Sexual Dysfunction and Intimacy for Ostomates

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Abstract

Sex and intimacy presents special challenges for the ostomate. Since some colorectal surgery patients will require either temporary or permanent stomas, intimacy and sexuality is a common issue for ostomates. In addition to the stoma, nerve damage, radiotherapy, and chemotherapy are often used in conjunction with stoma creation for cancer patients, thereby adding physiological dysfunction to the personal psychological impact of the stoma, leading to sexual dysfunction. The purpose of this paper is to describe the prevalence, etiology, and the most common types of sexual dysfunction in men and women after colorectal surgery and particularly those patients with stomas. In addition, treatment strategies for sexual dysfunction will also be described.

Keywords

- sexual dysfunction
- colorectal cancer
- sexual health

Sexual health is a state of physical, mental, and social well-being in relation to sexuality that is complex and multifactorial and impacts quality of life (QoL). Sexual dysfunction is characterized by the persistent impairment of a person's normal pattern of intimate sexual response that may trigger distress. This is important for the individual and his/her partner(s) as well. While actual prevalence estimates for sexual dysfunction may be low due to underreporting and consistency of definition, it is estimated that sexual problems impact about one-third of men and almost half of women (age: 18–59 years)¹ in the general population. Sexual dysfunction can include alterations in sexual desire, arousal, and diminished or absent orgasm for both the genders. In females, dysfunction can also include sexual pain, or dyspareunia, related to vulvovaginal pain, vaginal dryness, or atrophy. In males, dysfunction can be related to difficulties getting or maintaining an erection and/or premature or delayed ejaculation. Dysfunctions may be temporary, permanent, congenital, or acquired. Many individuals who were previously sexually healthy prior to their diagnosis of colorectal cancer will experience sexual dysfunction. The purpose of this paper is to describe sexual dysfunction in colorectal cancer patients with a focus on ostomates and to suggest strategies for early identification and treatment options.

People are living longer following treatment for colorectal cancer, and QoL and sexual function have become increasingly important.² Colorectal surgery is associated with significant changes in sexual function for both men and women, and incidence of sexual dysfunction has been reported to be greater than 60 to 80% in men and women after colorectal surgery.^{3–5} Surgery, chemotherapy, and radiation can alter physiology, resulting in changes in vasculatory sensations and continence. Decreased blood flow to the genitals impacts sexual function, with erectile dysfunction (ED) being the more common complaint from men and vaginal dryness reported most frequently in women.⁶ The compounded effects of treatment can also impact sexual response through fatigue and alterations in body image. A holistic approach to sexual health and function is critical to improving QoL for colorectal cancer survivors.

Colorectal Surgery and Sexual Function

Patients undergoing proctectomy will often require a temporary or permanent stoma. Sexual dysfunction after proctectomy is a common complication, yet it is underrecognized and underreported. The causes of sexual dysfunction are multifactorial; however, the main contributor is direct pelvic

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nerve injury. There are several steps and locations during proctectomy when the nerves that control sexual function can be injured. Damage to the superior hypogastric plexus or hypogastric nerves can occur during ligation of the inferior mesenteric artery or during dissection in the presacral space. Injury to these sympathetic nerves can result in problems with orgasm and ejaculation. The parasympathetic nerves can be damaged if the dissection is carried too far laterally into the pelvic sidewalls or on the wrong side of Denonvilliers' fascia below the peritoneal reflection. Injury to these nerves may prevent erection, blood flow to the clitoris or penis, and vaginal lubrication.

The nervi erigentes or cavernosal branches of the parasympathetic pelvic plexus control inflow of blood to the corpus cavernosa. Injury to these branches during dissection anterior to Denonvilliers' fascia, just lateral to the prostate leads to ED.⁷ The pudendal nerve comprises motor and sensory components of the sacral nerves 2-4. The location of the bilateral pudendal nerves spares them from damage during abdominal proctectomy; however, the rectal and perineal branches of the nerves are divided during abdominoperineal resection. The three important branches include the inferior rectal, perineal, and dorsal nerves to the clitoris and the penis. The sensory stimuli from the penis and the clitoris are mediated through the branch of the pudendal nerve and are preserved during proctectomy.⁸ Advent of total mesorectal excision focused on nerve-sparing techniques have decreased incidence of sexual dysfunction after transabdominal proctectomy; however, the incidence remains significant.^{7,9} Due to the additive dysfunction inflicted from terminal pudendal nerve branch ligation, sexual dysfunction following abdominoperineal resection remains quite high.

Other factors impacting sexual function after colorectal surgery include neoadjuvant and adjuvant radiation, age, tumor stage, surgical technique, and surgeon expertise.¹⁰ Older patients with a history of sexual dysfunction have higher rates of dysfunction after rectal surgery as well as those patients with locally advanced tumors that require radiation in addition to surgery for treatment of rectal cancer.

Male sexual dysfunction following proctectomy includes ED and retrograde ejaculation; however, difficulty with orgasm and libido and issues with body image are also reported.⁴ Undoubtedly, the effect of libido and body image for ostomates further compounds underlying physiological dysfunction. Sexual dysfunction in females, on the other hand, is harder to measure and has been focused on less often. Symptoms include dyspareunia and difficulty with vaginal lubrication, arousal, and orgasm. A study conducted in 2005 reported that both men and women felt that their sexual activity was worse after proctectomy.⁴ Risk factors for sexual dysfunction include nerve damage, blood loss, preoperative radiation, anastomotic leak, and the presence of stoma.¹¹

Sexual dysfunction in females after rectal cancer resection has not been examined extensively. Both physiological etiologies and components of body image contribute to sexual dysfunction. Besides nerve injury that can lead to decreased clitoral sensation and vaginal lubrication, dyspareunia can

also be secondary to postradiation pelvic fibrosis, leading to decreased vaginal pliability.¹²

Surgery can alter the physical body in many ways, and many patients undergoing colorectal surgery often require a stoma. A stoma is an artificial opening on the abdomen through which the bowel or bladder is diverted. The stoma opening allows for the attachment of a watertight and changeable bag through which urine and/or feces can be eliminated. The stoma may be temporary or permanent. Intimacy issues related to stoma creation were reported in both cancer and noncancer populations, with no statistically significant differences between groups.¹³ Surgery to create a stoma can impact mental health in many ways, with new ostomates reporting that stomas impact self-image as well as sexual health.¹⁴ Approximately half of the patients with a stoma who were sexually active prior to stoma creation did not resume sexual activity following surgery. However, of those who did resume sexual activity, the majority (66–71%) reported sexual satisfaction.¹³ For those patients who are interested in resuming sexual intimacy following colorectal surgery and stoma creation, anticipatory guidance from compassionate clinicians can assist with resumption of a healthy sex life.

Ostomates must learn to care for their stoma, including prevention of skin breakdown, managing waste, leak prevention, and minimizing embarrassment related to sounds and smells. Intimacy and sexual function may also change and colorectal patients and their partners learn to navigate the new sexual landscape. With any learned behavior, having sufficient information and support can guide the couple and minimize challenges. Acknowledging that sexual health issues are common may help to reduce anxiety and provide guidance on resources to assist with sexual function. Many stoma patients and their intimate partners report a desire to have candid conversations about sexual intimacy with their health care providers.¹⁵

As the body changes following the creation of a stoma, the body image may change as well. Individuals with a stoma report feeling sexually unattractive.^{15,16} Determining when to disclose the presence of a stoma to a potential sexual partner or the decision to concealing the stoma during intimacy is a personal decision.¹⁵ Studies indicate that couples where the female partner has the stoma are less sexually active than couples where the male partner has the stoma.¹⁷ Body image issues and mental health support need to be addressed in holistic patient care.

Partners of individuals with stomas report a variety of impacts on sexual health and social function.¹⁸ Some partners report a decreased perception of sexual attractiveness for the partner with the stoma, and couples request anticipatory guidance prior to stoma creation. Many couples report an altered or diminished sexual frequency after stoma surgery.^{13,15} Helping the stoma patient and their partner adjust to the changed body can facilitate a healthy adaptation. Ostomy support groups may also be helpful to assist couples with adapting and help improve communication and provide psychological support.¹³ Recognizing a potential need to grieve the change in the sexual relationship and the function

of the body as it ages and is altered by surgery is an important step toward healing the sexual relationship. Clinicians should include the partner in conversations about potential side effects of colorectal surgery, stoma creation, and the impact on sexual health and function.

Providing specific suggestions on how to adapt to a sexual life with a stoma may help reduce anxiety and improve QoL.¹⁹ Patients with a stoma should be encouraged to empty the stoma prior to intimacy, which helps to reduce fear of leakage or smells associated with the stoma. Reassure the patient and partner that body contact during sex is unlikely to cause damage to the stoma or loosen the pouch. The pouch can also be concealed with a wrap or a cummerbund during sex, and a plethora of commercially available over-the-counter products can be purchased or made specifically to secure and conceal the ostomy pouch.

Evaluation of Sexual Dysfunction

The most important thing in evaluating sexual dysfunction is to ask the patient if they are having any issues with sex and intimacy. Patients may be reluctant to ask about sexual issues; therefore, it is critical that providers ask about changes in sexual function since problems are common after stoma creation. The simplest means of assessing sexual dysfunction is to let patients understand that many other patients report sexual issues following surgery and ask if they are having any problems with sex or intimacy. This approach may segue the initial discussion into a candid and trustworthy forum to help normalize the change in function and minimize embarrassment. Validated clinical questionnaires can be used to assess sexual function. The International Index of Erectile Function is used for male patients and asks questions across the domains of erectile function, ejaculation/orgasm function, and sexual satisfaction.²⁰ The Female Sexual Function Inventory evaluates sexual function in terms of desire, arousal, orgasm, vaginal dryness, and pain during sex.²¹ These tools can be discretely completed prior to an appointment to determine the presence of problems. Once it has been established that a patient is struggling with sexual issues, the patient can be evaluated by a sexual health care expert with a complete history and focused physical examination to determine sexual issues the patient is experiencing. Commonly, many sexual problems overlap (e.g., individuals with arousal disorders may also report pain), which further compound the impact of sexual dysfunction for the patient.

Treatment of Sexual Dysfunction

Treatment choices are based on the patient preference after a careful review of all options with a qualified sexual health care provider since multiple treatments are available each with unique advantages and disadvantages. Libido is impacted by myriad factors including treatment of the underlying condition that required stoma creation (e.g., cancer treatments, inflammatory bowel disease) as well as psychological adjustment to a stoma. In addition, other factors may impact sexual function aside from the surgery itself, including stress,

anxiety, medications, and other medical conditions. One helpful cognitive behavioral treatment for low libido is simmering. Simmering involves thinking about sex through things such as bibliotherapy (reading erotic or educative literature), watching romantic and erotic media, journaling about fantasizes and sex, and focusing the mind on sex. Another treatment is sensate focus, which involves the couple committing to weekly sessions together for love play. Part of the sensate focus may center around adjusting to body changes with the stoma and having the patient and his/her partner work on how they want to handle intimacy with the stoma. Sensate focus involves guidelines for progression from nongenital touch and pleasure to genital play and intercourse.

Testosterone is an essential hormone that impacts sex drive in both men and women. Low-libido men with low testosterone blood levels meeting specific criteria may be prescribed testosterone. Testosterone replacement therapy can be administered through injections, transdermally or through subcutaneous pellets. This therapy may have side effects and should be used judiciously for the appropriate symptomatic patients after careful discussion of benefits and risks, particularly in patients with a cancer history. Testosterone replacement therapy is sometimes also used off-label (non-FDA [U.S. Food and Drug Administration] approved) for women who have multiple symptoms of hypogonadism when other treatments have failed. Transdermal testosterone has been shown to improve sexual desire and quantity of sexually satisfying events in women with hypoactive sexual desire disorder.²² Treating diminished libido involves addressing both the physical and psychological factors that are impacting sex and intimacy.

Arousal disorders are defined as difficulty eliciting a genital response. Arousal disorders are frequently present in pelvic surgery patients typically arising from pelvic neuropathy related to nerve manipulation or injury during colorectal surgery that impairs genital blood flow and response. In men, the most common arousal complaint after colorectal surgery is ED. There are several current treatments for ED, including oral agents (sildenafil, vardenafil, tadalafil, or avanafil), vacuum constriction devices, and/or tension ring/loops to hold blood in the penis, intraurethral suppositories (alprostadil), penile injections, and penile implant surgery. The oral agents are phosphodiesterase type 5 inhibitors that increase intrapenile chemical mediators, thereby improving blood flow into the penis following sexual stimulation. Limited research ($n = 32$ men) with a randomized, placebo-controlled, double-blind study shows that 79% of sexually dysfunctional proctectomy patients reported some improvement in erectile function, but the efficacy is dependent on intact cavernosal nerves and therefore response may not be effective in producing a hard enough erection for sex.²³ If the nerves have been damaged, these medications may not work, and a subsequent smaller study has shown that the sildenafil was not effective in eight previously potent men after deep rectal resection surgery.²⁴ Local therapies that work directly on the penis, such as the vacuum device or penile injections, may be helpful in men after colorectal surgery.^{10,25} All treatments

have distinct advantages and disadvantages, and these factors should be carefully considered with the patient. The majority of research pertaining to colorectal surgery patients is extrapolated from the general population of men with ED or men following pelvic radical prostate cancer surgery. The vacuum device uses negative pressure to draw blood into the penis and then a tension ring is transferred off the device onto the base of the penis to contain the pressurized blood, thereby creating a sustainable erection. The vacuum device has been used for several decades and is effective in up to 80% of patients.¹⁰ Vacuum devices are typically well tolerated and affordable. The vacuum device may be perceived as awkward since it may interfere with sexual cadence. Moreover, the resultant erection induced by the vacuum device is not a natural feeling and must be sustained with a tension ring. Another strategy using potent vasodilating medications injected directly into the corpora cavernosa causing smooth muscle relaxation and vasodilatation may help patients suffering with arousal disorders. Injections have been shown to be effective in producing an adequate erection to sustain vaginal penetration in more than 70% of men.²⁵ The injection process requires one-on-one patient-provider instruction, and the first dose is usually supervised in the clinic to determine efficacy while monitoring for side effects. Intra-urethral suppositories (MUSE, Meda Pharmaceuticals, Somerset, NJ) contain the same medication as is in the FDA-approved penile injections, but is delivered as a rice-sized suppository into the wet urethra following urination. Compared with intrapenile injections, suppository efficacy is diminished compared with the injections since the medication has to travel across the urethra into the corpora cavernosa to be effective. The intraurethral suppository MUSE is simple to administer for patients, but it is less effective with response rates approaching 60% and may cause pain or burning, hypotension, and dizziness in men after pelvic surgery.²⁶ As with penile injections, the first dose of MUSE is typically administered in the office to monitor for efficacy and side effects.

Penile implants may benefit patients with medical treatment refractory sexual dysfunction. The surgery involves implanting the corpora with prosthetic cylinders for erections. The most popular version is the inflatable implant. This device includes an implanted reservoir of fluid that can be pumped into the inflatable cylinders that are implanted into the corpora cavernosal area to simulate erection. The pump is implanted into the scrotum. Surgery is typically reserved when other options have failed since implants will permanently change the penis structure.

Pelvic floor physical therapy is used to treat pain with sex, but may also improve genital blood flow following pelvic surgery.

The only FDA-approved treatment for arousal and orgasm disorders in women is the EROS Clitoral Treatment Device (NuGyn, Inc., Minneapolis, MN), which is a vacuum suction device to pull blood into the clitoris. This device yielded improved sensation, deep vaginal lubrication, ability to orgasm, and overall sexual satisfaction in women with arousal disorders.²⁷ Although no current studies are found with

colorectal patients, a small study with women who had cervical cancer and radiotherapy demonstrated improvements in all sexual domains (sexual desire, arousal, lubrication, orgasm, sexual satisfaction, and reduced pain) following treatment with the EROS device four times a week for 3 months.²⁸ Since the advent of sildenafil in the 1990s, men have been using medications to improve blood flow to the penis, and these medications also have been shown to improve blood flow to the genitalia in women with an arousal disorder.^{29,30} Phosphodiesterase type 5 inhibitors are not currently approved for use in women and are currently used as an off-label indication. It is important to monitor blood pressure before and after administration, starting with the lowest doses, since these medications can induce hypotension. Zestra (Innovus Pharmaceuticals, Inc., San Diego, CA) is a feminine arousal topical ointment that improved desire, arousal, and satisfaction in women aged 21 to 65 years in a placebo-controlled multicenter trial.³¹ Zestra is generally well tolerated, but mild to moderate genital burning may occur in nearly 15% of patients.

Distinct from arousal disorders, orgasm problems may also occur in women and men after colorectal surgery. Myriad factors may preclude sexual climax including nerve damage or neuropathy (e.g., radiation or surgery-induced pudendal neuropathy), medications (such as chemotherapeutics, psychiatric medications, or pain medications), or lack of knowledge and skills to achieve climax. Patient sexual education focusing on the anatomical and physiological basis of orgasm is often beneficial to anorgasmia. Vibratory stimulation may improve ability to orgasm and may be added into foreplay to improve the ability to orgasm for some women.^{32,33}

Pain and vaginal dryness are common following colorectal cancer treatment. Pain disorders can be differentiated into disorders such as dyspareunia (pain during penetrative sex), vaginismus (spasms of the pelvic floor causing pain during sex), and vulvodynia (burning pain in the vulva area). More than 40% of postmenopausal women have symptoms of urogenital atrophy, which may cause dyspareunia.³⁴ Clinical guidelines recommend the use of local estrogen therapy as first-line treatment to improve vaginal mucosal thickness, increase vaginal pH, and decrease vaginal atrophy.³⁵ Vaginal rings, creams, and tablets work equally well for local estrogen replacement.³⁶ Pelvic floor hypertonicity is a common cause of painful sex for women and can be treated with pelvic floor physical therapy. Physical therapy is aimed at releasing the tension and strengthening the muscles of the pelvic floor. Pelvic floor physical therapy can improve or resolve symptoms in up to 80 to 90% of patients.³⁷

Topical medications may be applied to the vulvar or vaginal area to diminish pain. One example of a local medication used to decrease pain is topical lidocaine, which can be applied regularly or postcoital analgesia.^{38,39} Another vaginal treatment for pain that shows promising result in reducing pain during sex is intravaginal off-label topical diazepam.^{40,41} These are just a few of the many treatments available for sexual pain disorders.

Conclusion

Sexual dysfunction is common after colorectal surgery, particularly in ostomates, but can be improved with a variety of interventions. The first and most critical step is to let patients know that sexual dysfunction is common after treatment and ask them if they are having any issues. The next step is to refer them to a sexual health care provider for full evaluation and treatment. Ostomates can continue to enjoy sex and intimacy if sexual issues are acknowledged and addressed.

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