

SPHINCTER SPARING TECHNIQUES FOR RECTAL CANCER

What physicians and patients should understand is that in high-volume centers and in the hands of high volume rectal cancer surgeons, sphincter sparing techniques are utilized for more than 80 percent of patients.

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A major issue facing patients with newly diagnosed rectal cancer is the prospect that treatment means a permanent colostomy. This is not an unreasonable fear, since recent data indicate that for the majority of rectal cancer patients in the United States, sphincter sparing techniques are not utilized. This is unfortunate.

Specialty training is a major factor in the ability of a surgeon to offer a sphincter sparing option. We view fellowship training in colorectal surgery as crucial. This training emphasizes an in-depth understanding of the complex anorectal anatomy hidden in the confines of the deep, dark pelvis. Key anatomic structures are the mesorectum and its fascia propria, Denonvillier's and Waldeyer's fascia, the pelvic autonomic nerves, and the intricate anatomic relationship of the pelvic floor and the internal and external anal sphincters. Specialty training also gives the colorectal surgeon a detailed understanding of the physiology of continence and defecation. As a result of managing these functional issues on a daily basis and understanding how various operations affect these functions, the colorectal surgeon has the kind of insight needed to not only choose the appropriate approach to treat a rectal cancer in any one patient, but to also manage any continence or defecatory dysfunction that may result. Without a thorough understanding of the anatomy and physiology and the reconstructive techniques that can be utilized, many surgeons cannot offer state-of-the-art sphincter sparing options.

Modern sphincter sparing techniques for rectal cancer are based on a detailed understanding of tumor biology, rectal anatomy, accurate staging of the tumor using the latest in rectal ultrasound and MRI technology and finally, a thorough grasp of what can be accomplished using an interdisciplinary approach. At the Froedtert & The Medical College of Wisconsin Clinical Cancer Center, patients with rectal cancer are managed in an interdisciplinary clinic with input from colorectal surgery, medical oncology and radiation therapy. Colleagues from gastroenterology, radiology and surgical oncology complete the team. At each level, the latest techniques are utilized to optimize oncologic

outcomes and to preserve function and quality of life. From a surgical standpoint, sphincter sparing techniques might involve transanal excision, transanal endoscopic microsurgery (TEM) or ultimately, a formal open or laparoscopic low anterior resection with reconstruction using a colonic pouch to replace the rectum. Even advanced tumors located in proximity to the dentate line can be treated with a sphincter sparing resection known as an intersphincteric resection with colonic pouch to anal anastomosis. By whatever method, less than 20 percent of our rectal cancer patients require a permanent colostomy. Patients who are told they need a permanent colostomy for treatment of their rectal cancer should seek a second opinion. There is usually an oncologically sound way to avoid the colostomy.

Why is there such a discrepancy in what can be done (with sphincter preservation) and what is often done? In addition to the issues outlined above, it probably has much to do with the volume of rectal cancer surgery seen by the average surgeon. In 2005, using a large national database, we published data showing that rectal cancer patients treated by high volume surgeons (> 10 rectal cancer surgeries per year) are five times more likely to undergo sphincter-sparing procedures than those treated by low volume surgeons (one to three rectal cancer surgeries per year). In this time of greater sub-specialization, surgeons who operate on all parts of the body simply do not see patients with mid- and low-rectal cancers often enough to develop the necessary expertise to allow for routine sphincter preservation. This is because it is technically easier to remove the sphincter apparatus than to preserve it. Indeed, data which have examined rectal cancer surgical volume for general surgeons in the United States have clearly demonstrated that most surgeons have limited experience with complex low rectal pelvic surgery.

Currently, various organizations are struggling with the complex issue of specialty surgery: which surgeons should do which operations? In Europe and Asia, they have concluded that rectal cancer surgery is a specialty operation that should no longer be in the hands of every surgeon. While current data from the United States has not specifically addressed the volume and oncologic outcome relationship, it appears too many sphincters are being sacrificed, and that the odds of this outcome are highest with low-volume surgeons.

Based on what has been shown regarding the relationship between volume and outcome with pancreatic and esophageal cancer, it is reasonable to assume that the mid- and low-rectum may have a similar story. The complex anatomy of the pelvis combined with the technical challenges of sphincter preservation make this region of the body the territory of the subspecialist. The complexity of patient management is further magnified by the added importance of combining chemotherapy and radiation in those with rectal cancer; such treatment sequencing must maximize treatment response while minimizing toxicity.

For More Information or an Appointment

For further information, please refer to the Department of Surgery Web site at mcw.edu/surgery. To schedule an appointment, please call the Froedtert & The Medical College of Wisconsin Clinical Cancer Center at 414-805-0505 or 866-680-0505.

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