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Colonoscopy without Sedation

Colonoscopy is a challenging procedure requiring the operator to do several things at the same time, always aiming to minimize the patient's discomfort, which includes reducing post-procedure 'hangover', flatulence, and indisposition to resume work the rest of the day. With these standards a colonoscope is not a technical device that you may 'rest your hands on' while engaging a whole team around you.

Learning a technical skill like colonoscopy requires a proper teaching program and quality assurance of the work performed, preferably including 'the day after' reports from patients. A meta-analysis in 1989 of altogether 100,773 diagnostic colonoscopies and 34,385 polypectomies in routine clinical work showed haemorrhage or perforation in 0.2% and 1.7%, respectively (1). There has been no indication that complication rates have changed since then. Total colonoscopy should be achievable in close to 100% (2), and some of the often taught tricks of the trade have been submitted to more systematic evaluation (3).

Screening examinations using faecal occult blood tests (FOBT) or flexible sigmoidoscopy have proven their efficacy in reducing colorectal cancer (CRC) mortality (4–6) and morbidity (7). The last few years have shown a remarkable increase in CRC screening studies and programs (8). Whichever screening modality is used, many Western countries will probably very soon face a rapidly increasing demand for colonoscopists. Strong arguments are also emerging in favour of colonoscopy as the primary screening modality, not only the ultimate 'gold standard' examination (9). One small-scale colonoscopy screening study in a normal population achieved a 60% attendance rate with an additional 5% preferring the option of flexible sigmoidoscopy with a simpler bowel cleansing method (10).

It is important to set certain standards for the skill of colonoscopy to make it an easily accessible, everyday procedure with minimal risk, discomfort, recovery time, and resource demands, including staff requirements. In the ongoing NORCCAP flexible sigmoidoscopy screening study (Norwegian Colorectal Cancer Prevention) we have summarized the more important points in the following 17 'commandments', meant as a guide to achieve high-quality colonoscopy without sedation.

17 commandments for painless colonoscopy

1. Make the patient relax. Give him/her the feeling of being in charge. A relaxed patient will give you a relaxed, non-spastic colon to examine.

2. Perform a digital rectal examination before introducing the endoscope.

3. Do not hurry through the rectum and sigmoid colon. Allow the patient to get accustomed.

4. Wiggle the tip of the endoscope as you advance and withdraw the endoscope frequently to observe when you are about to create a loop. Rotation while withdrawing may sometimes give a surprising reward of immediate advancement.

5. Quick, violent rotating movements are banned. You will not gain any time and you will not impress anyone. Your patient may be completely taken by surprise as 'the doctor made a violent and painful manoeuvre', and you have lost whatever confidence your patient may have gained in you. As a result you may also get a very spastic colon to wrestle with if you have the right patient (as you rightly deserve).

6. As a rule, the endoscopist ought to be standing to allow mobility and adequate use of the rotating technique.

7. Do not allow anyone to push the endoscope *for* you. You lose the feel of resistance during advancement and rotation which is essential for painless colonoscopy.

8. Unless you have an experienced, 'anxiolytic' nurse in the room, you may be better off on your own talking to the patient all the time while doing the endoscopy, with your nurse next door and easily within reach when you need her. In some situations the medico-legal advantages of having a chaperon in the room at all times may be more important, although more resource-demanding.

9. An unsedated, cooperating patient will be quick to change position on the couch if required. Lying in the right lateral or left lateral semi-prone position may sometimes ease passage through a cumbersome sigmoid colon. The right lateral may also make it easier at the splenic flexure, but maintaining that position through the transverse colon may leave you prone to transverse loop formation.

10. With the patient lying on his back, your left hand should occasionally palpate or percuss the abdomen to check the position of the endoscope and determine the optimal site for any abdominal compression that you may want the patient (or assistant) to apply.

11. Patient involvement with 'hands on the abdomen and eyes on the monitor' is rewarding for the patient, the endoscopist, and the reputation of the procedure.

12. Do not insufflate more air/gas than your minimal requirement. Sometimes you do not need any air as long as you can see the collapsed bowel opening up in front of the advancing endoscope.

13. When you reach a segment that is already expanded (due to leakage from your insufflation distally) your first action should be to *deflate*. Do not just go galloping on in sheer joy from having reached an easily visualized segment.

14. By frequent rotation while you test resistance against advancement of the endoscope you will find the most comfortable line of advancement. This line is very rarely through the mid-lumen.

15. Occasionally you may have to go through a bend without visualizing the lumen. This calls for particular caution:

- Do not even consider it if the bowel cleansing is poor.
- Usually you should not consider it if there are diverticulae.
- Call for a senior colleague if you are inexperienced.
- Be particularly careful if the patient is in the 'diverticular age' (as most of them are).
- Do not make the mistake of believing that a stool obliterating part of your view represents the lumen.
- Do not insufflate air/gas while advancing (danger of ballooning a diverticulum).
- Rotate continuously and observe whether the tip slides freely against the mucosa in the transverse direction.
- Withdraw every now and then.
- Observe the patient closely. If you have spent some time distally, you should have gained an impression of the tolerance level of this particular patient. Some patients do not wince until you have perforated, and these are dangerous in the present setting of 'blind advancement'.

16. Be aware of the appendix. When you become proficient in practicing the above, you may often encounter the appendix before you expect. You may be fooled to think that you are still fighting a slightly spastic colon and that the caecum will be found somewhere in the depth of the appendix. Think twice and look for the ileocaecal valve while you think.

17. Beware of the distal rectum on your way out. Try to invert the endoscopy in the rectum. Lesions in this area are missed too often due to rapid withdrawal in the relief of having accomplished yet another caecal intubation. Note: The aim is not to reach the caecum. The aim is to inspect the entire colon *and* the rectum.

Conclusion

It is rarely a good idea to publish anything that attempts to convey more than two or three messages. A list of 17 key points reflects that colonoscopy is a challenging business. It is not only a question of obtaining experience (having performed many examinations) or achieving a skill (technical ability). A proficient colonoscopist will also manage to involve the patient as an active team member and thus contribute to the good reputation of the examination, which, so far and in the foreseeable future, will hold a key position in the study of patients, at-risk individuals, and even average-risk persons.

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