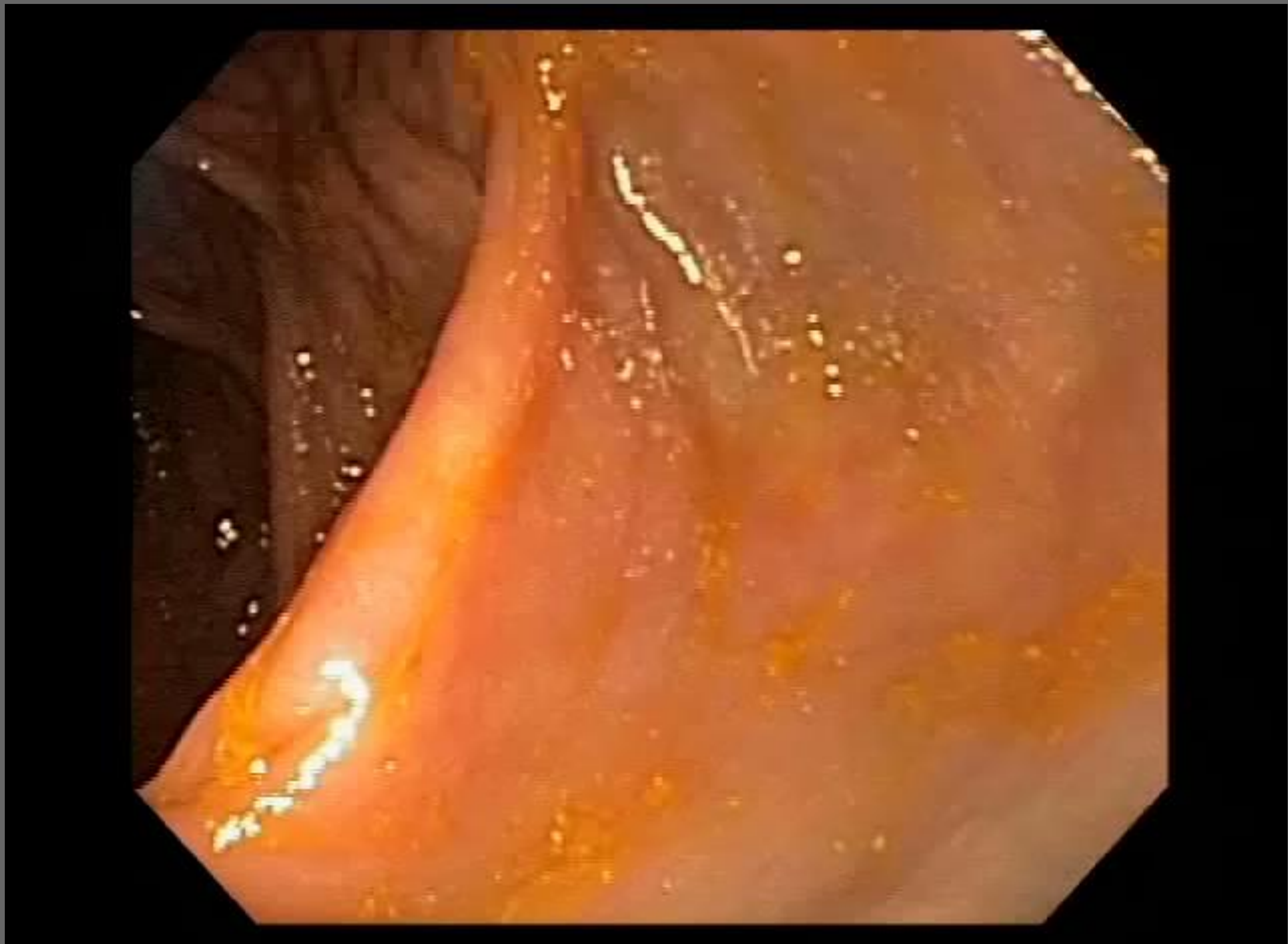
Post-EMR Tattooing





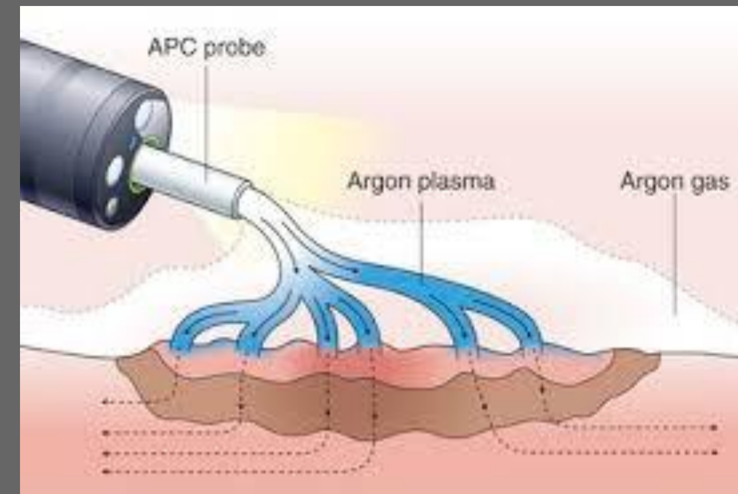
NOT →



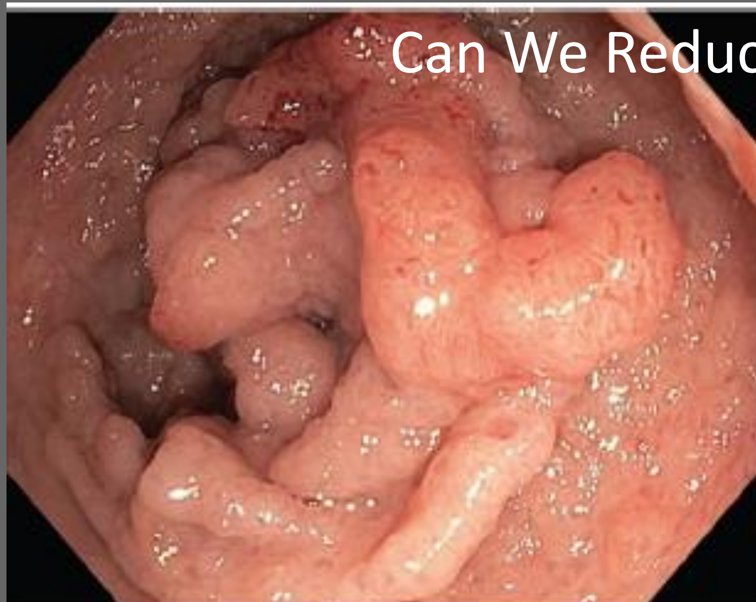
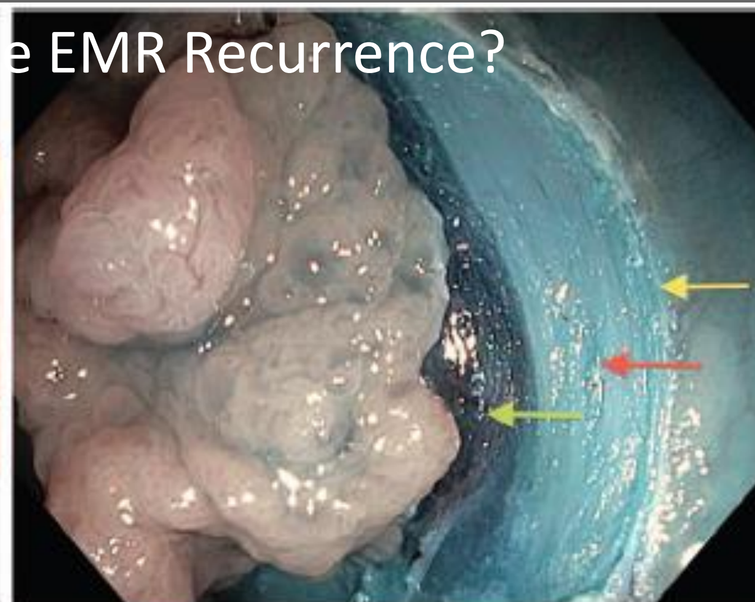
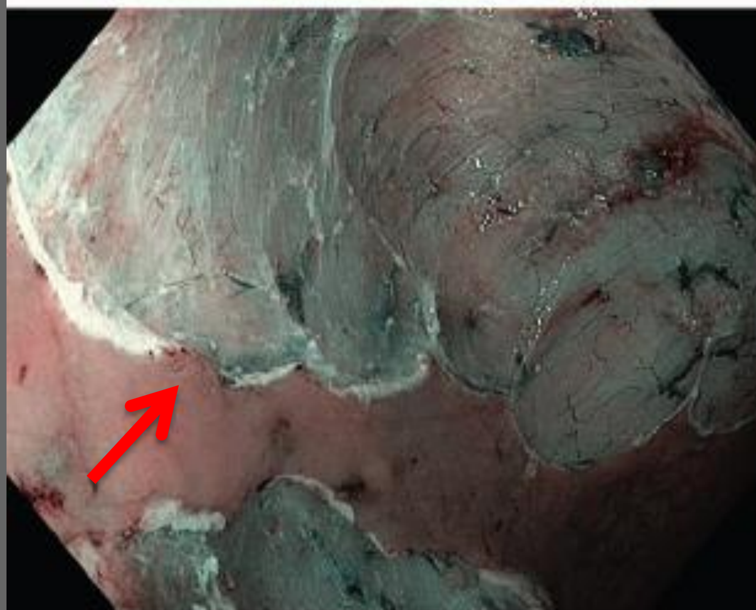
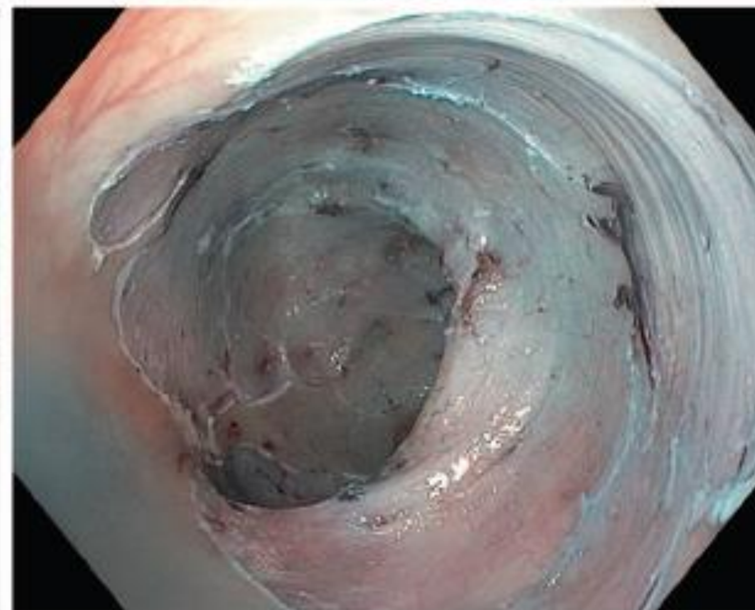


9. Avoid use of thermal ablative techniques to treat visible adenoma.

- Thermal ablation of visible adenoma with APC associated with recurrence
  - OR 3.51. Moss et al. Gastroenterology 2011
- APC
  - Unintended arching
  - Expensive



Can We Reduce EMR Recurrence?

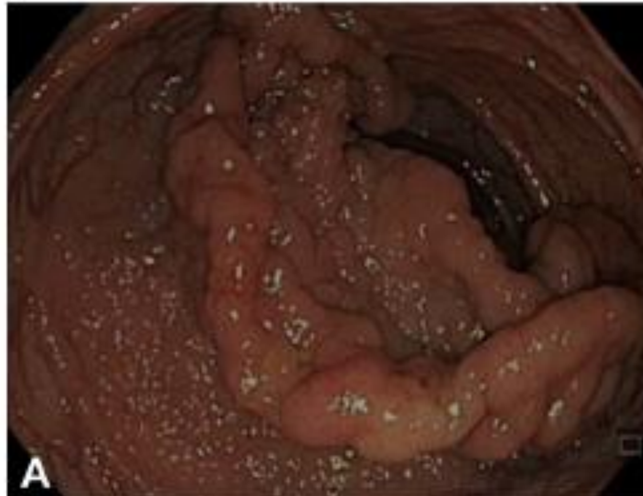





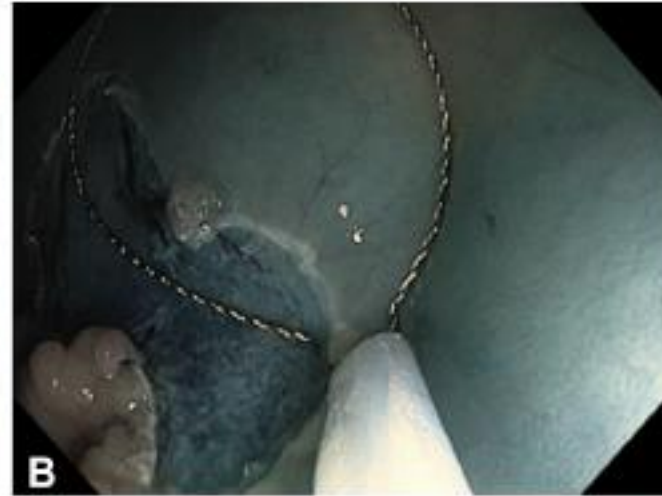
Subtle endoscopically undetectable residual at the margins: A single dysplastic crypt ?

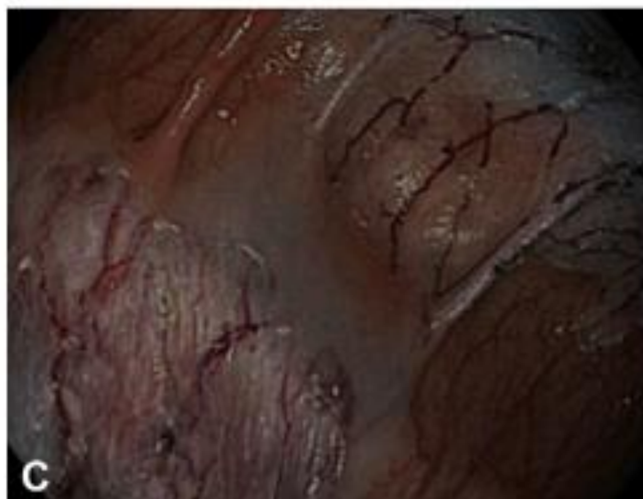
Extended endoscopic mucosal resection does not reduce recurrence compared with standard endoscopic mucosal resection of large laterally spreading colorectal lesions

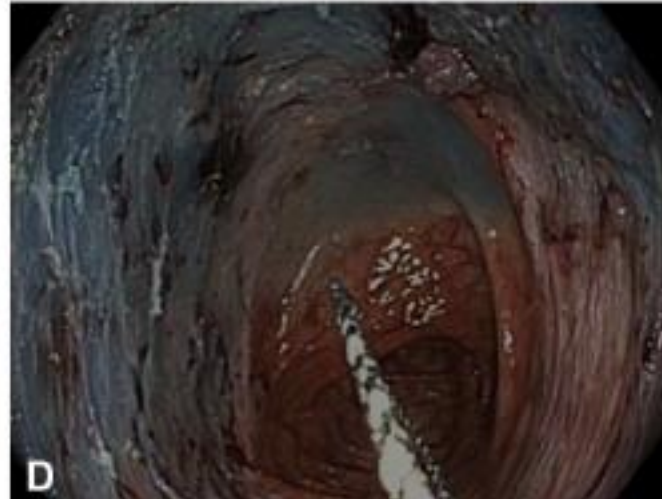
**Farzan F. Bahin, MBBS (Hons), MPhil, FRACP,[1,2,*] Maria Pellise, MD, PhD,[1,*]
Stephen J. Williams, MBBS, FRACP, MD,[1] Michael J. Bourke, MBBS, FRACP[1,2]**

Westmead, Sydney, New South Wales, Australia









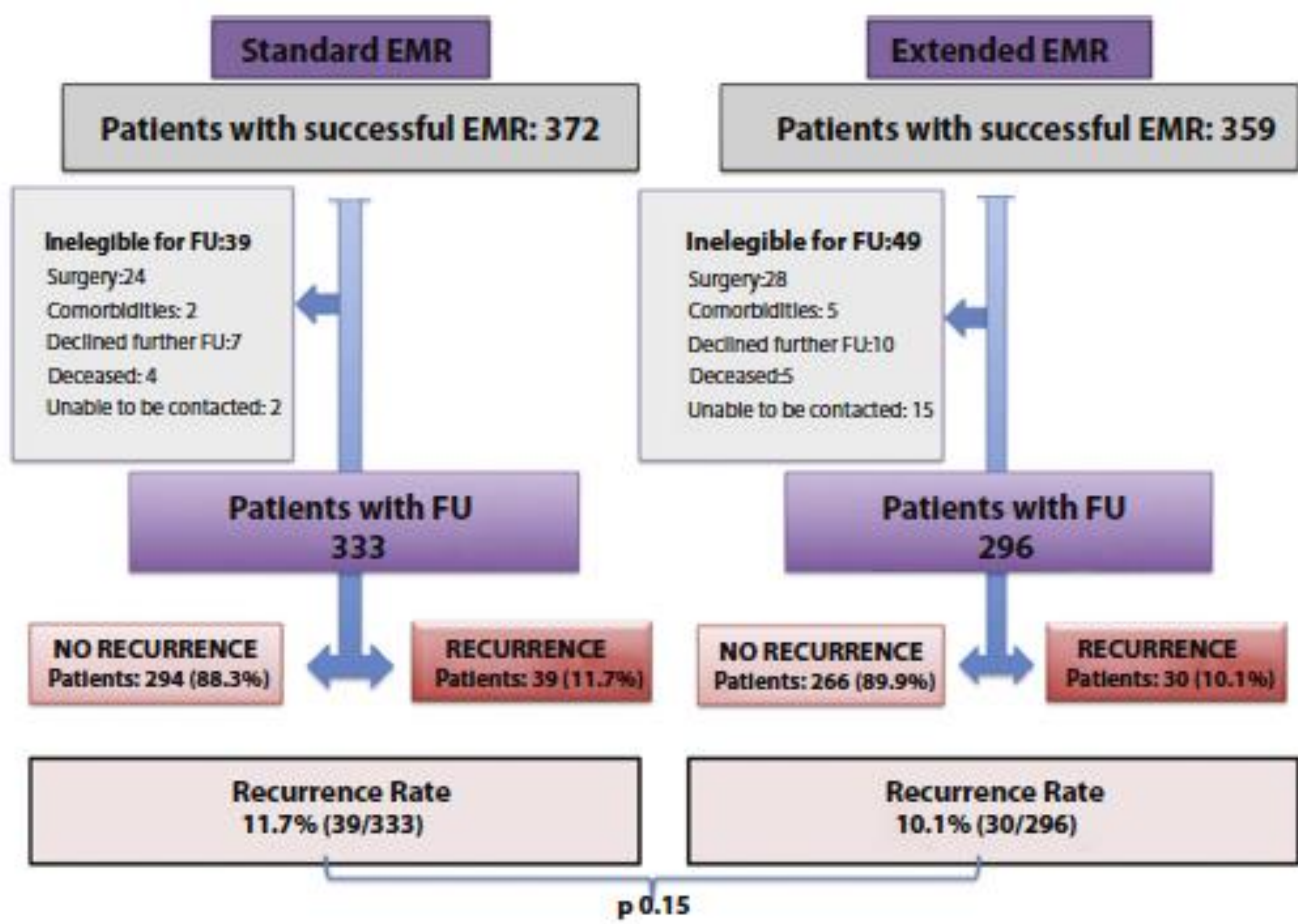


Figure 5. Recurrence rate at first surveillance colonoscopy. *FU*, follow-up.

A multi-centre randomized control trial of snare tip soft coagulation for the prevention of adenoma recurrence following colonic EMR

Results from the "SCAR" study

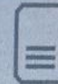
Amir Klein[1], Vanoo Jayasekeran[1], Luke Hourigan[3], Rajvinder Singh[5], Gregor Brown[4], David J Tate[1] Farzan F Bahin[1,2], Nicholas Burgess[1,2], Stephen J Williams[1], Eric Lee[1], Michael J Bourke[1,2]

[1]Department of gastroenterology and hepatology, Westmead hospital Sydney; [2]University of Sydney; [3]Department of gastroenterology and hepatology Princess Alexsandra hospital Brisbane; [4]Department of gastroenterology and hepatology Alfred hospital Melbourne; [5]Department of gastroenterology and hepatology Lyell McEwin hospital Adelaide

1a POLYP/EMR*

Guide / progs.

Monopolar receptacle



Mode

ENDO CUT Q

Effect

3

Upmax:770Vp

Cut duration

1

Cut intervall

6

Mode

SOFT COAG

Upmax:110Vp

Effect

4

max. watts

80

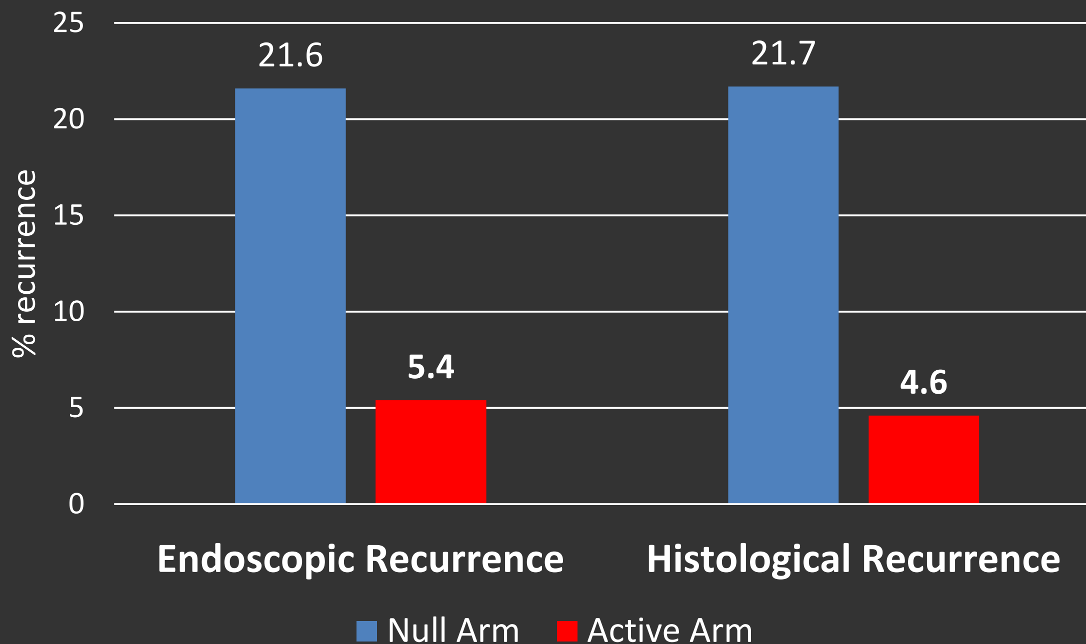
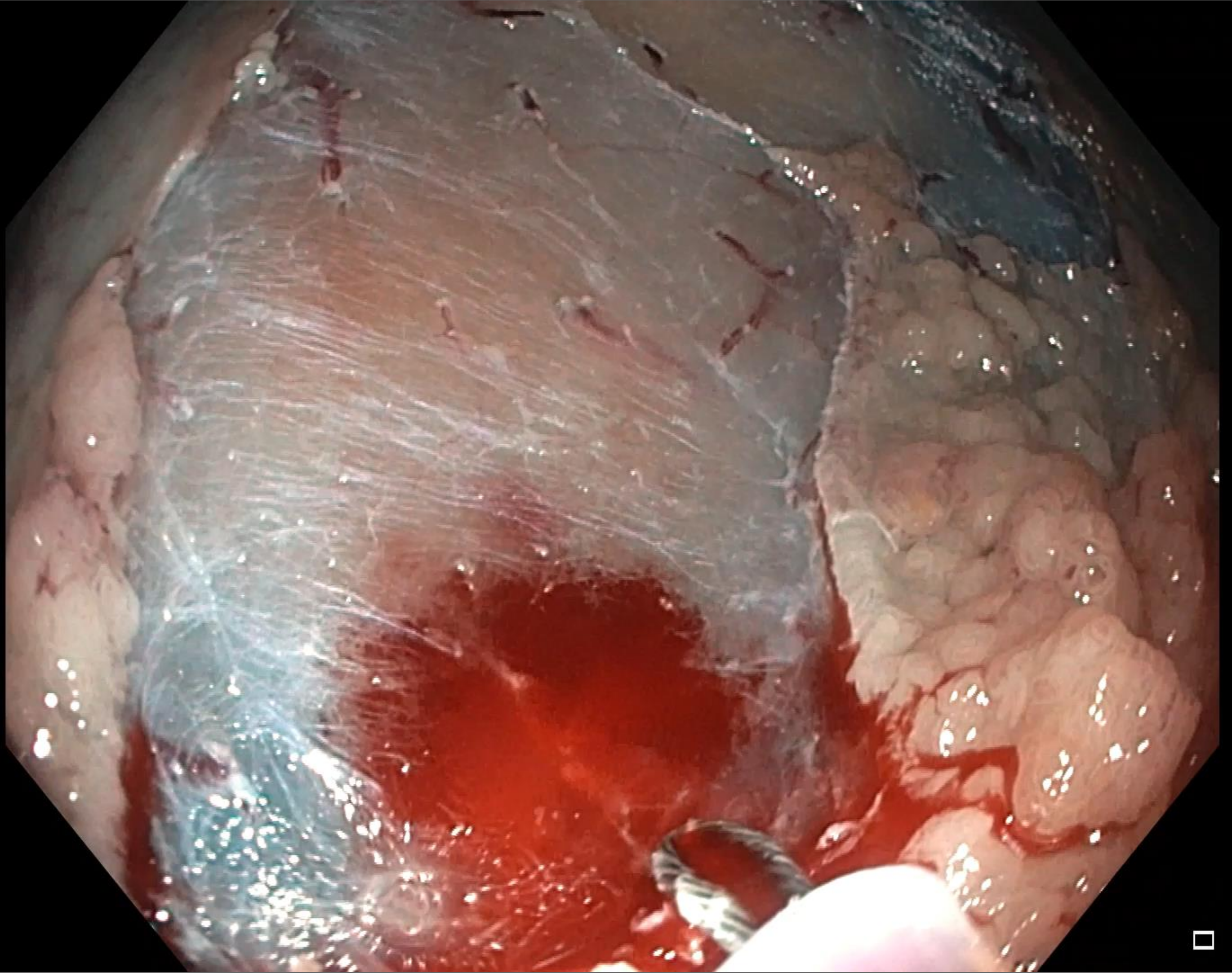


Table 2 (SC1)	Null arm	Active arm	RR (95% CI)	NNT	P value
Endoscopic recurrence	21.6% (33/153) (95% CI 15.8-28.7%)	5.4% (9/167) (95% CI 2.9-9.9%)	0.25 (95% CI 0.12-0.53)	6.17	< 0.001
Histological recurrence	21.7% (26/120) (95% CI 15.2-29.9%)	4.6% (6/131) 95% CI (2.1-9.6%)	0.21 (95% CI 0.09-0.50)	5.89	< 0.001



10. Large (≥ 20mm) sessile and laterally spreading or complex polyps should be removed by an appropriately trained and experienced endoscopist, in an appropriately resourced center

ESGE Clinical Guideline *Endoscopy* 2017

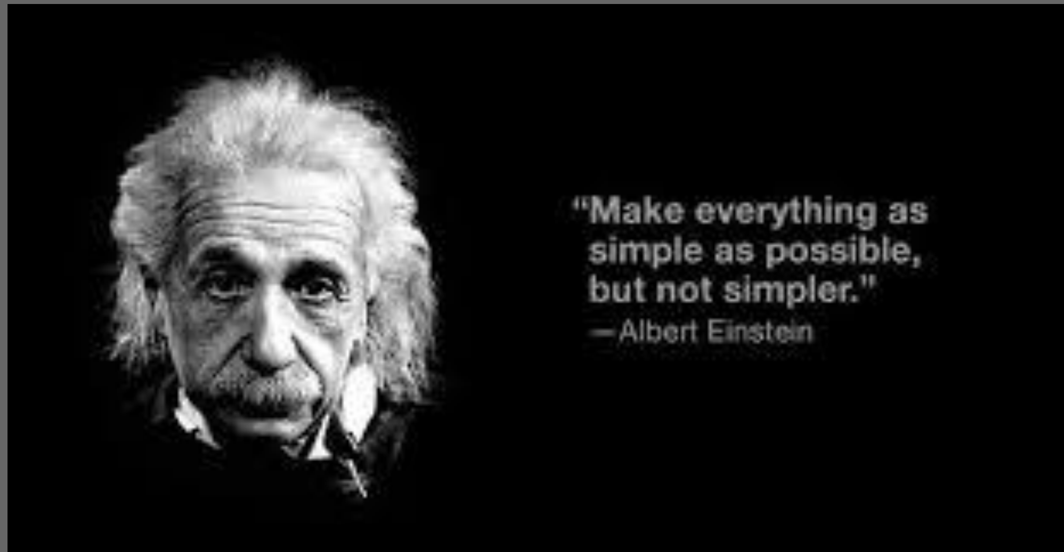
Modern Day EMR

- Careful optical assessment for features of SMIC
- Dynamic injection followed by systematic inject-and-resect technique
- Effective management of intra-procedural bleeding
- Meticulous examination of the post-EMR defect for signs of deep mural injury with intervention as required
- Treatment of the post-EMR margin with snare tip soft coagulation
- Appropriate post-EMR surveillance with an ability to endoscopically manage recurrent or residual adenoma

Klein A, Bourke MJ. Gastroenterology 2017
Heitman et al. Curr Treat Options Gastro 2017

Questions

11. Do More Cold Snare Polypectomy.



Cold Snare Polypectomy (CSP)

- CSP recommended as the preferred technique for diminutive polyps (≤ 5mm) and suggested for sessile polyps 6-9mm.
  - high rates of complete resection
  - favourable safety profile

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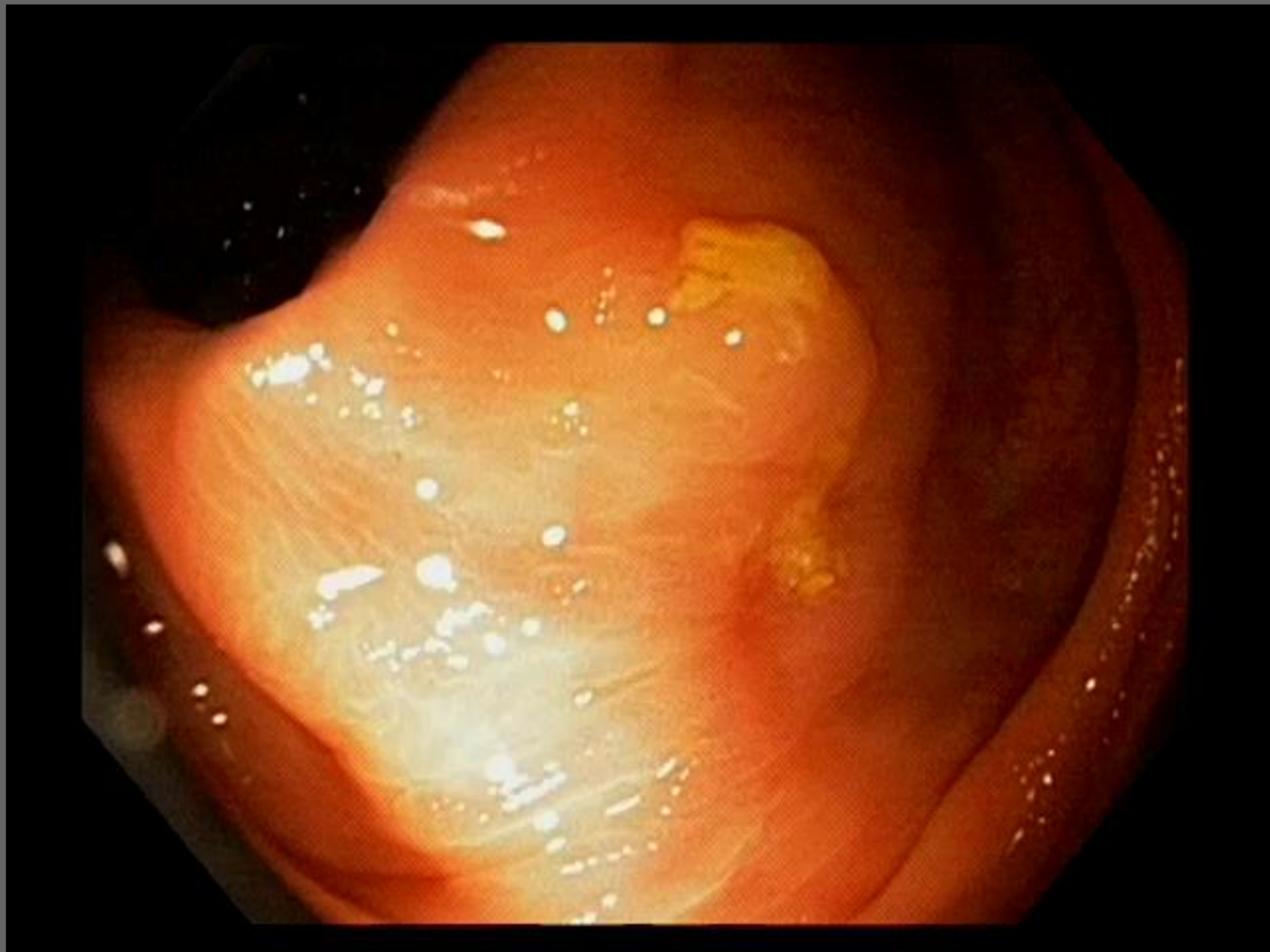
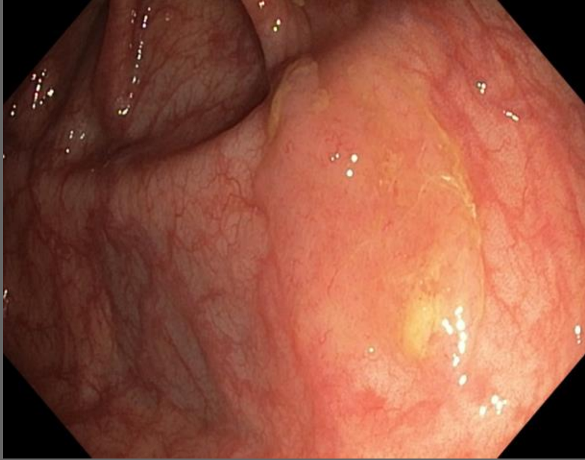
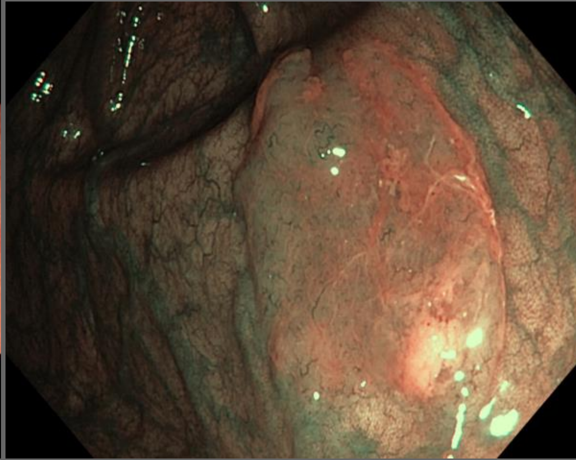
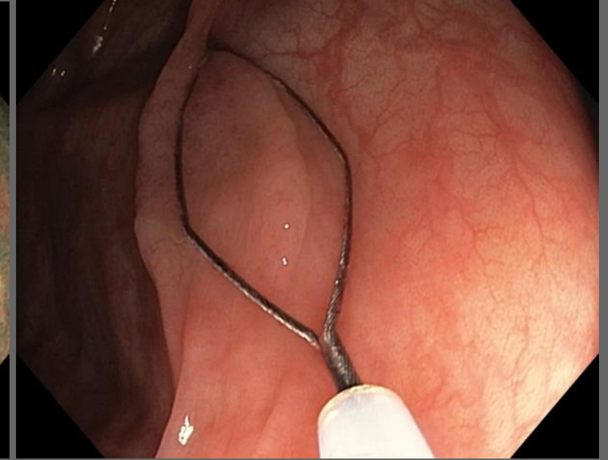
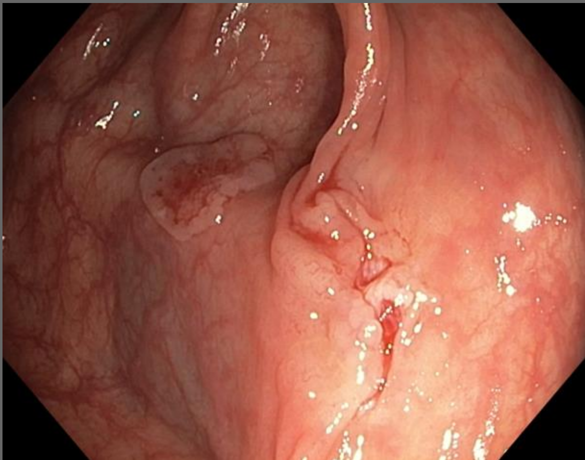
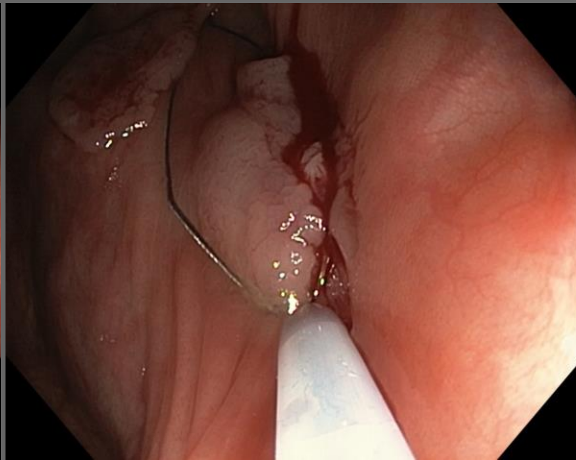
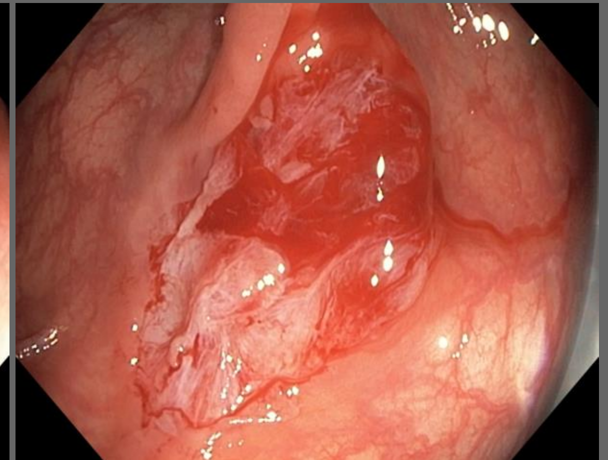
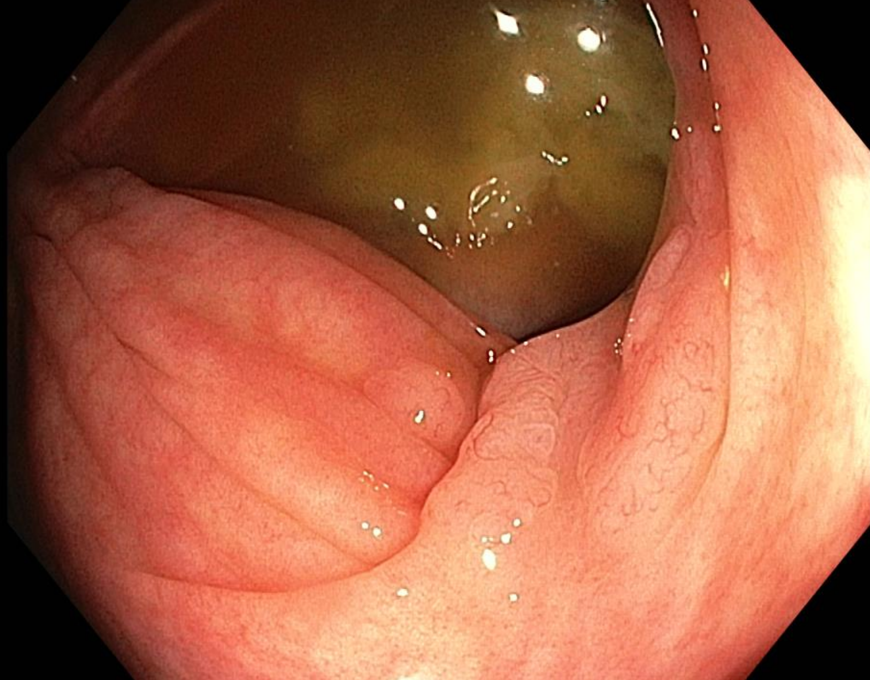
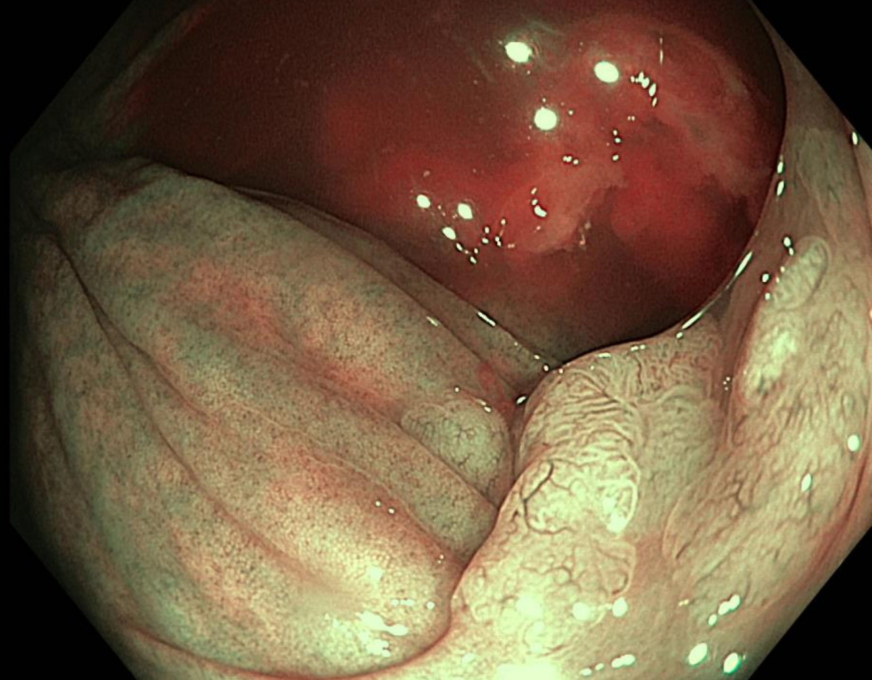


Wide-Field Piecemeal CSP of SSPs

Non-dysplastic serrated lesion 10-20mm