Tips and Tricks to Reach the Caecum: A Practical Guide

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Tips and Tricks to Reach The Caecum

Insertion technique

• General principles
• Loop management
• Instruments to help
  – Simulators
  – Scopes
  – Image guidance
• Predicting difficult colonoscopy
Tips and Tricks to Reach The Caecum

How many does it take to be competent?

Rembrandt van Rijn's Anatomy Lesson of Dr. Tulp
- oil on canvas, 1632, (Mauritshuis, The Hague)
- 216.5 cm × 169.5 cm (85.2 in × 66.7 in)
Colonoscopy as a Skill

Outliers
The Story of Success
MALCOLM GLADWELL

10000 hours

Quality in Endoscopy: Colonoscopy, Berlin 2012
Coach/Mentor
Super-specialists
Distributed practise

THE NEW YORKER

ANNALS OF MEDICINE

PERSONAL BEST

Top athletes and singers have coaches. Should you?
by Atul Gawande

OCTOBER 3, 2011

I’ve been a surgeon for eight years. For the past couple of them, my performance in the operating room has reached a plateau. I’d like to think it’s a good thing—I’ve arrived at my professional peak. But mainly it seems as if I’ve just stopped getting better.

During the first two or three years in practice, your skills seem to improve almost daily. It’s not about hand-eye coördination—you have that down halfway through your residency. As one of my professors once explained, doing surgery is no more physically difficult than writing in cursive. Surgical mastery is about

Quality in Endoscopy: Colonoscopy, Berlin 2012
Insertion Technique

back to basics
Colonoscopy Technique

**general principles for safe insertion**

- controlled, co-ordinated R/L hand movements
- use torque on the shaft to steer around bends
- minimise push & air insufflation
- maximise gain by tip steering, straightening & suction
- use ‘pain neutral’ manoeuvres first
- use change of position and **guided** abdominal pressure
- only push through if scope goes easily & fully straighten loops at earliest opportunity
- be aware of patient discomfort
- never take your eyes off the screen!
Tip up and clockwise twist
Optimise the route

Rotate then tip up
Optimise the route

OR: Rotate then tip down
Position Change

Position change easy with lightly sedated patient

Effective in 66% attempts

KEY:
Optimal position
LL = Left lateral
S  = Supine
RL = Right lateral
P  = Prone

NB Same position changes for accurate extubation!
Where am I?

Straight scope
‘One-to-one’
When progression stops…

Loss of one-to-one
• *Gently* push through
• Warn the patient
• Use suction
• Looped?
• Know when to stop and straighten
3-D Imager in Action
Schematic representation of magnetic endoscope imaging system.
Loops: Where, which and how to resolve them

common loops (100 imaged exams)

- 'N' or spiral: 80%
- alpha: 10%
- deep transverse: 30%

No loop in 10%

Shah GIE 2000
Gamma loop 1%
If pushing through fails......
Pull back: 90% Clockwise will help
If pushing through fails:
Pull back

Alpha
Reverse alpha

Clockwise de-rotation  Anti-clockwise de-rotation
COMPLEX
SIGMOID N-SPIRAL LOOP
DEEP TRANSVERSE LOOP
Does the 3-D imager help?

In trainees:
- improves caecal intubation rate
- speeds up insertion time
- reduced duration of looping

- trainees love it and it probably accelerates learning curve
- experts love it: teaching is easier
- nurses love it, they can see what’s going on
- patients love it, they can see what’s going on!
Position change fails….
Pushing through fails
Pulling back fails

What next?
Abdominal Pressure

- optimised with use of imager split screen
- minimise loops reforming
- only works when the scope is relatively straight
- don’t use when the scope is very looped
- generally is less effective than position change (37% vs 66%)

sigmoid  transverse  trial & error

Quality in Endoscopy: Colonoscopy, Berlin 2012
Why hand pressure does (and doesn’t) work

• Loop has to be accessible
  – ie anterior or inferior
  n-spiral or transverse
• Multiple loops
• Loop is too long!
• Consider prone position
Other Ancillary Techniques

Variable-stiffness scope

- to prevent recurrent sigmoid looping when tip secure in descending & scope straight
- to pass splenic flexure and across transverse
- use only for a few seconds
- don’t use when the scope is looped: feel resistance
Ancillary techniques

Patient deep inspiration

occasionally works at SF or HF
Stuck in the AC?

Algorithm for getting into caecal pole:

1) Position: LL/Sup/RL/Prone
2) Deflate and pull back
3) Deep inspiration (patient!)
4) Stiffener on if straight scope
5) Image guided hand pressure
Are you in the caecal pole?

Examining caecal pole:
1. Position change
2. Clear fluid
3. Inflate fully (air > CO₂)
4. Buscopan
5. Identify ApO, Tri-radiate fold
6. Pull back ICV (look behind it, not ‘at’ it)
Determined to reach the caecum
Often a Challenge

- Even in expert hands its difficult in 10-30% patient intolerance – GA repeat
  - long and mobile – VS imager
  - fixed – paediatric/gastroscope

- Difficult in:
  - long colon
  - adhesions
  - females
  - pelvic surgery/disease
  - older age
  - low BMI
  - hernia/odd anatomy

fixed, mobile, intolerant!
When to beware!
civilised insertion is possible...

minimal or no sedation commonplace

- be patient – slow down
- less push, more pull
- develop finger skills, use position changes
- use shaft twist (clockwise or anti-clockwise)
- stop if getting frustrated
- be thoughtful, slow down, have a game plan
- And if you have to delegate………….
“Hmm, it looks alright to me, but then I’m just the secretary.”