Removing a polyp

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Each day, endoscopists perform a myriad of tasks; many of them become routine and our practices relatively fixed. However, with advancing technology and new methodology it is critical that adjustments by physicians occur in an effort to maintain high standards of practice. We have therefore created a new section for *The Canadian Journal of Gastroenterology* aimed at the endoscopist. It is designed with a simple, yet important emphasis on principles of endoscopy with a practical 'day-to-day' directive.

Each publication of the *Journal* will be accompanied by an article emphasizing a specific practical view of an endoscopic procedure. These will tend to focus upon exactly how it is performed, with particular emphasis on the practical issues of sedation, choice of instruments and accessories, etc. For this month we have selected 'How do I remove a polyp' as the first publication in this new section.

We would like to invite submissions of a similar nature for this section, which we believe will serve not only to educate the reader, but to ensure that high standards are maintained and patient outcomes are improved.

HOW DO I REMOVE A POLYP?

The simple, everyday things in gastroenterology are often the ones that seem to 'destroy a day'. In many cases, it is not the complex case that becomes difficult; it is a simple case that is complicated by some unforeseen oversight that results in a complication or, more likely, a frustrated endoscopist who passes on his/her sense of stress to an already overburdened endoscopy unit (1).

To avoid these situations, a few simple, logical guidelines should be considered before initiating any endoscopic procedure, particularly those that involve therapeutic intervention. Just as patients must prepare themselves for the procedure, so must the physician prepare as well. Arriving in the endoscopy unit in the correct frame of mind is critical to running a smooth, efficient endoscopy slate. Too often, attempts at multitasking by the physician before and during insertion of an endoscope result in repeated interruptions breaking the natural 'ebb and flow' of the procedure. Physicians who routinely arrive late to endoscopy tend to try to 'make up the time' with the first one or two cases, resulting in a hurried, overly aggressive and often impatient management strategy. Arriving on time, or even a few minutes early, is the mark of an experienced endoscopist and is a trait that nursing staff clearly relish. Anticipating delays, complexities and specific issues with individual patients (eg, anticoagulation, intravenous access difficulties, allergies) often requires only a few seconds to address; however, if not attended to, the nursing staff will often wait for the response from the physician before proceeding, resulting in unnecessary delays.

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Just the mere presence of the physician in the GI Clinic tends to have an accelerating effect in room transition. Perhaps this is seen well when rooms are changing from one physician to another. In general, when one physician is doing sequential cases, the transition tends to be a fixed period and consistent; however, when a new physician starts in the room (particularly if he/she is not present immediately) the room changeover tends to become extended. It is unclear why; however, 'a period of time will always disappear into a void unless it is filled'.

When any colonoscopy is being performed, adequate preparation for polypectomy should always be present. All equipment (snares, cautery, injection, clips, etc) should be within arm's reach of a nursing assistant (2,3). The assistant and the physician should both be aware of the equipment location and function. Too often, the physician becomes completely dependent on the assistant, and in situations where the assistant is not immediately available, the physician's progress is limited.

The beginning of each procedure should be similar. In most centres many patients are now direct-to-endoscopy (particularly screening procedures) (4) and introductions are vital. A history and physical examination is ideally performed outside of the endoscopy room where stress can be limited. This gives the physician a chance to discuss the procedure and ascertain the risks and benefits. It also has the added benefit of developing rapport with the patient. A hurried discussion and examination in the endoscopy unit can leave some patients feeling helpless and vulnerable, particularly if there are concerns regarding the true indication for the procedure (5-8). Once a

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discussion of the procedure has taken place and consent signed (which includes discussion of complications) (9,10) sedation is usually given. In the setting of colonoscopy, even in studies with very select patient groups, most patients prefer to be sedated. Selected patients for unsedated procedures may include older men, particularly if they have had previous colonic resections (11).

Once the patient is adequately sedated and monitored the procedure is set to begin. A discussion with the patient that an automated blood pressure cuff (which will periodically tighten) and oxygen monitor are devices to ensure that their heart rate and blood pressure are stable throughout the test gives the patient further reassurance.

For the insertion of the instrument, it is advisable for the physician to caution the patient of his or her intentions and to use adequate, but not excessive, lubricant. If lubricant is transferred to the endoscopy 'wheels' or onto clothing it tends to be more of a hindrance than a benefit. A rectal examination is performed to relax and lubricate the anus as well as to palpate for mass lesions. Then the endoscope is inserted and the rectum viewed after insufflation. It has been said that the 'fastest colonoscopy is actually one that looks slow' and that the trick to colonoscopy is 'inserting the colonoscope into the rectum and withdrawing until the cecum is reached'. Both of these statements carry wisdom in that gradual progression of the instrument with repeated gentle shortening will appear simple and relatively slow to an onlooker, however, the cecum will be reached in a few minutes. Attempts at large, rapid movements tend to result in loops and mesenteric stretching with subsequent abdominal discomfort.

Once a polyp is located, the best way to remove it is by polypectomy snare. In an effort to save time, many endoscopists' attempt at multiple biopsies to remove a polyp often results in oozing from the site and incomplete excision. This approach should be discouraged because the time saved by multiple biopsies is counterbalanced by the risk of incomplete excision. In the same vein, the use of 'hot biopsy' forceps, particularly in the right colon, should be only in very select cases (12-14). Several reports of perforation have been published and from a personal point of view, I rarely use them at all. The placing of the grounding pad is required but usually I avoid having it placed until I have the polyp positioned adequately. Occasionally that will mean adjusting not only the endoscope position but also the patient's, and if the grounding pad is already applied, its location may be obstructive.

If the polyp is small, it may be difficult to relocate on withdrawal, and I will remove it on entry into the colon. A small increased risk of perforation, in theory, can occur at the site of a 'weakened' cauterized colonic wall when the lesion is removed on insertion; however, this risk appears to be low because overall reported perforation risks are less than one in 2000 (15-17). For a larger lesion which occurs in areas that are anatomically distinct, I tend to remove it during the withdrawal phase of the procedure. Classically, positioning the polyp at '6 o'clock' in the field of vision simplifies excision. The polypectomy snare will tend to exit the endoscope just inferior to the field of view; therefore, the image that is most desirable is actually just superior to the lesion of interest. For small polyps, avoiding excessive insufflation enables simpler capturing within the snare. For pedunculated polyps, initial excision with the snare is ideal if at least a small portion of the stalk is left on the mucosal surface. This is helpful for two reasons: it enables the endoscopist to more easily identify the site in the future, if necessary; and if bleeding occurs (either early or delayed), the presence of a stalk expands therapeutic options (simple removal, clips, endoloops, etc) which may be more limited in the setting of a flat mucosal bleeding lesion (18,19).

There are a number of different choices for polypectomy snares; however, for most endoscopy units, one regular-sized snare and a mini-snare is all that is required. The key to a quick, smooth polypectomy is the positioning of the lesion. Opening the snare just enough to encompass the polyp avoids a large snare 'flopping' around in the colon and tends to make the appropriate placement of the loop easier.

An important factor in avoiding polypectomy complications is the assistant who gradually closes the snare. Because many endoscopists have never managed the snare, their 'feel' of this aspect of the procedure is limited. In general, the assistant should be able to feel how much tissue is within the snare and how easily it is cutting. Communication between the physician and the assistant is critical as the loop closes, to ensure a gradual, slow but steady, cut. Whether to use pure cut or blended current is a point of debate that is beyond the scope of the present article; however, in general, a pure cut will give less trauma and peripolyp injury but potentially more bleeding compared with a blended current (20).

For retrieval of the polyp, small pieces may be brought through the endoscopy channel with suction. The downside of this approach is tissue trauma; the upside is that it can be performed quickly and multiple times for smaller polyps. The Roth basket is ideal for multiple fragments of larger polyps in the right colon (21). Simple suction and removal of the polyp through the anus, with or without it ensnared, also will be effective in maintaining tissue architecture (22). Because the Roth basket will increase costs if used routinely, I tend to use it primarily for larger lesions in the right colon.

Because most endoscopy units have significant time constraints, long endoscopic procedures are often booked accordingly. Unfortunately, it is not always possible to predict when a colonoscopy will be difficult and require more time. One approach is to book extra time for every case and therefore have a buffer zone built into each day. Although attractive to nursing staff, this is not the most efficient way to run an endoscopy unit. An alternative method is to be realistic about expectations on difficult procedures and, in some cases, simply have the patient return for a second procedure. A good example of this situation is with patients who have a poor preparation. Too often, physicians struggle at length to evaluate a complete colon that really could not be evaluated properly even if the cecum was identified. Rather than persisting, simply early aborting of a case such as this may allow extra time for other cases. Therapeutic cases should never be rushed; physicians and nursing staff alike must be able to work through them without constant interruption. If this is not possible, a more ideal setting for the patient should be arranged, even if it means repeating a colonic preparation that, although not pleasant, is rarely harmful.

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