A cancer diagnosis can produce biomedical and psychosocial consequences such as the loss or decreased function of body organs, weakness and debilitation, energy reduction, altered body image, social isolation, and unanticipated demands on time and finances. All of these factors can and do affect patients’ sense of self, often leading to an altered or diminished sexual self-concept (Bruner & Boyd, 1999; Spiegel & Diamond, 1998). Because human beings are sexual from the time of birth until their death, we have learned to accept the fact that sexuality is an inherent and important aspect of human life.
aspect of being human. Consequently, especially in the past
decade, we have begun to treat sexuality changes and con-
cerns related to cancer treatment with increased commit-
ment and care. As nurses intervene with patients and their partners,
employing reliable and valid interventions is important.
Nurses can accomplish this by examination of best evidence
and providing patient care according to evidence-based prac-
tice. A goal of this article is to present the state-of-the-science
in managing sexual dysfunction in patients with cancer.

According to its title, this article focuses on “dysfunction.” Perhaps after closely reviewing the best-evidence litera-
ture for the management of this symptom, one’s focus will
begin to shift to sexual “function.”

Hughes (1996) defined sexual dysfunction as “the inability
to express one’s sexuality in a manner that is consistent with
personal needs and preferences” (p. 1597). This disruption
can manifest itself through a decreased body and sexual self-
image (i.e., “sexuality” or a person’s masculinity and feminin-
ity), which can lead to a reduction in the frequency of sexual
activity, sexual arousal, and satisfaction (i.e., “physical sexual
performance”). Differentiating between sexuality and physi-
ological changes caused by hormonal manipulation may cause
altered, but neither can be destroyed by cancer if clinicians
help patients to focus on who they are as men or women and
to modify the meaning of physical sexual performance.

Sexual drive draws human beings together for biologic re-
production, but sexuality goes far beyond this. It influences
behavior, speech, appearance, and many other aspects of life.
Sexuality brings people together to give and receive physical
affection. Although sexual intimacy is important, it is not the
only form of intimacy. For many, sexual intimacy is not an
available or desired form of closeness. A close friendship or
a loving grandparent-grandchild relationship can provide re-
warding opportunities for nonsexual intimacy. Because can-
cer and its treatment can prevail upon sexual intimacy or a
close friendship and impair self-esteem and relationships, it is
imperative that clinicians assess for and intervene to prevent
and manage sexual dysfunction related to cancer.

Patients with any type of cancer can experience sexual dys-
function; therefore, this review will use a biopsychosocial
model to ascertain which interventions are used most often
according to the biologic process of cancer, the effects of
treatment, and the emotional and psychological responses to
cancer. Biologically, patients can suffer anatomic changes
such as amputation of a limb or breast, facial alterations and
scars, or ostomies. A direct effect on the sexual response cycle
can be caused by pelvic surgery or irradiation of the genitals,
the bladder, the colon, or the neurovascular pathways. Physi-
ologic changes caused by hormonal manipulation may cause
premature menopause and estrogen deficiency, resulting in
loss of lubrication and dyspareunia in women. In men, they
have can cause testosterone deficiency, resulting in a decrease in or
loss of erection. Chemotherapy can cause weakness, fatigue,
nausea, vomiting, diarrhea, hair loss, skin changes, and weight
gain secondary to medications such as tamoxifen. Decreased
or lost fertility can result from all forms of cancer treatment

Psychosocially, patients may experience loss of desire from
negative emotional states such as anxiety, depression, anger,
despair, and sadness. Other causes of stress may include loss
of personal control over bodily functions, decreased body
image and attractiveness, fear of rejection, role strain, and
poor communication (Shell, 1998). Realizing that these emo-
tions are directly related to decreased desire and sexual dys-
function is important (Auchincloss, 1991; Dobkin & Bradley,
1991; Meyerowitz, Desmond, Rowland, Wyatt, & Ganz,
1999; Monga, 1995).

Prevalence of Sexual Dysfunction
Relevant to Cancer

The extent and nature of sexual problems in patients with
cancer vary, but studies have reported sexual dysfunction
prevalence ranging from 20%–100% (Derogatis & Kourlesis,
1981; Ganz, Rowland, Desmond, Meyerowitz, & Wyatt, 1998;
Kaplan, 1992; Monga, 1995; Newland & Massie, 1996;
Schover, Evans, & von Eschenbach, 1987) and more have
been identified since then. Sexual dysfunction in patients
with cancer is not limited to cancers of the genital organs or the
breast. Other cancers that result in cosmetic changes (e.g., bone,
head and neck) or general debilitation (e.g., lymphoma, lung
cancer) can cause alteration in self-image and dysphoria that
may preclude sexual intimacy (Gamba et al., 1992; Monga,
Tan, Ostermann, & Monga, 1997; Sarna, 1993).

Because a systematic review in relation to interventions for
sexual dysfunction in patients with cancer does not exist in
today’s literature, a narrow focus on only two or three symp-
toms or disease sites would be a disservice to practicing cli-
nicians. Therefore, an extensive review has been performed
encompassing many cancer sites, both genital and nongenital.
The author anticipates that this article will provide useful in-
formation for those clinicians in need of intervention re-
sources.

Assessment of Sexual Dysfunction
in Patients With Cancer

To provide appropriate management for sexual dysfunction
resulting from cancer and its treatment, clinicians acknowl-
edge the need for assessment, although determining when to
conduct the assessment can be difficult. If patients are over-
whelmed by the cancer diagnosis, are consumed with the fear
of dying, or have other problems related to family, deferring
in-depth assessment until the crisis passes might be wise.
Auchincloss (1989) confirmed this by explaining that “. . . at
the time of diagnosis, the patient may be more concerned
about the illness and the risk of dying, but worry about the
impact of treatment on one’s sex life soon follows, often asso-
ciated with fears of becoming a burden to one’s partner and of
abandonment” (p. 393). Many clinicians and researchers agree
that at least one or two generic questions regarding sexual
concerns should be included in the initial history and physical,
especially when cancer treatments are likely to cause sexual
problems (Andersen, 1990; Auchincloss, 1989, 1991; Bruner
& Iwamoto, 1996; Monga, 1995; Schover, Montague, &
Lakin, 1997; Shell, 1997; Smith, 1994). Schover et al. (1997)
suggested that rehabilitation options related to planned treat-
ment also should be mentioned at least briefly during treat-
ment planning. Not only is assessing for sexual dysfunction at
the time of initial diagnosis important, but continued evalua-
tion also is needed during and after treatment (Andersen,
1990; Auchincloss, 1989, 1991; Dudas, 1991; Schover et al.,
1997). Providing reassurance that sexual problems can be dis-
cussed and treated at any time helps patients to realize that these issues are as important as being able to cope with surgery or chemotherapy. It indicates, as well, that the practitioner or clinician is capable of and willing to discuss sexual issues.

Clinical Assessment Techniques

Even though clinicians may be willing to incorporate a sexual assessment into the initial and ongoing assessment of their patients, they often have little time to do so. Identification of patients at risk for sexual dysfunction is simplified by the use of a short, but thorough, assessment technique (Anastasia, 1998; Andersen, 1990; Bruner & Iwamoto, 1996). A few questions have been adapted for patients with cancer that clinicians can incorporate into their daily assessments and conversations (McPhetridge, 1968) (see Figure 1). Asking these questions takes little to no extra time as nurses perform a physical examination or administer chemotherapy, and they have been employed by several clinical experts in the field as well (Bruner & Iwamoto; Lamb & Woods, 1981; Waxman, 1993). Although these questions are brief, other barriers to assessment do exist. Privacy in some settings, especially in a chemotherapy infusion room, is difficult to secure. Access to patients is more difficult because of outpatient procedures or short stays. In addition, fewer nurses and more medical assistants currently are caring for patients in both inpatient and outpatient settings. Clinician discomfort with the topic of sexuality also may be a factor; however, this possibly may be alleviated with expanded knowledge about interventions or appropriate referral sources for counseling.

When clinicians do have a longer time interval to spend with patients, a more in-depth assessment using the Activity, Libido/desire, Arousal/orgasm, Resolution, Medical history (ALARM) method will yield more information (see Table 1). Assessment of patients’ sexual functioning permits clinicians to individualize the description of possible sexual dysfunctions resulting from treatment (Andersen, 1990). As sexuality information is shared with patients throughout the cancer continuum, a precedent is set for patients to voice future concerns.

Instruments for Research Purposes

Researchers agree that longitudinal assessment, including at pretreatment, provides better and higher quality assessment information. Dobkin and Bradley (1991) asserted that “collecting data on an ongoing basis either before or as soon after treatment as possible and for as long as feasible—i.e., a prospective, longitudinal, repeated-measures design—would be better” (p. 61). They reviewed the literature from between 1980 and 1990 and selected 15 clinical and empirical studies that assessed sexual dysfunction. They found a lack of standardization of instruments among the studies and that only a few of the instruments available for use were developed systematically using statistical techniques to validate them accurately. Bruner and Boyd (1999) reported that many questionnaires exist but no particular all-inclusive or comprehensive questionnaire has emerged to assess sexuality.

The Derogatis Interview for Sexual Functioning (DISF) is a sexual function assessment tool that measures the quality of current sexual functioning in a format that parallels the phases of the sexual response cycle (Derogatis, 1987). It has been used to study sexual function in patients with prostate and head and neck cancer (Monga et al., 1997; Zinreich et al., 1990). It has five domains (Sexual Cognition/Fantasy, Arousal, Behavior/Experience, Orgasm, and Sexual Drive/Relationship), 26 interview items, and female and male versions. A “self-report” version (DISF-SR) also has been designed to be comparable to the DISF interview version. The items are rated on a four-point Likert scale. Internal consistency, test-retest, and inter-rater reliability studies show both the DISF and the DISF-SR to be highly reliable. Construct validity also has been established.

Another instrument, the Sexual Adjustment Questionnaire (SAQ), assesses desire, activity level, relationship, arousal, sexual techniques, and orgasm (Waterhouse & Metcalfe, 1986). It was created to assess the impact of cancer or surgery on sexual function and has been used in many sexual research trials (Bruner, Scott, & McGowan, 1998; Ratliff et al., 1996). The SAQ has 106 items and is divided into sections A, B, and C, with 37, 30, and 39 items, respectively. It is administered at three different points in time. Section A is administered 4–6 weeks after treatment, Section B is administered approximately 2 weeks after Section A, and Section C is administered 16–20 weeks post-treatment. Most responses are rated on a five-point Likert scale and have female and male versions. Content and construct validity have been established. Pearson correlation coefficient was used to determine test-retest reliability on each subsection of the questionnaire. Factor analysis was not reported (Waterhouse & Metcalfe).

Both instruments have been employed in many studies to assess quality of sexual function and produce reliable and

<table>
<thead>
<tr>
<th>Table 1. ALARM Assessment Method</th>
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<tr>
<td><strong>Action</strong></td>
</tr>
<tr>
<td>A = Activity</td>
</tr>
<tr>
<td>L = Libido/desire</td>
</tr>
<tr>
<td>A = Arousal/orgasm</td>
</tr>
<tr>
<td>R = Resolution</td>
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<tr>
<td>M = Medical history</td>
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</tbody>
</table>

Note: Based on information from Andersen, 1990.

Figure 1. McPhetridge (1968) Assessment Questions

1. Has having cancer (or its treatment) interfered with your being a mother (father, partner, wife, husband)?
2. Has your cancer (or its treatment) changed the way you see yourself as a woman (man)?
3. Has your cancer (or its treatment) caused any change in your sexual functioning (sex life)?
4. Do you expect your sexual functioning (sex life) to be changed in any way after you leave the hospital (outpatient facility)?
valid data. Both instruments are brief, so patients are more likely to be willing to complete them because of little infringement on their time and energy. The DISF-SR has been well received by patients with cancer presently being studied by the author (newly diagnosed patients with lung cancer). These patients often become quite ill during treatment. They have been willing to participate initially, and most have remained participants over a four-month period of time. Both instruments take less than 15–20 minutes to complete, which is an advantage when patients already may be experiencing the effects of treatment side effects.

Evidence-Based Review for Symptom Management of Sexual Dysfunction

A careful and exhaustive review of the nursing and health-related literature to identify best evidence in relation to interventions to promote sexual function associated with cancer and its treatment identified very few studies of good quality. Databases searched included Cancerlit, CINAHL, Medline, and Psychabstracts from 1980–2000. Only English language articles were considered. Search terms used included sex, sexual, sexuality, and all variations of cancer and neoplasms. After general citations were identified, the terms review articles, meta-analysis, and systematic review were used. No general or systematic review articles or meta-analyses related to management of sexual dysfunction in patients with cancer were found. This fact was corroborated by Leslie Schover, PhD, a clinical psychologist from the University of Texas M.D. Anderson Cancer Center in Houston, TX, and an expert in the field of sexuality. Eight intervention studies with various attributes were found that provided a variety of interventions, both psychosocial and pharmalogic (biologic).

Many nonrandomized studies have documented a problem with sexual dysfunction in the cancer population (Andersen, Anderson, & deProsse, 1989; Blackmore, 1988; Meyerowitz et al., 1999; Monga et al., 1997; Schag et al., 1993; Schover & von Eschenbach, 1985; Stanford et al., 2000). Several of these authors advocate interventions but do not specify the intervention, or they encourage intervention research in general but do not provide definite suggestions.

Because only eight studies included interventions, lower levels of evidence demonstrating causality needed to be explored, including practice guidelines and expert opinion related via journal articles and case studies. Selection of practice guidelines, journal publications, and case studies was made according to the following criteria.

- Publications that addressed a type of sexual dysfunction related to cancer or its treatment
- Publications dated between 1980 and 2000
- Opinion of an expert authority, agency, or committee or a case study
- Evaluated or suggested intervention for the identified sexual dysfunction

One should note that all literature included within this evidence-based article is evaluated according to the Priority Symptom Management (PRISM) Project levels of evidence scheme, from the strongest level of evidence to the weakest level (Ropka & Spencer-Cisek, 2001) (see Table 2). For the sexual dysfunction symptom, no study was found that merited

<table>
<thead>
<tr>
<th>Table 2. PRISM Levels of Evidence</th>
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<tbody>
<tr>
<td><strong>PRISM Level</strong></td>
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<tr>
<td>----------------</td>
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<tr>
<td>I</td>
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<td></td>
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<tr>
<td>III</td>
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</table>

*Levels of evidence range from the strongest evidence at the top to the weakest level of evidence at the bottom.

a PRISM level I designation. The eight research-based studies and the practice guidelines are all categorized within the PRISM level II designation. The nonresearch-based evidence is placed in the PRISM level III category because it highlights expert opinion and a case study.

**Critical Appraisal of Evidence**

**Research-Based Evidence**

Of the eight studies, only three were randomized and one had very few subjects (20 couples). Six were conducted in the 1980s (Cain, Kohorn, Quinlan, Latimer, & Schwartz, 1986; Capone, Good, & Westie, 1980; Christensen, 1983; Houts, Whitney, Mortel, & Bartholomew, 1986; Schover et al., 1986, 1987). The other two were recent studies (Barton et al., 1998; Ganz et al., 2000). Sexuality issues investigated were biologic in one breast cancer study and psychosocial in six studies (using various counseling techniques such as group versus individual), and one study reported biologic and behavioral outcomes. Table 3 presents levels of evidence for each study.

The most recent study was a randomized trial that evaluated hot flashes, vaginal dryness, bladder control, and sexual functioning (Ganz et al., 2000). Seventy-six women treated for breast cancer entered the study and were evaluated over four months; 72 were evaluable at the end of the study. The women were assigned randomly to the intervention group or the usual-care group. Interventions included symptom assessment and management using pharmacologic and behavioral interventions for three target symptoms: hot flashes, vaginal dryness, and stress urinary incontinence. Comprehensive assessment revealed that women who received the intervention improved their sexual functioning and menopausal symptoms (p = 0.04 and 0.0004, respectively); however, vitality did not change (p = 0.77). This suggests that intervention does lead to improvement in sexual functioning and a reduction in other bothersome symptoms.

The next study was a placebo-controlled, randomized crossover trial that evaluated the use of vitamin E for hot flashes in breast cancer survivors (Barton et al., 1998). The 105 patients who finished the first treatment period showed a similar reduction in hot flash frequencies (25% versus 22%; p = 0.90) for the two study arms. A crossover analysis showed that vitamin E was associated with a minimal decrease in hot flashes (one less hot flash per day than with a placebo; p = 0.05). At study end, patients did not prefer vitamin E to placebo (32% versus 29%, respectively). Although the results demonstrated a statistically significant reduction in hot flashes among those taking vitamin E, the clinical importance of the difference was minimal. In retrospect, some may question whether hot flashes are truly a sexuality issue. However, hot flashes do cause women to lose sleep and become fatigued, and they signify menopause to many women, which may create femininity issues. In addition, women also can experience them during sexual intercourse, which can cause disruption and be a truly bothersome experience.

### Table 3. Research-Based Levels of Evidence

<table>
<thead>
<tr>
<th>Reference/PRISM Level</th>
<th>Type of Sexual Dysfunction</th>
<th>N</th>
<th>Disease</th>
<th>Study Design</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ganz et al., 2000/Level 2</td>
<td>Hot flashes, vaginal dryness, bladder control, and sexual functioning</td>
<td>76</td>
<td>Breast cancer (patient)</td>
<td>Randomized clinical trial</td>
<td>Medications (Bellergal-S®), vaginal lubricants, Kegel exercises, counseling, and education</td>
</tr>
<tr>
<td>Barton et al., 1998/Level 2</td>
<td>Hot flashes</td>
<td>120</td>
<td>Breast cancer (patient)</td>
<td>Randomized clinical trial (crossover)</td>
<td>Vitamin E or placebo</td>
</tr>
<tr>
<td>Christensen, 1983/Level 2</td>
<td>Psychosocial discomfort</td>
<td>20</td>
<td>Breast cancer (couples)</td>
<td>Randomized clinical trial</td>
<td>Treatment (counseling) or control conditions</td>
</tr>
<tr>
<td>Schover et al., 1987/Level 2</td>
<td>Arousal-phase dysfunction, low sexual desire, dyspareunia, anxiety, and depression</td>
<td>384</td>
<td>Gynecologic cancer (patient, couple)</td>
<td>Descriptive, retrospective case series</td>
<td>One or two interview sessions</td>
</tr>
<tr>
<td>Capone et al., 1980/Level 2</td>
<td>Emotional distress and frequency of intercourse</td>
<td>56</td>
<td>Gynecologic cancer</td>
<td>Quasiexperimental, non-equivalent control group</td>
<td>Crisis-oriented counseling intervention shortly after diagnosis</td>
</tr>
<tr>
<td>Houts et al., 1986/Level 2</td>
<td>Interpersonal relationship and sexual intercourse</td>
<td>32</td>
<td>Gynecologic cancer</td>
<td>Quasiexperimental</td>
<td>Treatment (counseling and education) versus control conditions</td>
</tr>
<tr>
<td>Cain et al., 1986/Level 2</td>
<td>Body image and sexual intercourse</td>
<td>72</td>
<td>Gynecologic cancer</td>
<td>Experimental</td>
<td>21 individual treatment (counseling), 22 group, and 29 no treatment control</td>
</tr>
<tr>
<td>Schover et al., 1986/Level 2</td>
<td>Erectile dysfunction and coital or noncoital stimulation</td>
<td>112</td>
<td>Bladder cancer (males)</td>
<td>Descriptive</td>
<td>Sexual counseling</td>
</tr>
</tbody>
</table>
Christensen (1983) evaluated 20 heterosexual couples and the effect of a structured treatment program on psychosocial discomfort following mastectomy. The couples were assigned randomly to treatment and control conditions and were administered an assessment battery before and after treatment that measured change in marital happiness, sexual satisfaction, depression, self-esteem, helplessness, anxiety, alienation, and emotional discomfort. Analysis of variance yielded no significant difference between experimental and control conditions on any of the dependent variables. A supplemental analysis of covariance using the pretest as a covariate revealed that the treatment reduced emotional discomfort and increased sexual satisfaction for both partners and reduced depression in patients. The author recommended further study of the treatment, controlling for the subjects’ level of distress prior to treatment.

Of the five remaining studies, one assessed sexual satisfaction outcomes in 118 patients (Schover, 1987). Unfortunately, treatment success was rated by the therapists rather than by the patients themselves. The other four trials evaluated sexual activity and function using various standardized outcome measures (e.g., Profile of Mood States), interview, self-reports, and experimenter-derived multiple-choice questionnaires from 3–12 months post-treatment.

The next strongest level of evidence may be referred to as summary sources. Experts in the field of oncology nursing compiled these sources relative to management of sexual dysfunction. They are the Oncology Nursing Society (ONS)/American Nurses Association (ANA) Statement on the Scope and Standards of Oncology Nursing Practice (Iwamoto, Rumsey, & Summers, 1996), chapters in ONS’s Guidelines for Oncology Nursing Practice (Hogan, 1991), and the American Cancer Society’s (ACS’s) A Cancer Source Book for Nurses (Barton-Burke, 1997). The ONS/ANA standards primarily provide general sexuality assessment and outcome criteria, and the ONS guidelines and ACS source book include a more extensive description of sexual dysfunction and the interventions to treat this symptom. Although many diverse interventions are reported in these resources, few have been created through evidence-based study. Their PRISM level is II, with level of evidence number 7.

Nonresearch-Based Evidence

The concept of symptom management to rehabilitate sexual function is not restricted to only restoring sexual activity. It is about integrating physiologic symptoms with emotions and creating interventions that affect patients’ body image and relationship satisfaction along with physical desires. The following related interventions all stem from expert opinion and case studies, and although this is the weakest level of evidence, it is the best that is available from the experts.

A popular and often applied model for sexual rehabilitation is Annon’s (1976) PLISSIT (Permission, Limited Information, Specific Suggestions, and Intensive Therapy) model. Most sexuality experts consider this to be a type of intervention or “counseling” model. Patients progress along the continuum not only according to their own preference for more information but also according to clinicians’ knowledge and skill pertinent to the stated problem and patients’ progress. This model usually is advocated within general nursing texts on sexuality and cancer. However, some literature refers to the model in relation to specific cancer sites. Eleven references regarding the use of the PLISSIT model are summarized in Table 4. All of the references equate to PRISM level III.

Even though many clinicians use the PLISSIT model for symptom management, it is often a general model without definite biologic or psychosocial interventions. Therefore, if clinicians want precise site-specific interventions, they must return to the literature for further studies or expert opinions. This systematic review details references for specific interventions for sexual dysfunction symptoms related to several of the major cancers, including breast, colon, head and neck, genitourinary (prostate, testicular, bladder), and gynecologic (cervical, uterine, ovarian) cancer (see Table 5). Elaboration on the specific interventions for the sexual dysfunctions mentioned are complex and beyond the scope of this review.

Breast cancer: Women with breast cancer often must face the side effects of chemotherapy or hormone therapy along with their surgical treatment, be it mastectomy or breast-conserving surgery followed by radiation therapy. Along with the effects that may be related to decreased estrogen and androgen levels (e.g., hot flashes, vaginal dryness, dyspareunia, osteoporosis, increased risk for myocardial infarction), other physical effects (e.g., weight gain) and emotional effects (e.g., mood swings, anxiety, depression, irritability, insomnia) can be just as devastating. Both the physical and psychological aftermath can affect the sexual response cycle (i.e., excitement, plateau, orgasm, and resolution), causing the couple to consequently avoid sexual intimacy. Interventions may be derived from behavioral, nursing, medical, and surgical domains. Of the eight articles reviewed pertinent to sexual function in women with breast cancer (Ganz et al., 1998; Kaplan, 1992; Meyerowitz et al., 1999; Renshaw, 1994; Schover, 1991, 1994; Schwarz-Appelbaum, Dedrick, Jusenius, & Kirchner, 1984; Young-McCaughan, 1996), five briefly mention interventions. Suggested interventions range from marital therapy, role playing, and communication training to education and medical management for dyspareunia and hot flashes. Few authors describe precise interventions. The one reference with extensive therapeutic information specific to breast cancer (Schwarz-Appelbaum et al.) includes an entire nursing care plan devoted to sexual symptom management. It is amazing and disappointing to learn that although a large number of studies report on breast cancer and sexuality concerns, no research-based information exists pertaining to symptom management.

Colon cancer: Colon cancer is one of the most prevalent malignancies in both men and women; however, little research addresses this population’s sexuality issues. Much of the recent intervention information appears in articles about sexuality or general sexual dysfunction or in cancer nursing textbooks. Side effects from required surgery can be particularly devastating to men with regard to erectile function, whether a colostomy is performed or not. Very little is known about the surgical impact on female sexual response. However, Sprangers, Taal, Aaronson, and te Velde (1995) reported that patients with stomas have higher levels of psychological distress, more restrictions in social functioning, and greater impairment in sexual functioning. Eleven references regarding sexuality and colon cancer, sexual dysfunction, and interventions were found (Bell, 1989; Emyre, 1988; Gloeckner, 1991, 1984; Grunberg, 1986; Penninger, Moore, & Frager, 1985; Shell, 1992; Shipes, 1987; Simmons, 1983; Smith, 1988;
Turnbull, 1989). Four contain detailed information to assist the practitioner in symptom management. Interventions cover sexual health knowledge, communication skills, nursing management (e.g., deodorize the pouch, use opaque pouch covers, suggest alternative sexual positions, advise use of vaginal lubricants), medical/surgical management (e.g., penile prosthesis), and dispelling sexual myths. Two articles particularly address the additional concerns faced by gay and lesbian patients, and one makes specific reference to this population (Etnyre; Shell, 1992; Smith, 1988). However, very few references in the nursing, psychosocial, or medical literature address gay and lesbian issues related to other types of cancer.

Genitourinary cancer: Genitourinary cancers and their treatments in men affect sexual identity and body image and will directly or indirectly affect the sexual organs and sexual functioning. Men can have surgery such as prostatectomy, cystoprostatectomy, orchiectomy with possible retroperitoneal lymph node dissection, or penectomy, all of which will result in a devastating impact on their sense of masculinity, either temporarily or permanently. Other treatments such as chemotherapy and radiation therapy can be just as devastating physiologically to the sexual response cycle, and, although orgasm is not as frequently affected, the impact on erection, emission, and ejaculation can impair self-esteem and a man’s sense of masculinity. To facilitate optimal adjustment and sexual rehabilitation, support and advocacy are essential throughout the use of the best evidence-based interventions. Including the spouse or partner is particularly important, especially if both are interested in maintaining their intimate or physical relationship via intercourse or other alternatives. Many of the nine reviewed references recommend offering information about the physical ramifications along with practical advice about how to deal with the expected changes to both patient and partner (Bachers, 1985; Ofman, 1993; Rieker, 1996; Schover, 1987; Schover & Fife, 1985; Schover & von Eschenbach, 1984; Smith & Babaian, 1992; Stanford et al., 2000; Waxman, 1993). Three publications had succinct and immediately useful information, whereas the other six provided general information pertaining to counseling and referral, support and communication, nursing and medical management, education, and resources.

Gynecologic cancer: The female sexual response cycle will be affected during treatment for gynecologic cancers if the structure or innervation of the clitoris or the vagina is influenced. Many women become quite apprehensive once they

<table>
<thead>
<tr>
<th>Reference</th>
<th>Disease Site/Topic</th>
<th>How PLISSIT Model Is Used</th>
<th>Intervention Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schain, 1980</td>
<td>General/Sexual functioning</td>
<td>Model recommended as intervention/interaction technique</td>
<td>Small amount of information; general suggestions</td>
</tr>
<tr>
<td>MacElveen-Hoehn, 1985</td>
<td>General/Sexual assessment and counseling (case study)</td>
<td>Model used to illustrate levels of sexuality counseling</td>
<td>Extensive information; many specific suggestions</td>
</tr>
<tr>
<td>Cooley et al., 1986</td>
<td>Hodgkin’s disease/ Women</td>
<td>Model used to create nursing care plan for education, counseling, and symptom management</td>
<td>Extensive information; many specific suggestions</td>
</tr>
<tr>
<td>Grunberg, 1986</td>
<td>Ostomy surgery/Rehabilitation</td>
<td>Model used in a hospital team approach for education and counseling</td>
<td>Moderate amount of information; some specific suggestions</td>
</tr>
<tr>
<td>Shipes, 1987</td>
<td>Ostomy surgery/Rehabilitation</td>
<td>Model used as an effective counseling method and to create nursing care plan</td>
<td>Extensive amount of information; many specific suggestions</td>
</tr>
<tr>
<td>Turnbull, 1989</td>
<td>Ostomy surgery/Rehabilitation</td>
<td>Model used to progressively help patients resolve sexuality issues</td>
<td>Small amount of information; few specific suggestions</td>
</tr>
<tr>
<td>Smith, 1989</td>
<td>General/Sexual rehabilitation</td>
<td>Model used as example to initiate discussion of sexual concerns</td>
<td>Small amount of information; few specific suggestions</td>
</tr>
<tr>
<td>Gloeckner, 1991</td>
<td>Ostomy surgery/Rehabilitation</td>
<td>Model used to provide education and counseling</td>
<td>Small amount of information; general suggestions</td>
</tr>
<tr>
<td>Dudas, 1991</td>
<td>General/Rehabilitation for patient with cancer; sexuality mentioned</td>
<td>Model recommended to manage sexual issues for patients with cancer</td>
<td>Description of model only; no suggestions</td>
</tr>
<tr>
<td>Waxman, 1993</td>
<td>Prostate/Interventions for sexual dysfunction following treatment</td>
<td>Model used to promote therapeutic intervention; timing and outcome reported</td>
<td>Small amount of information; few specific suggestions</td>
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<tr>
<td>Hughes, 1996</td>
<td>General/Sexual issues</td>
<td>Model recommended to manage sexual issues for patients with cancer</td>
<td>Moderate amount of information; some specific suggestions</td>
</tr>
<tr>
<td>Reference</td>
<td>Disease Site/ Topic</td>
<td>Intervention Addressed</td>
<td>Intervention Category</td>
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<td>---------------------------------</td>
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<tr>
<td>Swartz-Appelbaum et al., 1984</td>
<td>Breast/Nursing care plans</td>
<td>Symptom management (pharmacologic and nonpharmacologic), education, and counseling</td>
<td>Extensive information and many specific suggestions</td>
</tr>
<tr>
<td>Schover, 1991</td>
<td>Breast/Body image and intimate relationships</td>
<td>Counseling</td>
<td>Moderate amount of information and elements of brief counseling</td>
</tr>
<tr>
<td>Kaplan, 1992</td>
<td>Breast/Sexual side effects of treatments</td>
<td>Symptom management (pharmacologic and nonpharmacologic) and counseling</td>
<td>Moderate amount of information and several specific suggestions</td>
</tr>
<tr>
<td>Renshaw, 1994</td>
<td>Breast/Emotional adjustment and sexual symbols</td>
<td>Symptom management (nonpharmacologic) and counseling</td>
<td>Small amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Schover, 1994</td>
<td>Breast/Sexuality and body image in younger women</td>
<td>Symptom management (pharmacologic and nonpharmacologic)</td>
<td>Small amount of information and specific suggestions</td>
</tr>
<tr>
<td>Young-McCaughan, 1996</td>
<td>Breast/Sexual functioning</td>
<td>Symptom management (pharmacologic) and education</td>
<td>Small amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Ganz et al., 1998</td>
<td>Breast/Sexual functioning and quality of life</td>
<td>Symptom management (pharmacologic) and education</td>
<td>Small amount of information and specific suggestions</td>
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<tr>
<td>Meyerowitz et al., 1999</td>
<td>Breast/Sexuality after breast cancer</td>
<td>Counseling</td>
<td>Small amount of information and general suggestions</td>
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<td>Simmons, 1983</td>
<td>Colon/Patient-to-patient advice</td>
<td>Symptom management (pharmacologic), education, and counseling</td>
<td>Moderate amount of information and several specific suggestions</td>
</tr>
<tr>
<td>Gloeckner, 1984</td>
<td>Colon/Sexual attractiveness after ostomy surgery</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Penninger et al., 1985</td>
<td>Colon/Sexuality rehabilitation</td>
<td>Symptom management (pharmacologic), education, and counseling</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Grunberg, 1986</td>
<td>Colon/Sexuality rehabilitation</td>
<td>Symptom management (pharmacologic), education, and surgical management</td>
<td>Moderate amount of information and some specific suggestions</td>
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<tr>
<td>Shipes, 1987</td>
<td>Colon/Physiologic and psychologic alterations in sexual function</td>
<td>Symptom management (pharmacologic), education, and counseling</td>
<td>Extensive amount of information, many specific suggestions, and nursing care plan</td>
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<tr>
<td>Smith, 1988</td>
<td>Colon/Homosexual person with a stoma</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
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<tr>
<td>Etnyre, 1988</td>
<td>Colon/Homosexual person with a stoma</td>
<td>Education and counseling</td>
<td>Small amount of information and general suggestions</td>
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<tr>
<td>Bell, 1989</td>
<td>Colon/Overcoming sexual anxieties</td>
<td>Symptom management (pharmacologic) and education</td>
<td>Small amount of information and few specific suggestions</td>
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<tr>
<td>Turnbull, 1989</td>
<td>Colon/Sexuality after ostomy surgery</td>
<td>Symptom management (pharmacologic) and education</td>
<td>Small amount of information and few specific suggestions</td>
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<tr>
<td>Gloeckner, 1991</td>
<td>Colon/Sexuality perceptions</td>
<td>Symptom management (nonpharmacologic)</td>
<td>Small amount of information and general suggestions</td>
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<tr>
<td>Shell, 1992</td>
<td>Colon/Psychosexual impact of ostomy surgery</td>
<td>Symptom management (pharmacologic), education, counseling, and surgical management</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Metcalf &amp; Fischman, 1985</td>
<td>Head and neck/Factors affecting sexuality</td>
<td>Symptom management (pharmacologic), education, and counseling</td>
<td>Small amount of information and few specific suggestions</td>
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<table>
<thead>
<tr>
<th>Reference</th>
<th>Disease Site/Topic</th>
<th>Intervention Addressed</th>
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<tbody>
<tr>
<td>Hoehm &amp; McCorkle, 1985</td>
<td>Head and neck</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Schover &amp; von Eschenbach, 1984</td>
<td>Genitourinary (testicular)/Sexual and marital counseling</td>
<td>Counseling and education</td>
<td>Small amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Bachers, 1985</td>
<td>Genitourinary (prostate, bladder, penile, testes)/Sexual dysfunction after treatment</td>
<td>Counseling, education, and surgical management</td>
<td>Small amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Schover &amp; Fife, 1985</td>
<td>Pelvic or genital/Sexual counseling</td>
<td>Counseling, education, and symptom management (non-pharmacologic)</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Schover, 1987</td>
<td>Genitourinary (prostate, bladder, testes, penis)/Sexuality and fertility</td>
<td>Symptom management (non-pharmacologic)</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Smith &amp; Babaian, 1992</td>
<td>Genitourinary (prostate, testes, bladder, penis)/Effect of treatment on sexuality</td>
<td>Symptom management (non-pharmacologic), education, counseling, and surgical management</td>
<td>Moderate amount of information and several specific suggestions</td>
</tr>
<tr>
<td>Ofman, 1993</td>
<td>Genitourinary (prostate, bladder, testes, penis)/Sexual implications of genitourinary cancer</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Waxman, 1993</td>
<td>Prostate/Assessment and interventions for sexual dysfunction</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Rieker, 1996</td>
<td>Testicular/How to counsel and available information</td>
<td>Counseling and education</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Stanford et al., 2000</td>
<td>Prostate/Antiandrogen therapy and side effects</td>
<td>Education and counseling</td>
<td>Small amount of information and general information</td>
</tr>
<tr>
<td>Seibel et al., 1980</td>
<td>Cervix/Sexual function</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Springer, 1982</td>
<td>Vulva/Sexual implications after radical vulvectomy</td>
<td>Counseling and education</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Wabrek &amp; Gunn, 1984</td>
<td>Gynecologic malignancies/ Sexual implications; nursing care plans</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Hubbard &amp; Shingleton, 1985</td>
<td>Cervix/Sexual function after cervical cancer</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Schover &amp; von Eschenbach, 1985</td>
<td>Cystectomy/Sexual function and radical cystectomy</td>
<td>Symptom management (non-pharmacologic), counseling, and education</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Jenkins, 1986</td>
<td>Pelvic irradiation/Sexual healing</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Richards &amp; Hiratzka, 1986</td>
<td>Pelvic irradiation/Vaginal dilation; patient-education tool</td>
<td>Education</td>
<td>Extensive amount of information and many specific factors</td>
</tr>
<tr>
<td>Schover &amp; Fife, 1985</td>
<td>Pelvic or genital/Sexual counseling</td>
<td>Counseling, education, and symptom management (non-pharmacologic)</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Andersen, 1987</td>
<td>Gynecologic/Sexual functioning complications</td>
<td>Symptom management (pharmacologic and nonpharmacologic), education, and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
</tbody>
</table>

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Table 5. Expert Opinion and Case Study Levels of Evidence (Nonresearch-Based Evidence) (Continued)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Disease Site/Topic</th>
<th>Intervention Addressed</th>
<th>Intervention Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wallace, 1987</td>
<td>Vulva/Sexual adjustment after surgery</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
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<tr>
<td>Jenkins, 1988</td>
<td>Gynecologic/Sexual changes after treatment</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
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<tr>
<td>McKenzie, 1988</td>
<td>Cervix/Sexuality after pelvic exenteration</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Andersen, 1989</td>
<td>Gynecologic/Sexual functioning</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
<tr>
<td>Feldman, 1989</td>
<td>Ovarian failure/Caused by cancer treatments; interventions and educational plan</td>
<td>Symptom management (pharmacologic, nonpharmacologic), education, and counseling</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Schover et al., 1989</td>
<td>Cervix/Sexual dysfunction after treatment</td>
<td>Education and counseling</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Lamb, 1990</td>
<td>Gynecologic/Psychosexual issues</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Grier, 1992</td>
<td>Gynecologic/Sexuality implications (self-help tip sheet)</td>
<td>Symptom management (non-pharmacologic) and education</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Lamb, 1995</td>
<td>Gynecologic/Cancer effects on sexuality</td>
<td>Education, counseling, and symptom management</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Andersen, 1996</td>
<td>Gynecologic/Treating sexual difficulties</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Ratliff et al., 1996</td>
<td>Vaginal reconstruction/Sexual adjustment</td>
<td>Education and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Schain, 1980</td>
<td>General/Sexual function</td>
<td>Education</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Derogatis &amp; Kourlesis, 1981</td>
<td>General/Evaluation of sexual problems</td>
<td>Education and counseling</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Fisher, 1983</td>
<td>General/Psychosexual effects of cancer and its treatment</td>
<td>Symptom management (non-pharmacologic), education, counseling, and surgical options</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>MacElveen-Hoehn, 1985</td>
<td>General/Sexual assessment and counseling; case study</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Schain, 1988</td>
<td>General/Sexual interview; model P-L-E-A-S-U-R-E introduced</td>
<td>Symptom management (non-pharmacologic), education, and counseling</td>
<td>Moderate amount of information and some specific suggestions</td>
</tr>
<tr>
<td>Smith, 1989</td>
<td>General/Sexual rehabilitation</td>
<td>Education and counseling</td>
<td>Small amount of information and general suggestions</td>
</tr>
<tr>
<td>Auchincloss, 1991</td>
<td>General/Sexual dysfunction after treatment</td>
<td>Counseling and education</td>
<td>Extensive amount of information and many specific suggestions</td>
</tr>
<tr>
<td>Burbie &amp; Polinsky, 1992</td>
<td>General/Restoring sexuality and intimacy; case examples</td>
<td>Counseling</td>
<td>Small amount of information and few specific suggestions</td>
</tr>
</tbody>
</table>

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undergo surgery, chemotherapy, or radiation therapy. They may experience a sense of lost femininity, concerns about how their genital anatomy will appear, concerns about whether they can comfortably participate in sexual intercourse, and fears related to physical aging, diminished libido, orgasmic potential, and lost fertility. Fortunately for the gynecologic cancer population, an abundance of information exists with respect to interventions for sexual dysfunction caused by cancer treatment. Twenty intervention references were identified, 10 of which contained a moderate to extensive amount of clinical information (Andersen, 1987, 1989, 1996; Feldman, 1989; Grier, 1992; Hubbard & Shingleton, 1985; Jenkins, 1986, 1988; Lamb, 1990, 1995; McKenzie, 1988; Ratliff et al., 1996; Richards & Hiratzka, 1986; Schover & Fife, 1985; Schover, Fife, & Gershenson, 1989; Schover & von Eschenbach, 1985; Seibel, Freeman, & Graves, 1980; Springer, 1982; Wabrek & Gunn, 1984; Wallace, 1987). Even though more has been written about female genital cancers, very few, if any, of the recommended interventions are based on research evidence.

**Head and neck cancer:** Head and neck cancer can be a most devastating experience to a patient, particularly in relation to body image and sexuality because the disease’s ramifications often are immediately recognizable. Frequently, these patients also must undergo facial reconstruction to correct major defects. This type of rehabilitation often is disappointing because patients expect to look like they did before the disease was diagnosed. Even though head and neck cancer accounts for only about 10% of cancer diagnoses (less in women), its impact on a person’s sense of masculinity or femininity is tremendous. Its relatively low incidence may be one reason why the cancer literature contains so few citations related to sexual dysfunction interventions for this population. Researchers may hesitate to conduct sexuality studies in patients who already are struggling with life’s most basic needs such as breathing and swallowing. Of the two articles that do address sexual functioning in patients with head and neck cancer, only one is written specifically for this population, and few interventions are mentioned (Hoehm & McCorkle, 1985; Metcalf & Fischman, 1985).

**General Sexuality and Cancer Publications**

Many journals include an abundance of information regarding interventions for sexual rehabilitation after a cancer diagnosis and its treatment, but the information is not site-specific. These sources also must be included in this review because they either provide different or more in-depth information or they comment about specific recommendations already reviewed. Four of the 13 journal articles furnish models, guidelines, and other specific counseling techniques and nursing interventions (Auchincloss, 1991; Burbie & Polinsky, 1992; Derogatis & Kourlesis, 1981; Dudas, 1991; Fisher, 1983; Hughes, 1996; MacElveen-Hoehn, 1985; Monga, 1995; Schain, 1980, 1988; Shell, 1995; Smith, 1989, 1994) (see Table 5).

**Public Education**

Two booklets written specifically for female and male patients with cancer seeking more information about sexuality and cancer also can be helpful to clinicians in need of such a resource (Schover, 2001a, 2001b). These booklets recently were updated and now include interventions related to newer methods of treatment, which create different or more intense sexual side effects that can occur at various times during and after treatment. Although these booklets are very helpful, they provide only general information and overlook several troublesome cancers such as lung cancer and leukemia.

The United Ostomy Association also recently revised its sexuality booklets and created one booklet for all ostomates. *Intimacy, Sexuality, and an Ostomy* (Turnbull, 2001) is written by a nurse and provides excellent information for ostomates, but its content is not specific to cancer-related ostomies.

Although clinicians currently do not have interventions based on research evidence for patients with cancer dealing with sexuality issues and concerns, expert opinions are available and consideration should be given to revising and creating more specific and up-to-date literature for patients and their partners. Once this is accomplished, practitioners and clinicians will have appropriate literature to make available to patients and their partners after preparing them with verbal instruction. These tools not only can serve as pragmatic information for the public but also could assist novice clinicians in communicating this sensitive material effectively and comfortably.

**Future Research Direction**

Future study has been assisted by the advances already reported concerning the definition of sexual dysfunction and the numerous interventions available to treat this symptom in...
patients with cancer. Publications within the scope of this systematic review revealed the wide range of sexual dissatisfaction that currently exists and that some important questions already have been studied and partially answered. Some of the publications asked relative questions—What sexual difficulties develop? Which patient characteristics relate risk for developing sexual dysfunction? What factors contribute to sexual dysfunction? When do sexual problems develop? Although researchers currently have a better understanding of the sexual difficulties experienced by patients with cancer, interventions based on research are necessary to ensure optimal care.

This extensive literature review covering the past 20 years revealed consistent agreement among experts in the field regarding the need for interventions related to clinical symptom management, education, and counseling. When specific interventions are reported, many later publications often elaborated on or added to previous literature. Disease-specific as well as general cancer publications addressing sexuality issues all indicated that interventions are needed, although some have more extensive information than others and present information in different formats (e.g., nursing care plans, case studies, tables, charts). The differences in these publications evolve from their focus—some are clinically oriented whereas others are education based or focus on counseling. Many focus on a combination of all three.

Once research is completed relative to what dysfunctions develop and when and which patients are at risk for developing such dysfunctions, clinicians can concentrate on promoting sexual function for patients and their partners. These projects intended to promote sexual function in patients with cancer may begin by examining which kinds or combinations of interventions would be most effective in promoting sexual adjustment. For example, which sexual position promotes the most enjoyable and most comfortable sexual experience and the highest frequency of sexual encounter once patients have been treated for colon, gynecologic, or genitourinary cancer? Should clinicians offer suggestions to add mood enhancers such as a glass of wine, candlelight, music, warm baths together, or mutual massage? Should clinicians suggest the use of erotic materials such as books, videos, or sexual devices? Should clinicians suggest changes in sexual practices and promote alternative methods of loving expression (e.g., add or subtract breast stimulation or types of genital caressing, increase duration of foreplay)? Should patients and their partners have formal sessions with a therapist to address their frightened and anxious feelings, to work on body image and self-esteem, and to assess for depression? Although clinicians often suggest many of these interventions, they do not know if any or all of these actually make a difference in regard to patients’ sexual being or intimate relationships.

Other questions related to interventions for sexual dysfunction concern structured medical and psychosocial education, when to perform an intervention, and if the material provided should be specific to a particular point in time. Emotional and physical adjustment usually occur at four time periods—at diagnosis, after surgery, during adjuvant treatment, and during recovery. Is it best to provide intervention during all four phases of adjustment or at one particular time or two? When providing psychosexual counseling, do the sex therapy techniques developed for healthy people provide the appropriate information to patients with cancer and their partners?

Researchers examining interventions for the management of cancer-related sexual dysfunction must consider the patient, assessment strategies, the intended intervention, outcome criteria, and tactical selection of research designs. The role of disease and treatment variables as outcome moderators also will require description and control. Nurses, whether researchers or clinicians, must work together to intervene so that patients with cancer and their partners who may be at risk for sexual dysfunction will get through treatment with their sexuality intact. Today’s patients should experience fewer symptoms and have better sexual function as they undergo treatment and survive as spouses, partners, lovers, parents, family members, and friends. As researchers begin to identify interventions based on randomized controlled trials with the appropriate number of subjects, clinicians can provide sound and reliable care with greater confidence.

Presently, there is a severe deficiency of high-level, quality, evidence-based intervention studies in relation to sexual function in patients with cancer. Most evidence currently available is of the lowest level, according to the PRISM schema. This means that clinicians must intervene according to published practice guidelines from ONS and ACS and according to “opinions” from expert authorities, agencies, and committees. Although practice guidelines and expert opinions should not be ignored, oncology nurses are obligated to patients and their partners to use their expertise and knowledge to participate in research that provides accurate, state-of-the-art interventions.

Although the image of cancer and its treatment continues to threaten the sense of worth and competence that underlie the human sexual response, patients’ sexuality (who they are as men and women) does not vanish with the diagnosis of cancer. However, patients and their partners will continue to require intervention to employ all of their resources to retain a sense of sexual being and intimate relationship during and after the cancer experience.

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References


Results of a randomized controlled trial. *Journal of the National Cancer Institute*, 92, 1054–1064.


vaginal reconstruction in conjunction with pelvic exenteration. *Cancer*, 78, 2229–2235.


For more information...

- ONS Evidence-Based Practice Resource
  - [http://onsecom.ons.org/ebp](http://onsecom.ons.org/ebp)
- [Cochrane Collaboration](http://www.cochrane.org)
- [Turning Research Into Practice](http://www.tripdatabase.com)

*These Web sites are provided for information only. The hosts are responsible for their own content and availability. Links can be found using ONS Online at www.ons.org.*
Evidence-Based Practice for Symptom Management in Adults with Cancer: Sexual Dysfunction

Credit Hours: 1.3
Passing Score: 80%
Test ID# 01-29/1-02
Test Processing Fee: $15

The Oncology Nursing Society is accredited as a provider of continuing education (CE) in nursing by the
• American Nurses Credentialing Center’s Commission on Accreditation.
• California Board of Nursing, Provider #2850.

CE Test Questions

1. Although some brief assessment techniques are available, what is an example of a barrier to assessment that exists?
   a. Privacy may be difficult to obtain.
   b. The brief questionnaires have poor validity.
   c. Study patients have avoided completing the questionnaires.
   d. Most study patients find the brief questionnaires offensive.

2. ALARM, one assessment model in use, is an acronym for
   a. Activity, Loving state, Arousal/orgasm, Resolution, Medical history.
   b. Arousal/orgasm, Loving state, Activity, Resolution, Mode of arousal.
   c. Activity, Libido/desire, Arousal/orgasm, Resolution, Medical history.
   d. Actualization, Libido/desire, Arousal/orgasm, Resolution, Medical history.

3. What characteristics of study design do Dobkin and Bradley (1991) assert are better to employ when studying sexual dysfunction?
   a. A retrospective, longitudinal, repeated-measures design
   b. A prospective, cross-sectional, multiple-measures design
   c. A retrospective, longitudinal, multiple-measures design
   d. A prospective, longitudinal, repeated-measures design

4. The Derogatis Interview for Sexual Functioning (DISF) measures
   a. The impact of cancer on sexual desire.
   b. The quality of current sexual functioning.
   c. The impact of biologic losses on sexual functioning.
   d. The interest level of patients with cancer in sexual activities.

5. The Sexual Adjustment Questionnaire (SAQ) was created to assess
   a. The importance of sex to patients with cancer.
   b. The quality of current sexual functioning.
   c. The impact of cancer or surgery on sexual desire.
   d. The impact of cancer or surgery on sexual function.

6. What is one advantage gained by using both the SAQ and the DISF?
   a. Patients seem to prefer taking both tests together.
   b. Both tests can be self-administered and interpreted.
   c. Both tests take less than 15–20 minutes to complete.
   d. Using both tests concurrently validates each test’s results.

7. What is a limitation of the eight studies reviewed for research-based evidence?
   a. Most have very few subjects.
   b. Only three are randomized.
   c. Only one uses female subjects.
   d. None are designated PRISM level III.

8. Relative to sexual dysfunction symptom management, a summary source is
   a. A summation of all research on sexual dysfunction to date.
   b. An identified leading expert in the field of sexual dysfunction.
   c. Information provided by clinical experts at no charge to patients.
   d. Information created by experts in the field of oncology nursing.

9. A popular model for sexual rehabilitation is called the PLISSIT (permission, limited information, specific suggestions, and intensive therapy) model. In this model
   a. Clinicians work with patients to plan a roadmap for therapy.
   b. Patients progress according to their own preference for information.
   c. Clinicians take complete control of the direction of the therapeutic relationship.
   d. Patients give their clinician permission to progress in therapy at regular intervals.

10. Research supports that patients with colon cancer who have a stoma
    a. Report a complete loss of sexual desire.
    b. Have greater impairment in sexual functioning.
    c. Show benefit from cognitive therapies addressing their sexual function.
    d. Show no greater impairment in sexual response than other patients with colon cancer.
11. The author speculates that a reason for the low number of articles that address interventions for sexual dysfunction in patients with head and neck cancer may be that
a. A low incidence of head and neck cancer exists relative to other cancers.
b. Head and neck cancers have minimal effect on an individual’s sexual health.
c. Researchers have had difficulty getting patients with head and neck cancer to discuss sexual issues.
d. Sexual dysfunction already has been proven to be an insignificant issue for this population.

12. For what cancer population was at least 10 references with moderate to extensive clinical information for sexual dysfunction identified?
   a. Colon
   b. Genitourinary
   c. Gynecologic
   d. Head and neck

13. The author concludes that the literature review revealed that
   a. Experts agree as to the need for symptom management but not the need for counseling.
   b. No consistent conclusions can be drawn from the literature review.
   c. Agreement among experts is dependent on the severity of the patient’s illness at the time of intervention.
   d. Consistent agreement among experts exists as to the need for intervention for symptom management, education, and counseling.

14. The author notes that although good evidence-based interventions are not yet available related to this issue, there is a great deal of literature based on
   a. Case studies.
   b. Expert opinion.
   c. Qualitative data.
   d. Patient testimonials.

15. The author concludes that once research defines what kinds of sexual dysfunction develop, including when they develop and who develops them, clinicians then can focus on
   a. Promoting sexual function for patients and their partners.
   b. Inclusion of sexual assessments in all new patient interviews.
   c. Development of new strategies for addressing sexual dysfunction.
   d. Encouraging sexual counseling at the earliest possible intervention point.
Evidence-Based Practice for Symptom Management in Adults With Cancer: Sexual Dysfunction (Test ID #01-29/1-02)

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11. c  12. c  13. c  14. c  15. c  16. c  17. c  18. c  19. c  20. c

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1. How relevant were the objectives to the CE activity’s goal? Not at all Low Medium High
   ○  ○  ○  ○  ○
2. How well did you meet the CE activity’s objectives (see page 53)?
   • Objective #1            • Objective #2
   ○  ○  ○  ○  ○
   • Objective #3
   ○  ○  ○  ○  ○
3. To what degree were the teaching/learning resources helpful?
   Too basic Appropriate Too complex
4. Based on your previous knowledge and experience, do you think that the level of the information presented in the CE activity was
   ○  ○  ○  ○
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