Integrating Yoga Into Cancer Care

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Although yoga has been practiced in Eastern culture for thousands of years as part of life philosophy, classes in the United States only recently have been offered to people with cancer. The word yoga is derived from the Sanskrit root yuj, meaning to bind, join, and yoke. This reflection of the union of the body, mind, and spirit is what differentiates yoga from general exercise programs. Yoga classes in the United States generally consist of asanas (postures), which are designed to exercise every muscle, nerve, and gland in the body. The postures are combined with pranayama, or rhythmic control of the breath. As a complementary therapy, yoga integrates awareness of breath, relaxation, exercise, and social support—elements that are key to enhancing quality of life in patients with cancer. Yoga practice may assist cancer survivors in managing symptoms such as depression, anxiety, insomnia, pain, and fatigue. As with all exercise programs, participants need to be aware of potential risks and their own limitations. The purpose of this article is to familiarize nurses with yoga as a complementary therapy, including current research findings, types of yoga, potential benefits, safety concerns, teacher training, and ways to integrate yoga into cancer care.

Yoga traditionally is believed to have beneficial effects on physical and psychological health. Only recently has it been subjected to empirical studies. Bower, Woolery, Sternlieb, and Garet (2005) extensively reviewed yoga research, including published papers and abstracts of conference presentations, that was conducted with patients with cancer and survivors. They reviewed studies of yoga used among patients who did not have cancer, evaluating the symptoms that commonly occur in patients with cancer, such as insomnia, fatigue, depression, and pain. Bower et al. concluded that the study results have provided preliminary support for the efficacy of yoga interventions among patients with cancer. Positive effects were reported in a variety of outcomes, including sleep quality, mood, stress, cancer-related distress, cancer-related symptoms, and overall quality of life, as well as functional and physiologic measures. As evidence for yoga interventions in cancer care accumulates, yoga is being incorporated into cancer programs and national symptom management guidelines.

Exercise is recommended as an evidence-based intervention for fatigue related to cancer in the Oncology Nursing Society’s published guidelines (Mitchell, Beck, Hood, Moore, & Tanner, 2007). The recommendation was based on strong evidence from rigorously designed studies, including two that found that yoga-like positioning and relaxation breathing significantly reduced fatigue levels (Decker, Cline-Elsen, & Gallagher, 1992; Kim & Kim, 2005). Few randomized, controlled trials of yoga in patients with cancer have been published. However, in one study, 39 patients with lymphoma who were undergoing treatment or had finished treatment within the past 12 months were assigned to a Tibetan yoga group or a wait-list control group (Cohen, Wanneke, Fouladi, Rodriguez, & Chaoul-Reich, 2004). Tibetan yoga focuses on meditative techniques, emphasizing controlled breathing, visualization, mindfulness techniques, and gentle, simple movements. Fifty-eight percent of the participants attended at least five of seven weekly yoga sessions, which combined yoga postures with specific breathing patterns. Daily home practice was encouraged with written materials and audiotapes. Patients in the yoga group reported significantly lower sleep disturbance during follow-up compared with patients in the wait-list control group. No significant differences were found between the groups in terms of anxiety, depression, or fatigue. In another study of 38 cancer survivors, participants were randomly assigned to an intervention (yoga)
Case Study 1
R.S. is a 36-year-old woman who received lumpectomy and axillary lymph node dissection, radiation therapy, and chemotherapy for early-stage breast cancer one year ago. She has considerable pain and limited range of motion in her affected arm and chest area, which is adversely affecting her quality of life and contributing to depressive symptoms. R.S. joined a weekly yoga class offered at her community cancer center. Within weeks, she noticed considerable improvement in her mobility and pain. She borrowed DVDs from a lending library to practice yoga at home. Her six-year-old son joined R.S. in this fun home activity. She appreciated the support she received when talking with other participants after class. Recently, she became quite anxious during a magnetic resonance imaging scan. R.S. remembered the deep yoga breathing she practiced in class and was able to focus on her breath, relaxing herself throughout the rest of the scan. She felt empowered to control her anxiety. She continued with the weekly yoga class and home practice and reported significant improvement in her pain, mobility, and depressive symptoms.

Case Study 2
J.S. is a 73-year-old man with metastatic colon cancer and mild dementia. He lives alone but has a private home health aide. He participates in weekly yoga classes at a cancer center. A private man, J.S. is not embarrassed by his chemotherapy infusion pump because other people in the class have a pump. He is limited physically, so J.S. sits in a chair during the class and practices modified poses. He enjoys the socialization of class and benefits from the stretching, breathing, and relaxation techniques.

or wait-list control group (Culos-Reed, Carlson, Daroux, & Hatley-Aldous, 2004). Most of the participants were female, had a breast cancer diagnosis, and, on average, were 51 years old, 56 months after diagnosis, and not currently receiving therapy. The yoga group participated in 75-minute weekly classes for seven weeks that were led by an experienced, certified yoga instructor. Classes consisted of modified yoga postures with gentle stretching and strengthening, relaxation, and a focus on breathing. Significant differences between the yoga and control groups after the intervention were seen in both psychosocial measurements (mood, quality of life, and stress) and physical measurements (resting heart rate and cardiovascular endurance). Yoga participants demonstrated significant improvements on a number of physical and psychosocial variables after the intervention.

Other published studies of yoga in patients with cancer have used participants as their own controls. In a pilot study of 13 patients with metastatic breast cancer (mean age 59, mean time from diagnosis 7 years), women participated in an eight-week program that included gentle yoga postures, breathing exercises, meditation, didactic presentations, and group interchange (Carson et al., 2007). During the two preintervention weeks and the final two weeks of yoga, pain, fatigue, distress, invigoration, acceptance, and relaxation were measured daily. On the day after yoga practice, participants experienced significantly lower levels of pain and fatigue and higher levels of invigoration, acceptance, and relaxation. In another study, 49 patients with breast cancer and 10 with prostate cancer participated in an eight-week mindfulness-based stress reduction program that incorporated relaxation, meditation, gentle yoga, and daily home practice (Carlson, Speca, Patel, & Goodey, 2003). Participants were assessed before and after the intervention regarding health behavior variables, quality of life, mood, stress, and cancer-related cytokine production. Results showed decreased stress and improvement in quality of life, sleep, and other health behaviors such as exercise and caffeine consumption in participants. Although changes in cytokine production were documented in the participants, the significance of those findings in terms of disease status and progression is unknown.

Cancer survivors often experience symptoms such as reduced quality of life, fatigue, pain, depression, and menopausal symptoms, similar to those reported by patients with other chronic illnesses. Sixty patients with chronic pancreatitis were randomized to an intervention group that met biweekly over 12 weeks for yoga or a control group (usual care) (Sareen, Kumar, Gajebasia, & Gajebasia, 2007). Significant improvements were seen in the yoga group regarding overall quality of life, symptoms of stress, mood changes, alcohol dependence, and appetite after the 12-week period, compared to the control group. In Oken et al.’s (2004) six-month intervention study, patients with multiple sclerosis were randomly assigned to one of three groups: a weekly iyengar yoga class along with home practice, a weekly exercise class using a stationary bicycle along with home exercise, or a wait-list control group. Iyengar yoga stresses alignment, precision, and sequencing of poses using props such as blankets, blocks, or straps to ease the attainment of the pose. Patients with multiple sclerosis participating in the yoga class or exercise class showed significant improvement in measures of fatigue compared to the control group. Another study randomly assigned 101 adults with chronic back pain to 12 sessions of weekly yoga, conventional therapeutic exercise classes, or a self-care book (Sherman, Cherkin, Erro, Miglioretti, & Deyo, 2005). Back-related function and lower back pain improved in the yoga group compared with the book and exercise groups, both at 12 weeks and persisting to 26 weeks. In Michalsen et al.’s (2005) study, 24 self-referred female subjects who perceived themselves as emotionally distressed were assigned to a yoga class or a wait-list control group. Compared to the control group, women who participated in the yoga class demonstrated significant improvement in perceived stress, anxiety, well-being, rigor, fatigue, and depression after three months. A prospective pilot study was conducted in 12 peri- and postmenopausal women experiencing at least four menopausal hot flashes per day at least four days per week (Booth-LaForce, Thurston, & Taylor, 2007). The yoga intervention included a 10-week program with breathing techniques, postures, and relaxation poses designed specifically for menopausal women, in addition to home practice. Eleven women completed the study and attended a mean of 7.5 classes. Significant pre-to-post-treatment improvements were found for hot flash severity, daily interference, and sleep disturbance.

Yoga has been studied in a palliative care day setting (McDonald, Burjan, & Martin, 2006). Six patients attended a 40-minute weekly session over 12 weeks, practicing specific sequences of limb movements with the breathing and meditation led by a qualified Dru yoga teacher. Although Dru yoga shares similarities with other forms of yoga, it has a unique style of gentle, flowing physical movements, believed to release energy blocks, that are
combined with breath awareness, visualization, relaxation, and concentration. Participants had advanced progressive illnesses and were evaluated for suitability by a physiotherapist prior to participation in the program. The most severely disabled patient was confined to a wheelchair and was assisted during the class by a volunteer. Five patients completed the 12 sessions, including a questionnaire to determine the benefit of the program. Despite generally deteriorating medical conditions, participants in the yoga class reported experiencing physical, mental, and emotional improvement.

Early research regarding the benefits of yoga in cancer symptom management faces many of the same difficulties experienced by other complementary therapy research. Several of the yoga studies have methodologic limitations, including small sample sizes, lack of a control group, limited follow-up, brief intervention periods, and inadequate statistical analyses (Bower et al., 2005). Many different types of yoga differ in approach and technique, so interventions varied and were not always specified, inhibiting study replication. In addition, participants in most studies were self-selected and interested in exploring yoga (Culos-Reed et al., 2004). Future studies need to identify ways for patients to continue practice after trial completion. In advising patients about the potential benefits of yoga in the management of cancer symptoms, nurses must discuss the benefits as well as the limitations of the current research. Despite some methodologic research limitations, current research findings show many promising benefits of yoga for patients with cancer.

### Table 1. Common Types of Yoga

<table>
<thead>
<tr>
<th>YOGA TYPE</th>
<th>FOCUS</th>
<th>POTENTIAL BENEFITS AND CONCERNS</th>
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<tbody>
<tr>
<td>Ashtanga</td>
<td>Also known as power yoga; vigorous series of poses that flow continuously, often jumping from one pose to next</td>
<td>Provides aerobic activity; more advanced level and requires good physical ability</td>
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<tr>
<td>Birkham</td>
<td>26 vigorous flow poses done in a heated room</td>
<td>Heat allows for improved flexibility.</td>
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<tr>
<td>Iyengar</td>
<td>Stresses alignment, precision, and sequencing of poses; uses props (e.g., blankets, bolsters, blocks, straps)</td>
<td>Use of props allows adaptation of poses to individual needs.</td>
</tr>
<tr>
<td>Kripalu</td>
<td>Combines poses with breath focus, becoming fully present in the body</td>
<td>Especially beneficial for stress reduction</td>
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<tr>
<td>Restorative</td>
<td>Traditional poses done with props to fully support the body</td>
<td>Can be performed when patients are ill or when recovering from surgery, illness, or injury; anyone at any age or performance status can participate.</td>
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*Note. Based on information from Ashtanga.com, 2008; Bikram’s College of India, 2007; Faulds, 2005; Lasater, 1995; Ramamani Iyengar Memorial Yoga Institute, 2007.*

### Safety Considerations

Prior to recommending a complementary therapy such as yoga to patients, nurses should investigate the evidence related to efficacy and safety (Cohen & Eisenberg, 2002). Most of the previously described trials used yoga interventions designed specifically for patients with cancer or those with a chronic illness. They incorporated gentle poses and stretching that could be performed even with functional limitations. The interventions took place over a brief period of time and were led by experienced yoga teachers. This careful approach most likely minimized adverse consequences and improved participation; therefore, study results are limited and cannot be generalized to yoga classes for healthy populations. Oken et al.’s (2004) study is the only one that mentions adverse events: three unrelated surgeries, two multiple sclerosis exacerbations (one in the yoga group, one in the exercise group), and lower back pain related to auto accident. The most common reasons for dropping out of class were time constraints, distance, new health issues, and family health issues.

Yoga allows for participants to work at an individual pace and is modified for unique circumstances, therefore limiting injuries and harm. Participants should be encouraged to listen to their bodies and not attempt poses that are uncomfortable or strained. As with all exercise, participants should check with a healthcare provider about any limitations in their specific cases. Currently, no evidence-based guidelines specify contraindications for yoga in general or particular poses for patients with cancer. As a result, nurses must rely on guidelines developed from experience with similar exercise activities (Courneya, Mackey, & McKenzie, 2002). Patients with symptomatic anemia, postural hypotension, and lightheadedness should be cautioned to avoid prolonged standing poses and move slowly when transitioning between positions. For patients with balance concerns, nurses may suggest modification by using a chair or wall for balance during standing poses. In the presence of fever, systemic infection, or significant thrombocytopenia, more vigorous yoga poses probably should be avoided. During neutropenia, patients should be cautioned to avoid crowded classes with little space between participants. Because of the potential for foot fungal and bacterial infections resulting from sharing uncleaned yoga mats (Ellin, 2006), nurses may recommend that patients purchase their own mats or use...
cleansing wipes on a shared mat. Nurses should reiterate that patients listen to their own bodies during class. If pain, numbness, shortness of breath, dizziness, lightheadedness, or any other adverse symptoms occur, participants should come out of the posture and rest. The situation could be discussed with a yoga teacher at the end of class for suggestions of possible modifications.

Most Common Types and Levels of Yoga Classes

To promote the benefits of yoga and reduce the risk of injury, nurses can educate patients about the different types of yoga

Before Beginning a Yoga Regimen

Speak to a healthcare practitioner prior to starting any new exercise program.

Because yoga classes vary depending on the teacher and style of yoga, contact the teacher prior to attending and ask the following.

- What are his or her qualifications, where did he or she learn to teach yoga, and how long has he or she been teaching?
- Does he or she have experience with students with your medical needs or health concerns?
- Can the poses be modified for your special needs (e.g., use of blankets, pillows, or chair)?
- Is the class suitable for beginners? Will it be easy to follow? What is the usual class size? How long is it?
- What should students bring to class (e.g., mats, props)?

Let the teacher know about your medical conditions prior to class. You may need to avoid certain poses (particularly patients with high blood pressure, bone disease, glaucoma, or active menses).

Before and During a Yoga Session

Wear comfortable clothing and expect to take off your shoes.

Do not wear perfume. It may bother the other participants.

Eat lightly before attending class. Twists may be difficult if your stomach is full.

Arrive at class 10 minutes early to arrange your space, go to the bathroom, etc. (Most classes start on time and will not allow latecomers to enter.)

Classes usually start with a meditation, progress to warmups and poses, and end in deep relaxation.

Move slowly through the poses and focus on your breathing. If anything is painful, stop! A good teacher will help you modify poses so that you are comfortable. If you feel dizzy, lightheaded, or weak, stop! Go to a resting pose such as the child’s pose or lie on your back.

After Class

At the end of class, you should feel invigorated, yet calm. If not, speak with the teacher for possible suggestions.

You may need to try different classes and teachers until you find the right one for you.

If you view videotapes or DVDs at home, do not skip the final resting pose, shavasana.

Private lessons with a yoga teacher may be an option, especially if you have specific needs or are very physically limited.

Yoga Teacher Training

In addition to identifying the appropriate type and level of yoga class, patients should be educated about evaluating the teacher’s training. Yoga teachers currently are not licensed in the United States; however, Yoga Alliance, a national nonprofit organization, registers individual yoga teachers and yoga teacher training programs that have complied with the organization’s established minimum educational standards. Continuing education in areas such as techniques, teaching methodology, anatomy and physiology, philosophy, ethics, and supervised teaching are required for ongoing registration as a yoga teacher. Registration with Yoga Alliance does not ensure competency because training may be completed in a weekend course and the instructor may have limited teaching experience. In addition, some very experienced and qualified yoga teachers choose not to register with the alliance. Patients should ask potential teachers about their qualifications, training, and experience, and whether they...
have experience with patients’ specific medical needs or health concerns. Choosing an experienced, trained yoga teacher is an important aspect in attaining the benefits of yoga and minimizing the risk of adverse events. Patients who are participating in community yoga classes may provide useful information for other patients about helpful classes and yoga teachers.

Yoga Resources

Although many resources are available for yoga self-instruction, patients with cancer should practice yoga under the guidance of a trained teacher. After learning the basics, students may want to supplement class time by practicing at home with videos or books (e.g., *Healing Yoga for People Living With Cancer* by Lisa Holtby [2005]). Nurses can set up lending libraries of yoga videos and books so that survivors can sample different programs prior to making a purchase (see Figure 3).

**Specialized Yoga Classes for People With Cancer**

Many cancer centers now offer yoga classes specifically designed for people with cancer (see Figure 4). When a cancer...
center offers a yoga class, the teacher usually is experienced with the patient population and aware of its specific issues. For example, balancing poses may be more challenging yet helpful for people experiencing chemotherapy-induced neuropathies. People who have had chest, breast, or axilla surgery may benefit from postures that open and expand the chest and shoulder region. In addition, a specialized class can offer group support. In class, participants are less apt to feel awkward about removing a wig or turban, exposing alopecia. They are less likely to feel strange about the sounds made by a portable chemotherapy infusion pump during class. Conducting the class on site or near a cancer center allows for easier access for participants. Often, they feel safer attending a class held by the cancer center. Cancer survivors who have completed and recovered from active therapy may feel comfortable in a general community beginner’s class, progressing into more advanced classes as they strengthen and become more experienced in yoga. Individualized instruction with a yoga teacher also is an option for patients and allows for instruction and modification of poses on an individual level.

**Summary**

As a complementary therapy, yoga may offer physical and psychological benefits to patients with cancer. Preliminary research in yoga for patients with cancer shows positive effects on fatigue, sleep quality, mood, stress, and quality of life. Nurses can integrate yoga into cancer care by educating patients of the potential benefits and risks and discussing how to choose a type of yoga, level of class, and yoga teacher. Developing lending libraries with yoga books, DVDs, and videos as well as cancer-focused yoga classes may be helpful. Further research needs to focus on specific yoga interventions with specified outcome goals, better control group considerations, and applicability to general community-offered yoga classes.

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**References**


