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ASCO SPECIAL ARTICLE

Interventions to Address Sexual Problems in People With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Adaptation of Cancer Care Ontario Guideline

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Editor's note: This American Society of Clinical Oncology Clinical Practice Guideline provides recommendations, with comprehensive review and analyses of the relevant literature for each recommendation. Additional information, including a Data Supplement with additional evidence tables, a Methodology Supplement, slide sets, clinical tools and resources, and links to patient information at www.cancer.net, is available at www.asco.org/survivorship-guidelines and www.asco.org/guidelineswiki.

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ABSTRACT

Purpose
The adaptation of the Cancer Care Ontario (CCO) guideline Interventions to Address Sexual Problems in People With Cancer provides recommendations to manage sexual function adverse effects that occur as a result of cancer diagnosis and/or treatment.

Methods
ASCO staff reviewed the guideline for developmental rigor and updated the literature search. An ASCO Expert Panel (Table A1) was assembled to review the guideline content and recommendations.

Results
The ASCO Expert Panel determined that the recommendations from the 2016 CCO guideline are clear, thorough, and based upon the most relevant scientific evidence. ASCO statements and modifications were added to adapt the CCO guideline for a broader audience.

Recommendations
It is recommended that there be a discussion with the patient, initiated by a member of the health care team, regarding sexual health and dysfunction resulting from cancer or its treatment. Psychosocial and/or psychosexual counseling should be offered to all patients with cancer, aiming to improve sexual response, body image, intimacy and relationship issues, and overall sexual functioning and satisfaction. Medical and treatable contributing factors should be identified and addressed first. In women with symptoms of vaginal and/or vulvar atrophy, lubricants in addition to vaginal moisturizers may be tried as a first option. Low-dose vaginal estrogen, lidocaine, and dehydroepiandrosterone may also be considered in some cases. In men, medication such as phosphodiesterase type 5 inhibitors may be beneficial, and surgery remains an option for those with symptoms or treatment complications refractory to medical management. Both women and men experiencing vasomotor symptoms should be offered interventions for symptomatic improvement, including behavioral options such as cognitive behavioral therapy, slow breathing and hypnosis, and medications such as venlafaxine and gabapentin.Additional information is available at: www.asco.org/survivorship-guidelines and www.asco.org/guidelineswiki.

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ASSOCIATED CONTENT

Appendix
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Data Supplement
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INTRODUCTION

Extraordinary advances in cancer diagnosis and treatment have led to more than 16.5 million people living with and beyond cancer in the United States.[1] Modern multimodality treatment, including surgery, radiotherapy, systemic chemotherapy, and targeted therapy, can result in short-term and long-term adverse physical and/or psychosocial effects. Although prevalence rates of sexual difficulties associated with cancer and its treatment vary depending on primary diagnosis, treatment modality, methods of assessment, and type of sexual difficulty,[2] estimates are reported to range from 40% to 100%.[3,4] This includes disorders of sexual desire and sexual response influenced by the biologic, physiologic, and psychological challenges that cancer and its treatments present.

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THE BOTTOM LINE

Interventions to Address Sexual Problems in People With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Adaptation of Cancer Care Ontario Guideline

Guideline Question

What is the effectiveness of pharmacological interventions, psychosocial counseling, or devices to manage sexual problems after cancer treatment? More specifically, issues in men and in women were examined separately.

Target Population

This guideline is applicable to adult (≥ 18 years of age) men and women (and their partners) of all sexual orientations living with cancer of any type. For the purposes of this guideline, men and women who were previously treated for a childhood cancer were not included.

Target Audience

Health care practitioners, such as oncologists, urologists, gynecologists, primary care providers, surgeons, nurses, physiotherapists, social workers, counselors, psychologists, psychiatrists, and sex therapists/counselors, and advanced practice providers, such as physician assistants and nurse practitioners.

ASCO Recommendations for Interventions to Address Sexual Problems in People With Cancer

The ASCO Expert Panel's modifications to Cancer Care Ontario's (CCO's) recommendations and qualifying statements appear in ***bold italics***. ASCO's own qualifying statements appear in *italics*. A list of the original CCO recommendations can be found in Table 1.

For All People With Cancer

Recommendation 1. It is recommended that there be a discussion with the patient, initiated by a member of the health care team, regarding sexual health and dysfunction resulting from the cancer or its treatment. The conversation ***could*** include the patient's partner, ***only if the patient so wishes***. This issue should be raised with the individual at the time of diagnosis and continue to be reassessed periodically throughout follow-up. The Expert Panel believes that this is a vital recommendation. The recommendations that follow cannot be used unless someone has taken the initiative to ask.

It is recommended that there be access to resources or referral information for the patient (and partner).

ASCO Qualifying Statement. The Expert Panel believes that introduction of the topic of sexual function should be held with the patient alone, with the option of later partner inclusion if desired by the patient. Discussions should be congruent with the patient's literacy level, cultural/religious beliefs, and sexual orientation. This discussion should be offered at varied points of treatment and survivorship to assess or address any changes.

For Women With Cancer

CONDITION: SEXUAL RESPONSE

Recommendation 1. The Expert Panel believes that psychosocial ***and/or psychosexual*** counseling should be offered to women with cancer, aiming to improve elements of sexual response such as desire, arousal, or orgasm. Current evidence does not support one type of psychosocial ***or psychosexual*** counseling to be superior to another.

Clinicians may offer flibanserin to premenopausal women who are experiencing hypoactive sexual desire disorder.[14,15]

CCO Qualifying Statement. It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation used.

ASCO Qualifying Statement. It should be noted that flibanserin has not been evaluated in women with a history of cancer or those on endocrine therapy. In addition, the risk/benefit ratio for this medication is uncertain.

CONDITION: BODY IMAGE

Recommendation 2. It is recommended that psychosocial counseling be offered to women with cancer and body image issues.

If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care.

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THE BOTTOM LINE (CONTINUED)

No recommendation can be made for or against group therapy (with or without exercise) for women with body image issues.

ASCO Qualifying Statement. Clinicians should assess for body image issues early and often in the cancer care continuum and should take into account cultural and/or religious variations. Patients with preexisting depression and/or body image issues may be at a higher risk of susceptibility.

CONDITION: INTIMACY/RELATIONSHIPS

Recommendation 3. It is recommended that psychosocial counseling be offered to women with cancer aiming to improve intimacy and relationship issues. If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care.

ASCO Qualifying Statement. The Expert Panel views partner involvement in all cases to be the choice of the patient.

CONDITION: OVERALL SEXUAL FUNCTIONING AND SATISFACTION

Recommendation 4. The Expert Panel believes that psychosocial counseling directed at the individual or couple or delivered in a group be offered to women with cancer who have problems with overall sexual functioning. Physical exercise or pelvic floor physiotherapy, in addition to psychosocial counseling, may also be of benefit.

Current evidence does not support a specific psychosocial counseling intervention to improve sexual functioning and satisfaction.

Health care providers should screen patients with cancer for overall sexual functioning and satisfaction, and a diagnosis should be established when there are physical issues playing a contributing role.

All patients should be offered education and symptom management based on the patient's diagnosis. For patients having persistent concerns, such as physical issues, a gynecologic examination would be ideal. For those continuing to have relationship issues and/or distress, mental health counseling should be an option.

ASCO Qualifying Statement. The ASCO Expert Panel believes patients can still benefit if counseling is provided by licensed counselors available at the medical center even if specialized therapists (eg, sex therapists) are not available.

CONDITION: VASOMOTOR SYMPTOMS

Recommendation 5. For women with vasomotor symptoms, hormone therapy is the most effective intervention. For women unwilling or unable to use hormonal therapy, alternatives exist: for example, paroxetine, venlafaxine, gabapentin, or clonidine.

Having a hormone-sensitive breast cancer is a contraindication to using systemic hormone therapy.

Psychosocial counseling (cognitive behavioral therapy) ***and/or clinical hypnosis*** may provide a benefit and reduce vasomotor symptoms and should be offered.[16-19]

CCO Qualifying Statement. The Expert Panel emphasizes that women with non–hormone-sensitive cancers who develop vasomotor symptoms from their cancer treatment should be counseled to consider hormone therapy until the average age of menopause, approximately 51 years, at which point they should be re-evaluated. Risks typically cited for hormone therapy are derived from studies of postmenopausal women. Beyond the age of 51 years, hormone therapy is an individual therapy with few risks for symptomatic patients in their 50s. It should be intermittently evaluated for long-term use.

When not contraindicated, estrogen therapy alone (oral, transdermal, or vaginal) is recommended for women who have had a hysterectomy, as it has a more beneficial risk/benefit profile.

Paroxetine and fluoxetine should not be offered to women with breast cancer taking tamoxifen. Adverse events of clonidine include hypotension, light-headedness, headache, dry mouth, dizziness, sedation, and constipation. Sudden cessation can lead to significant elevations in blood pressure.

ASCO Qualifying Statement. The use of systemic hormone therapy is not necessarily contraindicated in patients with other hormone-sensitive cancers like endometrial and ovarian cancer. Clinicians should discuss all options, including integrative approaches, with their patient, outlining the benefits and risks of each.

CONDITION: GENITAL SYMPTOMS

Recommendation 6. The Expert Panel believes that for women with symptoms of vaginal and/or vulvar atrophy, such as dryness***, the following stepwise approach should be followed:***

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THE BOTTOM LINE (CONTINUED)

Lubricants for all sexual activity or touch, in addition to vaginal moisturizers to improve vulvovaginal tissue quality, may be tried first. It should be noted that moisturizers may need to be applied at a higher frequency (three to five times per week) in the vagina, at the vaginal opening, and on the external folds of the vulva for symptom relief in female patients with cancer and survivors.[151]

For those who do not respond or whose symptoms are more severe at presentation, ***low-dose*** vaginal estrogen can be used. For women with hormone-positive breast cancer who are symptomatic and not responding to conservative measures, ***low-dose*** vaginal estrogen can be considered after a ***thorough*** discussion ***of risks and benefits.***

Lidocaine can also be offered for persistent introital pain and dyspareunia.[152]

For women with current or a history of breast cancer who are on aromatase inhibitors and have not responded to previous treatment, clinicians may offer vaginal dehydroepiandosterone.[20-23]

Finally, clinicians may offer the selective estrogen receptor modulator ospemifene to postmenopausal women without current or a history of breast cancer who are experiencing dyspareunia, vaginal atrophy, or other vaginal pain.[24-26]

Clinicians should offer pain relievers to women on aromatase inhibitors who are experiencing arthralgia that interferes with intimacy.

Clinicians may suggest the use of skin protectants/sealants applied to the external folds of the vulva in women using pads for leakage and/or discharge.

Vaginal dilators may be of benefit in the management of vaginismus and/or vaginal stenosis ***and can be offered to anyone having pain with examinations and/or sexual activity. This is particularly important for women treated with pelvic (or vaginal) radiation therapy. Ideally, benefit is greatest when started early and should not be recommended based on sexual activity or sexual orientation but, rather, to all women at risk for vaginal changes to be proactive in their sexual and vulvovaginal health.***

Cognitive behavioral therapy and ***pelvic floor (Kegel)*** exercise***s*** may be useful to decrease ***anxiety and discomfort and can*** lower urinary tract symptoms.

The Expert Panel believes that pelvic floor physiotherapy ***may be beneficial for patients experiencing symptoms of a potential pelvic floor dysfunction, including persistent pain and urinary and/or fecal leakage. Clinicians may refer patients to a urologist or urogynecologist for further evaluation and treatment of urinary incontinence or to a colorectal surgeon for fecal incontinence.***

ASCO Qualifying Statement. There is limited supportive data on the use of vaginal dehydroepiandosterone in women with a history of cancer or on endocrine therapy, so the risk/benefit for this population is not fully known. Ospemifene has not been evaluated in women with a history of cancer or on endocrine therapy, and therefore, the risk/benefit is not known for this population. A thorough discussion outlining the uncertainty should be had with the patient.

For Men With Cancer

CONDITION: SEXUAL RESPONSE

Recommendation 1. It is recommended that phosphodiesterase type 5 inhibitor (PDE5i) medications be used to help men with erectile dysfunction.

Men who do not respond to PDE5i medications should consider alternate interventions, such as a vacuum erectile device (VED), medicated urethral system for erection, or intracavernosal injection.

There may be some benefit to initiating the use of any of the above interventions earlier after cancer treatment rather than later. ***Introduction prior to treatment initiation may be of benefit to some men.***

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Surgical interventions, including penile prosthesis implantation for erectile dysfunction, can be offered to patients who are not responding to conventional medical therapy or reporting adverse effects with such therapy.

Clinicians may refer patients to a urologist for evaluation and treatment of stress urinary incontinence.

CCO Qualifying Statement. The Expert Panel believes that men are best served by being offered a combination of psychosocial counseling with the aim of greater adaptation toward long-term use and PDE5i medication adherence together with PDE5i treatment. For men who are partnered, psychosocial counseling should be directed at the couple.

Men should be aware that it might take a long time for medications to work ***and that PDE5i medications might not work for all men, especially in those with preexisting comorbidities. Clinicians should discuss with patients the appropriate duration of use and alternative options (eg, surgery) if the medications fail to work satisfactorily.***

It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation used.

Contraindications include the use of nitrates in any form. Common acute adverse effects of PDE5i medications include headaches, flushing, dizziness, upset stomach, nasal congestion, and dyspepsia.

CONDITION: GENITAL CHANGES

Recommendation 2. It is recommended that a VED be used daily to prevent penis length loss. There may be some benefit to initiating the use of VEDs earlier after cancer treatment rather than later. Early treatment with PDE5i medications may also be beneficial for this outcome.

CONDITION: INTIMACY/RELATIONSHIPS

Recommendation 3. The Expert Panel believes that individual or couples counseling should be offered for those wishing to improve relationship or intimacy issues. Current evidence does not support a particular intervention to improve intimacy or relationships.

ASCO Qualifying Statement. The opportunity for partners to be involved should be offered rather than viewed as a necessary condition.

CONDITION: OVERALL SEXUAL FUNCTIONING AND SATISFACTION

Recommendation 4: It is recommended that psychosocial counseling be offered to men with cancer (and partners) to potentially improve sexual functioning and satisfaction. It is also recommended that the use of pro-erectile agents and devices be considered, recognizing that most of the benefit is specifically for erectile dysfunction. ***With men who have sex with men, additional education may need to be provided on the changes in erection and alternative ways to maintain sexual intimacy.***

Body image, including such issues as weight changes, disfigurement, scarring, and hair loss, should be discussed and normalized in men.

Clinicians should check testosterone levels, even if the patient has a cancer that is not typically associated with hormone changes. Options should be discussed when testosterone levels are within normal range but the patient or clinician feels supplementation can have a clinical benefit and is not contraindicated.

CCO Qualifying Statement. Psychosocial counseling could be used to help couples integrate interventions into their usual sexual activities.

CONDITION: VASOMOTOR SYMPTOMS

Recommendation 5. Men with vasomotor symptoms should be offered medication for symptomatic improvements. Options would include venlafaxine, medroxyprogesterone acetate, cyproterone acetate, and gabapentin. Acupuncture may be a suitable alternative, ***as may be other integrative medicine options, such as slow-breathing techniques and hypnosis, as evidence demonstrates clinical benefit in women.***

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Psychosocial counseling (cognitive behavioral therapy) may provide a benefit and reduce vasomotor symptoms and should be offered.

ASCO Qualifying Statement. Evidence supporting the clinical effectiveness of various integrative medicine techniques exists for women experiencing vasomotor symptoms.[16-19] The ASCO Expert Panel feels extrapolation to male patients is reasonable and an option for men suffering from vasomotor symptoms.

Additional Resources

More information, including a Data Supplement, a Methodology Supplement, slide sets, and clinical tools and resources, is available at www.asco.org/survivorship-guidelines and www.asco.org/guidelineswiki. Patient information is available at www.cancer.net.

A link to the guideline, Interventions to Address Sexual Problems in People With Cancer, can be found at https://www.cancercareontario.ca/en/content/interventions-address-sexual-problems-people-cancer

ASCO believes that cancer clinical trials are vital to inform medical decisions and improve cancer care, and that all patients should have the opportunity to participate.

Sexual health is an integral component of quality of life across the lifespan. Cancer survivors who experience sexual morbidity are at an increased risk of distress and poor quality of life. Impaired emotional well-being and quality of life in turn contribute to higher rates of morbidity and mortality among affected cancer survivors.[5,6] Sexual problems commonly include decreased desire, arousal disorders, pain (largely in women), and erectile dysfunction (in men). In addition to cultural and religious influences, sexual function is affected in a multifactorial way by one's overall health (the patient's and that of his/her partner), partner relationships, previous sexual history, medications, fatigue and stress, mood, view of sexual self, body image, incontinence, and hormonal changes. Cancer can independently affect sexual function by the nature of the disease and its treatment and/or result in changes to health, body image, or view of sexual self, and altered relationships secondary to illness.

There remains an overall reluctance from both clinicians and patients to talk about cancer- and treatment-related sexual difficulties.[2,7,8] Barriers from the clinician's perspective can include feeling inadequately trained or insufficiently skilled, limited awareness of effective interventions, lack of time, lack of privacy, and concerns about making patients feel uncomfortable.[9] Beyond these reasons, studies also suggest that clinicians may make assumptions based on factors such as age and presumed interest, overall prognosis, and whether the patient has a current partner.[10] For patients, barriers similarly may include concerns about making the doctor feel uncomfortable, embarrassment around the topic, belief that it is the clinician's responsibility to raise the issue, and that their sexual health concerns are not valid or are an expected and untreatable complication of their disease and its treatment.[9,11-13]

In 2016, Cancer Care Ontario (CCO) released guideline recommendations regarding interventions to improve sexual function in individuals with cancer. ASCO has established a process for endorsing and/or adapting other organizations' clinical practice guidelines. This article summarizes the results of that process and presents the adapted practice recommendations.

The original CCO recommendations appear in Table 1 and online at https://www.cancercareontario.ca/en/content/interventions-address-sexual-problems-people-cancer.

OVERVIEW OF THE ASCO GUIDELINE ADAPTATION PROCESS

ASCO has policies and procedures for endorsing and/or adapting practice guidelines that have been developed by other professional organizations, with the goal of increasing the number of high-quality, ASCO-vetted guidelines available to the ASCO membership. The ASCO endorsement process involves an assessment by ASCO staff of candidate guidelines for methodological quality using the Rigor of Development subscale of the Appraisal of Guidelines for Research and Evaluation II (AGREE II) instrument. (See Methodology Supplement for more details.) The CCO guideline for Interventions to Address Sexual Problems in People With Cancer rated highly on the AGREE II instrument and was identified as a potential candidate for endorsement by ASCO. During the endorsement process, modifications and qualifying statements were made by the ASCO Expert Panel (Appendix Table A1, online only) to improve the guideline's applicability to the broader ASCO guideline audience. Due to the number and significance of these changes, the ASCO Clinical Practice Guidelines Committee leadership agreed that this product should be considered a guideline *adaptation*, and it was labeled as such going forward. All funding for the administration of the project was provided by ASCO.

Disclaimer

The clinical practice guidelines and other guidance published herein are provided by the American Society of Clinical Oncology, Inc. ("ASCO") to assist providers in clinical decision-making. The information therein should not be relied upon as being complete or accurate, nor should it be considered as inclusive of all proper treatments or methods of care or as a statement of the standard of care. With the rapid development of scientific knowledge, new

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Table 1. Original CCO and ASCO Adapted Recommendations and Qualifying Statements

CCO Recommendation	CCO Qualifying Statement	ASCO Adapted Recommendation	ASCO Qualifying Statement
For all people with cancer			
Recommendation 1. It is recommended that there be a discussion with the patient, initiated by a member of the health care team, regarding sexual health and dysfunction resulting from the cancer or its treatment. Ideally, the conversation would include the patient's partner, if partnered. This issue should be raised at the time of diagnosis and continue to be reassessed periodically throughout follow-up. The Expert Panel believes that this is a vital recommendation. The recommendations that follow cannot be used unless someone has taken the initiative to ask. It is recommended that there be access to resources or referral information for the patient (and partner).	None	Recommendation 1. It is recommended that there be a discussion with the patient, initiated by a member of the health care team, regarding sexual health and dysfunction resulting from the cancer or its treatment. The conversation ***could*** include the patient's partner, ***only if the patient so wishes***. This issue should be raised with the individual at the time of diagnosis and continue to be reassessed periodically throughout follow-up. The Expert Panel believes that this is a vital recommendation. The recommendations that follow cannot be used unless someone has taken the initiative to ask. It is recommended that there be access to resources or referral information for the patient (and partner).	***ASCO Qualifying Statement. The Expert Panel believes that introduction of the topic of sexual function should be held with the patient alone, with the option of later partner inclusion if desired by the patient. Discussions should be congruent with the patient's literacy level, cultural/religious beliefs, and sexual orientation. This discussion should be offered at varied points of treatment and survivorship to assess or address any changes.***
For women with cancer			
Sexual Response			
Recommendation 1. The Expert Panel believes that psychosocial counseling should be offered to women with cancer, aiming to improve elements of sexual response such as desire, arousal, or orgasm. Current evidence does not support one type of psychosocial psychosexual education and counseling to be superior to another. No recommendation can be made for pharmacological interventions.	It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation.	Recommendation 1. The Expert Panel believes that psychosocial ***and/or psychosexual*** counseling should be offered to women with cancer, aiming to improve elements of sexual response such as desire, arousal, or orgasm. Current evidence does not support one type of psychosocial ***or psychosexual*** education and counseling to be superior to another. ***Clinicians may offer flibanserin to premenopausal women who are experiencing hypoactive sexual desire disorder.***[14,15]	It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation. ***ASCO Qualifying Statement. It should be noted that flibanserin has not been evaluated in women with a history of cancer or those on endocrine therapy. In addition, the risk/benefit ratio for this medication is uncertain.***
Body image			
Recommendation 2. It is recommended that psychosocial counseling be offered to women with cancer and body image issues. If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care. No recommendation can be made for or against group therapy (with or without exercise) for women with body image issues.	None	Recommendation 2. It is recommended that psychosocial counseling be offered to women with cancer and body image issues. If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care. No recommendation can be made for or against group therapy (with or without exercise) for women with body image issues.	***ASCO Qualifying Statement. Clinicians should assess for body image issues early and often in the cancer care continuum and should take into account cultural and/or religious variations. Patients with preexisting depression and/or body image issues may be at a higher risk of susceptibility.***
Intimacy/relationships			
Recommendation 3. It is recommended that psychosocial counseling be offered to women with cancer aiming to improve intimacy and relationship issues. If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care.	None	Recommendation 3. It is recommended that psychosocial counseling be offered to women with cancer aiming to improve intimacy and relationship issues. If a woman is partnered, evidence indicates that couples-based interventions are effective when compared with usual care.	***ASCO Qualifying Statement. The Expert Panel views partner involvement in all cases to be the choice of the patient.***

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Table 1. Original CCO and ASCO Adapted Recommendations and Qualifying Statements (continued)

CCO Recommendation	CCO Qualifying Statement	ASCO Adapted Recommendation	ASCO Qualifying Statement
Overall sexual functioning and satisfaction			
Recommendation 4. The Expert Panel believes that psychosocial counseling directed at the individual or couple or delivered in a group be offered to women with cancer who have problems with overall sexual functioning. Physical exercise or pelvic floor physiotherapy, in addition to psychosocial counseling, may also be of benefit. Current evidence does not support a specific psychosocial counseling intervention to improve sexual functioning and satisfaction.	None	Recommendation 4. The Expert Panel believes that psychosocial counseling directed at the individual or couple or delivered in a group be offered to women with cancer who have problems with overall sexual functioning. Physical exercise or pelvic floor physiotherapy, in addition to psychosocial counseling, may also be of benefit. Current evidence does not support a specific psychosocial counseling intervention to improve sexual functioning and satisfaction. ***Health care providers should screen patients with cancer for overall sexual functioning and satisfaction, and a diagnosis should be established when there are physical issues playing a contributing role.*** ***All patients should be offered education and symptom management based on the patient's diagnosis. For patients having persistent concerns, such as physical issues, a gynecologic examination would be ideal. For those continuing to have relationship issues and/or distress, mental health counseling should be an option.***	***ASCO Qualifying Statement. The ASCO Expert Panel believes patients can still benefit if counseling is provided by licensed counselors available at the medical center even if specialized therapists (eg, sex therapists) are not available.***
Vasomotor symptoms			
Recommendation 5. For women with vasomotor symptoms, hormone therapy is the most effective intervention. For women unwilling or unable to use hormonal therapy, alternatives exist; for example, paroxetine, venlafaxine, gabapentin, or clonidine. Having a hormone-sensitive breast cancer is a contraindication to using systemic hormone therapy. Psychosocial counseling (cognitive behavioral therapy) may provide a benefit and reduce vasomotor symptoms and should be offered.	The Expert Panel emphasizes that women with non–hormone-sensitive cancers who develop vasomotor symptoms from their cancer treatment should be counseled to consider hormone therapy until the average age of menopause, approximately 51 years, at which point they should be re-evaluated. Risks typically cited for hormone therapy are derived from studies of postmenopausal women. Beyond the age of 51 years, hormone therapy is an individual therapy with few risks for symptomatic patients in their 50s. It should be intermittently evaluated for long-term use. When not contraindicated, estrogen therapy alone (oral, transdermal, or vaginal) is recommended for women who have had a hysterectomy, as it has a more beneficial risk/benefit profile. Paroxetine and fluoxetine should not be offered to women with breast cancer taking tamoxifen. Adverse events of clonidine include hypotension, light-headedness, headache, dry mouth, dizziness, sedation, and constipation. Sudden cessation can lead to significant elevations in blood pressure.	Recommendation 5. For women with vasomotor symptoms, hormone therapy is the most effective intervention. For women unwilling or unable to use hormonal therapy, alternatives exist: for example, paroxetine, venlafaxine, gabapentin, or clonidine. Having a hormone-sensitive breast cancer is a contraindication to using systemic hormone therapy. Psychosocial counseling (cognitive behavioral therapy) ***and/or clinical hypnosis*** may provide a benefit and reduce vasomotor symptoms and should be offered.[16-19]	***ASCO Qualifying Statement.*** The Expert Panel emphasizes that women with non–hormone-sensitive cancers who develop vasomotor symptoms from their cancer treatment should be counseled to consider hormone therapy until the average age of menopause, approximately 51 years, at which point they should be re-evaluated. Risks typically cited for hormone therapy are derived from studies of postmenopausal women. Beyond the age of 51 years, hormone therapy is an individual therapy with few risks for symptomatic patients in their 50s. It should be intermittently evaluated for long-term use. ***The use of systemic hormone therapy is not necessarily contraindicated in patients with other hormone-sensitive cancers like endometrial and ovarian cancer. Clinicians should discussion all options, including integrative approaches, with their patient, outlining the benefits and risks of each.*** When not contraindicated, estrogen therapy alone (oral, transdermal, or vaginal) is recommended for women who have had a hysterectomy, as it has a more beneficial risk/benefit profile. Paroxetine and fluoxetine should not be offered to women with breast cancer taking tamoxifen. Adverse events of clonidine include hypotension, light-headedness, headache, dry mouth, dizziness, sedation, and constipation. Sudden cessation can lead to significant elevations in blood pressure.

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Table 1. Original CCO and ASCO Adapted Recommendations and Qualifying Statements (continued)

CCO Recommendation	CCO Qualifying Statement	ASCO Adapted Recommendation	ASCO Qualifying Statement
Genital symptoms			
Recommendation 6. Women with symptoms of vaginal atrophy, such as vaginal dryness, should be managed in the same way as women without cancer. Vaginal moisturizers for daily comfort and/or lubricants with sexual activity may be tried. For those who do not respond or whose symptoms are more severe at presentation, vaginal estrogen can be safely used. Vaginal dilators may be of benefit in the management of vaginismus and/or vaginal stenosis. Cognitive behavioral therapy and exercise may be useful to decrease lower urinary tract symptoms. The Expert Panel believes that pelvic floor physiotherapy should also be offered to women with pain or other pelvic floor issues.	For women with hormone-positive breast cancer who are symptomatic and not responding to conservative measures, vaginal estrogen can be considered after a discussion.	Recommendation 6. ***The Expert Panel believes that for*** women with symptoms of vaginal ***and/or vulvar*** atrophy, such as dryness***, the following stepwise approach should be followed:*** ***Lubricants for all sexual activity or touch, in addition to vaginal moisturizers to improve vulvovaginal tissue quality, may be tried first. It should be noted that moisturizers may need to be applied at a higher frequency (three to five times per week) in the vagina, at the vaginal opening, and on the external folds of the vulva for symptom relief in female patients with cancer and survivors.***[151] For those who do not respond or whose symptoms are more severe at presentation, ***low-dose*** vaginal estrogen can be used. For women with hormone-positive breast cancer who are symptomatic and not responding to conservative measures, ***low-dose*** vaginal estrogen can be considered after a ***thorough*** discussion ***of risks and benefits.*** ***Lidocaine can also be offered for persistent introital pain and dyspareunia.***[152] ***For women with current or a history of breast cancer who are on aromatase inhibitors and have not responded to previous treatment, clinicians may offer vaginal dehydroepiandosterone.***[20-23] ***Finally, clinicians may offer the selective estrogen receptor modulator ospemifene to postmenopausal women without current or a history of breast cancer who are experiencing dyspareunia, vaginal atrophy, or other vaginal pain.***[24-26] ***Clinicians should offer pain relievers to women on aromatase inhibitors who are experiencing arthralgia that interferes with intimacy.*** ***Clinicians may suggest the use of skin protectants/sealants applied to the external folds of the vulva in women using pads for leakage and/or discharge.*** Vaginal dilators may be of benefit in the management of vaginismus and/or vaginal stenosis ***and can be offered to anyone having pain with examinations and/or sexual activity. This is particularly important for women treated with pelvic (or vaginal) radiation therapy. Ideally, benefit is greatest when started early and should not be recommended based on sexual activity or sexual orientation but, rather, to all women at risk for vaginal changes to be proactive in their sexual and vulvovaginal health.*** Cognitive behavioral therapy and ***pelvic floor (Kegel)*** exercise***s*** may be useful to decrease ***anxiety and discomfort and can*** lower urinary tract symptoms. The Expert Panel believes that pelvic floor physiotherapy ***may be beneficial for patients experiencing symptoms of a potential pelvic floor dysfunction, including persistent pain and urinary and/or fecal leakage. Clinicians may refer patients to a urologist or urogynecologist for further evaluation and treatment of urinary incontinence or to a colorectal surgeon for fecal incontinence.***	***ASCO Qualifying Statement. There is limited supportive data on the use of vaginal dehydroepiandosterone in women with a history of cancer or on endocrine therapy, so the risk/benefit for this population is not fully known. Ospemifene has not been evaluated in women with a history of cancer or on endocrine therapy, and therefore, the risk/benefit is not known for this population. A thorough discussion outlining the uncertainty should be had with the patient.***

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Table 1. Original CCO and ASCO Adapted Recommendations and Qualifying Statements (continued)

CCO Recommendation	CCO Qualifying Statement	ASCO Adapted Recommendation	ASCO Qualifying Statement
For men with cancer:			
Sexual response			
Recommendation 1. It is recommended that PDE5i medications be used to help men with erectile dysfunction. Men who do not respond to PDE5i medications should consider alternate interventions, such as a VED, medicated urethral system for erection, or intracavernosal injection. There may be some benefit to initiating the use of any of the above interventions earlier after cancer treatment rather than later.	The Expert Panel believes that men are best served by being offered a combination of psychosocial counseling with the aim of greater adaptation toward long-term use and PDE5i medication adherence together with PDE5i treatment. For men who are partnered, psychosocial counseling should be directed at the couple. Men should be aware that it might take a long time for medications to work. It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation used. Contraindications include the use of nitrates in any form. Common acute adverse effects of PDE5i medications include headaches, flushing, dizziness, upset stomach, nasal congestion, and dyspepsia.	Recommendation 1. It is recommended that PDE5i medications be used to help men with erectile dysfunction. Men who do not respond to PDE5i medications should consider alternate interventions, such as a VED, medicated urethral system for erection, or intracavernosal injection. There may be some benefit to initiating the use of any of the above interventions earlier after cancer treatment rather than later. ***Introduction prior to treatment initiation may be of benefit to some men.*** ***Surgical interventions, including penile prosthesis implantation for erectile dysfunction, can be offered to patients who are not responding to conventional medical therapy or reporting adverse effects with such therapy.*** ***Clinicians may refer patients to a urologist for evaluation and treatment of stress urinary incontinence.***	***ASCO Qualifying Statement.*** The Expert Panel believes that men are best served by being offered a combination of psychosocial counseling with the aim of greater adaptation toward long-term use and PDE5i medication adherence together with PDE5i treatment. For men who are partnered, psychosocial counseling should be directed at the couple. Men should be aware that it might take a long time for medications to work ***and that PDE5i medications might not work for all men, especially in those with preexisting comorbidities. Clinicians should discuss with patients the appropriate duration of use and alternative options (eg, surgery) if the medications fail to work satisfactorily.*** It is the opinion of the Expert Panel that any kind of regular stimulation (including masturbation) would likely be of benefit for improving sexual response, regardless of the stimulation used. Contraindications include the use of nitrates in any form. Common acute adverse effects of PDE5i medications include headaches, flushing, dizziness, upset stomach, nasal congestion, and dyspepsia.
Genital changes			
Recommendation 2. It is recommended that a VED be used daily to prevent penis length loss. There may be some benefit to initiating the use of VEDs earlier after cancer treatment rather than later. Early treatment with PDE5i medications may also be beneficial for this outcome.	None	Recommendation 2. It is recommended that a VED be used daily to prevent penis length loss. There may be some benefit to initiating the use of VEDs earlier after cancer treatment rather than later. Early treatment with PDE5i medications may also be beneficial for this outcome.	None
Intimacy/relationships			
Recommendation 3. The Expert Panel believes that individual or couples counseling should be offered for those wishing to improve relationship or intimacy issues. Current evidence does not support a particular intervention to improve intimacy or relationships.	None	Recommendation 3: The Expert Panel believes that individual or couples counseling should be offered for those wishing to improve relationship or intimacy issues. Current evidence does not support a particular intervention to improve intimacy or relationships.	***ASCO Qualifying Statement. The opportunity for partners to be involved should be offered rather than viewed as a necessary condition.***

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Table 1. Original CCO and ASCO Adapted Recommendations and Qualifying Statements (continued)

CCO Recommendation	CCO Qualifying Statement	ASCO Adapted Recommendation	ASCO Qualifying Statement
Overall sexual functioning and satisfaction			
Recommendation 4. It is recommended that psychosocial counseling be offered to men with cancer (and partners) to potentially improve sexual functioning and satisfaction. It is also recommended that the use of pro-erectile agents and devices be considered, recognizing that most of the benefit is specifically for erectile dysfunction.	Psychosocial counseling could be used to help couples integrate interventions into their usual sexual activities.	Recommendation 4. It is recommended that psychosocial counseling be offered to men with cancer (and partners) to potentially improve sexual functioning and satisfaction. It is also recommended that the use of pro-erectile agents and devices be considered, recognizing that most of the benefit is specifically for erectile dysfunction. ***With men who have sex with men, additional education may need to be provided on the changes in erection and alternative ways to maintain sexual intimacy.*** ***Body image, including such issues as weight changes, disfigurement, scarring, and hair loss, should be discussed and normalized in men.*** ***Clinicians should check testosterone levels, even if the patient has a cancer that is not typically associated with hormone changes. Options should be discussed when testosterone levels are within normal range but the patient or clinician feels supplementation can have a clinical benefit and is not contraindicated.***	Psychosocial counseling could be used to help couples integrate interventions into their usual sexual activities.
Vasomotor symptoms			
Recommendation 5. Men with vasomotor symptoms should be offered medication for symptomatic improvements. Options would include venlafaxine, medroxyprogesterone acetate, cyproterone acetate, and gabapentin. Acupuncture may be a suitable alternative.	None	Recommendation 5. Men with vasomotor symptoms should be offered medication for symptomatic improvements. Options would include venlafaxine, medroxyprogesterone acetate, cyproterone acetate, and gabapentin. Acupuncture may be a suitable alternative, ***as may be other integrative medicine options, such as slow-breathing techniques and hypnosis, as evidence demonstrates clinical benefit in women.*** ***Psychosocial counseling (cognitive behavioral therapy) may provide a benefit and reduce vasomotor symptoms and should be offered.***	***ASCO Qualifying Statement. Evidence supporting the clinical effectiveness of various integrative medicine techniques exists for women experiencing vasomotor symptoms.***[16-19] ***The ASCO Expert Panel feels extrapolation to male patients is reasonable and an option for men suffering from vasomotor symptoms.***

NOTE. Additional ASCO Expert Panel statements and edits to original CCO statements appear in ***bold italics***. Abbreviations: CCO, Cancer Care Ontario; PDE5i, phosphodiesterase type 5 inhibitor; VED, vacuum erectile device.

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evidence may emerge between the time information is developed and when it is published or read. The information is not continually updated and may not reflect the most recent evidence. The information addresses only the topics specifically identified therein and is not applicable to other interventions, diseases, or stages of diseases. This information does not mandate any particular course of medical care. Further, the information is not intended to substitute for the independent professional judgment of the treating provider, as the information does not account for individual variation among patients. Recommendations reflect high, moderate, or low confidence that the recommendation reflects the net effect of a given course of action. The use of words like "must," "must not," "should," and "should not" indicate that a course of action is recommended or not recommended for either most or many patients, but there is latitude for the treating physician to select other courses of action in individual cases. In all cases, the selected course of action should be considered by the treating provider in the context of treating the individual patient. Use of the information is voluntary. ASCO provides this information on an "as is" basis, and makes no warranty, express or implied, regarding the information. ASCO specifically disclaims any warranties of merchantability or fitness for a particular use or purpose. ASCO assumes no responsibility for any injury or damage to persons or property arising out of or related to any use of this information or for any errors or omissions.

Guideline and Conflicts of Interest

The Expert Panel was assembled in accordance with ASCO's Conflict of Interest Policy Implementation for Clinical Practice Guidelines ("Policy," found at http://www.asco.org/rwc). All members of the Expert Panel completed ASCO's disclosure form, which requires disclosure of financial and other interests, including relationships with commercial entities that are reasonably likely to experience direct regulatory or commercial impact as a result of promulgation of the guideline. Categories for disclosure include employment; leadership; stock or other ownership; honoraria, consulting or advisory role; speaker's bureau; research funding; patents, royalties, other intellectual property; expert testimony; travel, accommodations, expenses; and other relationships. In accordance with the Policy, the majority of the members of the Expert Panel did not disclose any relationships constituting a conflict under the Policy.

CLINICAL QUESTION AND TARGET POPULATION

The guideline, Interventions to Address Sexual Problems in People With Cancer, addressed the effectiveness of pharmacological interventions, psychosocial counseling, or devices to manage sexual problems after cancer treatment in both men and women. The complete set of recommendations are provided in Table 1.

The target population for the guideline, Interventions to Address Sexual Problems in People With Cancer, is adult (≥ 18 years) men and women (and their partners) of all sexual orientations living with or surviving from cancer of any type. For the purposes of this guideline, men and women who were previously treated for a childhood cancer were not included. Although out of the scope of this guideline, the Expert Panel believes that adolescents (younger than 18) with cancer also require a tailored discussion regarding sexual health and fertility, even if they are not yet sexually active. Further discussion of special issues affecting the adolescent and young adult population with cancer are found elsewhere.[27,28]

SUMMARY OF THE CCO GUIDELINE DEVELOPMENT METHODOLOGY

The CCO guideline was developed by an author Expert Panel and a Scientific Advisory Panel that included experts in gynecology, urology, medical oncology, radiation oncology, psychology, psychiatry, behavioral sciences, supportive care, and sexual health. The literature search of Ovid MEDLINE, EMBASE, CINAHL, PsycINFO, and Cochrane Database was conducted on March 6, 2013. Owing to the lack of intervention studies identified, including patients with hematologic cancer, separate searches were also run on May 1, 2014, in the same databases. Details of the search strategies and the study inclusion criteria and outcomes of interest are available at https://www.cancercareontario.ca/en/content/interventions-address-sexual-problems-people-cancer.

The searches identified 103 studies for inclusion in the guideline's qualitative synthesis of the literature. The CCO panel reviewed data from systematic reviews and primary studies covering sexual response, body image, intimacy and relationships, vasomotor symptoms, genital symptoms, and overall sexual function and satisfaction.

RESULTS OF THE ASCO METHODOLOGY REVIEW

The methodology review of the guideline, Interventions to Address Sexual Problems in People With Cancer, was completed independently by two ASCO guideline staff members using the Rigor of Development subscale from the AGREE II instrument. The Rigor subscale consists of seven items that assess the quality of the processes used to gather and synthesize the relevant data and the methods used to formulate the guideline recommendations. Items such as the use of systematic methods in the search of the evidence, explicit links between the recommendations and the evidence, and consideration of benefits and risks were assessed. Each subscale item is rated on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). Detailed results of the scoring for this guideline are available upon request to guidelines@asco.org. Overall, the guideline, Interventions to Address Sexual Problems in People With Cancer, itself scored 80%. There were some minor deficiencies with reporting on the methods for formulating the recommendations and on the strengths and limitations of the evidence considered (see Methodology Supplement at www.asco.org/survivorship-guidelines).

The preliminary ASCO content reviewers of the Interventions to Address Sexual Problems in People With Cancer as well as the ASCO Expert Panel found the recommendations to be clear and thorough in the original guideline. Each section, including the guideline recommendations, the evidentiary base, and the development methods and external review process, was clear and well referenced from the systematic review.

This is the most recent information as of the publication date. For updates, the most recent information, and to submit new evidence, please visit www.asco.org/survivorship-guidelines and the ASCO Guidelines Wiki (www.asco.org/guidelineswiki).

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RESULTS OF THE ASCO CONTENT REVIEW

The ASCO Expert Panel reviewed the guideline, Interventions to Address Sexual Problems in People With Cancer, and concurs that the recommendations are clear, thorough, and based on the most relevant scientific evidence in this content area and present options that will be acceptable to patients. For the most part, the ASCO Expert Panel agrees with the recommendations as stated in the guideline, but modifications and further qualifications are made.

METHODS AND RESULTS OF THE ASCO UPDATED LITERATURE REVIEW

This systematic review-based guideline product was developed by an Expert Panel with multidisciplinary, including patient, representation and by ASCO guidelines staff with health research methodology experience. ASCO guidelines staff updated the Interventions to Address Sexual Problems in People With Cancer literature search. PubMed was searched up to April 3, 2017. The search was restricted to articles published in English. The updated search was guided by the "signals"[29] approach that is designed to identify only new, potentially practice-changing data—signals—that might translate into revised practice recommendations. The approach relies on targeted routine literature searching and the expertise of ASCO Expert Panel members to help identify potential signals. The Methodology Supplement (available at www.asco.org/survivorship-guidelines) provides additional information about the signals approach.

The updated search yielded 159 records. A review of these results plus studies identified by searching reference lists and known seminal papers resulted in 19 new, recommendation-changing studies being included.[14-18,20,22-26,30-36,152] Table 2 summarizes the number and types of studies included per sexual dysfunction condition.

Table 2. Symptoms and Interventions for Sexual Dysfunction (adapted from CCO guideline)

Symptom	Possible Intervention	Evidence
For women with cancer		
Difficulty with sexual response, such as desire, arousal, or orgasm	Psychosocial counseling, psychosexual counseling Regular stimulation (including masturbation) Flibanerin for premenopausal women	Two systematic reviews[14,15] Two RCTs[56,57] Three other[58-60]
Body image	Psychosocial counseling, couples-based interventions	Two systematic reviews[61,62] Six RCTs[56,57,63-66] One other[67]
Intimacy/relationships	Psychosocial counseling, couples-based interventions	Zero systematic reviews Five RCTs[56,57,63,64,68] Three other[59,60,67]
Overall sexual functioning and satisfaction	Psychosocial counseling, education and symptom management, mental health counseling Physical exercise or pelvic floor physiotherapy	Four systematic reviews[61,69-71] Eleven RCTs[57,63-66,68,72-76] Five other[59,60,67,77,78]
Vasomotor symptoms	Psychosocial counseling (cognitive behavioral therapy) Paroxetine, fluoxetine (should not be offered to women with breast cancer taking tamoxifen), venlafaxine, gabapentin, or clonidine Integrative approaches, such as clinical hypnosis Estrogen therapy alone (oral, transdermal, or vaginal) when not contraindicated; hormone therapy (for women with non–hormone-sensitive cancers)	Three guidelines[19,79,80] One position statement[19] Zero systematic reviews Seven RCTs[16-18,65,66,75,76]
Genital symptoms, including dyspareunia, vaginal atrophy, or other vaginal pain	Cognitive behavioral therapy Exercise, pelvic floor physiotherapy Vaginal moisturizers, lubricants, vaginal estrogen, liquid sealants, vaginal dilators Selective estrogen receptor modulator ospemifene (for postmenopausal women without a current or history of breast cancer) Lidocaine dehydroepiandosterone Pain relievers (for women on aromatase inhibitors)	Two guidelines[79,81] Three systematic reviews[26,70,71] Eleven RCTs[20,22-25,65,66,72,75,82,152] Four other[78,83,84,151]
For men with cancer		
Sexual response, including erectile dysfunction	PDE5i medications, VED, medicated urethral system, intracavernosal injection Surgical intervention, including penile and testicular prostheses Psychosocial counseling Regular stimulation (including masturbation)	Two systematic reviews[85,86] Twenty RCTs[87-116] Twenty-six other[30-36,77,111-113,117-131]
Genital changes, body image	VED PDE5i medications	Zero systematic reviews Two RCTs[98,104] One other[114]
Intimacy/relationships	Individual or couples counseling	One systematic review[102,132] Five RCTs[102,103,110,133,134] Three other[116,135,136]
Overall sexual functioning and satisfaction	Psychosocial counseling Pro-erectile agents and devices	Two systematic reviews[132,137] Six RCTs[89,98,105,110,138,139] Three other[77,116,140]
Vasomotor symptoms	Venlafaxine, medroxyprogesterone acetate, cyproterone acetate, and gabapentin Acupuncture, hypnosis Psychosocial counseling (cognitive behavioral therapy)	Seven RCTs[16-18,115,141-143] Seven other[144-150]

Abbreviations: CCO, Cancer Care Ontario; PDE5i, phosphodiesterase type 5 inhibitor; RCT, randomized controlled trial; VED, vacuum erectile device.

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Characteristics and Quality Assessment of Included Studies

Three systematic reviews,[14,15,26] nine randomized controlled trials (RCTs),[16-18,20,22-25,152] and seven observational studies[30-36] were identified and met the inclusion criteria for the updated literature review.

Two systematic reviews[14,15] collected RCT evidence and conducted meta-analyses to assess the efficacy and safety of flibanserin in the treatment of hypoactive sexual desire disorder in women. Three RCTs[16-18] investigated clinical hypnosis as a nonhormonal treatment of hot flashes in women. One systematic review with meta-analysis[26] and two RCTs[24,25] assessed the efficacy and safety of ospemifene in treating dyspareunia associated with postmenopausal vulvar and vaginal atrophy. Three RCTs investigated intravaginal dehydroepiandrosterone on moderate to severe dyspareunia and vaginal dryness, symptoms of vulvovaginal atrophy, and the genitourinary syndrome of menopause,[20-22] and one RCT considered lidocaine in breast cancer survivors with severe penetrative dyspareunia.[152] Finally, seven observational surgical studies investigated penile prosthesis for erectile dysfunction and testicular prosthesis for patients who have undergone orchiectomy for cancer of the testis.[30-36] While none of the studies were found to have serious methodological flaws that would raise concerns about the findings, the inherent limitations of surgical observational studies should be taken into consideration. Surgical studies tended to include a relatively small number of patients, and some studies only reported short follow-up times.[30,31,33,36]

Outcomes of Included Studies

In 2015, the US Food and Drug Administration approved flibanerin as a treatment of hypoactive sexual desire disorder in premenopausal women.[14] Two systematic reviews with meta-analyses examined the effectiveness of flibanserin on primary outcomes, such as satisfying sexual events, sexual desire score, and female sexual function index.[14,15] Both found statistically significant effects in women randomized to flibanserin compared with those randomized to placebo. However, there also appeared to be a statistically significant increase in the risk of adverse effects such as dizziness, somnolence, nausea, and fatigue.

Three RCTs examined the effect of hypnosis[16-18] on reduction of vasomotor symptoms in postmenopausal women with or without a history of breast cancer. Each study found that hypnosis resulted in significant reductions in self-reported and physiologically measured hot flashes and hot flash scores in women. Additional benefits such as reduced anxiety and depression and improved sleep were also observed.[17]

One systematic review,[26] one pooled analysis of two RCTs,[24] and one additional RCT[25] investigated ospemifene, a selective estrogen receptor modulator, for the treatment of vulvovaginal atrophy and dyspareunia in postmenopausal women. All studies found a statistically significant improvement in primary outcomes that included female sexual dysfunction, vaginal dryness, dyspareunia, and vaginal and/or vulvar irritation/itching compared with placebo.

Three RCTs investigating intravaginal dehydroepiandrosterone (prasterone) in postmenopausal women all showed improvements in the signs and symptoms of vaginal atrophy, including pain at sexual activity, vaginal dryness, vaginal pH, and arousal/sensation.[20-23] Serum steroid levels appear to remain within normal postmenopausal values.[20-23]

In another RCT of 46 estrogen-deficient breast cancer survivors with severe penetrative dyspareunia, less pain during intercourse was reported with 4% aqueous lidocaine use compared with saline.[152] There was a statistically significant decrease in sexual distress (median score, 14; interquartile range, 3 to 20; $P < .001$), and sexual function improved in all but one domain with lidocaine use. Of prior abstainers from intercourse who completed the study, 85% had resumed comfortable penetrative intimacy.[152]

Seven observational studies investigated penile prosthesis for erectile dysfunction and testicular prosthesis for patients who have undergone orchiectomy for cancer of the testis. Studies evaluating the efficacy, safety, and satisfaction with penile prosthesis implantation in men with various etiologies of erectile dysfunction, including consequence of radical prostatectomy and other pelvic surgery, vascular and metabolic syndrome, and spinal trauma, found the implants to be safe and efficacious with high patient and partner satisfaction.[30-34] While the surgical techniques and types of implants used differed in these studies, overall results appear to be consistent. Statistically and/or clinically significant improvements were found in the mean International Index of Erectile Function-5 (IIEF-5) scores,[30,32,33] Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) scores,[30,31] Erection Harness Score,[34] and Global Assessment Questionnaire (GAQ) scores.[34]

High overall satisfaction with testicular implants is reported and ranges from 73% to 97%.[35] However, dissatisfaction with several particular attributes of the implants have been reported, namely the shape, consistency, size, and high intrascrotal position.[35] Acceptance rate appears to vary with age, such that the likelihood of accepting a prosthesis decreases with increasing age.[35] Psychological assessments measuring anxiety during sexual activity and desires and attempts to selectively avoid exposing one's body (or parts of one's body) to sexual partners (Body Exposure during Sexual Activities Questionnaire) showed statistically significant improvements with testicular implants ($P < .001$).[36] Similarly, the Body-Esteem Scale, which measures self-confidence of each patient toward sexuality, also showed statistically significant improvements with the implants ($P < .001$).[36] Interference with sexual activity, erectile functioning, or ejaculation was not observed.[36]

DISCUSSION

The CCO recommendations were adapted by a multidisciplinary group of experts using evidence from the supplementary literature search and clinical experience as a guide. The majority of the recommendation text is listed verbatim from the guideline; however, there are some instances where the ASCO Expert Panel made modifications or additions to the recommendations for the broader ASCO audience and to reflect local context and updated empirical evidence. These changes are identified by ***bold italics*** in the Bottom Line Box and Table 1 and discussed further below.

Initiate at Each Visit

The Expert Panel strongly recommends designation of a specific treatment team member to query and discuss with each

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patient any impact of cancer or cancer treatment on his/her sexuality. All patients should be provided with disease- and treatment-specific education and symptom management. Clinicians should initiate a discussion with the patient at the time of diagnosis and inquire about function periodically across treatment and into follow-up. For patients reporting problems in function, a diagnosis should be established when there are physical issues playing a contributing role. For women having persistent physical concerns, a gynecologic exam would be important. For women or men who disclose relationship difficulties and/or distress, referral for marital therapy should be available.

This guideline and its recommendations are patient focused, and inclusion of others, such as a partner, is the prerogative of the patient. It was acknowledged that psychosexual education is different from psychosocial education as sexual health and intimacy is often omitted in the latter conversations. Furthermore, clarification should be made about the difference between sex counseling and sex therapy. However, absence of a specialized sex therapist should not be a reason for lack of discussion. Patients can still benefit by counseling provided by available generic counselors who can help normalize the experience and increase support and guidance when a specialized sex therapist is not available. Ideally, education about the potential effect of cancer treatments on sexual function should be part of the informed consent process as well as any dialogue around plans for symptom management where therapies used themselves may affect sexual function (eg, pain medications, steroid use, antidepressants, etc). Discussions should be congruent with the patient's literacy level, cultural/religious beliefs, and sexual orientation.

Resources

A key barrier to the delivery of optimal sexual care of patients with cancer and survivors is lack of awareness of whom or what may be available to address sexual problems or concerns when raised. Clinicians are encouraged to conduct a landscape review of key personnel and local resources to address sexual health within and proximate to their practice as a first step. Because these may change over time, an annual update of this list may be needed. The Expert Panel felt it equally important for clinicians to be made aware of high-quality national resources available for both patients (and their partners) and clinicians to help with education, assessment, and management of this distinct problem. The American Cancer Society (www.cancer.org) and the National Cancer Institute (www.cancer.gov) both have comprehensive patient informational booklets about sex after cancer. International resources are also available and include the MacMillan Cancer Support Community in the United Kingdom (www.macmillan.org.uk), the Cancer Council of Australia (www.cancercouncil.com.au), and the Scientific Network on Female Sexual Health and Cancer (www.cancersexnetwork.org).[9]

Finding ways to ask about and assess sexual function is important. General screening tools include those from the National Comprehensive Cancer Network[9] and Patient-Reported Outcomes Measurement Information System (PROMIS-1) item screener.[37] Gender-specific tools include the Brief Sexual Symptom Checklist[38] (note: this scale has been adapted for use specifically in female patients with cancer[9]), Arizona Sexual Experience Scale (ASEX),[39] and Female Sexual Function Index (FSFI) for women.[40] For men, the Sexual Health Inventory for Men (SHIM),[41] Sexual Quality of Life Male (SQoL-M),[42] and PROMIS are options. (Of note, FSFI and ASEX have been validated/used in cancer survivors; others have not.) Use of standardized, validated measures are recommended for screening and assessment. Consideration should be given to routine use of a simple screening measure in the clinical setting. This may help ensure that issues related to sexual health are identified and addressed; it can also help send a message to patients that addressing sexual problems is an important part of their cancer care.

Professional organizations also exist to help clinicians identify and facilitate connections with specialists in various areas of expertise. Sexual health counselors and therapists with expertise in treating cancer survivors can be located through the American Association of Sexuality Educators, Counselors, and Therapists or the Society for Sex Therapy and Research. Additional resources for men can be found at Sexual Medicine Society of North America (www.sexhealthmatters.org). Resources specific for women include the International Society for the Study of Women's Sexual Health (www.isswsh.org); The North American Menopause Society (www.menopause.org); the American Association of Sexuality Educators, Counselors and Therapists (www.aasect.org); and the Society for Sex Therapy and Research (www.starnet.org).

Different Diagnoses Need Different Management

The ASCO Expert Panel noted the importance of broadly recognizing that different sexual problems will have different management strategies. It is important to consider both the physical as well as the psychosocial care appropriate for each of these. Furthermore, attention needs to be given to the fact that sexual satisfaction is not dependent on (and should not be narrowly defined as) the ability to engage in intercourse. Consideration should be given to the multiple ways of achieving sexual satisfaction for oneself, with or without a partner.

Across care, it is important to recognize that when adverse effects of treatment contribute to sexual dysfunction (eg, pain syndromes secondary to use of an aromatase inhibitor for women or erectile dysfunction secondary to hormonal therapy among men), this can lead to nonadherence or even discontinuation of cancer therapy. Providing information about and, as needed, relief from these (eg, pain medication for use with aromatase inhibitors) can improve sexual function. In general, improved symptom management leads to improved sexual response.[43]

Patients at high risk of cancer who choose to undergo cancer risk–reducing surgeries, such as bilateral mastectomy and/or oophorectomy, may also experience an effect on sexual functioning. Clinicians should be aware that while the target population of this guideline is people with cancer, the management strategies and support for patients undergoing prophylactic surgery should remain the same as outlined in this guideline.

Overall Sexual Functioning and Satisfaction for Women Recommendation

The Expert Panel noted that current recommendations did not address the important role of symptom management and its effect on the sexual response. Improved symptom management

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can be associated with improvement in the domains of the sexual response.[44] To this end, any underlying physical issue contributing to sexual dysfunction should be identified and managed.

Sexual Response for Men Recommendations

Body image is important to men's sexual health. Issues such as weight change, increase in breast size, disfigurement, scarring, and hair loss should also be discussed and normalized in men. Normalizing these issues may help men reach a new comfort level with body image and functioning following their cancer.

In considering potential physical contributions to men's sexual function, clinicians should check testosterone levels, even if the patient has a cancer that is not typically associated with hormone changes. Options for potential supplementation should be discussed as indicated, including when testosterone levels are within normal range but the patient or clinician feels supplementation could have a clinical benefit and is not contraindicated.

Additional management options not covered in the CCO guideline warrant further discussion, including surgical interventions for erectile dysfunction. For patients refractory to medical therapy with oral phosphodiesterase type 5 inhibitors and intracavernosal vasoactive agents, penile prosthesis implant remains a relevant and desired option.[45] Indeed, penile implants have provided a predictable and reliable way for restoring erections in those patients for whom more-conservative measures have failed.[46] Available modern models have improved durability and operability and are less prone to wear.[46] As such, any patient with cancer in whom more conservative measures for erectile dysfunction have failed should be offered a discussion of the risks and benefits of prosthesis implantation surgery. Guidelines from the American Urological Association recommend that any patient considering prosthesis implantation should be informed of the types of prostheses available and made aware of possible adverse events, including infection, erosion, mechanical failure, and penile shortening.[47] Referral to urology is appropriate for these patients.

HEALTH DISPARITIES

ASCO clinical practice guidelines represent expert recommendations on the best practices in disease management to provide the highest level of cancer care. However, many have limited access to health care. Racial and ethnic disparities in health care contribute significantly to this problem in the United States. Racial/ethnic minorities suffer disproportionately from comorbidities, experience more substantial obstacles to receiving care, are more likely to be uninsured, and are at greater risk of receiving care of poor quality than other Americans.[48-51] Many other patients lack access to care because of their geographic location and distance from appropriate treatment facilities. Awareness of these disparities in access to care should be considered in the context of this clinical practice guideline, and health care providers should strive to deliver the highest level of cancer care to these vulnerable populations.

Medically underserved populations may also suffer from low general literacy, low health literacy, and language and cultural differences that can make assessment of sexual health a challenge.[52] In the general population, low socioeconomic status is associated with a higher prevalence of sexual problems, and evidence suggests that cancer survivors in medically underserved populations have high rates of sexual inactivity and sexual dysfunction.[52]

Sexual and gender minority populations are another diverse group at risk for receiving disparate care and suboptimal experiences with their health care journey.[53] While not well studied, some evidence suggests that predictors of sexual function after cancer do not differ by sexual orientation.[10] Regardless, sexual and gender minorities should have access to culturally sensitive and competent support services (www.lgbtcancer.org).

Ultimately, health care providers should strive to offer discussions and materials congruent with the survivor's literacy level, cultural or religious beliefs, and sexual orientation. It is paramount for ensuring optimum care for such vulnerable populations.

ADDITIONAL RESOURCES

More information, including a Data Supplement with a reprint of all Interventions to Address Sexual Problems in People With Cancer guideline recommendations, a Methodology Supplement, slide sets, and clinical tools and resources, is available at www.asco.org/survivorship-guidelines and www.asco.org/guidelineswiki. Patient information is available at www.cancer.net. Visit www.asco.org/guidelineswiki to provide comments on the guideline or to submit new evidence.

Related ASCO Guidelines

- Fertility Guideline[54] (http://ascopubs.org/doi/10.1200/jco.2013.49.2678)
- Integration of Palliative Care Into Standard Oncology Practice[55] (http://ascopubs.org/doi/10.1200/JCO.2016.70.1474)
- Screening, Assessment, and Care of Anxiety and Depressive Symptoms[5] (http://ascopubs.org/doi/10.1200/jco.2013.52.4611)

AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

Interventions to Address Sexual Problems in People With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Adaptation of Cancer Care Ontario Guideline

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Appendix

Table A1. Interventions to Address Sexual Problems in People With Cancer: ASCO Clinical Practice Guideline Adaptation of Cancer Care Ontario Guideline Expert Panel Membership

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