

## ONCOLOGY

## Guidelines for Sexual Health Care for Prostate Cancer Patients: Recommendations of an International Panel



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### ABSTRACT

**Background:** Patients with prostate cancer suffer significant sexual dysfunction after treatment which negatively affects them and their partners psychologically, and strain their relationships.

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**Aim:** We convened an international panel with the aim of developing guidelines that will inform clinicians, patients and partners about the impact of prostate cancer therapies (PCT) on patients' and partners' sexual health, their relationships, and about biopsychosocial rehabilitation in prostate cancer (PC) survivorship.

**Methods:** The guidelines panel included international expert researchers and clinicians, and a guideline methodologist. A systematic review of the literature, using the Ovid MEDLINE, Scopus, CINAHL, PsychINFO, LGBT Life, and Embase databases was conducted (1995–2022) according to the Cochrane Handbook for Systematic Reviews of Interventions. Study selection was based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Each statement was assigned an evidence strength (A-C) and a recommendation level (strong, moderate, conditional) based on benefit/risk assessment, according to the nomenclature of the American Urological Association (AUA). Data synthesis included meta-analyses of studies deemed of sufficient quality (3), using A Measurement Tool to Assess Systematic Reviews (AMSTAR).

**Outcomes:** Guidelines for sexual health care for patients with prostate cancer were developed, based on available evidence and the expertise of the international panel.

**Results:** The guidelines account for patients' cultural, ethnic, and racial diversity. They attend to the unique needs of individuals with diverse sexual orientations and gender identities. The guidelines are based on literature review, a theoretical model of sexual recovery after PCT, and 6 principles that promote clinician-initiated discussion of realistic expectations of sexual outcomes and mitigation of sexual side-effects through biopsychosocial rehabilitation. Forty-seven statements address the psychosexual, relationship, and functional domains in addition to statements on lifestyle modification, assessment, provider education, and systemic challenges to providing sexual health care in PC survivorship.

**Clinical Implications:** The guidelines provide clinicians with a comprehensive approach to sexual health care for patients with prostate cancer.

**Strengths & Limitations:** The strength of the study is the comprehensive evaluation of existing evidence on sexual dysfunction and rehabilitation in prostate cancer that can, along with available expert knowledge, best undergird clinical practice. Limitation is the variation in the evidence supporting interventions and the lack of research on issues facing patients with prostate cancer in low and middle-income countries.

**Conclusion:** The guidelines document the distressing sexual sequelae of PCT, provide evidence-based recommendations for sexual rehabilitation and outline areas for future research. **Wittmann D, Mehta A, McCaughan E, et al. Guidelines for Sexual Health Care for Prostate Cancer Patients: Recommendations of an International Panel. J Sex Med 2022;19:1655–1669.**

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**Key Words:** Prostate cancer; Sexual rehabilitation; Biopsychosocial; International

## INTRODUCTION

Sexual dysfunction is the most commonly reported health-related quality of life outcome following therapies for prostate cancer, affecting men, partners, and their relationships. Sexual health care should therefore be central to prostate cancer survivorship care.

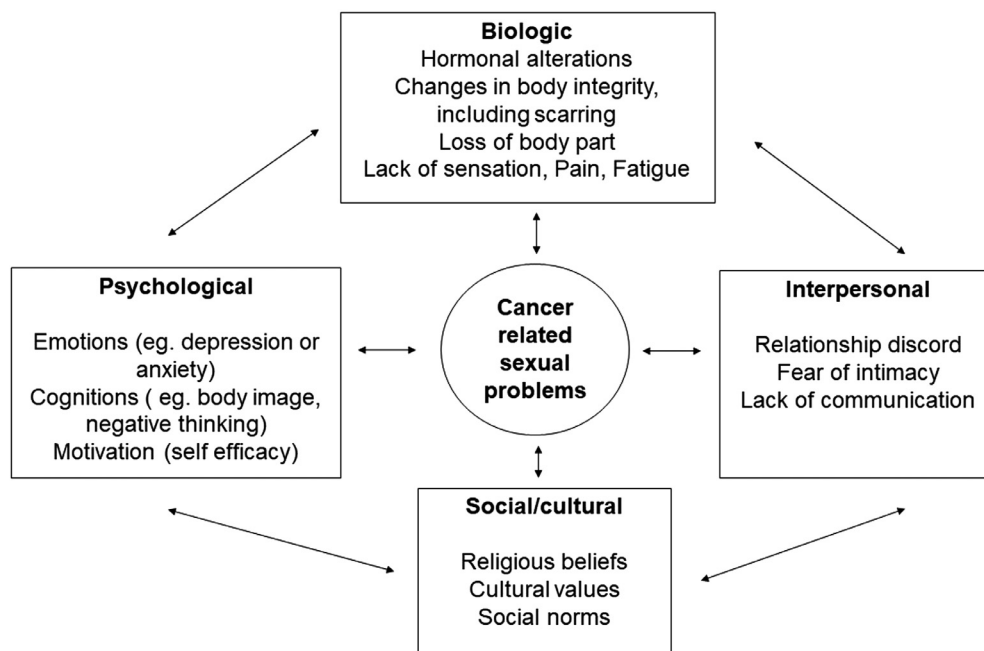
National origin, ethnicity, and race affect perspectives on gender roles, sexual orientation, relationships, health beliefs, disparities in access to healthcare, and uptake of healthcare offered. Help-seeking may be impeded by men's culture-driven discomfort about discussing sexual side-effects of treatment — a topic considered embarrassing and intensely private.<sup>1</sup>

These guidelines were created, based on a biopsychosocial model of sexuality<sup>2</sup> (Figure 1) and 6 guiding principles: (1) The healthcare provider plays an active role in routinely addressing sexual concerns in prostate cancer survivorship. (2) Sexuality and sexual recovery are multi-dimensional. (3) As a part of a new sexual paradigm in survivorship, grief and mourning have been shown to play an important role in couples' recovery of sexual intimacy, despite sexual

dysfunction.<sup>3</sup> (4) Men rarely return to baseline sexual function after prostate cancer therapy. (5) Including the partner in sexual health counseling, if both partners agree, is preferable when men are partnered. (6) Support by a multidisciplinary team of healthcare providers is needed to best support men and their partners who desire to recover sexual intimacy after prostate cancer therapy.

## METHODS

The guidelines were developed by an international expert panel and a guideline methodologist (MF). A systematic literature review, designed to reflect the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)<sup>4</sup> (Figure 2), using the Ovid MEDLINE, Scopus, CINAHL, PsychINFO, LGBT Life, and Embase databases (search dates January 1, 1995 through April 30, 2022) was conducted to identify peer-reviewed publications relevant to the impact of PCT, assessment of PCT consequences for sexuality, and treatments for sexual sequelae of PCT. The review



**Figure 1.** A biopsychosocial model of the impact of cancer on sexuality. Bober and Varella, *Journal of Clinical Oncology*, 2012, adapted, with permission.

yielded an evidence base of 610 articles after application of inclusion/exclusion criteria which were used to create the guidelines statements. Three articles met criteria for meta-analysis. Evidence assessments and recommendations followed the nomenclature of the AUA. If sufficient evidence existed, then the body of evidence for a statement was assigned a strength rating of A (high certainty), B (moderate certainty), or C (low certainty). Evidence-based statements of Strong, Moderate, or Conditional Recommendation were developed based on benefits and risks/burdens to men and their partners (Table 1).<sup>5</sup> Additional information is provided as Clinical Principles and Expert Opinion when insufficient evidence existed. For detailed information on methodology, evidence evaluation procedures, the nomenclature system, and the body of evidence strength for each statement, please see the unabridged guideline at <http://movember.com/sexualhealthguideline>.

### The Expert Panel

The initial leadership team, DW, EM, JM, discussed and agreed that there was not a comprehensive summary of research and clinical experience that would assist clinicians caring for men with prostate cancer in their approach to treating sexual dysfunction in prostate cancer survivorship. Since this is a worldwide problem and the extant research had been conducted in Japan, Australia, Europe, and North America, the team invited an international, multidisciplinary team of clinician scientists with deep knowledge of the topic of sexual dysfunction, faced by prostate cancer patients and their partners, to collaborate on developing guidelines for care that would address all aspects of sexuality — sexual function, the patient's and partner's psychological

response to it, and its impact on their relationship. Clinicians with relevant experience from low and middle-income countries were also invited, as were patients and partners whose insights were considered invaluable. The panel's goal is for the guidelines to provide clinicians, caring for prostate cancer patients, with a way to conceptualize the impact of prostate cancer therapies on all aspects of sexuality, and become aware of treatments available to help men and partners recover sexual intimacy after prostate cancer therapies.

### Guidelines Statements

#### Counseling Patients and Partners about the Impact of PCT on the Biopsychosocial Aspects of Sexuality

1. A clinician-initiated discussion should be conducted with the patient and the partner (if partnered and culturally appropriate), about realistic expectations of the impact of PCT on the patient's sexual function, the partner's sexual experience, and the couples' sexual relationship. The clinician should promote openness and inclusivity, consider cultural context, and tailor counseling to the specific needs of patients who are heterosexual, gay, bisexual (GBM), identify as men who have sex with men (MSM), transgender women, and gender non-conforming individuals. (Strong Recommendation; Evidence Strength Grade C)
2. Patients and partners should be advised that biopsychosocial treatment for sexual problems can mitigate sexual dysfunctions and lead to the recovery of sexual intimacy. (Strong Recommendation; Evidence Strength Grade C)
3. Patients and partners should be advised that psychological distress, including grief and mourning about sexual losses, resulting from the sexual side-effects of PCT, can be experienced after PCT, and that distress can be mitigated with appropriate biop-

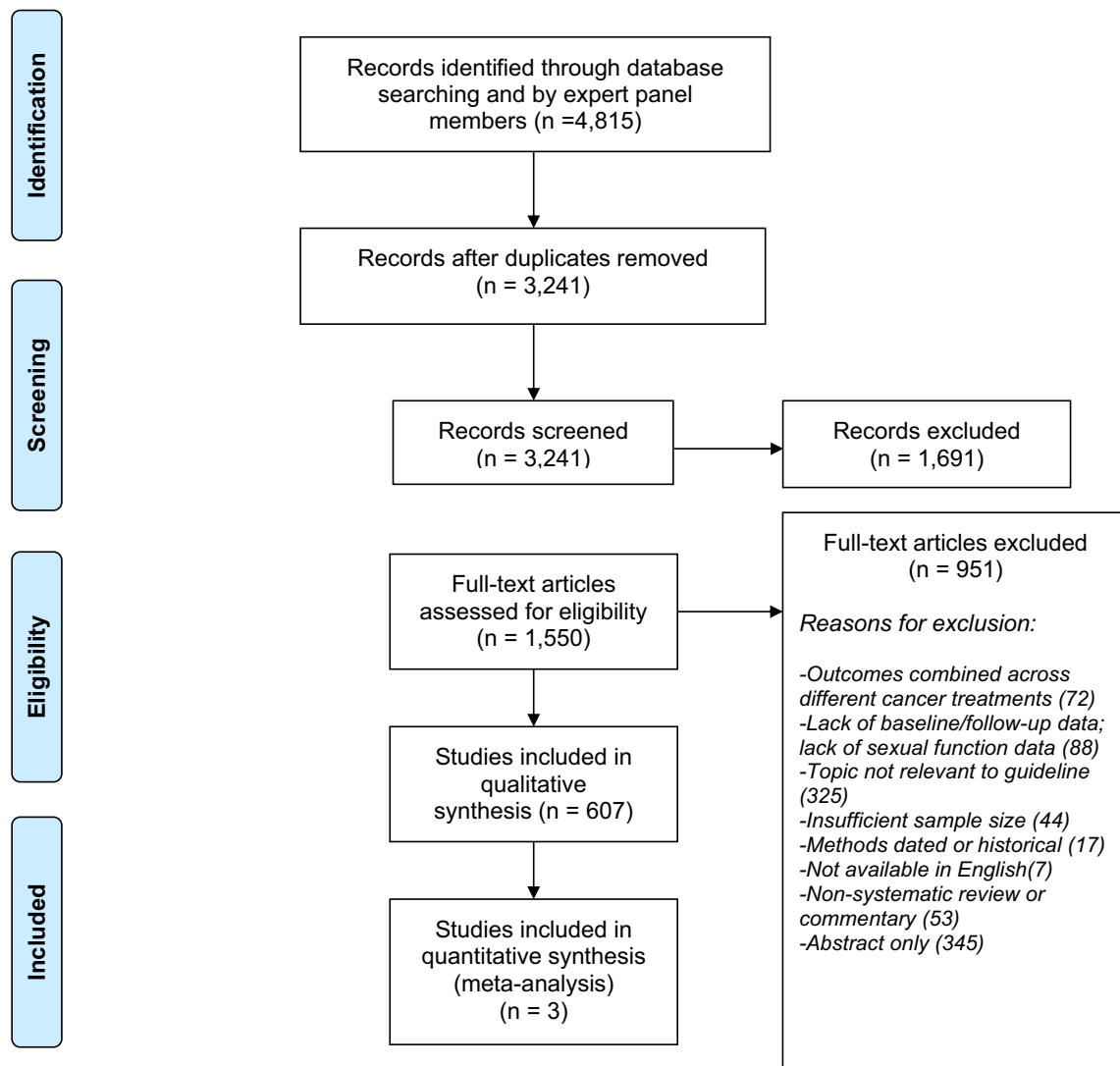


Figure 2. Preferred reporting items for systematic reviews and meta-analyses (PRISMA).

**psychosocial rehabilitation strategies. (Moderate Recommendation; Evidence Strength Grade C)**

PCT-related sexual dysfunction is ubiquitous in survivorship.<sup>6–12</sup> Approximately 81–93% of patients report that PCT negatively affects their sex lives, with 20–58% of men reporting cessation of sexual activity with their partner.<sup>13</sup> Men's body image, sense of masculinity, overall health status, and relationships also are negatively affected.<sup>14–16,17,18,19,20</sup> The impact of sexual dysfunction can be conceptualized in terms of patient, partner, and couple loss of spontaneous sexual activity, sexual identity, feelings of masculinity, and of relationship intimacy.<sup>21,22</sup> It is critical to provide psychoeducation on strategies to successfully integrate loss via the process of grief and mourning. Realistic expectations for recovery are a cornerstone of patient and partner counseling.<sup>23,24,25</sup> Including the partner is desirable: both members of the couple are affected by the patient's sexual dysfunction.<sup>19,26</sup>

In the United States, an estimated 97,845–123,006 gay and bisexual prostate cancer survivors lack appropriate healthcare for

treatment-related sexual dysfunctions.<sup>27</sup> A worldwide estimate is difficult, given that same-sex sexual behaviors are stigmatized and criminalized in almost 80 countries across the globe, but an estimated 6–20% of men have sex with men in Asia, Latin America and Eastern Europe.<sup>28,29</sup> Sexual recovery of transgender women and gender non-conforming patients with a prostate should be supported during survivorship. Stigma, discrimination, and lack of knowledge by healthcare providers can discourage these patients from seeking care.<sup>30,31</sup>

**Counseling Patients on the Impact of Individual Prostate Cancer Therapies on Sexual Function**

4. Patients and partners should be counseled that all PCTs may result in the patient's short-term and long-term erectile dysfunction (ED). (Strong Recommendation; Evidence Strength Grade B)
5. Patients and partners should be counseled that patients treated with radical prostatectomy have different trajectories of sexual function decline and potential recovery compared to patients

**Table 1.** Nomenclature linking statement type to level of certainty, magnitude of benefit or risk/burden, and body of evidence strength – AUA.

	Evidence strength A (High certainty)	Evidence strength B (Moderate certainty)	Evidence strength C (Low certainty)
Strong Recommendation (Net benefit or harm substantial)	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is substantial Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is substantial Applies to most patients in most circumstances but better evidence could change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) appears substantial Applies to most patients in most circumstances but better evidence is likely to change confidence (rarely used to support a Strong Recommendation)
Moderate Recommendation (Net benefit or harm moderate)	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is moderate Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is moderate Applies to most patients in most circumstances but better evidence could change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) appears moderate Applies to most patients in most circumstances but better evidence is likely to change confidence
Conditional Recommendation (No apparent net benefit or harm)	Benefits = Risks/Burdens Best action depends on individual patient circumstances Future research unlikely to change confidence	Benefits = Risks/Burdens Best action appears to depend on individual patient circumstances Better evidence could change confidence	Balance between Benefits & Risks/Burdens unclear Alternative strategies may be equally reasonable Better evidence likely to change confidence
Clinical Principle	A statement about a component of clinical care that is widely agreed upon by urologists or other clinicians for which there may or may not be evidence in the medical literature		
Expert Opinion	A statement, achieved by consensus of the Panel, that is based on members' clinical training, experience, knowledge, and judgment for which there is no evidence		

This table is present in all the guidelines of the American Urological Association and is reproduced here with permission.

**treated with radiotherapy. (Moderate Recommendation; Evidence Strength Grade C)**

6. Patients and partners should be counseled that after PCT, most patients do not return to their pre-treatment erectile function levels. (Strong Recommendation; Evidence Strength Grade B)
7. Patients and partners should be advised that pre-existing ED is associated with a higher risk of post-treatment ED after radical prostatectomy, regardless of the surgical technique used, and after radiotherapy, regardless of the type of radiation employed. (Strong Recommendation; Evidence Strength Grade B)
8. Patients and partners should be informed there is no clear evidence supporting the advantage of either robotic, laparoscopic, or open radical prostatectomy in terms of post-operative erectile function outcomes. (Moderate Recommendation; Evidence Strength Grade C)
9. Patients and partners should be counseled that both prostatectomy and radiation therapy may be associated with orgasmic pain, decreased sexual desire, anodyspareunia during anal intercourse, and changes in ejaculatory function. Prostatectomy results in immediate and complete loss of ejaculate volume, while radiation therapy is associated with a more gradual decline and variable reduction in ejaculate volume. (Moderate Recommendation; Evidence Strength Grade C).
10. Patients and partners should be counseled that sexual arousal incontinence and climacturia may occur after radical prostatectomy with the potential to recover with recovery of

**urinary control. (Strong Recommendation; Evidence Strength Grade C)**

11. Patients and partners should be counseled that penile length and girth/volume loss may occur after radical prostatectomy. (Moderate Recommendation, Evidence Strength Grade C)
12. Patients and partners should be informed that radical prostatectomy may be associated with an increased risk of the development of penile curvature (Peyronie's disease; PD). (Conditional Recommendation, Evidence Strength Grade C)
13. Patients and partners should be counseled regarding the diverse impacts of androgen deprivation therapy (ADT) (as a primary or as an adjuvant ADT) on sexual desire, erectile function, penile girth and length, ejaculatory function, orgasmic function, and couples' intimacy. (Strong Recommendation; Evidence Strength Grade C)
14. Patients and partners should be counseled that patients treated with combined ADT and radiotherapy are at risk for the cumulative sexual side effects associated with both ADT and radiotherapy. (Strong Recommendation; Evidence Strength Grade C)
15. Prior to undergoing PCT, clinicians should routinely ask prostate cancer patients (regardless of age) and their partners if future fertility is desired. (Moderate Recommendation; Evidence Strength Grade C)
16. Patients interested in future fertility should be counseled that PCT may negatively affect their fertility potential. These patients could consider pre-treatment sperm banking and



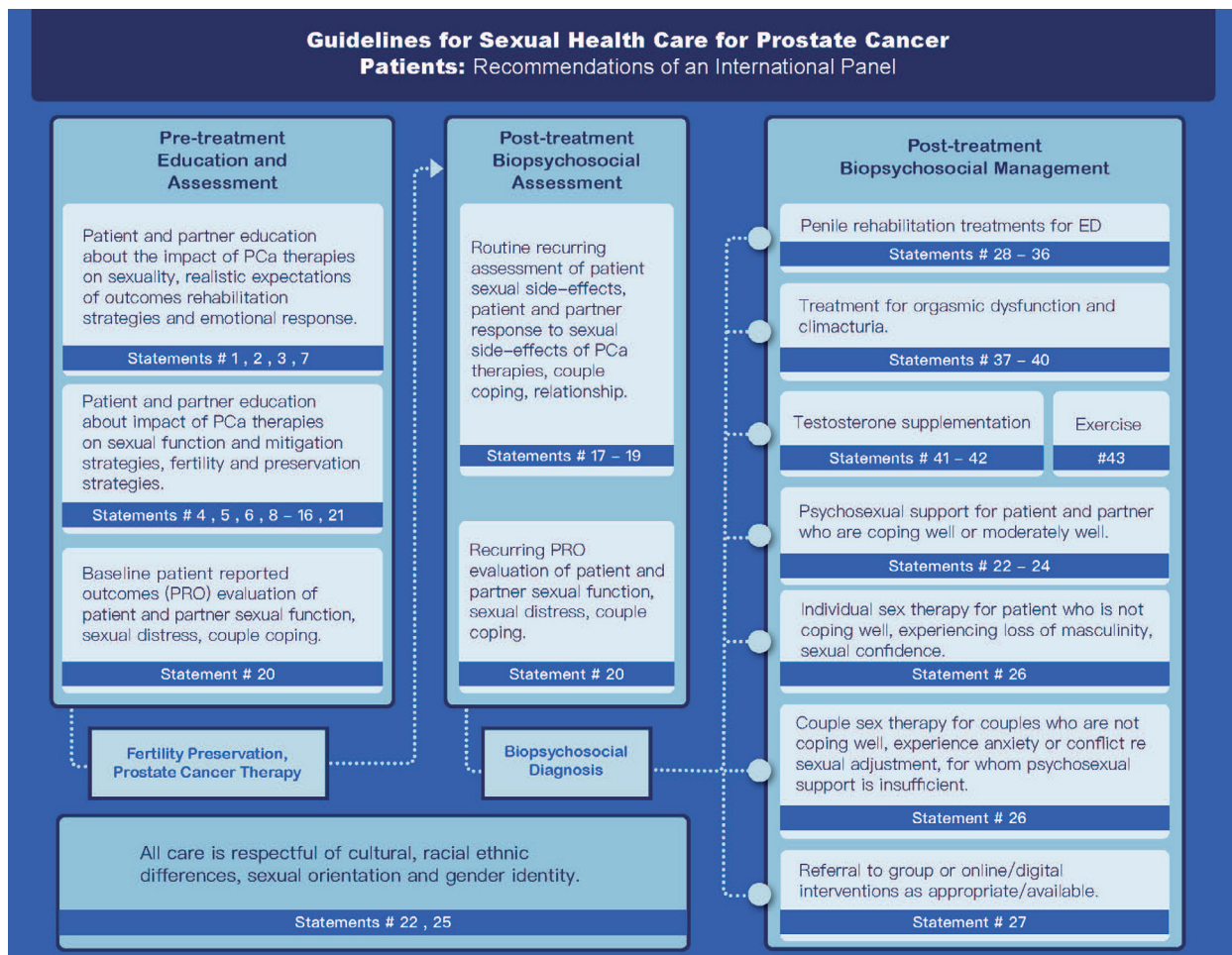


Figure 3. Guidelines for sexual health care for patients with prostate cancer.

**referral to a reproductive specialist as availability of assisted reproductive techniques and financial and cultural considerations allow. (Moderate Recommendation; Evidence Strength Grade C)**

Although patients may initially find it difficult to appreciate the way in which their sexuality will be affected, patients are more likely to develop realistic expectations and navigate the early recovery of sexual intimacy if they are prepared for the sexual side-effects of PCT.<sup>32</sup>

All PCTs can result in ED. Most men do not return to their pre-treatment erectile function levels after PCT, although better sexual function before intervention correlates with better sexual function recovery. This relationship is present regardless of surgery or radiation type or technique, and is evident across different measures of sexual function. (For a detailed discussion and supporting literature, see the full guideline <http://movember.com/sexualhealthguideline>.)

Other sexual dysfunctions that may occur after PCT, especially radical prostatectomy, include orgasmic dysfunction, sexual incontinence, anodyspareunia in men who have receptive anal

sex, penile length and girth loss, and penile curvature.<sup>33,34</sup> Although the prevalence of these dysfunctions varies widely, patients can experience significant bother, leading to avoidance of sexual relations and a decrease in quality of life.

Androgen deprivation therapy (ADT) has additional adverse impacts on sexual desire: many men significantly decrease sexual activity or stop altogether. Depression, anxiety, and emotional lability are commonly reported. Anatomic changes in response to ADT include loss of penile length and testicular size, gynecomastia, loss of body hair, and weight gain, which can substantially impact men's sexual body image and self-confidence.<sup>35</sup>

### Assessment of Sexual Dysfunction and Sexual Distress

17. Clinicians should offer screening and assessment prior to PCT and regularly throughout follow-up, tailored to cultural context, sexual orientation, and gender identity. (Clinical Principle)
18. In both pre and post PCT assessments, clinicians should pay attention to the presence of ED, low sexual satisfaction, low desire, orgasmic dysfunction [including altered orgasmic sensation, lack

of orgasm (anorgasmia), painful orgasm (dysorgasmia) and orgasm-associated urinary incontinence (climacturia), sexual arousal incontinence, changes in penile shape, girth, length or size, anodyspareunia, curvature, couples' sexual concerns and avoidance or cessation of sexual activity, and couples' sexual concerns. (Moderate Recommendation; Evidence Strength C)

19. Patients and partners should be counseled that an assessment of the partner's sexual function can help plan treatment designed to support couples' recovery of sexual intimacy. (Clinical Principle)
20. Clinicians should use validated Patient Reported Outcome (PRO) measures whenever appropriate and whenever possible to assess patients' sexual function and possibly partners' sexual function, as well as sexual distress, based on a clinical assessment of the patients' and partners' goal for sexual recovery. (Clinical Principle)

Given the significant sexual difficulties throughout survivorship, a biopsychosocial sexual health assessment is critical. Oncology clinicians can screen for concerns; specialists trained in sexual health can provide a full biopsychosocial sexual health assessment. Validated measures that assess sexual function, relationship quality, couple coping, and sexual communication exist. However, a validated measure to assess sexual relationships is yet to be developed.<sup>36–38</sup>

Assessment of the impact of PCT on sexuality should be grounded in culture-specific beliefs and values,<sup>39,40</sup> as health literacy and spirituality also affect the understanding of and give meaning to PCT, sexual side-effects, and rehabilitation.<sup>41–44</sup> The assessment of partners' sexual function can be valuable as post-menopausal female partners may experience vaginal dryness and low desire.<sup>45</sup>

Available PRO measures were normed in high income countries and may not be responsive to cultural, ethnic or racial priorities. These measures include the International Index of Erectile Function (IIEF),<sup>46,47</sup> the Erectile Function Domain (EFD) of the IIEF, the Sexual Health Inventory for Men (SHIM),<sup>48</sup> Patient-Reported Outcomes Measure Information System (PROMIS),<sup>49</sup> the Erectile Dysfunction Inventory for Treatment and Satisfaction (EDITS),<sup>50</sup> the Self-Esteem and Relationship (SEAR) Questionnaire,<sup>51</sup> the Expanded Prostate Cancer Index Composite (EPIC),<sup>52</sup> the Sexual Distress Scale in Men with Prostate Cancer (SDS),<sup>53</sup> Peyronie's Disease Questionnaire (PDQ)<sup>54</sup> and the Female Sexual Function Index (FSFI).<sup>55</sup> These measures are fully described in the unabridged guideline <http://movember.com/sexualhealthguideline>.

## Lifestyle Modification

21. Lifestyle modification should be recommended to patients to optimize their overall health and sexual health, including avoiding smoking, engaging in physical activity, weight loss, increasing consumption of healthful plant-based foods, and reducing consumption of red and processed meat. (Clinical Principle)

Diets high in fruit, vegetables, whole grains, and fish are associated with a lower risk of ED; red and processed meat and refined

grains are associated with more ED.<sup>56–58</sup> Physical activity is associated with a lower risk of ED; obesity, smoking, and alcohol consumption have been associated with a higher prevalence of ED.<sup>59</sup>

## Psychosocial Treatment

22. Clinicians should provide education, individualized sexual rehabilitation, and psychosexual support to patients and partners across the entire survivorship continuum, tailored to: PCT type, partnership status, cultural, ethnic, and racial context, sexual orientation, and gender identity. (Strong Recommendation; Evidence Strength Grade C)
23. Clinicians should normalize grief as a typical reaction to sexual losses and encourage patients and partners to whom sexual recovery is important to pursue sexual intimacy despite sexual losses. (Strong Recommendation; Evidence Strength Grade C)
24. Clinicians should include the partner, if both the patient and partner agree, and provide support for couples coping with the sexual side-effects of PCT both directly and through referral for psychosexual treatment. (Strong Recommendation, Evidence Strength Grade C)
25. Clinicians should support GBM, MSM, transgender women, and gender non-conforming patients and their partners with information relevant to their sexual experience, and guide them towards meaningful support resources. (Expert Opinion)
26. Clinicians should refer patients, partners, and couples for whom education and support are insufficient for specialty psychosexual treatment. (Clinical Principle)
27. Clinicians should make patients and partners aware of group interventions and digital health/telemedicine methodologies that can increase access to sexual health support in prostate cancer survivorship. (Moderate Recommendation, Evidence Strength Grade C)

Pre-treatment education about PCT-related sexual dysfunction and sexual recovery, addressed through education in a biopsychosocial framework, can lead to better adjustment outcomes.<sup>32,60</sup> Describing grief and mourning as a normal reaction to sexual losses and important aspects of coping can help patients and partner begin to re-establish sexual activity after prostate cancer treatment.<sup>61–63</sup>

Counseling for the use of erectile aids is supported by the most robust evidence. Couples also benefit when they are encouraged to communicate, expand sexual repertoire to non-penetrative sexual activities, and support each other during the recovery process.

Currently no evidence-based psychosocial interventions are designed for GBM and MSM although some interventions have relevant content.<sup>62,64</sup> These patients' unique needs must be considered when planning treatment. The prostate has sexual sensitivity; its surgical removal represents a loss of a sexual organ.<sup>65</sup> Radiation leads to loss of prostate sensitivity and its role in orgasm.<sup>66</sup> Other losses may include an erection firm enough for anal penetration, timing of resumption of anal penetration, the loss or diminution of ejaculate as an aspect of erotic play, and the resumption of sexual activity when the usual sexual roles ("top"

or “bottom”) are no longer available.<sup>65,67</sup> Tailored pre-treatment and post PCT counseling is needed in survivorship.

Insufficient information is available to make specific recommendations that respond to cultural, ethnic, and racial differences. Groups from different cultures vary in perceptions of sexual dysfunction-related bother, impact on mental health, and interpersonal relationships after PCT.<sup>68–70</sup>

Supporting men who are single or widowed who wish to have a relationship is equally important so that they can work towards the goal of having a successful sexually intimate relationship while using erectile aids.

It is uncertain what kind of sexual distress transgender women and gender non-conforming patients experience after PCT. Support for sexual recovery can be planned, based on the acknowledgement of their unique sexual concerns related to identity, history of hormonal and surgical treatment, and sexual goals in survivorship.<sup>71</sup>

Support groups can provide an outlet for sharing experiences about sexual recovery. Sexual orientation, gender identity, culture, race and ethnicity may dictate the kind of group support that will be acceptable.<sup>72</sup> Although rarely utilized by heterosexual couples, men in same sex relationships sometimes open up their relationship to other lovers to maximize eroticism and sexual satisfaction.<sup>73,74</sup> GBM, MSM, and transgender women may rely on non-traditional supports, having experienced rejection from families.<sup>75</sup> Patients and partners with pre-existing sexual or relationship problems, and those not coping well with the sexual changes after PCT, should be offered sex therapy referral. Online support resources, such as malecare.org, can be a particularly valuable asset in countries with few clinical resources.<sup>76</sup>

Clinical environments will make patients feel included and respected if they are decorated with images reflective of the diversity of cultures, ethnicities, races, sexual orientations, and gender identities. Handouts can be similarly composed. Intake forms that give an opportunity to specify one's gender, sexual orientation, culture, ethnicity, and racial identity can assure the patient of the likelihood that his individuality will be respected.

## Treatment of Sexual Dysfunctions

28. Clinicians should consider nerve-sparing surgical treatment options, when available and oncologically safe, irrespective of baseline ED. (Moderate Recommendation; Evidence Strength Grade C)
29. Clinicians should define the intent and goals of penile rehabilitation strategies on an individualized basis, including preservation of penile length, maintenance of corporal tissue quality, and early patient engagement in sexual recovery. Penile rehabilitation should not be equated with treatment for the recovery of unassisted erectile function. (Clinical Principle)
30. Clinicians should counsel patients that use of phosphodiesterase type 5 inhibitors (PDE5i) for penile rehabilitation in the early post-prostatectomy period (up to 45 days post-surgery) does not improve rates of unassisted and PDE5i-assisted erectile function recovery at 12 months compared to placebo. (Strong Recommendation; Evidence Strength Grade C)
31. Clinicians should advise patients there is limited evidence to determine the benefit of non-PDE5i approaches for penile rehabilitation in order to promote recovery of erectile function. (Moderate Recommendation, Evidence Strength Grade C)
32. Patients and partners should be counseled that there is insufficient evidence to definitively support penile rehabilitation with PDE5 inhibitors for the prevention of penile volume loss. (Conditional Recommendation, Evidence Strength Grade C)
33. Clinicians should counsel patients that there is insufficient evidence to fully determine the benefit of PDE5i use after radiation therapy as a strategy for penile rehabilitation. (Conditional Recommendation, Evidence Strength C)
34. Clinicians should support patients' use of pro-erectile aids, as well as non-penetrative sexual activity, if they wish to continue to engage in sexual activity. (Strong Recommendation; Evidence Strength Grade C)
35. Clinicians should discuss all available erectile function treatment options with patients following all PCT modalities, including PDE5i, intraurethral suppositories, intracavernosal injections (ICI), vacuum erection devices (VED), penile traction therapy, and penile implants. Clinicians should tailor recommendations based on patient preference, efficacy, and phase of erectile function recovery. This discussion should address benefits, risks, and contraindications associated with each option, as well as patient and partner goals. (Clinical Principle)
36. Clinicians should inform patients with persistent ED after completion of PCT about the potential benefits and risks of penile implant surgery. (Moderate Recommendation; Evidence Strength Grade C)
37. If identified, altered orgasmic sensation, difficulty reaching orgasm, or anorgasmia can be managed using a biopsychosocial approach. (Expert Opinion)
38. Persistent, bothersome dysorgasmia may be treated using alpha-adrenergic blockers. (Moderate Recommendation, Evidence Strength Grade C)
39. Patients and partners should be counseled regarding management strategies for bothersome sexual incontinence (including sexual arousal incontinence and climacturia), including psychological reframing. (Clinical Principle)
40. Patients should be counseled that there are insufficient data regarding the efficacy of pelvic-floor rehabilitation, penile tension loop, a male sling operation, or placement of an artificial urinary sphincter for the management of sexual incontinence (including sexual arousal incontinence and climacturia). (Conditional Recommendation, Evidence Strength C)
41. Clinicians may discuss the risk and benefits of testosterone therapy to improve low sexual desire in hypogonadal men following PCT. (Moderate Recommendation, Evidence Strength Grade C)
42. Clinicians should counsel patients that there are inadequate data to quantify the risks vs benefits regarding testosterone therapy to treat low sexual desire in men with treated, or active, non-metastatic prostate cancer. (Conditional Recommendation, Evidence Strength C)

Erectile dysfunction is the most pervasive and widely-studied effect of PCT. Studies that compared erectile function recovery among men who had nerve-sparing vs non-nerve sparing



procedures generally reported higher erectile function recovery rates with nerve-sparing techniques<sup>77</sup>; however, when data are aggregated across studies, pre-PCT erectile function, rather than surgical technique, is a stronger predictor of post-PCT erectile function. For citations, see the unabridged guideline <http://true-north.movember.com/SexualHealthGuideline>. It is reasonable to consider that the same functional anatomic approach can also be applied to radiation treatment. Vessel-sparing radiation has been described as 1 technique designed to preserve sexual function while maintaining high levels of cure.<sup>78</sup>

Penile rehabilitation following prostate cancer is intended to minimize the negative impact of PCT on sexual function and to engage patients in sexual recovery. It may include a combination of pharmacological and non-pharmacological strategies aimed at preserving penile length, erectile function and the quality of the corpora cavernosa; PDE5i's are most commonly employed, but have not been proven to restore erectile function.<sup>79,80</sup> Similarly, data from vacuum erection devices only report outcomes while the device is in use and do not include results after a washout period.<sup>81</sup> Preliminary data from a single RCT evaluating second generation penile traction therapy suggest possible benefits in preserving erectile function and penile length when used in the early post-operative period following prostatectomy. However, external validation is warranted.<sup>82</sup> It is also notable that penile rehabilitation is not synonymous with, and does not ensure, restoration of cavernous nerve activity.

Strategies for treatment of ED include PDE5i's, ICI, intraurethral suppository, vacuum erection devices, and penile implants. Approach to treatment should be tailored. Patients should be thoroughly counseled about the efficacy, risks, and expected outcomes with the use of any of these approaches in the context of their individual needs and expectations. Consultation with a sexual medicine or sexual health expert can also address other sexual dysfunctions such as orgasmic dysfunction, sexual incontinence, and low libido.

Orgasm is the brain's perception and interpretation of the various striated and smooth muscle (accessory glands) contractions and sensory neuronal stimulation in the pelvic region and other erogenous zones. Prostate cancer treatments can remove or radiate the prostate and surrounding bladder neck, seminal vesicles, and vas deferens which may result in altered orgasmic sensation or orgasmic threshold.<sup>83,84</sup> Psychological and physiological variants such as depression, altered erectile function, and reduced testosterone with ADT can further reduce the chance of reaching and enjoying orgasm or may even cause dysorgasmia. Pelvic floor therapy has been described as helpful for chronic pelvic pain (CPP) management and for post radical prostatectomy incontinence training.<sup>85,86</sup> Treatments for dysorgasmia may include pelvic floor therapy for general pelvic floor hypertonus but no direct literature exists.

There is a limited number of studies examining the efficacy of surgical intervention for climacturia. In a series of 46 men with climacturia and stress urinary incontinence following radical

prostatectomy 100% had resolution of their climacturia after transobdurator sling placement, while 84% had resolution of stress urinary incontinence.<sup>87,88</sup> Improvement in climacturia and SUI have also been described in small series of men undergoing mini-Jupette graft after radical prostatectomy, with >90% of patients noting significant or complete resolution of climacturia.<sup>89,90</sup>

The specific role for testosterone therapy in men with treated, active, and metastatic prostate cancer is unclear. Several small series have been reported of men with treated or non-metastatic prostate cancer who received testosterone for symptomatic hypogonadism and have shown minimal or no increased risk for prostate cancer progression in these settings.<sup>91–94</sup> However, all studies evaluating the safety of testosterone in these settings have been non-randomized and include small cohorts with relatively short follow-up.

## Lifestyle Modification Strategies

**43. Clinicians should inform patients and partners about the importance and benefits of exercise for sexual health and as a component of medical management related to ADT. (Moderate Recommendation; Evidence Strength Grade C)**

Randomized clinical trials have shown the benefit of exercise on many aspects of wellbeing that support sexual health, such as body composition, fatigue/energy level, quality of life, physical function, social functioning, psychological distress, urinary problems, cognitive decline.<sup>95</sup>

## A Summary of Guidelines Statement

Figure 3 is an at-a-glance summary of the guidelines. Guidelines statements are organized to suggest a pathway for a systematic approach to providing sexual health care to patients with prostate cancer and their partners.

## Clinician Education and Training

**44. Clinicians should undergo sexual health education in interprofessional groups using case-based/reflective learning approaches, adopting a biopsychosocial lens, and incorporating attention to ethnic and racial diversity and to sexual minorities. (Strong Recommendation; Evidence Strength Grade C)**

The most common barriers identified by clinicians to discussing sexuality are “lack of training” (38%) and “difficult issue to discuss” (27%).<sup>96</sup> Studies have documented gaps in provider education either in general sexual health care or in prostate cancer.<sup>97–99</sup> The Sexual Health & Rehabilitation e-Training program (SHARE-T) focuses on teaching participants how to do a sexual health assessment and treatment. It has produced good outcomes specific to sexual health training in prostate cancer using a web-based design.<sup>100</sup> The American Society for Clinical Oncology (ASCO) recently published a position paper that calls

for more competency-based training for providing care to sexual and gender minorities.<sup>101</sup> Competency in assessing sexual problems after PCTs should be a requirement of professional organizations administering accreditation for clinicians caring for patients with prostate cancer.

## Healthcare Programs and Systems

45. **Providers and healthcare systems should develop culturally appropriate materials for counseling patients and their partners regarding the impact of PCT on sexual health. (Moderate Recommendation; Evidence Strength Grade C)**
46. **Patient education programs about sexual recovery after PCT should be tailored to reflect local cultural influences, based on resources available in that region, conceptualization of sexual recovery, and of the priorities in that region. (Expert Opinion)**
47. **All insurance providers should cover the treatment of sexual dysfunctions secondary to PCT in order to validate this clinically important aspect of prostate cancer care and to reduce disparities in access to care. (Clinical Principle)**

Prostate cancer is prevalent among people in every corner of the world. The definition of sexuality varies with cultural, ethnic, and racial conceptualizations. To adequately define the needs of the population being cared for, providers must have cultural, racial, and ethnic awareness and clinician training.<sup>102,103</sup> Cultural sensitivity is often lacking in prostate cancer educational materials.<sup>104</sup> Patients and partners should be consulted when developing educational materials.

Most countries lack insurance coverage for erectile aids for the management of PCT-related ED or for psychosexual counseling.<sup>105,106</sup> Out of pocket cost for PDE-5 inhibitors can vary between pharmacies by as much as 38000%.<sup>107</sup> High cost and lack of coverage for medications, devices, and psychosexual counseling creates disparity, compromising patients' ability to recover post-PCT sexual intimacy.

## Future Directions

There is a growing body of evidence to validate that the concept that sexual health support is critical to the wellbeing of patients with prostate cancer and their partners, however most research has been conducted in Europe and in English-speaking countries where research resources are more available and attitudes towards prostate cancer and sexuality are relatively similar. Funding sources should be identified to promote research in low and middle-income countries on cultural, ethnic and racial groups' attitudes towards sexuality, sexual practices and preferences for support. Similarly, funding sources should be identified to promote research on sexual and gender minorities, such as men who have sex with men, trans women and gender non-conforming patients.

The most significant gap in the treatment of physiologic sexual dysfunction is the lack of evidence demonstrating convincingly that penile rehabilitation protocols improve the recovery of

erectile function. Animal models have not translated well into human recovery. At this time, the value of penile rehabilitation is largely psychological because it engages men and their partners in sexual recovery early. More research is needed to advance this area of survivorship care.

Treatment for erectile dysfunction following prostate cancer treatment is supported by well-established evidence. The major gap in care is the uncertainty about the acceptability of erectile dysfunction treatments in cultural and ethnic groups, given the stigma associated with sexual dysfunction. Locally based research can answer questions about the acceptability of sexual aids.

Psychosocial support for the use of pro-erectile treatments is now evidence-based but is not implemented in the majority of prostate cancer treatment settings. Attentiveness to partners' needs and interventions for couples are just emerging. Interventions tailored to sexual orientation and gender identity remain undeveloped. More research into the needs and preferences of these populations is needed so that relevant interventions can be developed and tested.

Lack of clinician competence to provide sexual health care is an ongoing barrier. Education to address patients' and partners' sexual health concerns and rehabilitation must become an integrated part of multidisciplinary professional training for clinicians who care for prostate cancer patients.

Addressing perceived cost will be key moving forward, as healthcare institutions claim cost is the primary barrier to patients' obtaining sexual aids and to embedding a fully trained specialist in psychosexual care in oncology treatment programs. Moreover, culturally appropriate methods for providing integrated sexual health care should be investigated.

Finally: advocacy directed at providers, institutions, and governments is needed to secure funding for research to answer questions about the psychosexual needs and resources relevant to patients and partners in low and middle-income countries. Evidence-based clinical care in prostate cancer survivorship can only grow if it becomes a societal priority. Given the considerable prevalence of prostate cancer globally, support of men and partners' efforts to recover sexual intimacy after prostate cancer treatment represents a metric of quality of prostate cancer care.

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