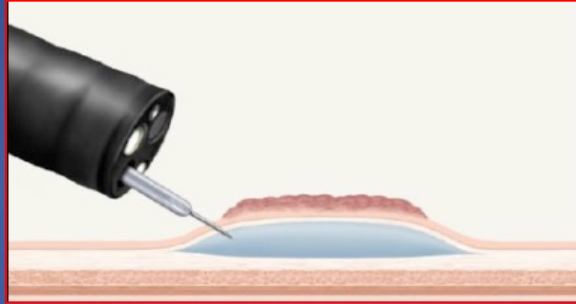


Saline Lifts in 2020



Greg Lutzak BSC, MD, FRCPC
Jan. 19, 2020

1

Faculty/Presenter Disclosure

- Presenter: Greg Lutzak
- Relationships that may introduce potential bias and/or conflict of interest:
 - Grants/Research Support: Nil
 - Speakers Bureau/Honoraria: Nil
 - Consulting Fees: Nil
 - Other: Nil

2

Disclosure of Commercial Support

- **This program has received financial support from** the Alberta Rural Physician Action Plan, Pendopharm, Ferring, Olympus, Vantage, Cook, EMPRSS, Pentax, Boston Scientific and MD Management **in the form of** unrestricted educational grant(s).
- Potential for bias/conflict of interest due to commercial support:
 - Nil

3

Managing Sources of Potential Conflict and/or Bias

- Consideration was given by the Planning Committee to identify when a speaker's personal or professional interest(s) may compete with or have actual, potential, or apparent influence over their presentation.
- Learning objectives and/or session descriptions were developed and reviewed by the Planning Committee, composed of health professionals/experts, responsible for overseeing the program's needs assessment and subsequent content development to ensure accuracy and fair balance.
- Information and/or recommendations in the program are evidence- and/or guidelines-based, and the opinions of the independent speakers will be identified as such.

4

Objectives

- 1) Briefly review polyp characteristics that should be reviewed prior to considering polypectomy
- 2) Understand which lesions should be facilitated with a saline lift
- 3) Understand principles in effectively performing saline lifts
- 4) Understand the differences between different saline lifting agents including:

5

Pre-procedure Planning

- Fasting/Bowel Preparation
- CO2 vs. Air
- Bloodwork
 - Type and Screen
 - Coagulation profile



6

Endoscopic Complications

- Cardiopulmonary 0.01-0.6%
- Perforation
 - Upper GI 0.01-0.04%
 - Colonoscopy <0.1%
 - ERCP 0.1% to 0.6%
- Bleeding
- Infection



Rizk et al. Quality indicators common to all GI endoscopic procedures GIE. 2015 Jan;81(1):3-16.

7

Polyp Resectability

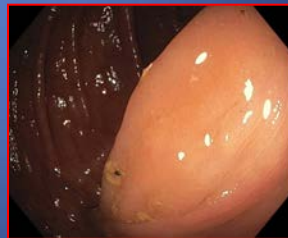
- Size
- Appearance
- Location



8

Polyp Size

- <1 cm
 - Limited Role for Lifting
- 1-2 cm
- >2 cm



9

Polyp Location

- Duodenum
 - Ampulla
- Colon
 - Anorectal Junction
 - Ileocecal Valve
 - Appendiceal Orifice



10

Malignant Features?

- Central Ulceration
- Granular Appearance

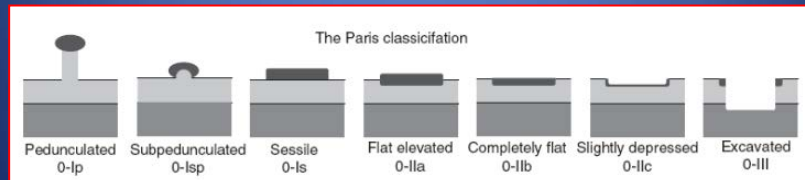


11

Polyps: Paris Classification

Table 1. The original Paris classification of early neoplasia morphology (8)

Pedunculated	Ip
Subpedunculated	Isp
Sessile, higher than height of closed forceps (2.5 mm)	Is
Slightly elevated, below height of closed forceps (2.5 mm)	Ila
Completely flat lesion, does not protrude above mucosal surface	Ilb
Slightly depressed, lower than mucosa but depth less than 1.2 mm	Ilc
Excavated/ulcerated, deep ulcer below mucosa below 1.2 mm	III

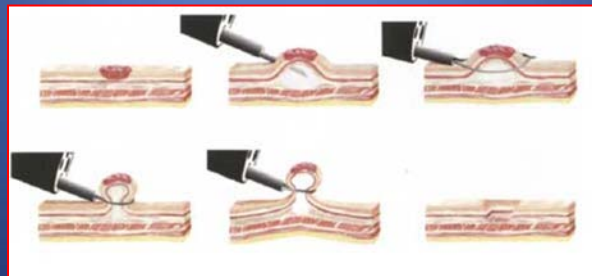


Van Doorn SC et al. *Am J Gastroenterol* 2015; 110:180-187

12

Lifting Polyps

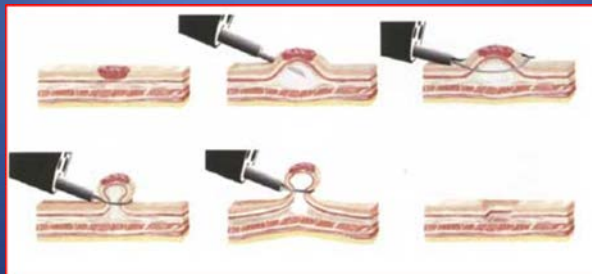
- Expands the submucosal space
- Elevate the lesion away from the muscularis propria
- Create safety cushion for snare excision



13

Injection Technique

- Orient Lesion at 6 o'clock
- Inject Least Accessible Area First
- Inject Tangentially at Border of Polyp



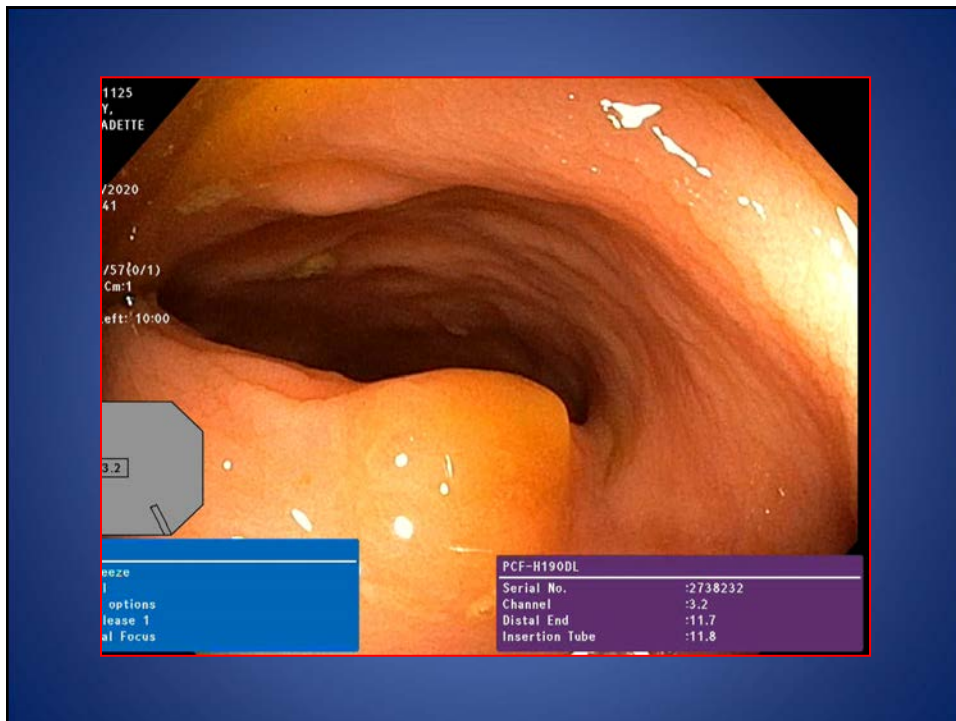
Jideh B and Bourke MJ. *Gastrointest Endoscopy Clin N Am* 29 (2019) 629–646

14

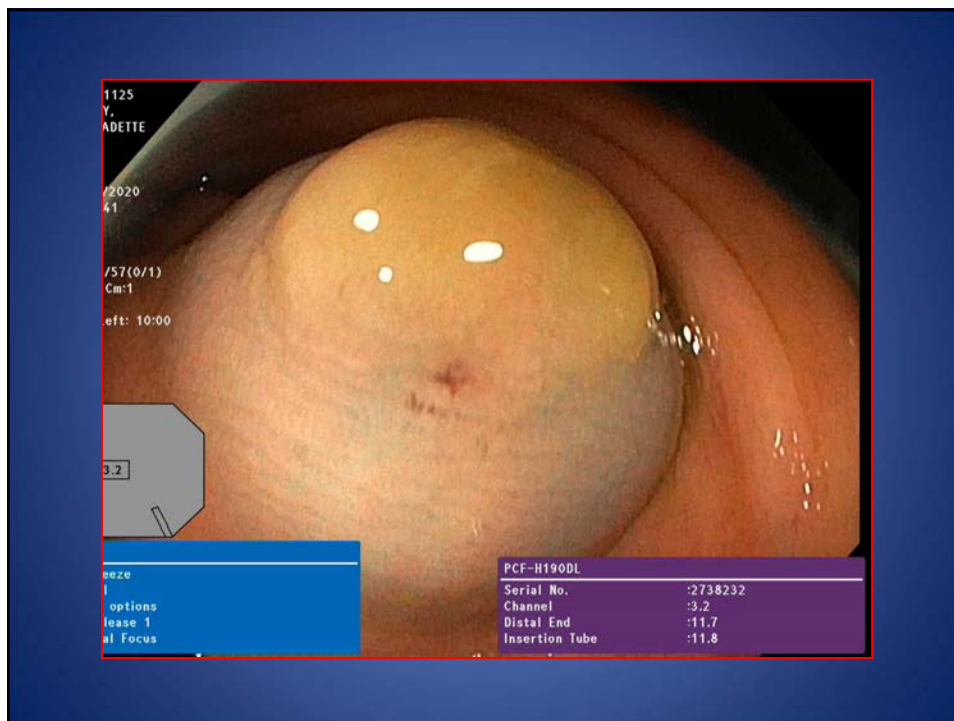
Sessile Polyp



15



16



17

Injection Technique

- Make a short, swift stab of the mucosa to enter the submucosal plane
- Elevation of the lesion is achieved by gently pulling back on the needle (by pulling on either the injection catheter or colonoscope)



Jideh B and Bourke MJ. *Gastrointest Endoscopy Clin N Am* 29 (2019) 629–646

18

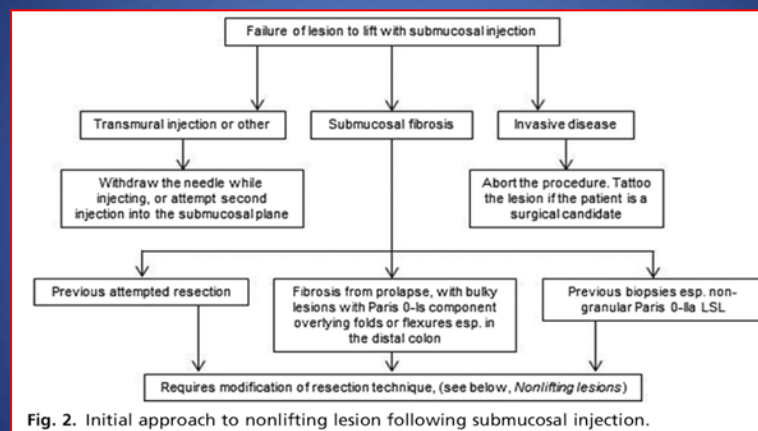
Injection Outcomes

- Successful injection: lesion elevates.
- Intramucosal injection: blue bleb forms without lesion elevation
- Extramural injection: lesion does not elevate despite ongoing injection.
- Intraluminal injection: fluid is seen to escape.
- Jet sign: a jet of fluid exits the lesion at high pressure because of the presence of submucosal fibrosis (SMF)
- Canyon sign: the lesion remains anchored because of the presence of SMF and the surrounding tissue elevates.

Jideh B and Bourke MJ. *Gastrointest Endoscopy Clin N Am* 29 (2019) 629–646

19

Unsuccessful Lift



Jideh B and Bourke MJ. *Gastrointest Endoscopy Clin N Am* 29 (2019) 629–646

20

Polypectomy

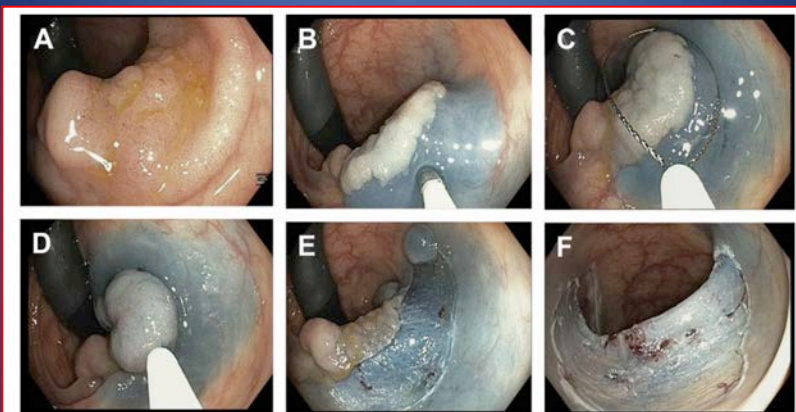
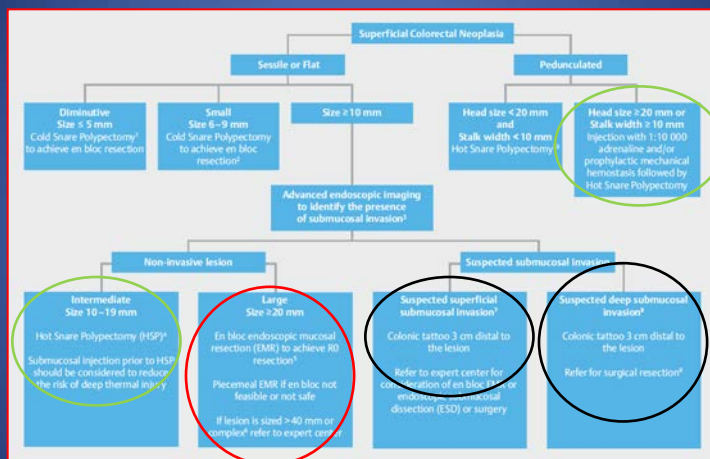


Fig. 3. WF-EMR of a 40-mm Paris 0-IIa granular lesion. (A) Lesion overview, (B) dynamic submucosal injection, (C) snare placement including 2 to 3 mm of normal mucosa, (D) tissue capture, (E) exposed submucosal tissue following resection, (F) completed tissue resection with no evidence of DMI.

Jideh B and Bourke MJ. *Gastrointest Endoscopy Clin N Am* 29 (2019) 629–646

21

Polyps: When to Inject?



Ferlitsch Monika et al. *Endoscopy* 2017; 49: 270–297

22

Tattoo Placement

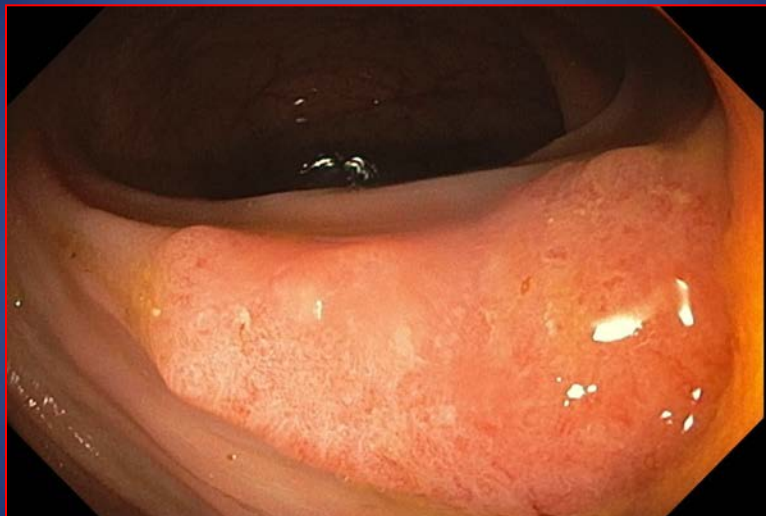
- 3 cm distal to lesion
- Describe in endoscopy report
- DO NOT TATOO LESION
 - Can create submucosal fibrosis



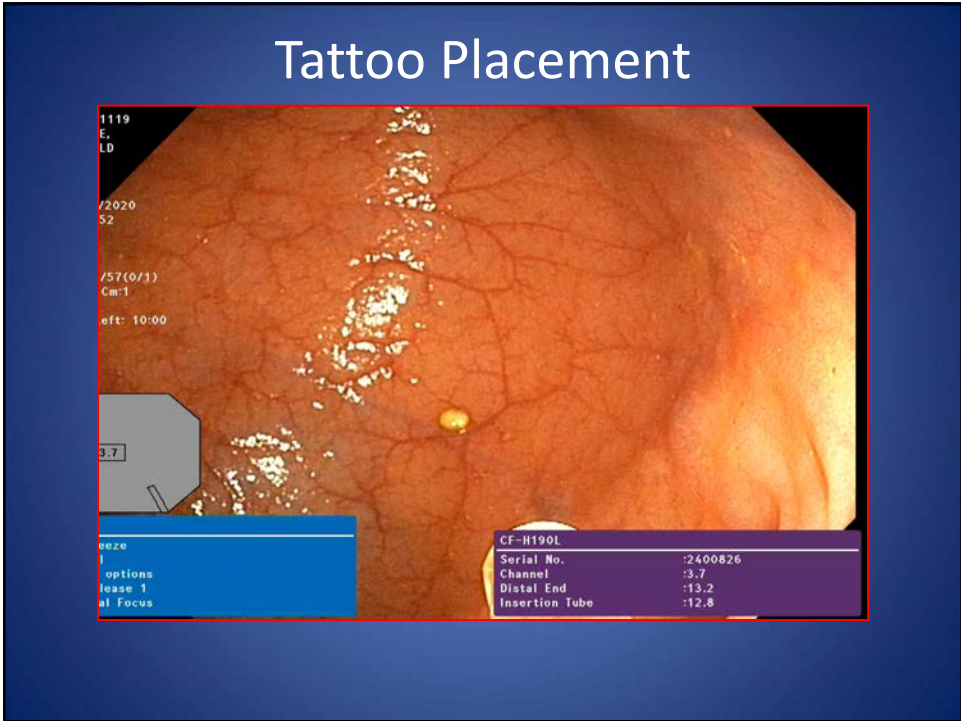
Ferlitsch Monika et al. Colorectal polypectomy and... Endoscopy 2017; 49: 270–297

23

Tattoo Placement



24



25



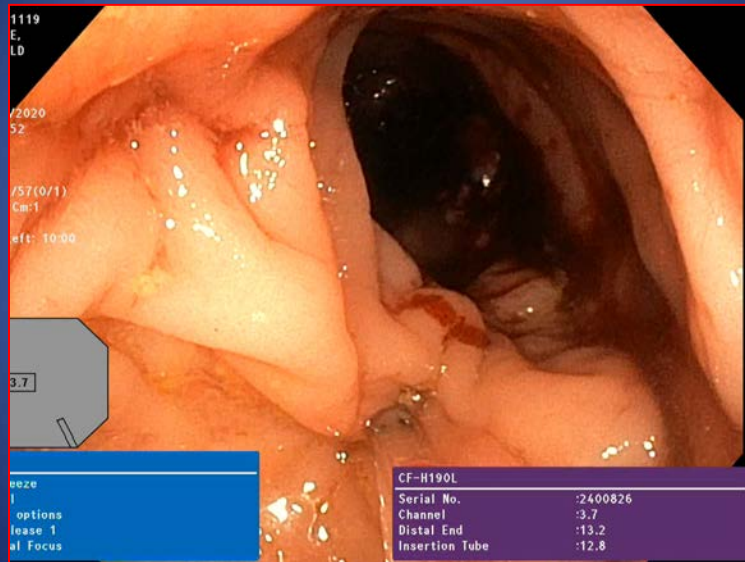
26

Tattoo Placement



27

Tattoo Placement



28

Tattoo Placement



29

Injection Solutions

- Saline vs. Colloid
 - Colloid provides sustained cushion for polypectomy
- Contrast Agent
 - Methylene Blue, Indigo Carmine
 - Stains Submucosa
 - Defines margin of lesion
 - Identifies tissue plane of resection
- Epinephrine
 - Dilute 1:10,000
 - Reduces bleeding

30

Injection Solutions

- Methylene Blue



- Voluven 6%
 - Hydroxyethyl starch in saline



- Eleview



- ORISE



31

Conclusions

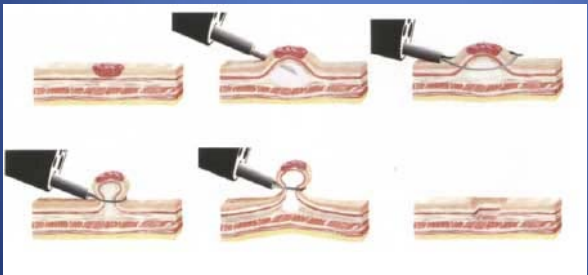
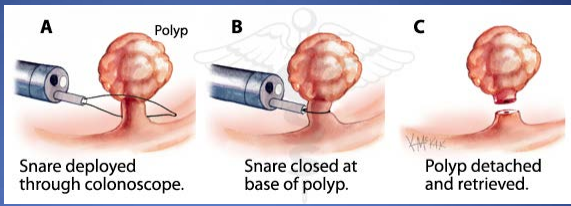
- Optimize endoscopy setting wherever possible
 - CO2, adequate preparation, polyp at 6 o'clock
- Assess Polyp
 - Size, Location, Paris Class
- Inject tangentially at polyp border
 - Use contrast agent +/- colloid
- Tattoo 3cm away from lesion

32

Questions?



33



34