THE INS & OUTS OF COLONOSCOPY

INSERTION TIPS & FEATURES OF HIGH-QUALITY WITHDRAWAL

CAMERON BELL
ROYAL NORTH SHORE HOSPITAL
CHAIR, NETI
NATIONAL TCT LEAD

WHY IMPROVE TECHNIQUE & QUALITY?

• INSERTION
  ○ Patient comfort & list efficiency
  ○ High completion rate
  ○ Minuscule complication rate

• WITHDRAWAL
  ○ High adenoma (& SSP) detection rate
  ○ Minimal missed lesions (cancers & advanced adenomas)
SWITCH YOUR BRAIN ON DURING COLONOSCOPY....

- ...especially when things aren’t straightforward or when you resolve a challenge
- Think about what worked & what didn’t
- Continue to self-improve by learning from your experience
GENERAL GOOD INSERTION BEHAVIOURS

- Palpate the abdomen before & during the scope
- Be aware of how much scope you have in, in relation to where you (think you) are in the colon
- Lots of lubricant; irrigate dehydrated colon
- Be aware of “torque steering”, “tip steering”, “tip control”
- Be respectful of using slide-by technique (red- & white-out)

ALGORITHM of SOLUTIONS

- Withdraw, straighten, (lubricate), then...
  - Abdominal compression
  - Roll the patient
  - Apply scope stiffener
  - Change scope
  - Slow down
PREVENTING Transverse Colon SAG

AN EXTRA INSERTION TIP

- Reduce looping of the umbilicus on the bed or get the scope “back in the plane”
GETTING THE SCOPE BACK IN THE PLANE

- Impossible to insert scope & stay in “the plane” the whole way

- Combine corrective torque & a series of tip deflections to maintain lumen view until the plane is restored
**-LOOPS- REDUCTION TIPS**

- Be mindful of the feel in your right hand:
  - Withdraw (if large loop) until scope tenses
  - Apply torque (clockwise in sigmoid $\alpha$ loop) & continue to withdraw
  - Recognize increased tension in R hand if incorrect torque is applied
  - Usually necessary to re-grip the scope several times to apply continued torque (usually ~360°)

**THINK of THE COLON in “STATIONS”/ STAGES**

- Rectosigmoid junction
- Sigmoid colon
- Sigmoid/DC junction
- Splenic flexure
- Mid-transverse dip
- Hepatic flexure
- HF to base of caecum
- TI intubation
STATION 1-RECTOSIGMOID

- If difficult/tight, forced insertion rarely works
- Angulate, torque (often anti-clockwise) & withdraw
- Then try to “straighten” (deangulate the tip) once lumen ahead appears

STATION 3-SIGMOID/DESCENDING JUNCTION

- Recognize that this is often a third flexure & can be mistaken for the SF
**STATION 4-SPLENIC FLEXURE**

- Approach with straightened scope, often need anti-clockwise torque
- Sigmoid pressure if N-loop starts to re-form

- When you see the triangular TC hastra
  - withdraw slightly/drag the flexure down
  - deangulate (sacrificing perfect lumenal view)
  - advance VERY SLOWLY...
- ...to prevent “shepherd’s crooking” the SF

**STATION 6-HEPATIC FLEXURE**

- Often negotiated best with combined torque, tip deflection, slow withdrawal & taps of suction, in order to “climb the ladder” of parallel haustral folds

- Trap: often attempts to round the HF fail because of tip impaction in the mucosa during manoeuvres; hence, need to keep withdrawing
STATION 7- REACHING BASE of CAECUM

- Suction with scope centred in lumen often effective
- R shoulder back or reposition patient supine most effective

STATION 8- TI INTUBATION

- Bow & arrow trick
- Angulate, withdraw & turn clockwise once “just in”
MISS RATES

- In pooled analysis of back-to-back colonoscopies, 465 patients in 6 studies:
  - 27% lesions 1-5 mm missed on first scope
  - 13% lesions 5-10 mm
  - 2% lesions > 10 mm (including cancers)

HOT SPOTS FOR MISSED LESIONS

[Diagram of the colon highlighting areas prone to missed lesions]
**WITHDRAWAL TIME**

- ? 6 minutes
- ? 8 minutes

- It takes as long as it takes to view as much of the mucosa as humanly possible

- 12 colonoscopies on a 1 session list is incompatible with high quality colonoscopy

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**RETROFLEXION**

- Caecum
- Rectum

- Common technique for both manoeuvres.
  - Withdraw slightly to give the tip room to bend
  - Both wheels maximally down & insert
  - Torque, usually anticlockwise
WITHDRAWAL BEHAVIOURS of HIGH ADENOMA DETECTORS

- Double examination of AC, HF, SF & rectosigmoid
- Backwards & forwards inspection during withdrawal
- Irrigation & suctioning of residue
- Careful inspection of proximal side of haustral folds
- Consider re-positioning the patient to facilitate inspection of specific portions of the bowel

**Inspect the portion of the circumference which is not easy to see**

TIPS TO IMPROVE THE VIEW

- Flatten prominent folds to inspect their proximal aspect
- Examine each segment circumferentially & methodically
- Antispasmodics
- Utilize distension of non-dependent segments with insufflated CO2 to optimize mucosal visualization
- Patience, e.g. at splenic flexure
PATIENT REPOSITIONING FOR OPTIMAL VIEWS

- LL = left lateral
- S = supine
- RL = right lateral

THANK YOU
HIGH QUALITY REPORTS

- OPTION A “Informed consent was obtained. The oxygen saturation did not fall below 95% during the procedure. Normal colonoscopy.”

- OPTION B “Bowel preparation was excellent. The terminal ileum was intubated. Rectal exam and retroflexed views of ascending colon & rectum were normal. The flexures and rectosigmoid were double-examined. No polyps were seen. Nothing else relevant to the indication for the procedure was identified.”

- + photos of TI villi, appendix-to-ICV, (AC &) rectum retroflexed
- + documented withdrawal time

STATION 5-TRAVERSING TRANSVERSE

- Beware the mid-TC sag
- Best dealt with by abdominal compression
STATION 2-SIGMOID COLON

- Recognize when floppy or diverticular (with muscle hypertrophy & lumenal narrowing)
- If long, apparently straight, insertion...you’re looping
- Differentiate between N-loop & \( \alpha \)-loop
- “Ball on a stick” sigmoid needs slow, careful tip steering