



# How to ask and what to do: a guide for clinical inquiry and intervention regarding female sexual health after cancer

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## Purpose of review

As the number of female cancer survivors continues to grow, there is a growing need to bridge the gap between the high rate of women's cancer-related sexual dysfunction and the lack of attention and intervention available to the majority of survivors who suffer from sexual problems. Previously identified barriers that hinder communication for providers include limited time, lack of preparation, and a lack of patient resources and access to appropriate referral sources.

## Recent findings

This study brings together a recently developed model for approaching clinical inquiry about sexual health with a brief problem checklist that has been adapted for use for female cancer survivors, as well as practical evidence-based strategies on how to address concerns identified on the checklist. Examples of patient education sheets are provided as well as strategies for building a referral network.

## Summary

By providing access to a concise and efficient tool for clinical inquiry, as well as targeted material resources and practical health-promoting strategies based on recent evidence-based findings, we hope to begin eliminating the barriers that hamper oncology providers from addressing the topic of sexual/vaginal health after cancer.

## Keywords

cancer, provider communication, sexual health

## INTRODUCTION

As rates of cancer survivorship continue to improve, there is increasing concern that treatment-related sexual dysfunction will continue to go unaddressed for many female patients and survivors [1–3]. Despite calls for improving provider–patient communication about sexual health [4,5], research shows that frank conversations about sexuality and vaginal health after cancer do not regularly take place between patients and medical providers [6,7]. Although cancer patients and survivors want to address cancer-related sexual problems with their medical team [8], most female cancer patients/survivors are not communicating with their providers about this distressing consequence of their cancer treatment.

Studies have identified a range of barriers that hinder optimal patient–provider communication about sexual concerns of women with cancer. From the provider perspective, barriers include a lack of

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## KEY POINTS

- Providers need practical strategies and material resources to help foster clinical inquiry about sexual health.
- Women need to be queried about vaginal health as well as sexual health, regardless of age, partner status, or recent sexual activity.
- Providers can inquire about vaginal/sexual health with a brief checklist to facilitate communication about patient needs.

training about sexual health [9], limited time [10], concerns about offending patients or making them uncomfortable [8,11], and an uncertainty about how to manage this dimension of care [12]. Without appropriate training and confidence in addressing this subject, it can be challenging for clinicians to find appropriate language to ask about sexual health and decipher comments from patients [13].

Furthermore, patients/survivors are also not likely to initiate this discussion [14]. From the patient perspective, barriers include not wanting to make their doctor uncomfortable, belief that it is the provider's responsibility to initiate the discussion, and worry that sexual dysfunction will not be viewed as a valid concern [15]. These mutual barriers often result in an unfortunate stalemate in the consulting room, leading to unmet patient needs. Over and beyond the unmet need for communication about sexual health after cancer, survivors also perceive a loss of self-efficacy and confidence regarding how to address their sexual dysfunction [16]. When clinicians and patients do not communicate about sexual health after cancer, these perceptions may be reinforced and patients may wrongly conclude that little or nothing can be done to manage the sexual side-effects of cancer and cancer treatments. Finally, communication about sexual health is further hampered by a lack of available brief and effectual patient resources, such as simple clinical checklists, educational materials, and appropriate referral resources [17]. Taken together, the multitude of challenges that patients and providers face in discussing sexual concerns after cancer and subsequent treatment leads to a 'perfect storm,' which leaves these women in the midst of a vast, unaddressed lapse in comprehensive healthcare.

Clinicians who want to initiate discussions about sexual health with their patients need guidance in how to start these conversations and what types of questions to ask. To help meet these needs,

the aims of this study are to present a brief checklist that has been adapted for use, based on expert opinion, with female cancer survivors to foster discussion about sexual health; describe how the 5 As model for approaching clinical inquiry about sexual health can be enhanced by integrating the use of the checklist; and offer practical strategies for how to address concerns identified on the checklist, including specific examples of patient education sheets about particular common problems after cancer. By providing healthcare professionals with a concise and efficient tool for clinical inquiry and useful material resources, we can begin to eliminate barriers to addressing sexual and vaginal health after cancer.

## CLINICAL INQUIRY AND 'THE CHECKLIST'

A variety of sexual function measures developed for the general population has been used in clinical research investigating women's sexual function in the context of cancer. However, only a few have been validated in the female cancer patient or survivor populations such as the Female Sexual Function Index (FSFI) [18] and the Sexual Function Questionnaire [19]. More recently, the comprehensive Sexual Function and Satisfaction measure was developed by the National Institutes of Health's Patient-Reported Outcomes Measurement Information System (PROMIS) Network [20<sup>11</sup>]. The PROMIS measure, composed of 81 items that span 11 domains [21], was created as a patient-reported outcome measure and may also have potential use in clinical practice. Although standardized assessment tools enable clinical research, they tend to be too lengthy and time and labor intensive for routine use in a busy clinical practice [13]. They also may yield an overabundance of information for the provider to address. In addition, because a sexual function inventory such as the FSFI was not specifically developed for cancer survivors, there are particular challenges for female cancer survivors that may not be adequately captured on this general measure. Thus, although valid instruments assessing female sexual dysfunction have been developed, there remains a significant need for a brief checklist feasible for application within the clinical setting that is targeted to the particular problems of female cancer survivors.

## 'THE CHECKLIST'

In 2004, an international collaboration of sexual medicine experts created consensus guidelines regarding clinical evaluation of sexual dysfunction in women [22]. They created a brief screening

Please answer the following questions about your overall sexual function:

1. Are you satisfied with your sexual function?  Yes  No
2. Do you have any concerns about vaginal health?  Yes  No  
If not satisfied with sexual function AND/OR concerns about vaginal health, please continue.
2. Do you experience any of the following sexual problems or concerns?
  - Little or no interest in sex
  - Decreased sensation (or loss of sensation)
  - Decreased vaginal lubrication (dryness)
  - Difficulty reaching orgasm
  - Pain during sex
  - Vaginal or vulvar pain or discomfort (not during sex)
  - Anxiety about having sex
  - Other Problem or Concern: \_\_\_\_\_

[TIP: Some patients will respond that they are not having these problems or concerns because they stopped having sex altogether. The provider should reassure the patient, let her know that she is not alone, and ask if she can recall what kinds of problems or concerns she was having that led her to stop having sex.]

3. Would you like more information, resources, and/or would you like to speak with someone about these issues?  
 Yes  No

**FIGURE 1.** Sexual symptom checklist for women after cancer.

checklist intended for use in the general female population in primary care settings to facilitate initial identification of sexual problems. Members of the Scientific Network on Female Sexual Health and Cancer [23], a multidisciplinary working group of experts in the field of female sexual health and cancer, have adapted this brief screening checklist to be used either as a self-report checklist or as a springboard for guiding clinical conversations about treatment-related sexual problems between female cancer survivors and their healthcare providers (the checklist can be found in Figure 1 [22]).

This checklist is intended for use with female cancer patients and survivors, regardless of age, partner status, sexual orientation, or current level of sexual activity. The symptom checklist can be used serially as an objective indicator of improvement in patient symptoms. Providers can review with the patient changes in symptoms reported on the checklist over time and use this information as a guide for ongoing treatment. The checklist also contains a prompt for providers to offer reassurance to women who are no longer sexually active because of treatment-induced problems, making them aware that they are not alone in this situation and that help is available.

It is also important to note that preexisting issues of pain, dryness, and changes in sexual

response can be longstanding, often preceding a woman’s cancer diagnosis and treatment. However, these problems can be exacerbated by cancer treatment. The following recommendations apply regardless of onset or duration of sexual/vaginal health concern but may need to be additionally tailored to individual patients for the effective resolution and control of symptoms, ultimately leading to improved optimal sexual and vaginal health.

**THE CHECKLIST IN CONTEXT: USING THE 5 AS MODEL**

The benefits of identifying sexual health problems can only be realized if clinicians have a clear plan for both initiating the conversation and delivering appropriate resources and recommendations for follow-up care in a manner that is both efficient for physicians and clear for patients. The 5As model (Ask, Advise, Assess, Assist, and Arrange Follow-up) for communication is a useful outline for communication about sexual health in medical settings that extends the well known Permission, Limited information, Specific Suggestions, Intensive Therapy (PLISSIT) model [11,24].

Specific elements of the 5 As model:

Ask: The very nature of ‘asking’ signals validation. It can be a helpful start with a simple

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statement such as ‘Many women who have gone through similar cancer treatment notice changes in sexual function or vaginal health.’ Advise: A brief but important opportunity to advise women that problems can be addressed. For example, ‘Fortunately there are lots of resources for women with your concerns.’

Assess: Using the Checklist found in Figure 1, providers can gain a brief overview of current concerns. Of note, the checklist begins by asking women about vaginal health, as well as sexual health; clinicians can both decrease the stigma associated with sexual dysfunction and signal the importance of self-care regardless of current sexual activity or partner status. Vaginal health has implications for overall well being, as well as compliance with further gynecologic screening [25], making it a vital topic for all women.

Assist: By providing patients with education, information, and resources, patients not only become more knowledgeable, but also feel more competent [26]. Many patients benefit from educational or simple interventions only [27]; however, it is also imperative to have additional referral sources for counseling, pelvic physical therapy, urogynecological consult, etc. Collaborative relationships either within one’s institution or within a community-based setting should be cultivated. Common strategies for providing assistance are explained below.

Arrange follow-up: This last step serves as a reminder to clinicians to both arrange follow-up for identified problems and to follow-up by initiating inquiry at the next visit.

## **ASSISTANCE: REVIEW OF COMMON PROBLEMS AND HOW TO HELP**

Although the first item on the checklist addresses low desire, desire is a multifactorial experience influenced by physical, psychological, and contextual elements. Because the experience of desire can be directly influenced by all of the other items on the checklist, we will address it at the end of this section.

### **Decreased sensation**

When a woman endorses this symptom, it is imperative to query what kind of sensation she is referencing. Loss of sensation can include both genital sensation experienced during sexual activity as well as other types of diminished sensation caused by surgery, chemotherapy-related neuropathy, or

possible lower extremity lymphedema. With regard to genital sensation, surgical intervention in the pelvic region for bladder, colorectal, and gynecological cancers can result in nerve damage that diminishes sensation. Lower extremity lymphedema can also cause swelling in the genital area that can also diminish sensation. Pelvic radiation can damage blood vessels and alter the density of nerve fibers in the vulva and vagina, which similarly can negatively impact sensation. If a patient endorses decreased sensation, strategies that help to facilitate arousal by drawing blood flow and promoting circulation in the pelvic area may be helpful [28,29]. Examples include pelvic floor exercises, self-stimulation, vibrators, and vacuum devices. A clitoral vacuum device has been approved by the Food and Drug Administration for the treatment of female arousal disorders, which includes diminished sensation. The vacuum device is applied over the clitoral area to pull blood flow to the pelvis, thereby promoting engorgement [30], and it has proven beneficial for cancer patients who have undergone radiation therapy [30,31], with possible rehabilitative effects to the tissues [31]. Use of a vibrator and/or self-stimulation may be as effective, because these options similarly promote oxygenated blood flow to the pelvic floor through sexual arousal [32]. Educational resources on pelvic floor exercises or a referral to a sexual health expert to discuss these strategies is recommended.

Another type of loss of sensation impacting sexual health is loss of nipple/breast sensation after breast surgery. After mastectomy, breast sensation may be profoundly altered, if not absent entirely [33,34,35]. To the extent that breasts are an important component of a woman’s arousal or a couple’s prior ‘sexual script’ [36], this may be a significantly distressing side-effect of treatment. Partners may inadvertently magnify the problem by avoiding or overemphasizing the surgically altered breast. Women and partners may need to adjust to complicated feelings of loss and learn to create new sexual routines. Although many women and couples will resolve these concerns without professional guidance, others may benefit from a counseling referral to more effectively resolve sexual concerns.

### **Decreased lubrication (dryness)**

Vaginal dryness is one of the most common and distressing problems for female cancer survivors [25]. Surgery, radiation, chemotherapy, and endocrine therapy all have the capacity to cause estrogen deprivation and decrease genital blood flow,

resulting in loss of vaginal lubrication and consequently loss of genital tissue elasticity. Vaginal dryness is often accompanied with burning, itching, or chafing. Female cancer patients/survivors need to be educated about how moisturizers and lubricants as well as the maintenance of sexual activity can be useful adjuncts in managing vaginal dryness and dyspareunia [37,38]. It is important to explain the benefits of nonhormonal vaginal moisturizers [39–41] and how intravaginal moisturizers (e.g., polycarbophil) used once or twice weekly can be helpful in maintaining pH balance in addition to adding moisture [42]. Use of water-based or silicone-based lubricants should be encouraged during sexual activity. Recommendations for water-based lubricants with minimal additives, such as Good Clean Love: Almost Naked, Astroglide, KY Jelly, or Slippery Stuff, can be given. Patients should be advised to avoid additives like paraben, glycerin, propylene glycol, fragrance, bactericide, and spermicide, as these may be irritating or caustic to the menopausal vaginal and vulvar epithelium and opt for dye-free options instead. For women who are vulnerable to yeast infections, glycerin in glycerin-based lubricants can act like a sugar and promote yeast infections. A thorough presentation of vaginal health strategies can be found in a review by Carter and colleagues [25].

In addition, local vaginal estrogen (cream, ring, or tablet form) is a particularly effective but controversial treatment for vaginal dryness. Although acceptance of these products has gained popularity because there is minimal systemic absorption, long-term safety trials on the use of local estrogens in cancer patients, especially those with hormonally sensitive tumors, are lacking [43]. There is controversy regarding the minimal escape of estrogen into the systemic circulation and the clinical significance, if any, of this action [44]. Detailed risk-benefit discussions must occur between the patient and her medical team and should be appropriately documented in the medical record. A novel potential treatment for vaginal dryness is ospemiphene, a nonestrogen agonist/antagonist that increases vaginal lubrication; in addition, it has shown to improve many of the sexual domains in the FSFI. However, safety trials in cancer survivors are once again lacking.

### Difficulty reaching orgasm

Often women experience difficulty with reaching orgasm or detrimental changes in arousal after undergoing treatment-related menopausal symptoms [25], yet these symptoms are often not discussed with clinicians. Although postmenopausal

women typically need increased stimulation to reach orgasm, vaginal dryness can also make stimulation uncomfortable or painful, thus resulting in failure to reach climax. Women may find it helpful to use sexual aids such as vibrators to support oxygenated genital blood flow and enhance the experience of genital stimulation and arousal. Women should be educated on the use of lubricants with sexual aids. For example, they should be aware that silicone-based lubricants can compromise the material integrity of silicone vibrators

### Pain during sex

One of the most common reasons female cancer survivors experience pain with sexual activity is because cancer treatments often result in vaginal atrophy, which refers to a compromised lack of vaginal moisture, blood flow, and tissue elasticity [37,38]. To address atrophy-related pain, these elements need to be restored [45,46]. Beyond replacing vaginal moisture, women with atrophy need to restore elasticity to the vaginal tissue. One approach is to have women employ a systematic regimen of using vaginal dilators, a set of tapered devices that vary in size, and facilitate mechanical stretch of vaginal tissue. Sex may also be painful for women who experience vaginal narrowing from pelvic radiation or foreshortening from surgical intervention. For these women, consistent dilator programs may also be helpful. Alternative sexual positioning and liberal use of pillows may also ease pain and discomfort. For women who experience severe foreshortening of the vaginal canal as a result of surgery or radiation, pain during penetrative intercourse may be because of 'collision dyspareunia'. A promising option available in the United Kingdom is the Come Close Ring, a cushioned ring placed at the base of the penis that serves as a spacer and precludes deep thrusting and circumvent collision.

A recent, small randomized controlled trial explored the use of a numbing agent (i.e., aqueous lidocaine) to reduce vulvar and vestibular tenderness in breast cancer patients experiencing dyspareunia. The results demonstrated that women who applied lidocaine to the vulvar and vestibular tissues prior to insertion experienced improved comfort and less distress with intercourse [47]. However, in this sample, only 28% of the women had ever used a moisturizer to address these issues.

Addressing pain during sexual activity is important, because if not addressed, female cancer survivors may begin to anticipate painful intercourse and thereby develop secondary vaginismus, an involuntary and habitual clenching of pelvic floor muscles.

In this case, women need to become educated about their pelvic floor, including how to relax pelvic floor muscles that are chronically over-engaged. One of the benefits of dilator therapy is that women can also use this exercise to practice relaxing the pelvic floor during penetration and regain a sense of control with their body. Prompt intervention for women with sexual concerns is important so as to avoid other concomitant problems such as secondary vaginismus.

### Vaginal or vulvar pain (not during sex)

Female cancer survivors may have vaginal discomfort or vulvar pain as a consequence of various treatments, including hormone blocking endocrine therapy, pelvic radiation, and vaginal graft versus host disease (GVHD) following allogenic bone marrow transplant. To address vulvar burning, itching, or chafing accompanying vaginal atrophy or as a result of radiation, women should be taught to moisturize the vulva and vagina.

Up to half of women who undergo allogenic bone marrow transplant suffer from vaginal GVHD and experience burning, dryness, itching, or pain to the touch (tenderness) [48]. Upon examination, a clinician may notice ulcerated or thickened skin of the vulva or vagina and narrowing and scarring of the vaginal entry. Typically, treatment of GVHD consists of a combination of immunosuppressants/corticosteroids and topical estrogen to treat vulvar pain [48–51]. Treatments for genital GVHD are quite successful and can lead to decreased vulvar pain in less than 2 months when administered early [49]. Ideally, women should be referred to a gynecologic specialist who has experience working with cancer survivors. Of note, some women may have other preexisting issues of pain, such as vulvar vestibulitis, which would require a more comprehensive evaluation with a sexual pain specialist.

### Anxiety about sex

There are many reasons women might endorse this item, including not having been sexually active since treatment or worrying whether or not resuming sexual activity is even possible [52]. Potential sources of anxiety may include a history of body alterations, surgical scars, and surgical reconstructions that affect perceived attractiveness [53], as well as related challenges such as prostheses and ostomies [54]. Young women who undergo treatment-induced menopause are often anxious about sexual side-effects [55<sup>\*</sup>], as are some women who undergo preventive cancer risk-reducing surgery, such as *BRCA* mutation carriers who undergo prophylactic

mastectomy and/or oophorectomy [56<sup>\*</sup>]. This item is intended to help clinicians identify patients/survivors who are experiencing anxiety or distress and need resources or further support. It is not necessarily the role of the inquiring clinician to reduce women's anxiety, but rather to identify that sexual function is a source of worry and to then guide them toward appropriate resources for counseling and/or psychopharmacological consultation.

Low desire: Sexual desire is a biopsychosocial phenomenon with interrelated physical, hormonal, emotional, and relationship factors. Lack of desire is the most common complaint with regard to sexual health among women [57–61]. When women have posttreatment sexual activity that is uncomfortable or painful, it is not uncommon to find loss of desire as the initial presenting problem. For this reason, it is important to identify associated physical factors such as vaginal dryness, vulvar discomfort, and pain with sexual activity on the checklist. Significant alterations in hormones (estrogen, progesterone, and testosterone) can further contribute to loss of desire in addition to causing changes in vaginal health. Medical comorbidities can also negatively affect libido, as can various medications, including opiates, anticonvulsants, beta and calcium channel blockers, and selective serotonin reuptake inhibitors [62]. For example, women with decreased desire who are taking antidepressants and/or anti-anxiolytics may need to be referred to a psychiatrist for consultation regarding medications with fewer sexual side-effects. Partner and relationship factors should be acknowledged, although they are often not considered in clinical inquiry. Often, couples struggle with a lack of sexual communication and uncertainty about how to restart intimacy after cancer [63]. Both couple and individual counseling can be helpful [64]. For example, counseling can help women shift their focus toward enhancement of sensual pleasure by learning to use guided meditation and muscle relaxation, mindfulness-based stress reduction, and fantasy. A recent mindfulness intervention was shown to improve perception of arousal, despite no physical enhancement of engorgement, demonstrating the power of the mind-body connection to adapt and overcome physical impairments [65]. Women with arousal issues should be encouraged to explore exercises and strategies that address both the mental [66] and physical [67,68] aspects of the problem. Most recently, in August 2015, the US Food and Drug Administration approved Addyi (flibanserin 100 mg), a nonhormonal pill (developed as an antidepressant –5-HT<sub>1A</sub> agonist and 5-HT<sub>2A</sub> antagonist), for the treatment of acquired, generalized hypoactive sexual desire

*What is vaginal and vulvar dryness?*  
 Vaginal dryness occurs when the vaginal wall becomes less lubricated and flexible. This leaves the vaginal wall more prone to small tears, cracks, and bleeding. Vulvovaginal dryness may also affect the urinary tract and all genital areas.

*What are the symptoms of vulvovaginal dryness?*  
 Symptoms may include pain or bleeding with sexual activity, vaginal or vulvar irritation, urinary incontinence, and burning or urgency with urination. Some women may also experience an increase in bladder and urinary tract infections and watery vaginal discharge.

*What causes vulvovaginal dryness?*  
 Vaginal dryness can be caused by decreased estrogen levels. This decrease may occur naturally and may be precipitated by some types of cancer treatment.

*Is vulvovaginal dryness common in cancer survivors?*  
 Sexual problems are reported in up to 90% of breast cancer survivors. Vaginal dryness is one of the most common sexual problems after breast cancer. Any of the sexual side effects experienced by a cancer survivor may be compounded with increased frequency of urinary tract infections.

*Can vulvovaginal dryness be treated?*  
 Yes, there are multiple ways to treat vaginal and vulvar dryness, including both lifestyle changes and use of topical lubrications. The goal of treatment is to decrease symptoms and restore tissue quality.

*Is there a difference between lubricants and moisturizers?*  
 Yes, there are differences in how they should be used and when they should be applied. Lubricants have short-term benefits and are used to enhance a woman's own lubrication and temporarily relieve vaginal and vulvar dryness during sexual touch or penetration. Moisturizers are important for tissue quality and comfort and provide long-term relief for symptoms such as itching and irritation compared to lubricants. They can also be used to help restore vaginal lining and vulvar tissue quality.

**FIGURE 2.** Vulvovaginal dryness information sheet.

disorder in premenopausal women [69]. It should be noted that flibanserin has only been approved for premenopausal women and has not been studied in cancer populations.

**ASSISTING WITH RESOURCES**

We suggest two categories of resources for clinicians to complement their clinical inquiry of sexual concerns in their female cancer patients. First, clinicians need robust referral networks, which would ideally include a gynecologist who has experience working with female cancer survivors, a counselor or therapist, a pelvic floor physical therapist and potentially a psychiatrist, a reproductive endocrinologist, and/or a specialist in urogynecology. It is possible to expand one's network from within an institution or reach out to community-based clinicians outside of one's home center who have an interest in working collaboratively. Furthermore, there are several professional organizations that can facilitate this process by allowing clinicians to identify professionals by location and areas of expertise, such as the International Society for the Study of Women's Sexual Health (<http://www.isswsh.org>), The North American Menopause Society (<http://www.menopause.org>), the American Association of Sexuality

Educators, Counselors, and Therapists (<http://www.aasect.org>) and the Society for Sex Therapy and Research (<http://www.starnet.org>). Secondly, clinicians need material resources to give to patients. Fortunately for clinicians who want to help patients/survivors, there is now a growing body of high-quality resources regarding sexual health and cancer that are easily accessible electronically as well as in hard copy. Both the American Cancer Society and the National Cancer Institute have comprehensive information about sex after cancer, for example, 'Sexuality and Cancer: For the woman who has cancer and her partner' (<http://www.cancer.org> and 'Sexuality and reproductive issues' (<http://www.cancer.org>). Comprehensive resources also include websites from abroad, including the MacMillan Cancer Support Community in the United Kingdom (<http://www.macmillan.org.uk>) and the Cancer Council of Australia ([www.cancercouncil.com.au](http://www.cancercouncil.com.au)). A new international organization called the Scientific Network on Female Sexual Health and Cancer has a website (<http://cancersexnetwork.org/>) that also overviews a range of resources in this area. Figures 2–4 include teaching sheets, or 'tip sheets,' which give information about the specific topics of vaginal dryness and low desire and can be given to patients directly.

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### Vulvovaginal health treatment options

As women age, the vagina becomes dryer and less elastic, and dryness and/or irritation can also occur on the vulva (or external tissues of the lower genital area). This can happen sooner if a woman has had cancer treatments or cancer risk-reducing surgery. Some women can take the hormone estrogen to prevent these changes, but for many women who have had cancer this may not be a safe choice. Below are some suggestions to help you manage these symptoms.

#### Lubricants

Lubricants have short-term benefits and are used to enhance a woman's own lubrication and temporarily relieve vaginal and vulvar dryness during sexual touch or penetration. Lubricants are for all sexual activity (individual and partnered – applied to both). Water- or silicone-based lubricants are recommended. Caution should be taken with warming or scented lubricants, as they may irritate estrogen-deprived tissues. Women who are sensitive to yeast infections should avoid glycerin-based lubricants, which break down to a sugar and promote yeast growth, or flavored lubricants, which may have sugar in them.

Oil-based lubricants such as petroleum jelly and mineral oil should be avoided because they can cause vaginal irritation and can damage latex condoms and rubber sex toys.

**Water-based:** These lubricants are widely available and available in a wide range of textures (e.g., gel, lotion). They may get sticky quickly and may leave a residue. They are safe with condoms, and safe to use internally, externally, and with vibrators and dilators.

**Silicone-based:** These lubricants offer a slick feel and do not get sticky. They are not water-soluble, which means they are not absorbed by skin and therefore last longer than water-based lubricants. When used externally, they must be washed off the skin. They do not generally cause irritation or allergic reactions.

**Water/Silicone Blends:** These are good 'hybrid' options that can also be used with silicone or rubber personal products.

Examples of lubricants include:

- Astroglide® (water-based lubricant)
- K-Y Jelly (water-based lubricant)
- Sliquid silk (water-based lubricant)
- Good clean love (organic water-based lubricant)
- Pjur® original bodyglide (a silicone-based lubricant)
- Pink Indulgence or sliquid organics silk (water-silicone blend)
- Almond oil
- Coconut oil

#### Non-hormonal moisturizers

Moisturizers are important for tissue quality and comfort and provide long-term relief for symptoms such as itching and irritation compared to lubricants. They can also be used to help restore vaginal lining and vulvar tissue. Cancer patients and survivors may need to apply more often than what is recommended on the box to address their symptoms. Moisturizing at least 3 to 5 times per week is ideal. Moisturizers should always be applied at bedtime for the best absorption.

#### Internal vaginal moisturizers

These are nonhormonal, over-the-counter products. They help to increase moisture in your vagina. They can be used several times a week for overall vaginal health and comfort, regardless of sexual activity.

Examples include:

- Replens
- HyaloGYN
- Carlsom KEY-E
- K-Y Liquibeads
- Vagisil feminine
- Feminease

#### Vaginal moisturizers applied to the external tissues

Many women experience dryness or irritation of the vulva. Using an external moisturizer can increase comfort. Natural oils such as vitamin E or coconut oil can be helpful. You can also use Replens Long-Lasting Vaginal Moisturizer, HyaloGyn, or both on your vulva. If you are using both, make sure to use them on different nights. Moisturizing at least 3 to 5 times per week is ideal and should always be applied to the external tissues at bedtime for the best absorption.

#### Low-dose vaginal estrogens to improve moisturization

You can use vaginal estrogen if your doctor or surgeon says it is safe for you. Be sure to discuss the products described below with your doctor before using them.

#### Vagifem®

This medication comes in an applicator. Insert it into your vagina at bedtime for 14 days. Then insert it into your vagina twice a week at bedtime.

#### Estring®

This medication comes as a vaginal ring. Insert the ring into your vagina and push it as far back as possible. Remove it after 90 days.

**FIGURE 3.** Vulvovaginal health.



Loss of libido or low desire is one of the most common and frustrating problems that women experience following cancer treatment. Women's sexual desire is like a recipe with many ingredients. Physical, hormonal, emotional, and relationship factors are all directly related to sexual desire, and cancer can impact each of these aspects of experience. Women often wonder how decreased desire may be related to decreased levels of hormones brought on by cancer treatment, in particular, treatment-related menopause. Estrogen, progesterone, and testosterone are all hormones produced in your body that contribute to sexual desire; and with levels often significantly altered by treatment, libido can be affected. However, hormone levels are by no means the whole story. Low desire is also one of the most common sexual problems women face, even when hormone levels are normal.

Loss of hormones, estrogen in particular, typically leads to loss of natural lubrication and elasticity of the vaginal tissue. When a woman has vaginal dryness and tightness during sexual activity, sex may hurt, and discomfort can quickly become a primary reason for a woman to lose interest in sexual activity. Other factors also contribute to low desire. Women may find themselves feeling somewhat distanced from their body after undergoing invasive cancer treatments. Women may struggle with body image after treatment-related changes. In addition, negative 'self-talk,' such as "I must look damaged" or "I am not desirable any more," also contribute to not feeling sexy. Sometimes sexual activity ceases during treatment, and it can be difficult to reawaken desire after a long period of time. Other common problems, such as fatigue, weight changes, feelings of depression and anxiety, can also decrease desire, as well as pain medications, antidepressants and anti-nausea drugs. If women are taking medications such as antidepressants that may be contributing to low desire, they should talk to healthcare providers to see if there are other options available.

So what can be done? First of all, if sex hurts, get help! Learn about how to improve vaginal health, including using moisturizers and lubricants as needed. Many women find it helpful to use a vibrator to not only get blood flowing to the vaginal tissue but to also figure out what kinds of sensations feel good. In addition to getting to know one's body, it can be very helpful to focus on experiencing pleasure rather than on trying to have sex. Take the pressure off by introducing sensual pleasure into daily life and take time for non-sexual touch. This is also the time to "expand one's repertoire" by using fantasy, visualization, relaxation, and extending foreplay in order to create an experience of arousal. Remember that feeling sexy is also connected to a feeling of vitality and well-being. Simple regular movement like walking, dancing, or gentle yoga can help increase total energy as well as sexual vitality.

Fortunately, although low desire can be very distressing, women can get their groove back! Making time for intimacy, introducing more sensual pleasure into daily life, and "expanding one's repertoire" such as using fantasy and extending foreplay are all important ingredients toward reconnecting with desire. Counseling, either alone or with a partner, can also be a valuable resource.

**FIGURE 4.** Patient education handout – loss of desire after cancer treatment.

**CONCLUSION**

Sexual health is a fundamental element of quality of life that patients and survivors struggle with throughout the cancer care continuum. Patients often want to discuss these issues, but clinicians face a range of barriers in addressing these concerns, including limited time, training, and experience in communicating and treating these problems. This review can provide clinicians with a straightforward plan regarding how to approach this topic, including having a framework and checklist to guide clinical inquiry, as well as readily available resources. Along with a relevant referral network, these tools can serve to reduce barriers and facilitate conversations about sexual health. Moreover, when patient experience is validated and patients are offered information in a way that allows them to feel a greater sense of competence to manage their own health, they may be more likely to follow through with intervention and ultimately achieve a greater sense of overall well being. Although there is an ongoing need for future research to develop a broader evidence base for state-of-the-art sexual health interventions, there are more resources available now than ever before. For the millions of cancer survivors who are left struggling with quality-of-life issues such as sexual dysfunction, it is imperative that we move toward systematic assessment and routine delivery of sexual health intervention as part of survivorship care.

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