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# THE EXPERT'S CORNER

## The Difficult Colon Polyp

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Colonoscopy with polypectomy is part of routine training and practice for the gastroenterologist and gastrointestinal surgeon. However, there are times when polypectomy is anything but routine, due to the configuration and/or location of the polyp. The astute colonoscopist assesses the feasibility of the polypectomy, and balances this against the status of the patient and the alternative therapy, such as surgical resection.

Multiple factors relate to the achievability of polypectomy. Polyps may be sessile or pedunculated, with each configuration posing its potential problems. Large pedunculated polyps may have thick stalks with a rich vascular supply, increasing the risk of immediate postpolypectomy bleeding. The polyp head may also be large, and not allow for easy fitting of the snare loop around the stalk for single polypectomy. Furthermore, a large head on the polyp may limit visualization of the tissue on the proximal side of the polyp, leading to entrapment of normal bowel wall within the closed snare. Large sessile polyps may also be difficult to remove. The overall extent of the polyp may be difficult to recognize if it crosses over a fold into a trough, out of the colonoscopist's view. Large sessile polyps may also be encountered in the right colon or cecum, where the bowel wall is particularly thin. Polyp location, as well as configuration, may add to the challenge of polypectomy. It can be very difficult to remove a large polyp in the sigmoid colon, for example, if the sigmoid colon is tortuous and laden with diverticula, or fixed due to adhesions or prior radiation therapy.

Other factors unrelated to the polyp itself should be taken into consideration. Significant comorbid conditions, such as cardiac, pulmonary, neurologic, hepatic, or renal disease, may affect recovery from postpolypectomy bleeding or perforation. Patient expectations are also important. The asymptomatic patient coming to the colonoscopy suite in excellent health for a "check up" of the colon is not prepared for, and not likely completely informed of, the experience of a significant complication.

How then does the prudent colonoscopist perform the difficult polypectomy? While each situation is unique, there are some principles that will maximize satisfactory outcomes for the patient and physician:

***Achieve a stable endoscope tip position.***

In many cases, even with the best efforts, loops form within the insertion tube of the colonoscope outside or inside the patient. These loops may result in a lack of control of the colonoscope tip, where patient breathing or movement, or slight movement of the control knobs, results in undesired tip motion. I make every effort to stabilize this tip before grasping the polyp, as problems are almost inevitable if sight of the polyp is lost or excessive tension placed on the tissue after it is grasped. For a large polyp in a tortuous sigmoid colon, I complete the examination, straighten the insertion tube, and then perform polypectomy on withdrawal.

***If using a snare, be aware of its closed position on the handle prior to grasping the polyp.***

Many polypectomy snare handles are numbered, but the point where the snare fully returns to the sheath upon closing is rarely zero (Figure 1). It is essential to know where that point is, so that the colonoscopist and nurse can recognize if excessive tissue is grasped within the snare.


**Figure 1.** An AcuSnare polypectomy device (Cook Medical, Winston-Salem, NC) has been maximally opened, then closed to where the snare is just outside the sheath. Note the corresponding number on the handle; it has not returned to the lowest marked number. This position should be noted with each device prior to polypectomy; if the handle position is significantly different when the snare is closed around tissue, it may indicate malpositioning of the device, or that excessive tissue has been ensnared.

**Figure 2.** A sessile polyp has been raised with a submucosal saline injection. I look for a raising of the polyp, a blue-purple hue, and lack of vascular markings within the injected site as signs of a good submucosal injection.

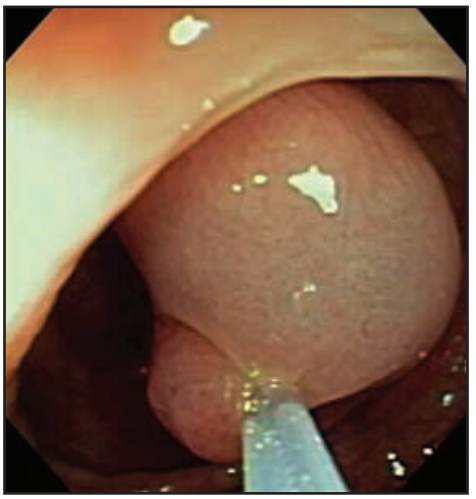

**Figure 3.** Grasp of a polyp after submucosal injection. Note the polyp has been oriented in the 5 to 7 o'clock position on the screen to maximize likelihood of proper snare positioning.

***Use submucosal saline for larger sessile polyps.***

Raising a polyp on a submucosal saline cushion increases the probability of safe polypectomy (Figure 2). I typically use this technique for sessile polyps greater than 1 cm in diameter. Also, a nonlifting polyp may indicate the presence of invasive adenocarcinoma, where surgical resection instead of colonoscopic polypectomy would be most appropriate.

***Orient the polyp at 5 to 7 o'clock.***

The optimal position to snare the polyp is with the polyp and device oriented along a common wall, allowing for maximal visualization and control of the snare as it is closed (Figure 3).

***Be familiar with ancillary devices or techniques useful in complex polypectomy.***

Detachable loops or clips may be deployed prior to resection of a wide, vascular pedunculated polyp stalk. For piecemeal polypectomy, retrieval nets and other devices can minimize the number of necessary insertions to recover all tissue. Use of sterile India ink facilitates location of an area of complex polypectomy if follow-up colonoscopy or surgery is necessary.

***Do not feel compelled that all polyps must be removed endoscopically.***

Our national courses and textbooks are replete with examples of experts performing wide resections of large sessile polyps or dramatic piecemeal resections of immense pedunculated polyps. However, service to our patients should not always be measured by the size of polyp we are willing to tackle. Consider again the asymptomatic patient presenting for average risk or increased risk colon cancer screening. If a 3 cm sessile adenomatous polyp is discovered in the cecum, I believe I have already done the patient a significant service. This patient and his or her family are unlikely to be fully prepared for the consequences of perforation. If I am comfortable with saline-assisted polypectomy, I inject the saline first with minimal risk, after which I can make a final decision regarding polypectomy. It is also excellent care to simply perform biopsies, document the premalignant lesion, and then conduct a discussion with the patient and family regarding options such as repeat colonoscopy (after detailed discussion of potential risks and consequences) or laparoscopic resection.