

Do any benign polyps require an operation?

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Colonoscopy Education Day - Tuesday October 2nd 2018 (1555 - 1620)

CanMEDS Roles Covered

X	Medical Expert (as <i>Medical Experts</i> , physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. <i>Medical Expert</i> is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.)
	Communicator (as <i>Communicators</i> , physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
X	Collaborator (as <i>Collaborators</i> , physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
X	Leader (as <i>Leaders</i> , physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)
	Health Advocate (as <i>Health Advocates</i> , physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)
X	Scholar (as <i>Scholars</i> , physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)
X	Professional (as <i>Professionals</i> , physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

Disclosure

Pendopharm - Advisory Board (2018/9)

Learning Objectives

After attending this session, the learner should be able to

1. Understand what techniques can be used to characterize polyps
2. Understand which polyps should be referred for surgical resection
3. Understand which polyps are potentially amenable to advanced polypectomy techniques

Polypectomy and surgery

- Most polyps can and should be removed endoscopically
- Surgery is indicated for polyps that are:
 - Malignant with a high risk of lymph node metastases
 - Not removable endoscopically* *(depends on expertise)*
- Polypectomy skills vary among endoscopists
 - A standardized approach to polyps can avoid unnecessary surgeries

Polypectomy techniques

1. Cold biopsy polypectomy (CBP)
2. Cold snare polypectomy (CSP)
3. Hot snare polypectomy (HSP)

Routine care

4. Endoscopic mucosal resection (EMR)
5. Endoscopic submucosal dissection (ESD)

Specialized care

Approach to advanced polyps

1. Identify the polyp (careful withdrawal technique – many flat polyps can be difficult to detect without careful inspection)
2. Determine the size, morphology of the polyp
 - Paris classification¹

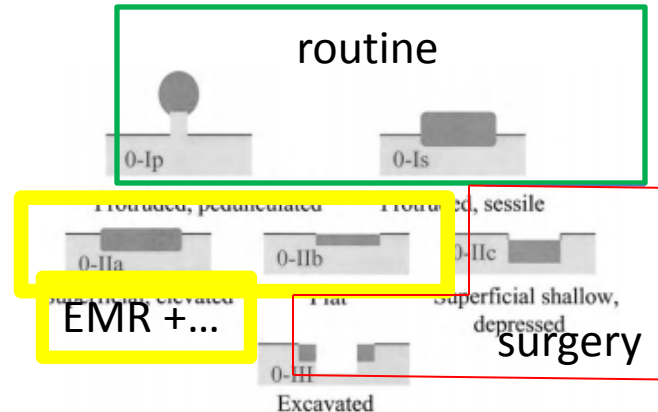
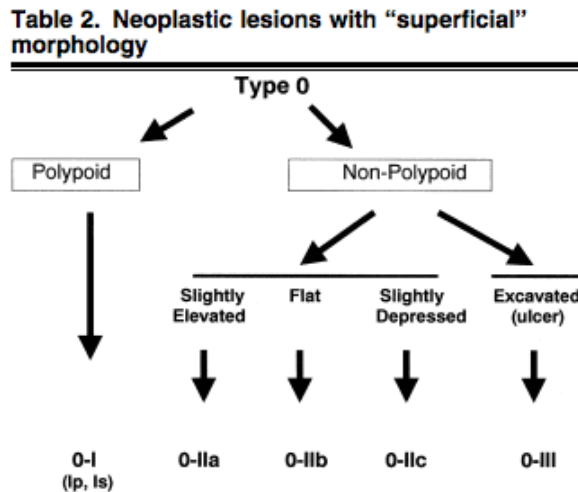


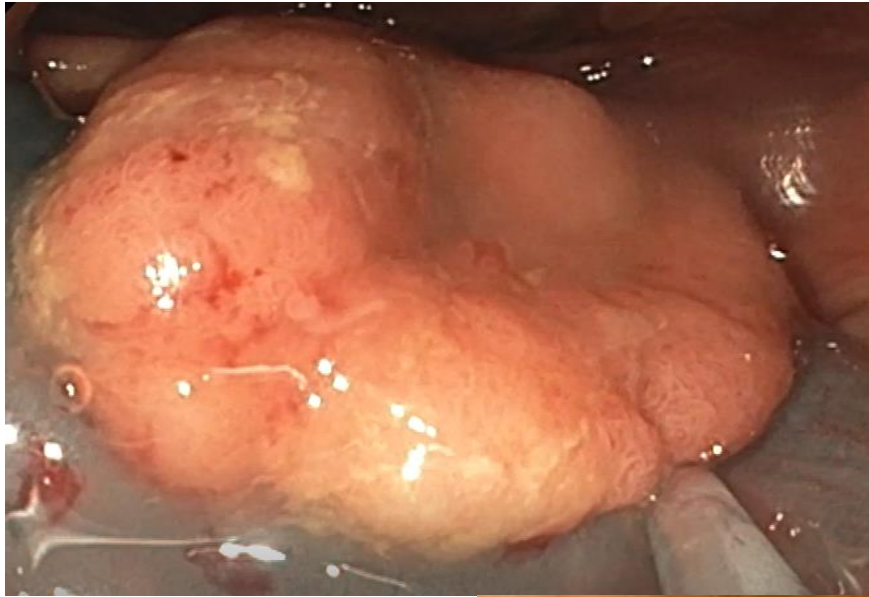
Diagram 1. Schematic representation of the major variants of *type 0* neoplastic lesions of the digestive tract: polypoid (*Ip* and *Is*), non-polypoid (*Ila*, *Ilb*, and *Ilc*), non-polypoid and excavated (*III*). Terminology as proposed in a consensus macroscopic description of superficial neoplastic lesions.¹⁵



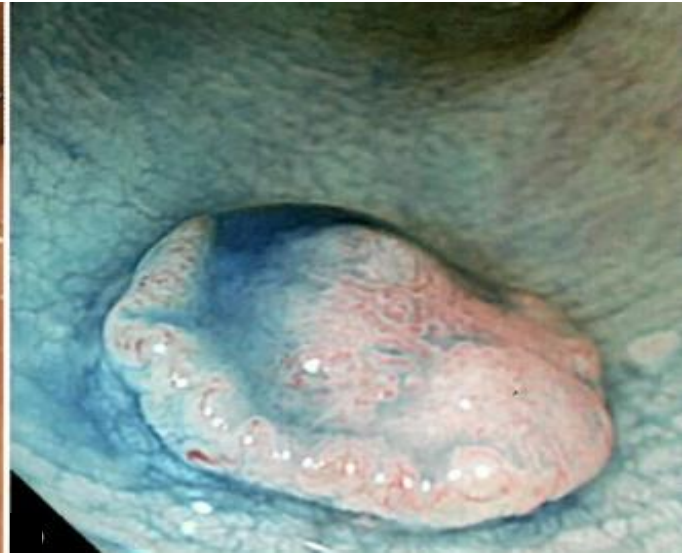
3. Inspect the polyp

- Use white light and NBI technique
- Take photographs while inspecting
- Define the pit pattern / NICE classification
 - Identify high risk features
 - Type V pit pattern
 - Type 3 NICE

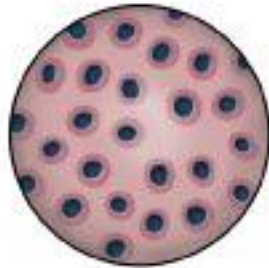




Should these
polyps be
removed
endoscopically?



Kudo Pit pattern



Type I
Round pit pattern
(normal pit pattern)



Type IIIIL
Tubular or round pit
pattern that is larger
than the normal pit
pattern (Type I)



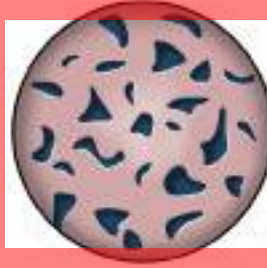
Type II
Stellar pit pattern



Type IV
Dendritic or gyrus-
like pit pattern

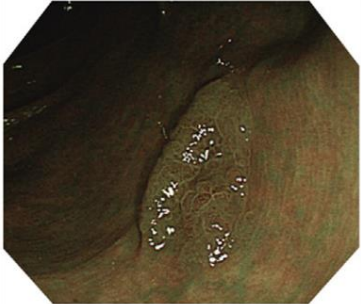
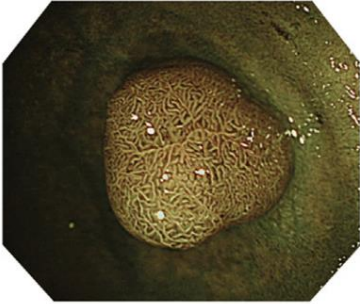
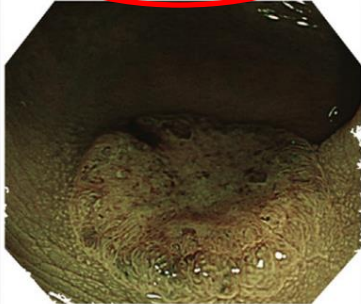
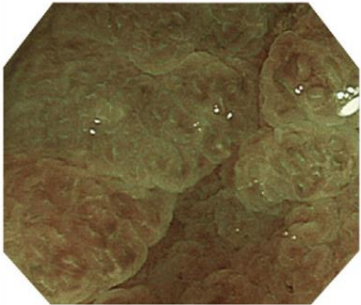

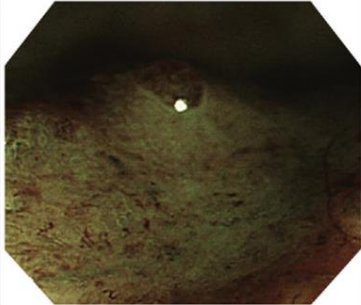


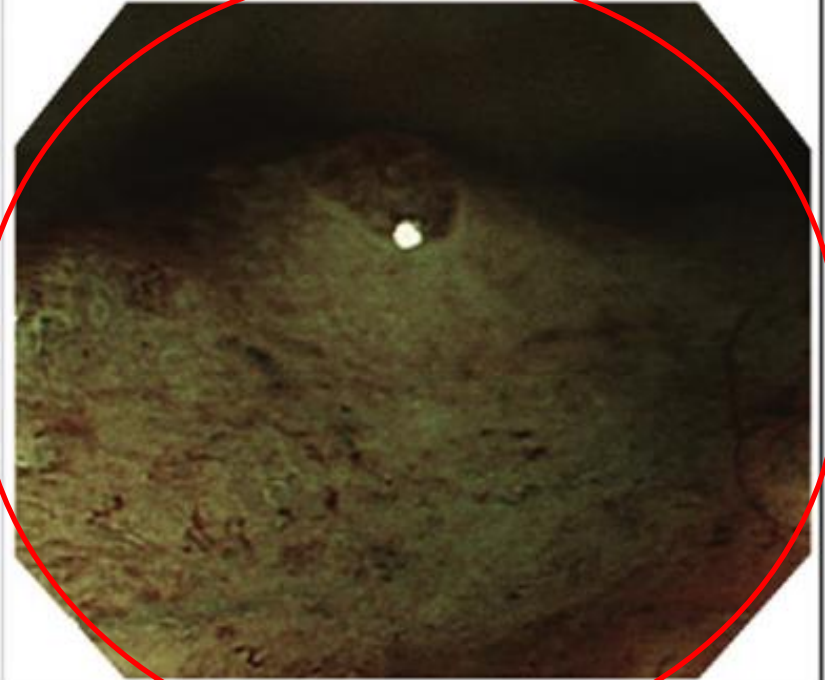
Type IIIS
Tubular or round pit
pattern that is smaller
than the normal pit
pattern (Type I)

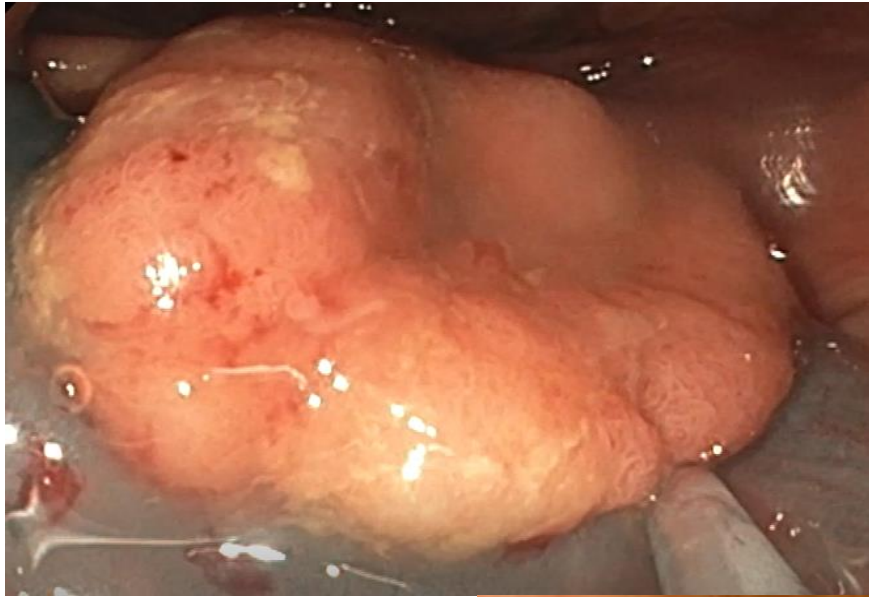


Type V
Amorphous or
nonstructural
pit pattern

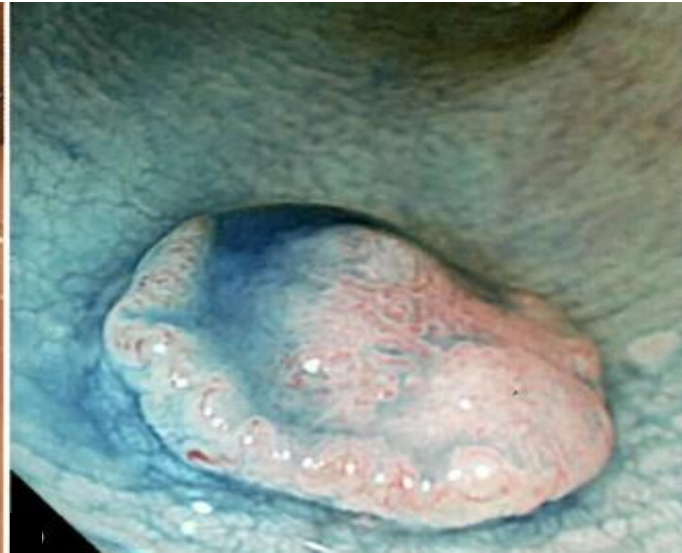
NBI International Colorectal Endoscopic (NICE) Classification*

	Type 1	Type 2	Type 3
Color	Same or lighter than background	Browner relative to background (verify color arises from vessels)	Brown to dark brown relative to background; sometimes patchy whiter areas
Vessels	None, or isolated lacy vessels coursing across the lesion	Brown vessels surrounding white structures**	Has area(s) of disrupted or missing vessels
Surface Pattern	Dark or white spots of uniform size, or homogeneous absence of pattern	Oval, tubular or branched white structure surrounded by brown vessels**	Amorphous or absent surface pattern
Most likely pathology	Hyperplastic	Adenoma***	Deep submucosal invasive cancer
Examples			
			





Should these polyps be removed endoscopically?



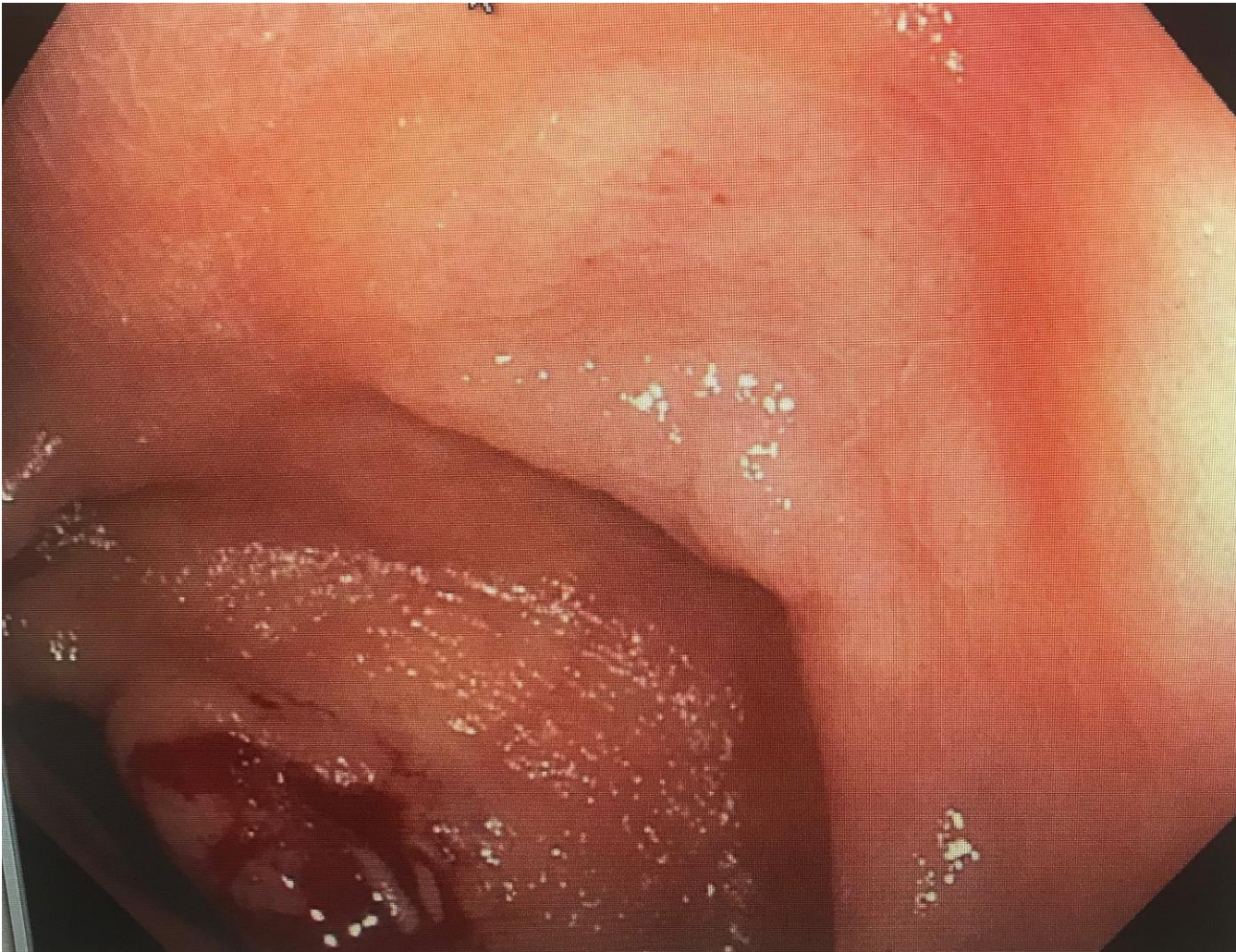
Approach to advanced polyps

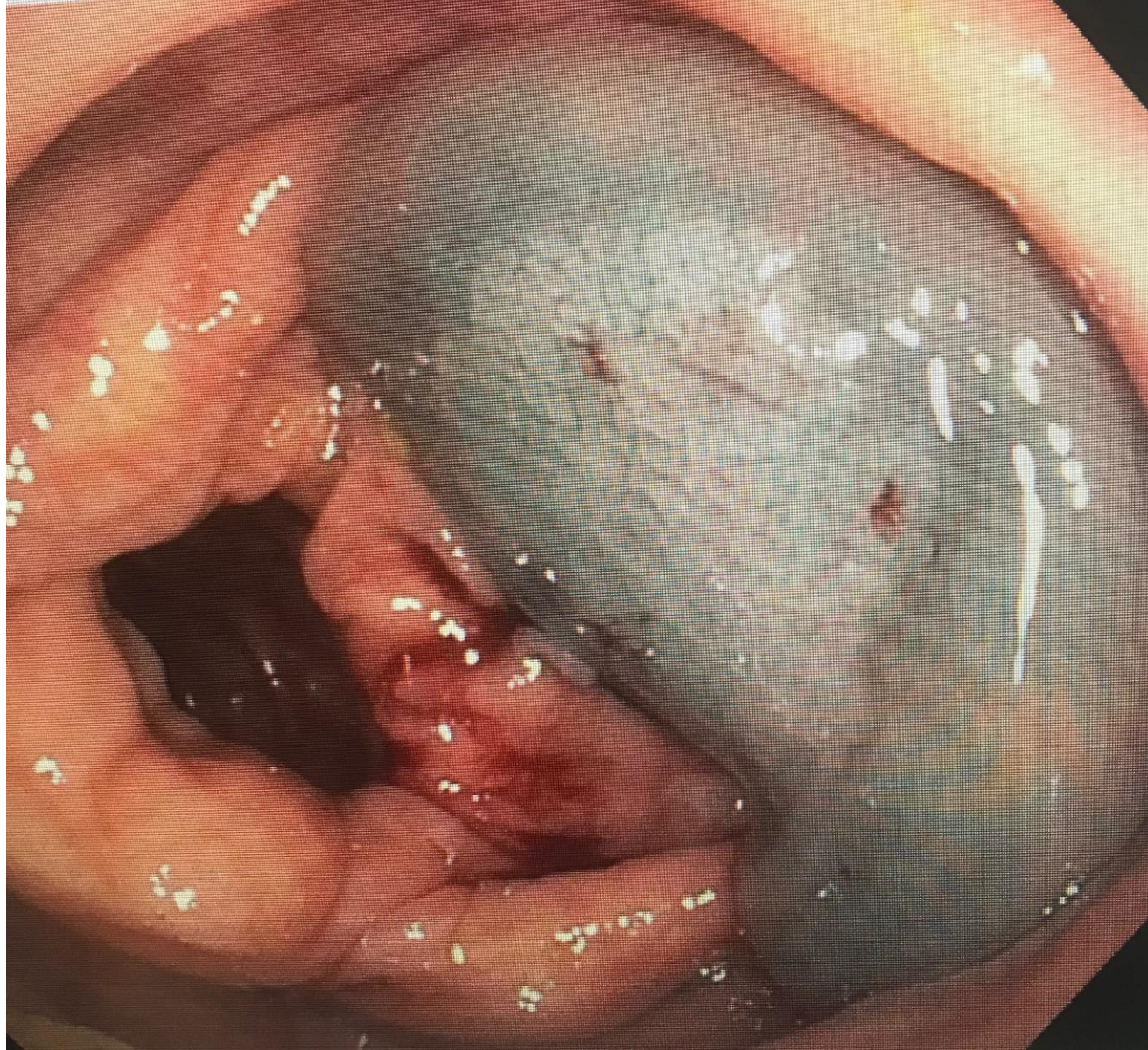
4. Assess the ideal position of the polyp / endoscope stability prior to any attempted resection
 - This is easier using a scope imager and is important for referral.
 - Polyps in the appendiceal orifice, diverticular edge, flexures, difficult loops (unstable position) or near the dentate line are all potentially more difficult.
 - Book cases based on expected procedure time

Consider lifting polyps

- Minimize complications of electrical current
- Improve resection completeness
- Identify margins (SSA/Ps)
- Identify suspicious lesions via non lifting sign
- Improves your tattoo technique







Non-Lifting Sign is a sign of fibrosis / scarring or submucosal involvement



Submucosal involvement

Fibrosis and scarring

- Incomplete (partial) polypectomy
- Biopsies
- Prior tattoo



Additional considerations for referral

If a polyp has any features that are not routine, consider referral

- Difficult location (appendix, ileocecal valve, flexures, dentate line, unstable position)
- Lifting is not working well
- Indistinct borders (risk of incomplete resection)
- Near a tattoo or has been biopsied or partially removed

If the polyp cannot be removed by you but someone else might be able to...

1. Consider referral to a specialist in polypectomy
2. DO NOT BIOPSY (It is OK to inject / use lifting solution as part of inspection)
3. DO NOT PARTIALLY PERFORM POLYPECTOMY
4. Tattoo > 3 cm from the polyp margins
5. Send high resolution pictures with the referral. (email or text if possible)



If the polyp cannot be removed by you
and you are convinced there are high
risk features for a polyp with
submucosal involvement

Target

- Target your biopsy to the high risk features

PHOTOGRAPH

- DO NOT PARTIALLY PERFORM POLYPECTOMY

Tattoo

- Tattoo > 3 cm from the polyp margins

When to tattoo...

1. Suspected cancer
2. Any polyp > 1 cm (suggested by ESGE guideline)

RATIONALE:

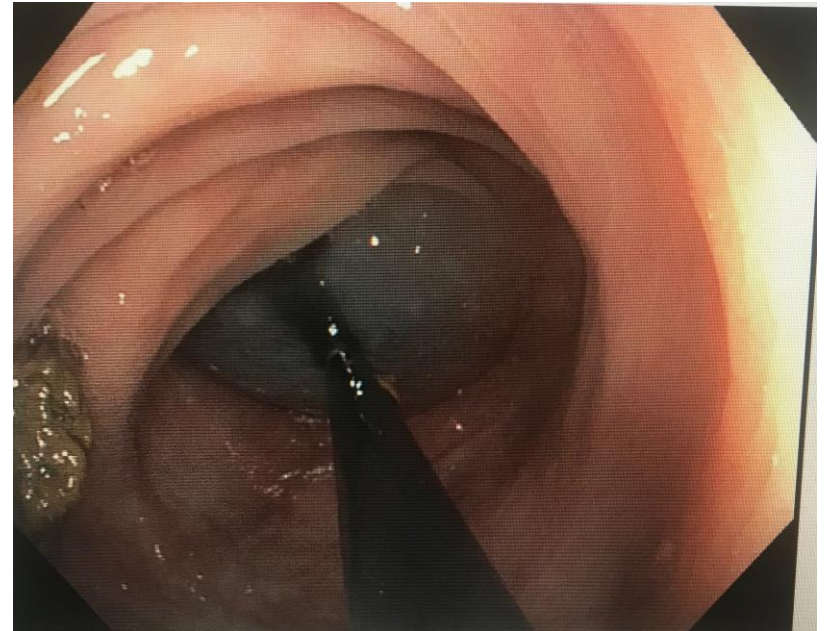
1. Higher rate of malignant polyps in polyps > 1 cm.
2. Higher rate of recurrence in piecemeal polypectomy

Any polyp requiring EMR should have surveillance including biopsy of polypectomy site– not all scars are easy to find post

Tattoo technique

Discuss with local surgeon re their preference

- 5 cm proximal to the lesion (1-2 folds).
- SALINE then BLACK then SALINE
(Avoid staining the peritoneal cavity!)



Keys to injection technique

- 45 degree angle to the mucosa
 - 1) tent the needle tip slightly upwards
 - OR
 - 2) start injecting fluid before the needle pierces the mucosa
- *it is always easier to inject into areas that have already been lifted*



When to refer mega polyps (pedunculated) surgery or specialized polypectomy referral

- There are no standardized criteria for this indication
- Cancer risk with polyps > 20 mm
- Mega polyps can be difficult to remove due to technical factors (putting the snare over the head – piecemeal resection, trimming of head) and higher risk of post-polypectomy bleeding
- Polyps > 30 mm in size are generally more difficult to treat than those < 30 mm
 - Some authors have used ESD to dissect the base

Polyps that should undergo endoscopic resection

- **Pedunculated polyps**
- **Non-pedunculated polyps that are amenable to endoscopic resection**
 - Stable endoscope position with good prep
 - No high risk morphology
 - No high risk pit pattern / NBI features
 - Good response to lifting
 - Local expertise
- **Malignant polyps with a low risk histology features for lymph node metastases**
 - < 1000 um SM involvement
 - well to mod differentiated
 - no lymphovascular involvement
- NOTE THAT EMR PATIENTS NEED CLOSE SURVEILLANCE...

Polyps that should undergo surgery

- Abnormal morphology (central ulceration, fold convergence)
- Abnormal pit pattern
 - Type V Kudo pit pattern²
 - Type 3 NICE Classification³
- Polyps that are not amenable to endoscopic resection
 - Non-lifting sign*
 - Some locations may be difficult
- Histologic features that suggest an increased risk of lymph node metastases
 - Deep submucosal involvement (1000 um)
 - Poorly differentiated¹ (G3)
 - Lymphovascular involvement

1. [Am J Surg Pathol](#). 2012 Feb;36(2):193-201. doi: 10.1097/PAS.0b013e318235edee.

2. Digestive Endoscopy (2006) 18 (Suppl. 1), S52–S56

3. Volume 78, No. 4 : 2013 GASTROINTESTINAL ENDOSCOPY 625

Final message

Too many polyps are sent to surgery that can be removed endoscopically – size is not the issue.

Many large / complex polyps can be removed using EMR/
ESD.

Photograph, tattoo and refer for EMR.