What's New in GI: Colonoscopy Quality Metrics

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Talk Outline

- Why is colonoscopy quality important?
- During colonoscopy
  - Bowel preparation
  - Cecal Intubation Rate
  - Withdrawal time
- Polyp Detection and Resection
  - Adenoma Detection Rate
  - Sessile Serrated Lesion Detection Rate
  - Complete resection of polyps
- When to Repeat Colonoscopy
  - Surveillance Interval
- Additional Tools to improve ADR
- Procedure Documentation

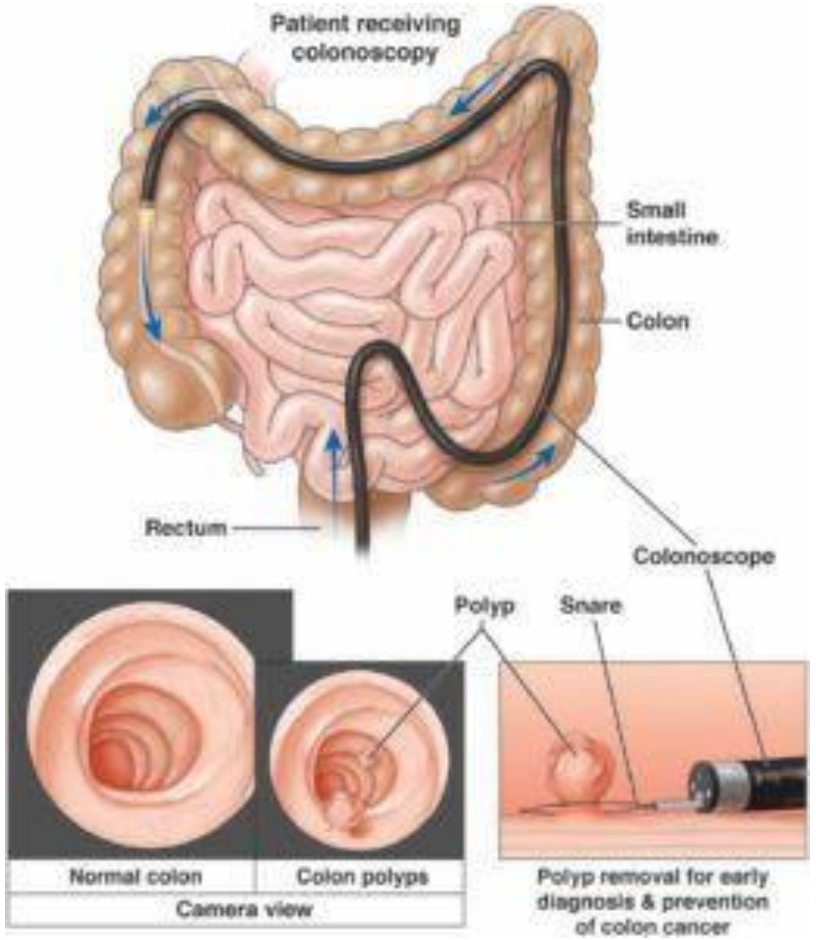


Image: https://www.gastrosb.com/what-is-colonoscopy

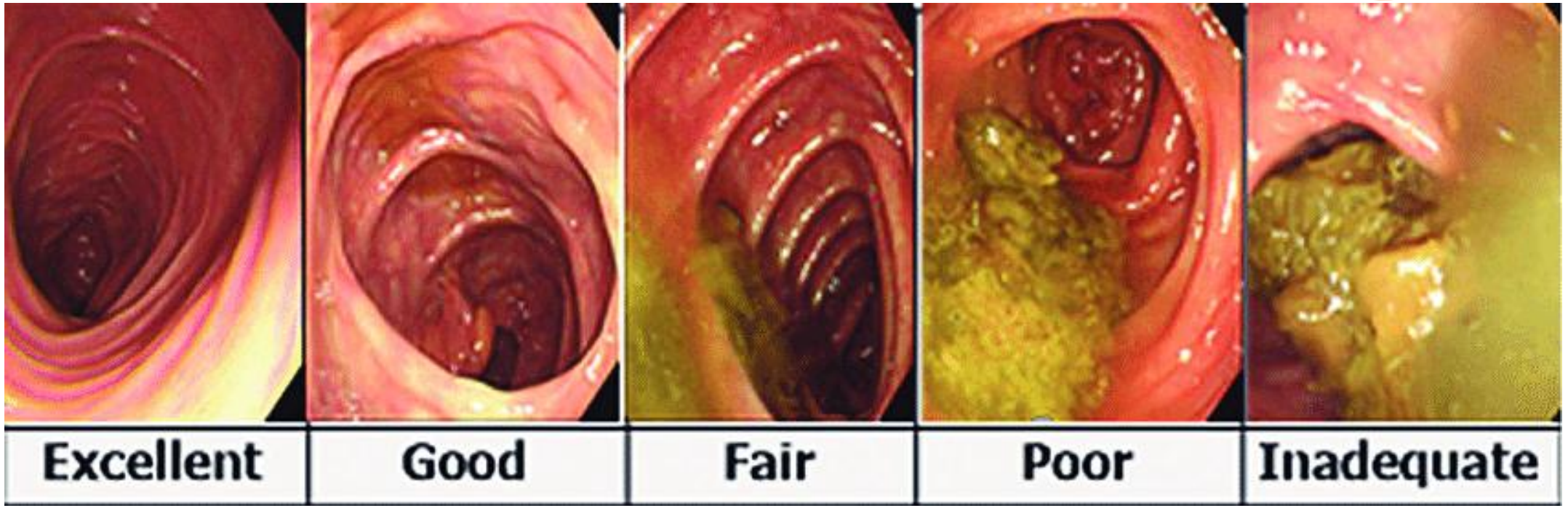
Colonoscopy Quality: Why Is This Important?

- Colorectal cancer (CRC) is the second-leading cause of cancer death among American men and women → 154,270 new cases and 52,900 deaths expected in 2025[1]
- Colonoscopy reduces the incidence of CRC as well as CRC mortality[2]
- However, polyp detection during colonoscopy and assignment of appropriate screening/surveillance intervals is operator-dependent
- High-quality colonoscopy leads to a significant reduction in CRC/post-colonoscopy CRC[3,4]

During Colonoscopy: Bowel Preparation

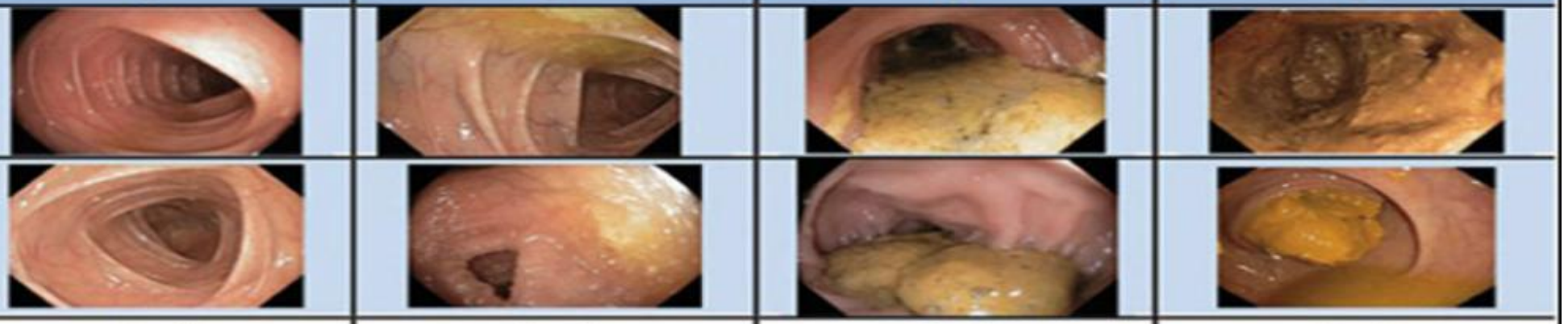
- Recommended scoring systems
  - Aronchick Score
  - Boston Bowel Preparation Score
- How to score bowel prep
  - Pictures coming up!
- Performance target: ≥ 90% adequate bowel prep

Aronchick Bowel Preparation Scale



- PRE-WASHING determination
- Acceptable scoring system, however lacking standardized definitions

Boston Bowel Preparation Scale

BBPS		3	2	1	0
3=Excellent 2=Good 1=Poor 0=Inadequate					
LC	☐	☐	☐	☐	☐
TC	☐	☐	☐	☐	☐
RC	☐	☐	☐	☐	☐
BBPS= ☐					

- A score less than 2 in any segment, or a total score less than 6 is considered inadequate
- Scoring occurs AFTER washing and insufflation
- Less subjective than Aronchick scale and thus preferred

During Colonoscopy: Cecal Intubation Rate

- **Definition**: passage of the colonoscope proximal to the ileocecal valve so that the appendiceal orifice can be identified, and the wall of the cecum between the appendiceal orifice and the ileocecal valve can be examined

- Important to photograph the appendiceal orifice and the ileo-cecal valve (documentation!)

- Performance Target: ≥ 95% cecal intubation
  - This should be achievable with extremely low rates of insertion-related perforation
  - Doesn't apply to patients who have undergone cecectomy

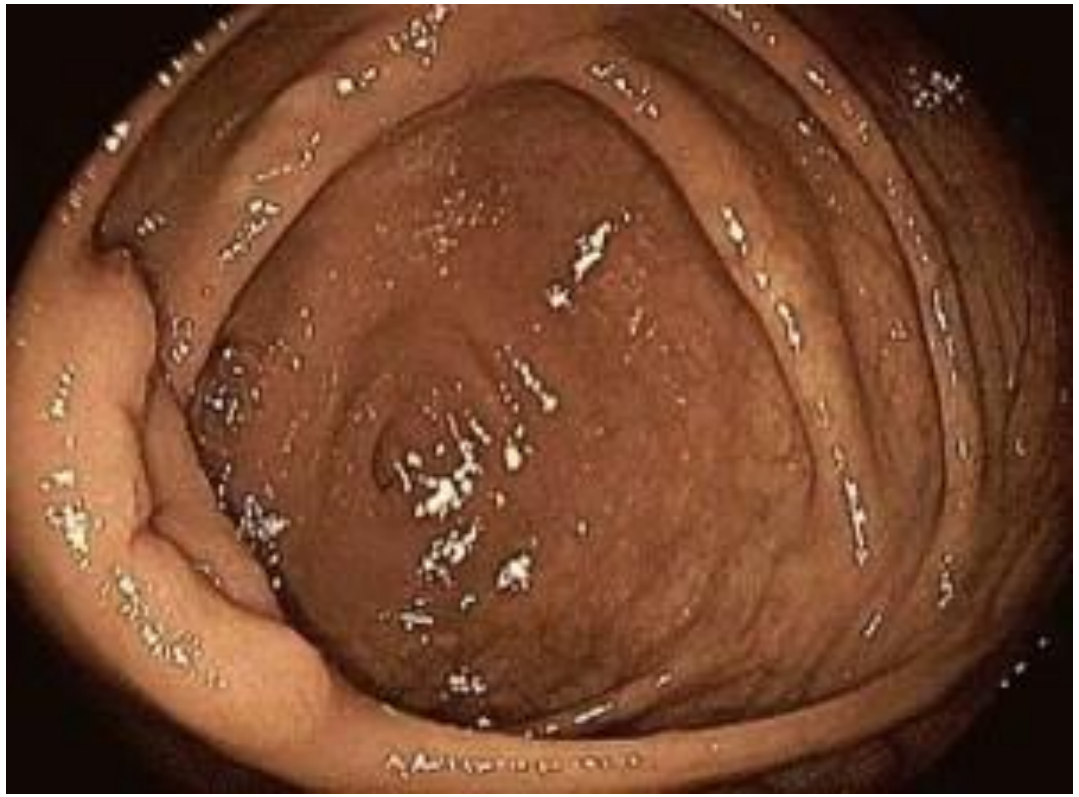


Image: https://mantasmd.com/endoscopy-colon-cecum-normal/

During Colonoscopy: Completing The Exam

- Withdrawal time
  - Performance Target: ≥ 8 minutes
  - Should be measured and recorded in clinical practice
  - Used in conjunction with adequate luminal distention and intraprocedural cleansing
  - Supportive of other quality metrics such as Adenoma Detection Rate

Polyp Detection and Resection

- Adenoma Detection Rate (ADR)
  - Percentage of average-risk patients aged 45 years or greater undergoing colonoscopy for screening, surveillance, or diagnostic indications (other than abnormal non-colonoscopy CRC screening) who have one or more adenomatous polyps detected and verified by pathology
  - Performance Target: ≥ 35% ADR
- Sessile Serrated Lesion Detection Rate (SSLDR)
  - Percentage of average-risk patients aged 45 years or greater undergoing colonoscopy for screening, surveillance, or diagnostic indications (other than abnormal non-colonoscopy CRC screening) who have one or more sessile serrated lesions detected and verified by pathology
  - Performance Target: ≥ 6% SSLDR
- Complete resection is important!

Adenoma Detection Rate

- Best validated quality indicator in colonoscopy
- Hazard ratios for post-colonoscopy CRC increased 10-fold when colonoscopy was performed by endoscopists with ADRs < 20%, compared to endoscopists with ADRs >20%[9]
- Since 2015, additional data shows that we should be aiming for an ADR of 35% or greater (40% in male patients, 30% in female patients)[4]
- Of note, ADR in patients with an abnormal non-invasive CRC screening test should be 50% (55% in male patients and 45% in female patients)[4]
- Adenomas Per Colonoscopy (APC) is another quality metric that can be considered
  - Performance Target: ≥ 0.6
  - May not be helpful if ADR is low

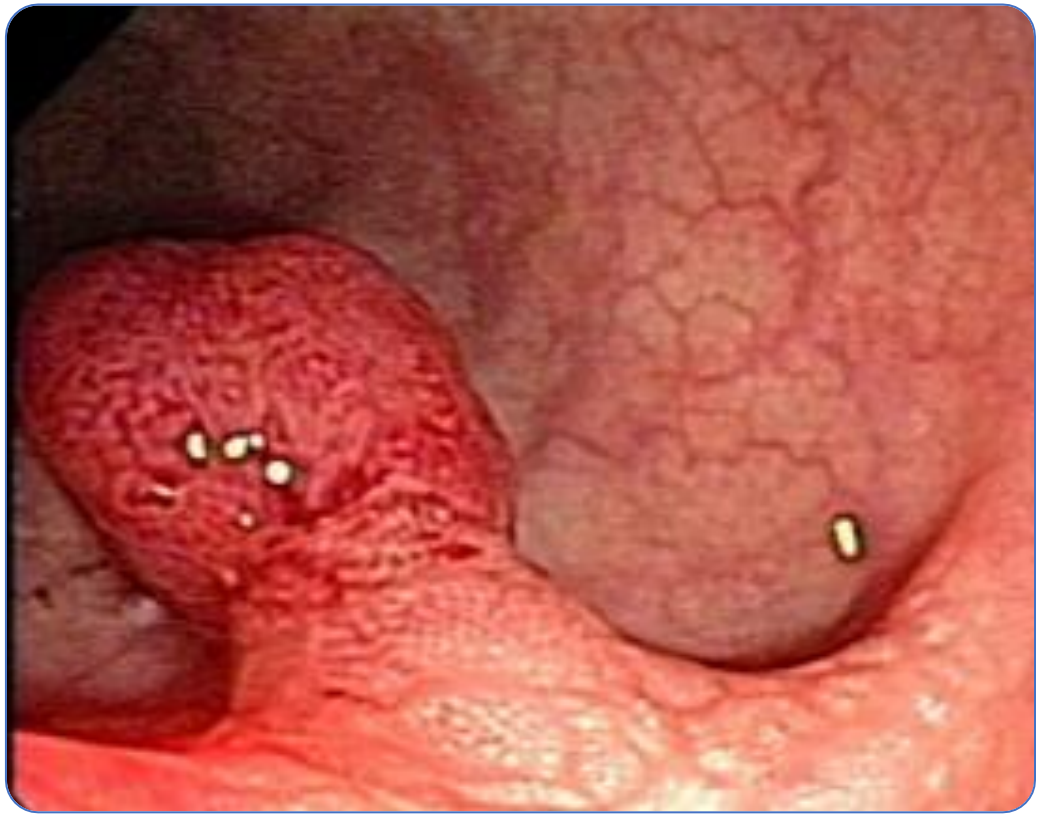


Image: https://www.gastrointestinalatlas.com/english/polyps.html

SSL Detection Rate

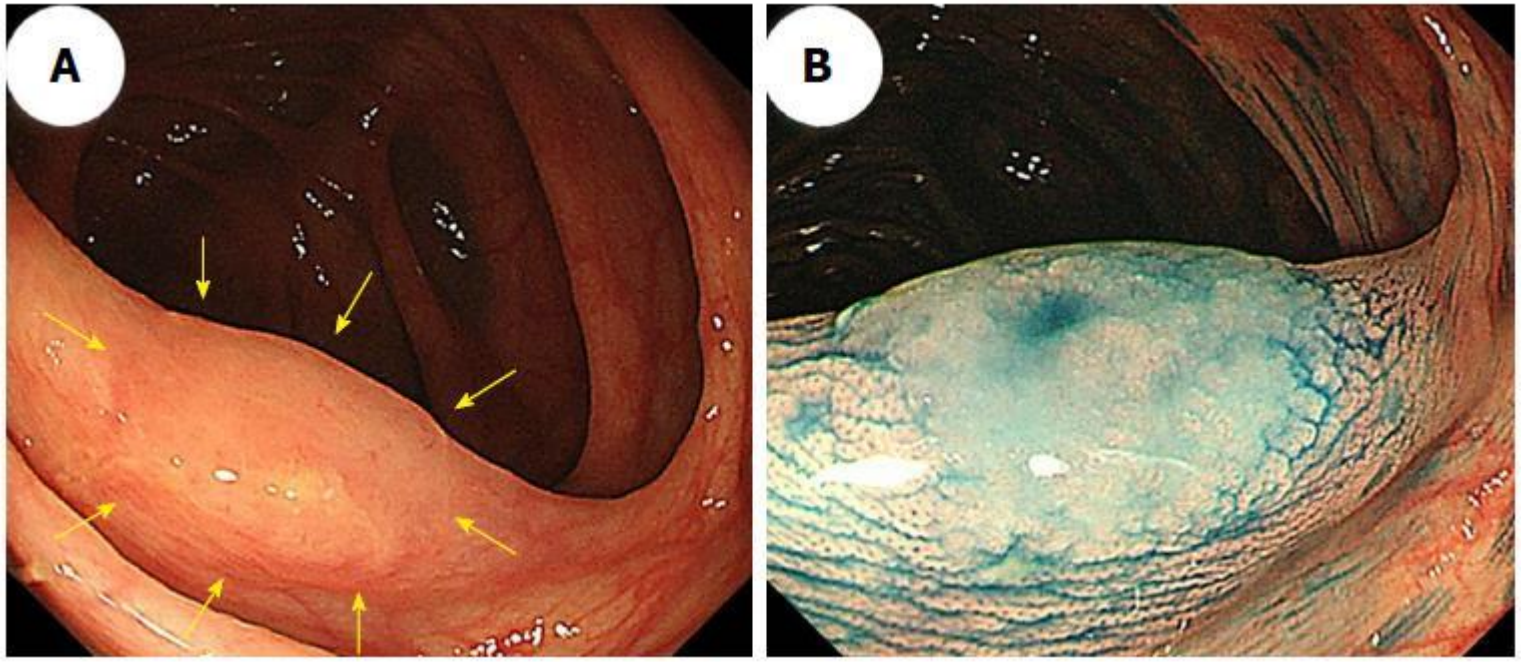


Image: Murakami T, Sakamoto N, Nagahara A. Endoscopic diagnosis of sessile serrated adenoma/polyp with and without dysplasia/carcinoma. World J Gastroenterol 2018; 24(29): 3250-3259].

- Less validated than ADR, however increasingly important in the prevention of post-colonoscopy CRC
- Target SSLDR is 6% for both average-risk patients and patients with an abnormal non-invasive screening test
  - Non-invasive screening tests poorly detect SSLs

Polyp Resection

- Inadequate polyp resection is operator-dependent and leads to post-colonoscopy CRC[13]
- Tips for complete polyp resection:
  - Characterize polyp by size in millimeters, Paris classification, location in the colon, and method of removal
  - Most polyps < 10mm can be completely resected with cold snare
  - Endoscopists can consider photo-documentation of polyps pre- and post-resection
  - Take a couple of seconds to look for residual polyp after resection

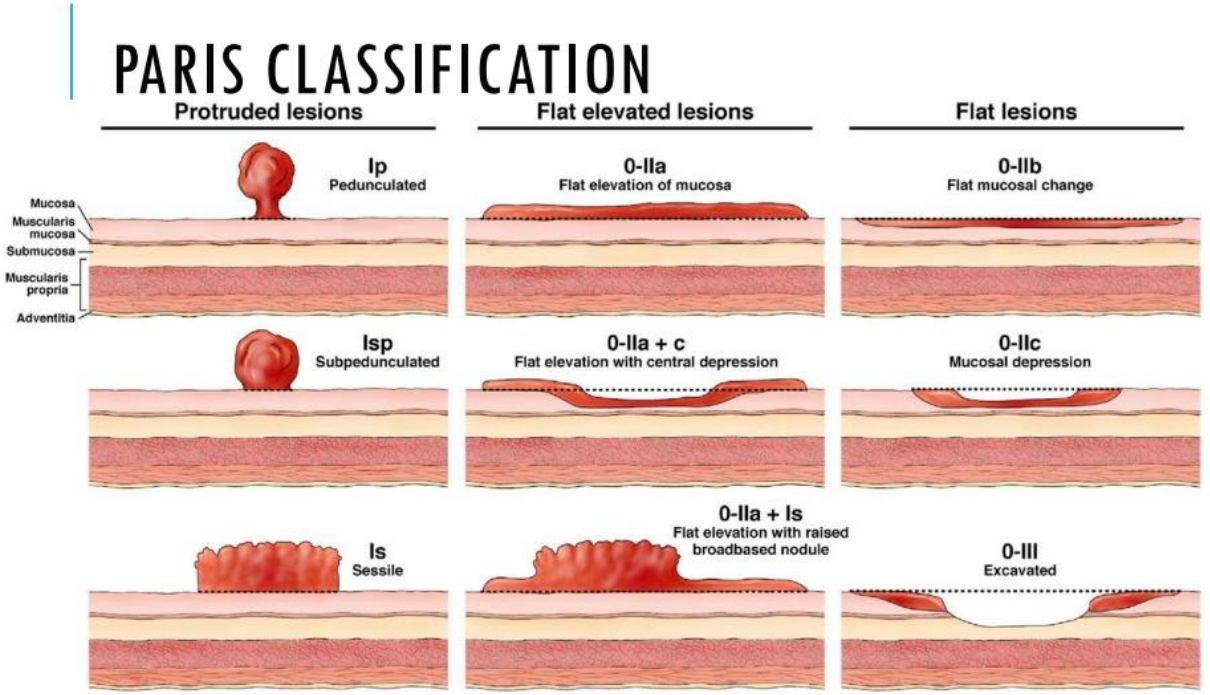


image: http://www.bccancer.bc.ca/surgical-oncology-network-site/Documents/Lam%20-%20SON%20Fall%20Update%202017%20-%20The%20case%20for%20endoscopic%20mucosal_submucosal%20resection.pdf

When to Repeat Colonoscopy

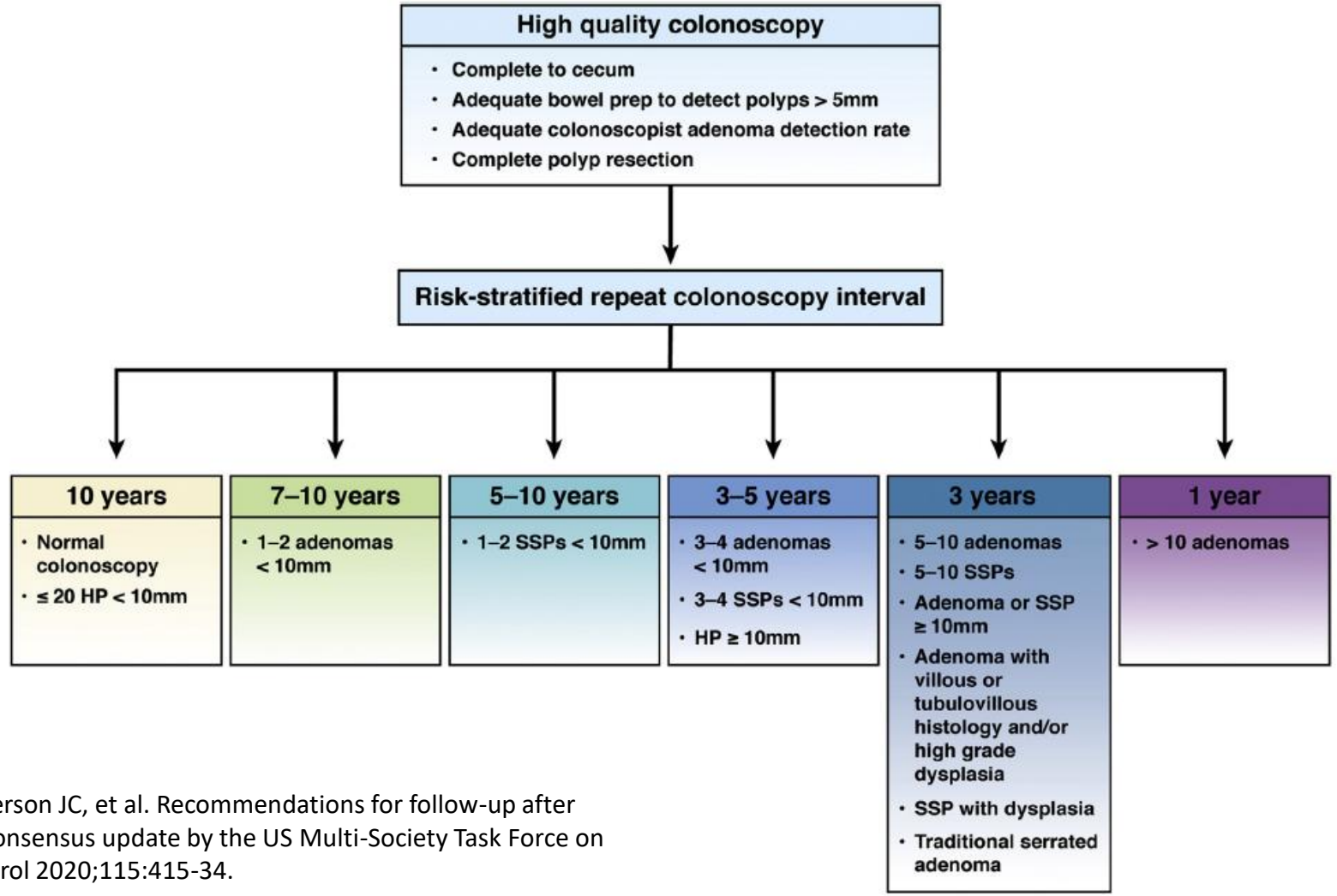


Image: Gupta S, Lieberman D, Anderson JC, et al. Recommendations for follow-up after colonoscopy and polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer. Am J Gastroenterol 2020;115:415-34.

When to Repeat Colonoscopy

- Multi-Society Task Force Guidelines 2020[5]
  - High-quality colonoscopy (adequate bowel prep to detect polyps >5mm, cecal intubation, complete polyp resection)
  - Endoscopist with ADR > 25%
  - Average-risk patient
- May be different for patients with inflammatory bowel disease, inherited genetic disorder and/or family history of CRC
- Inadequate colonoscopy should be repeated within 1 year

Improving ADR

- There are many significant ways to improve ADR[4]
- SSL detection will also continue to improve; expected increase in target performance percentage with further study

Interventions to Improve A
Physician report cards
Public reporting of adenoma de
Water immersion (especially du
"Second look": retroflexion in t
Dynamic change in patient posi
High-definition endoscopes
Distal attachment devices (End
Enhanced imaging technology (
Computer-aided detection tech
Split-dose bowel preparation
Nurse assigned to observe colo
Focused educational interventions for endoscopists
Leadership training in colonoscopy technique

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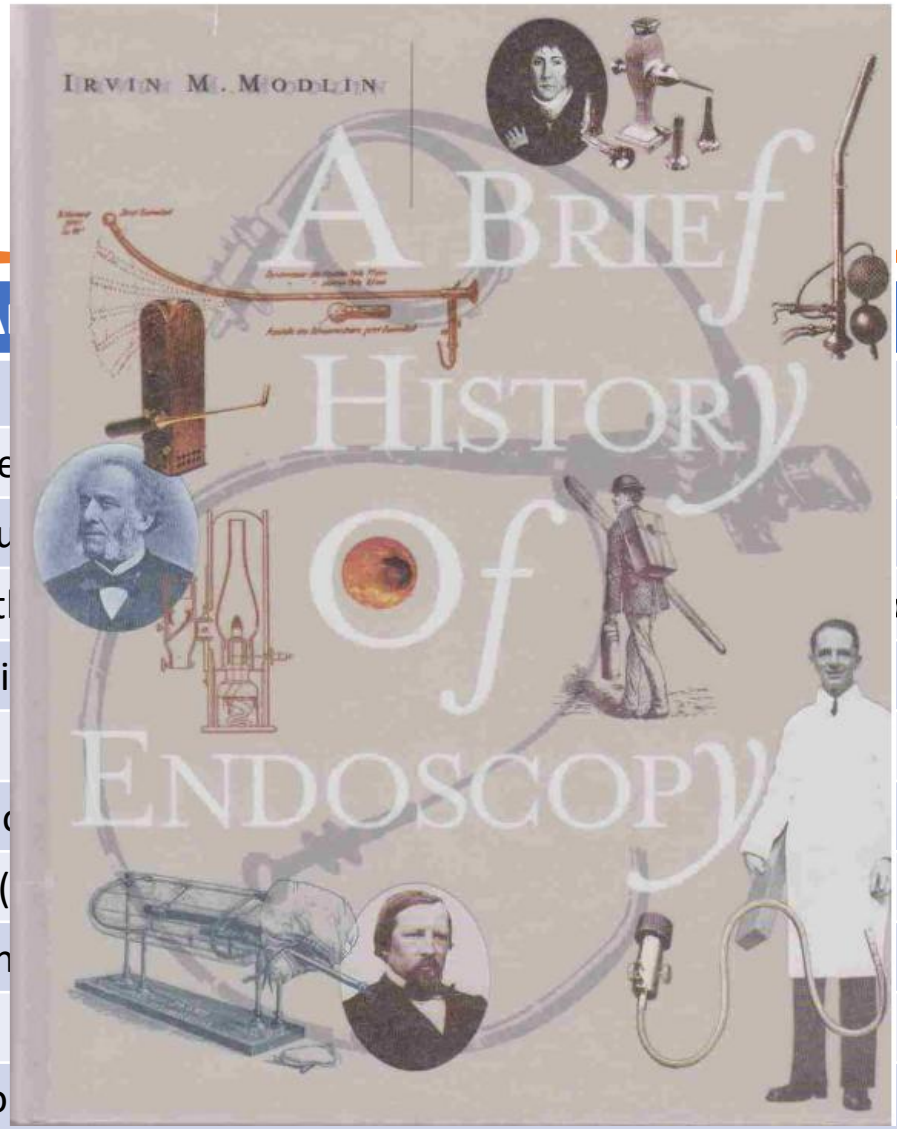

Documentation: Endoscopy Software

- Your endoscopy software should have tools that are used for quality metrics[14,15]
  - Clear indication for colonoscopy
  - Bowel Prep Score (BBPS or Aronchick)
  - Take pictures of ileo-cecal valve, appendiceal orifice
  - Document size and shape of polyps (sessile, pedunculated, etc) and if polyps were completely resected and retrieved
  - Set appropriate surveillance intervals based on pathology and patient characteristics

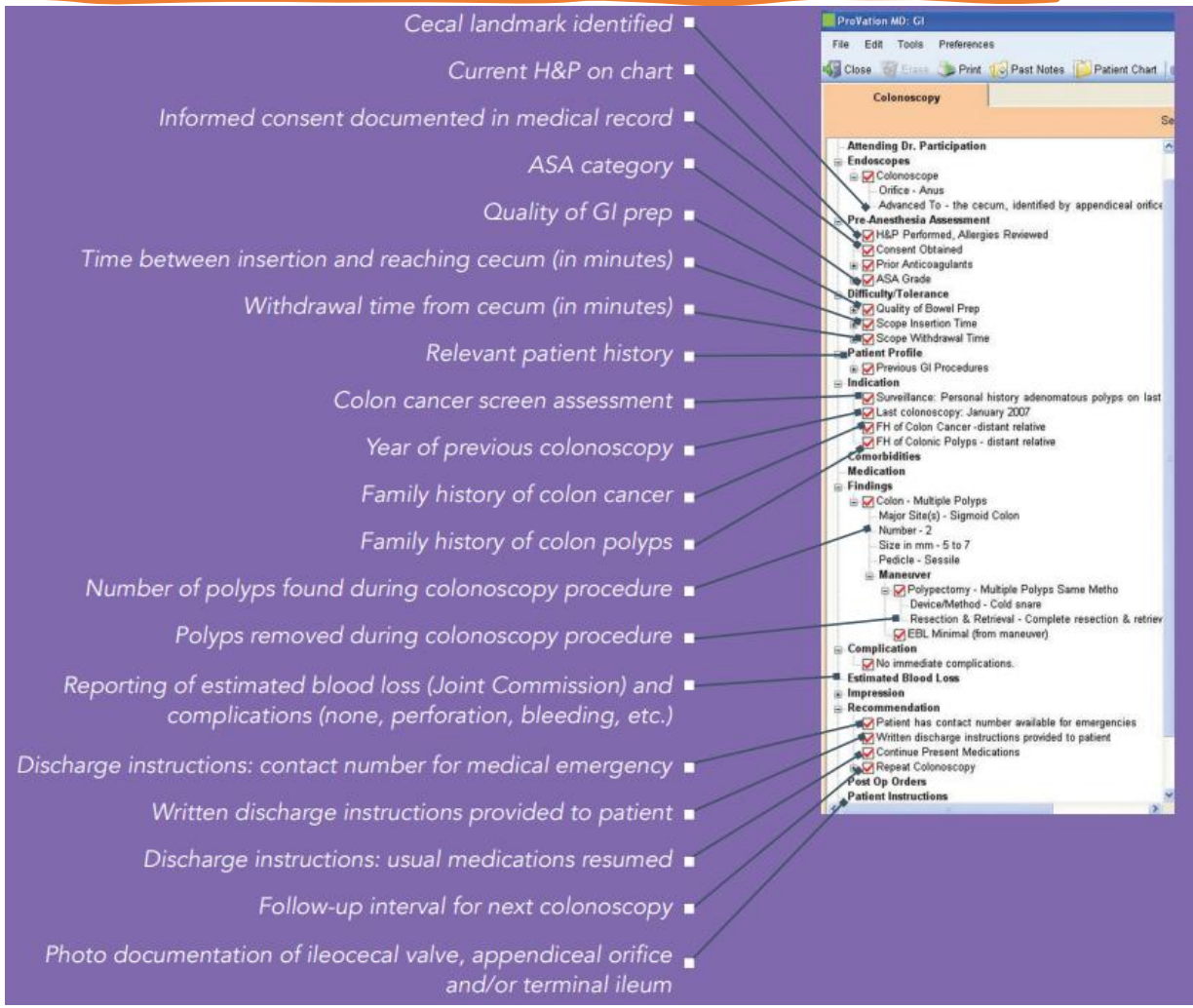

Image: https://www.provationmedical.com/wp-content/uploads/2024/04/GIQualityIndicatorsFactSheet.pdf

Summary

- Colorectal cancer prevention is optimal with high-quality colonoscopy
- Colonoscopies that do not meet quality metrics should be completed within 1 year
  - Poor prep
  - Unable to intubate cecum → can consider alternative evaluation (e.g. CT colonography) if technically difficult colonoscopy
  - Incomplete polyp resection
  - Endoscopist with ADR < 25%
- High-risk and average-risk patients will have different screening intervals
- Spend an extra minute writing a detailed procedure report
- **We can always do better for the sake of our patients**

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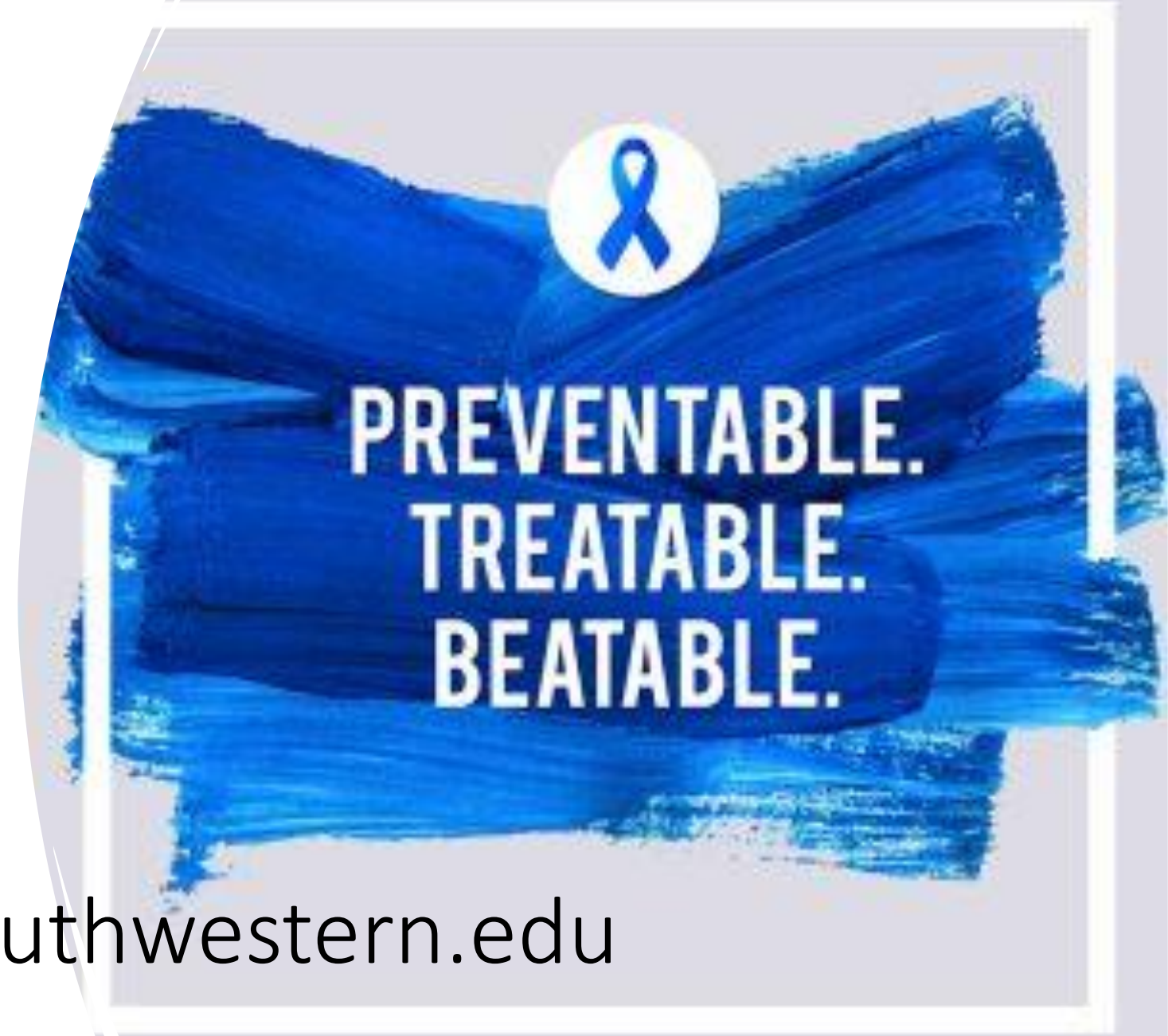

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