



WHITE PAPER

Yoga Interventions for Cancer Patients and Survivors

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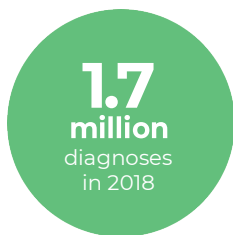
INTRODUCTION

Abstract

The growing literature on yoga and cancer supports the feasibility and efficacy of yoga for cancer survivors throughout the continuum of care. Among its other benefits, research studies have found that yoga increases strength, flexibility, and balance; helps people to maintain a healthy body weight; improves psychological well-being; lowers blood sugar and cholesterol levels; improves sleep; reduces stress; enhances the immune system; lessens fatigue and inflammation; and improves quality of life. This white paper (1) provides a summary of research on the benefits of yoga for cancer patients and survivors, (2) highlights the most beneficial components of yoga for cancer survivors, (3) identifies barriers and solutions to the creation of accessible, evidence-based yoga programming, and (4) offers guidelines for developing yoga programs that best meet the unique needs of cancer patients and survivors. Health care providers seeking evidence-informed, cost-effective modalities to manage the short- and long-term effects of cancer and its treatment should consider the benefits of cancer-specific yoga interventions.

INTRODUCTION

Executive Summary



Cancer affects more than 4,600 people in the U.S. every day. An estimated 1.7 million Americans will be newly diagnosed in 2018,¹ and globally the number of new cases topped 14.1 million in 2012.² Half of men and one-third of women will receive a cancer diagnosis during their lifetimes.

Despite advancements in treatment, cancer patients and survivors continue to face unique challenges to their physical and mental health, some of which persist for decades after initial treatment. Cancer survivors are more likely than those without a cancer history to experience poor health and disabilities. Survivors are more susceptible to other illness, report increased anxiety, and experience disruptions in daily functioning and family life.³

Cancer takes a toll on survivors' financial security, as well as their contribution to the overall economy. In 2014, cancer patients paid nearly \$4 billion out of pocket for cancer treatments.⁴ In addition to the burden on individuals, the American Cancer Society reports that cancer alone is responsible for \$115.8 billion in lost productivity, projected to reach \$147.6 billion in 2020.⁵ Treatment and lingering health problems cause patients to reduce work hours, decline promotional opportunities, and take unplanned early retirement. For 27% of cancer survivors, financial hardships include reduced disposable income, increased debt, and/or bankruptcy.⁶

Yoga is an effective, low-cost cancer management tool that has been shown to improve mortality rates, support individual health and well-being, and reduce health care costs and lost productivity due to cancer.

Cost-effective and impactful interventions are essential to help individuals manage the devastating impacts of cancer. Yoga is an effective, low-cost cancer management tool that has been shown to improve mortality rates, support individual health and well-being, and reduce health care costs and lost productivity due to cancer. Yoga programs for cancer patients and survivors must be accessible, professionally-led, and supported by oncology team members as well as institutions and health benefits systems.

This white paper aims to:

- ✓ Highlight recent research on the therapeutic benefits of yoga interventions for cancer patients and survivors
- ✓ Demonstrate that yoga interventions are an effective and safe complementary modality that can improve health outcomes for cancer survivors
- ✓ Establish guidelines to help healthcare professionals develop safe, effective yoga programs for cancer patients and survivors

Like acupuncture, massage therapy, chiropractic care, and other complementary and alternative modalities, yoga interventions can help to ameliorate the immediate and long-term effects of cancer and its treatment and should become a regular part of the continuum of care for cancer patients and survivors.

Overview of Medical Research

Studies suggest yoga can not only help adult cancer patients and survivors manage symptoms and side effects, but also help them lead longer, healthier lives.

Yoga is a complex, holistic system that includes a wide array of practices. A standard yoga class may include asana (poses), pranayama (breathing techniques), meditation, and relaxation practices to support physical, emotional, and mental health. Because of the varied techniques embedded in the yoga tradition, experimental research on its therapeutic benefits presents a unique set of challenges and considerations. Standardized yoga interventions often vary widely in length and content, making comparison between studies difficult. Moreover, many yoga studies suffer from design and methodological flaws and small sample sizes.

Despite these limitations, the body of evidence on therapeutic effects of yoga interventions for cancer patients and survivors is robust and growing. A literature search on “yoga” and “cancer” in the U.S. National Library of Medicine (PubMed) yielded 435 results including observational studies, systematic reviews, and clinical trials. Although a full literature review is beyond the scope of this paper, the studies summarized here suggest yoga can not only help adult cancer patients and survivors manage symptoms and side effects, but also help them lead longer, healthier lives.

While studies on yoga for cancer populations vary in their methods and sample sizes, this overview of medical research incorporates systematic reviews and randomized controlled trials whenever possible. The studies summarized herein provide substantial evidence on the benefits of cancer-specific yoga interventions at clinically meaningful endpoints. The research includes a variety of cancers and stages (although breast cancer has been the most studied) and observes patients before, during, and after treatment. While yoga is no cure-all, there is **strong** evidence that well-crafted interventions have measurable positive effects on health and healing.

Ample research suggests yoga interventions increase strength and flexibility; improve balance and mobility; lower blood sugar and cholesterol levels; support healthy body weight; improve psychological well-being; lessen fatigue; improve sleep; reduce anxiety and stress; improve quality of life; and enhance the immune system.

These effects have been explored in both healthy populations and among people with a variety of diseases and disorders including chronic pain, arthritis, heart conditions, multiple sclerosis, PTSD, depression, anxiety, addictions, and cancers.

What follows is a summary of key research on the benefits of yoga interventions for cancer patients and survivors, organized by clinically





25-30%
of cancer survivors
report persistent
fatigue

FATIGUE AND QUALITY OF LIFE

Yoga has been shown to improve sleep and reduce fatigue for cancer patients and survivors.

Fatigue is one of the most frequently reported side effects among cancer survivors. Approximately 25-30% of cancer survivors report persistent fatigue for five to ten years post-treatment. Recent research suggests yoga interventions improve sleep and reduce persistent fatigue, which can boost quality of life, psychosocial adjustment, and inflammatory pathways.

A randomized controlled study conducted in 2004 investigated the effects of seven weekly 75-minute yoga sessions for patients with lymphoma (n=79). The regular practice of controlled breathing, mindfulness techniques, and low-impact postures improved overall sleep, sleep quality and duration, and decreased participants' use of sleeping pills.⁷

A more recent study found that three months of 90-minute biweekly lyengar yoga classes significantly improved persistent fatigue for patients with breast cancer.⁸ A meta-analysis of 13 RCTs similarly found a small but significant effect of yoga interventions on fatigue.⁹

A systematic review of 24 studies found yoga interventions for women with breast cancer improve sleep quality, decrease fatigue, and increase quality of life compared to no therapy (n= 2166). The review also found that yoga interventions were more effective than psychosocial and educational interventions in reducing depression, anxiety, and fatigue.¹⁰

In a randomized controlled trial that compared a specialized yoga intervention to health education for breast cancer survivors, participants who practiced yoga experienced clinically significant improvements in fatigue and vigor (n=200). The yoga intervention included twice weekly 90-minute hatha yoga classes for twelve weeks. At three months, the yoga group reported less fatigue and more vitality. The group also showed decreased inflammation compared to those in the health education group. A 10-minute increase in the duration of yoga practice per day produced even greater changes.¹¹

ANXIETY, DEPRESSION, AND STRESS

Yoga interventions have been shown to improve cancer-related mental and emotional health.

A randomized trial published in 2007 compared six weeks of 90-minute yoga classes to individual counselling for women with breast cancer (n= 58). The study found clinically significant improvements in anxiety, depression, and perceived stress in the yoga group. There was a 48% reduction in anxiety, 58% decrease in depression, and 27% reduction in stress. Evidence of cellular damage due to radiation therapy was also lower for the women participating in yoga interventions compared to the counseling group.¹²

A meta-analysis of 13 randomized controlled trials (RCTs) of breast cancer patients also found that various yoga interventions resulted in statistically significant reductions in distress (75%), anxiety (77%), depression (69%), and fatigue (51%). In addition, there were moderate increases in emotional functioning (49%) and social functioning (33%). Although RCTs with larger and more diverse samples are needed to generalize the findings, the analysis offers preliminary support for the feasibility and effectiveness of yoga interventions for cancer patients.¹³

PAIN MANAGEMENT

Yoga has been shown to reduce various types of pain.

In non-cancer populations, yoga has been shown to reduce many forms of pain, including arthritis pain, back pain, and carpal tunnel pain. For those with cancer, recent studies suggest yoga can reduce joint pain, muscle and body aches, and musculoskeletal symptoms.

Up to 50% of breast cancer survivors who use aromatase inhibitors (AIs) experience musculoskeletal symptoms such as joint and muscle pain. These symptoms often cause patients to stop taking AIs altogether. A recent study conducted a secondary analysis on data from a phase II/III randomized controlled trial examining a yoga intervention for breast cancer survivors. The yoga intervention consisted of gentle Hatha and restorative yoga postures, breathing, and mindfulness exercises. The 75-minute sessions were delivered in a group setting, twice weekly for four weeks. Compared with standard care, 88% of yoga participants reported reductions in musculoskeletal symptom severity. The yoga group reported significantly greater reductions in pain, muscle aches, time spent in bed, and feelings of weakness, sluggishness, and heaviness in the body.¹⁴

For a comprehensive review of the biomedical research on the efficacy of yoga in health care, see: *The Principles and Practice of Yoga in Health Care* (2016) edited by Sat Bir Khalsa, Lorenzo Cohen, Timothy McCall, and Shirley Telles.¹⁵



10 mins
of daily yoga
increases bone
density

STRENGTH, FLEXIBILITY, AND BONE HEALTH

Yoga has been shown to improve strength, range of motion, and bone health.

Cancer treatments such as radiation, chemotherapy, and medications can decrease muscle and bone strength, flexibility, and health over both short and long term periods. As a result, cancer survivors have an increased risk of osteopenia and osteoporosis. These conditions can result in back pain, loss of spinal flexion, and fractures, making it difficult to perform daily tasks, exercise, and maintain a healthy lifestyle.

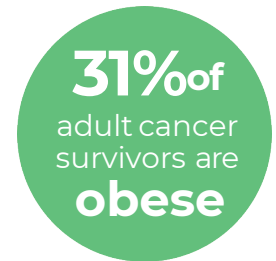
Regular yoga practice increases muscle strength and flexibility, supports a full range of movement in different joints, and improves balance. A 2010 review found that yoga is as effective or better than other forms of exercise at improving a variety of health-related outcome measures, including muscle strength and flexibility.¹⁶ This was true for patients with chronic diseases and for those in good health.

Many yoga poses involve weight bearing, which has been shown to strengthen bones, increase spinal flexion, and improve posture. A seminal two-year pilot study of yoga and osteoporosis found that the participants (average age: 68) who did 10 specified yoga postures per day (about 10 minutes) experienced improvements in bone density. Several of the patients who had osteoporosis improved enough to be reclassified to osteopenia.¹⁷ The same study then followed the volunteers over a ten-year period to determine the long-term effects of a 12-minute yoga regimen (n=741) and found increased bone mineral density in the spine, hips, and femur of moderately and fully compliant participants.¹⁸

WEIGHT MANAGEMENT

Yoga has been shown to support weight management.

People with a history of cancer diagnosis are more likely to be obese than the general population. The National Cancer Institute study published in 2015 reported that 31% of adult cancer survivors in the U.S. were obese. Weight management is critical for this population; studies suggest weight gain and obesity increase the risk of multiple cancers (e.g., bowel, prostate, endometrial, kidney, liver, gallbladder, oesophageal, ovarian, stomach, advanced pancreatic, and postmenopausal breast cancer).¹⁹ In addition, a systematic literature review and meta-analysis of 82 follow-up studies found that being overweight increases mortality risk among breast cancer survivors.²⁰



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Findings like these have encouraged the American Cancer Society (ACS) to recommend that cancer survivors at normal weight include a minimum of 150 minutes of moderate exercise every week. For obese cancer survivors, the ACS recommends at least 320 minutes of physical activity per week. Although there is little data on how yoga supports weight management for cancer patients and survivors specifically, research on metabolic syndrome, diabetes, and obesity suggests that yoga interventions can facilitate weight loss.²¹

A large randomized trial compared 48 weeks of 90-minute, Iyengar-influenced restorative yoga classes with stretching classes for patients with metabolic syndrome (n= 171). The interventions were delivered bi-weekly for the first three months, weekly for the next three months, and then monthly for the remaining six months. Participants were also asked to practice yoga or stretching for at least 30 minutes three times per week at home. At 6- and 12-months, the yoga group saw significant reductions in weight and waist circumference. The stretching group lost weight at 6-months and waist circumference at 12-months. Both groups saw improvements in several metabolic factors. The yoga group saw significant improvements in fasting glucose, insulin levels, glycated hemoglobin, and HDL-cholesterol at six months. Only fasting glucose levels were sustained at one year. The stretching group saw a reduction in triglyceride levels at 6-months.²²

Studies suggest yoga is also as effective as walking to improve serum lipid profiles in overweight and obese persons. Sixty-eight overweight and obese participants between the ages of 20 and 55 were randomly assigned to either a yoga or walking intervention. The yoga group practiced a series of yoga postures and breathing techniques for 45 minutes twice a day, and the walking group engaged in two sessions of walking (about 1.6 miles at a speed of 2.1 miles per hour). Both groups showed a significant decrease in BMI, waist and hip circumference, lean mass, body water, and total cholesterol. Researchers found increased serum leptin and decreased LDL cholesterol in the yoga group, whereas walking significantly decreased serum adiponectin and triglycerides.²³

Yoga may help cancer patients manage lymphedema.

In addition to strength and flexibility, some evidence suggests that yoga may be beneficial in the management of lymphedema.²⁴ The lymphatic system relies on muscular contraction, flexion and compression, respiration, arterial pulse pressure, and the natural pull of gravity to maintain tissue fluid balance and promote lymphatic drainage. Yoga postures, movements, and breathing techniques are uniquely suited to facilitate these processes.

Surgeries such as lymph node removal and other cancer treatments (such as radiation and drug therapies) can interfere with lymphatic flow and slow the detoxification process needed to mitigate toxicities from cancer treatments. Furthermore, treatments can result in a buildup of lymphatic fluid in the tissues of the limbs, neck, and abdomen (lymphedema). This buildup can be debilitating, painful, and increase risk of infection in affected areas. Manual compression, lymphatic massage, the use of compression garments, and exercise such as yoga may help to reduce buildup and promote lymphatic drainage.



I have found that if I maintain a regular yoga practice and attend classes, my lymphedema symptoms are reduced and I do not have to see my physical therapist or lymphatic massage therapist as often. And the pain and swelling are reduced. This is great as my healthcare plan limits the number of sessions I can have with therapists. But my yoga sessions are free and effective.

Veronica

Stage 4 Breast Cancer Survivor

At least 20% of women treated for breast cancer require lifelong lymphedema management. A randomized controlled pilot study of yoga interventions to manage breast cancer-related lymphedema found that yoga may help patients reduce lymphedema. The study assigned women to a weekly 90-minute yoga class taught by a yoga therapist with qualifications in manual lymphatic drainage or to maintenance of their usual self-care (i.e., wearing compression garments, self-massage, and usual lymphatic treatment). The yoga session involved postures and breathing practices to promote lymphatic drainage, meditation, and relaxation. At eight weeks, the yoga group showed a significant decrease in volume of arm lymphedema compared to the control. This result reversed at the 12-week follow-up, which suggests ongoing practice is necessary to manage lymphedema in the long term.²⁵

How to Develop Safe, Impactful Yoga Programs for Cancer Patients & Survivors

Yoga is a complex system that includes a wide array of mind-body practices. Researchers, medical professionals, and yoga instructors must make a number of critical decisions when developing or prescribing yoga for cancer patients and survivors. Which style(s) of yoga should be recommended? How long should the yoga sessions be, and how many sessions are necessary? What qualifications should the yoga instructor possess?



Prior to specific yoga for cancer training what I feared most about cancer was its ambiguity and the intimidating medical terms. However, with specialized training in yoga for cancer, I addressed these concerns head on. Learning how to clearly define cancer has empowered me as a yoga teacher. Understanding the anatomy of the immune system, the various organs that influence it, and particularly how the lymphatic system operates is by far some of the most valuable information a yoga teacher must have to serve this population. As a cancer survivor myself and with my long-term health in mind, I now feel more confident to know how to care for myself - along with caring for others.

Diane K.

yoga4cancer Trained Teacher

The following section is intended to help medical facilities and yoga professionals develop safe and impactful yoga programs for cancer patients and survivors. These guidelines are starting points; all classes and interventions should be adapted to each participant's health status, goals, job, and lifestyle factors.

KNOWLEDGEABLE TEACHERS

Yoga classes and interventions for cancer patients and survivors should be led by instructors who have completed an oncology-based yoga training program.

Yoga professionals vary widely in their level of training, specialist knowledge, and experience. According to Yoga Alliance, the professional and trade association for yoga teachers, only twenty hours of a yoga teacher's initial 200-hour teacher training includes education on anatomy and physiology. A standard yoga certification is focused on teaching the general population, not individuals with cancer. Oncology-based yoga certification programs provide in-depth information and research to ensure yoga teachers can safely and effectively work with cancer patients and survivors.



As a yoga teacher and a survivor myself, I found cancer-specific yoga training extremely helpful regarding teaching cancer survivors. As a newly certified teacher on the 200 hour level, I developed a class plan based on what I thought would be best for this particular population. However, I never felt totally confident that I understood all of the nuances of teaching cancer survivors, nor did I feel like the hospital sponsoring this program knew either. With specialized training in yoga for cancer, I feel I know exactly how to teach this class, and exactly what I should stay away from when teaching survivors.

Jenn R.

yoga4cancer Trained Teacher

Yoga teachers who lead cancer-specific yoga classes must understand the nature of cancer and its treatments, as well as how to safely and effectively apply practices to help students cope with side effects. They should know which practices address scar tissue, bone loss, lymphedema, weight gain, fatigue, sleeplessness, and stress. They should be able to communicate the clinical evidence of yoga's benefits in clear, accurate ways to motivate cancer patients and survivors to continue their practice. Finally, they should be able to discuss cancer confidently, compassionately and intelligently so that participants know they are supported, understood, and cared for.

ONGOING YOGA CLASSES

Cancer patients and survivors should have access to at least two 60-75 minute yoga classes per week on an ongoing basis.

Most existing yoga interventions for cancer patients and survivors are six to eight weeks in length, likely due to cost and logistical barriers. But cancer, its treatments, and its side effects persist much longer than six or eight weeks. Patients and survivors must cope with side effects for years, if not decades to come, and many of these side effects interfere with their health, work, and social functioning. A time-restricted intervention of six to eight weeks fails to provide adequate support.

According to the American Cancer Society, cancer survivors should engage in at least 150 minutes of moderate exercise per week, or up to 320 minutes for those who are obese. Two 60-75 minute yoga classes each week can help to fulfill this requirement, as well as mitigate common symptoms and side effects.

Gentle or chair yoga is not enough!

The US Department of Health and Human Services recommends 150 to 300 minutes per week of moderate-intensity exercise. Active forms of yoga, such as vinyasa, are recommended.

Medical facilities can partner with local yoga studios to offer cancer-specific yoga classes outside the healthcare center. These classes can provide cancer patients with a safe and supportive space to practice outside the medical facility, as well as encourage continued practice. Additionally, yoga may be combined with other safe and effective forms of exercise, such as walking.

COMPONENTS OF CANCER-SPECIFIC YOGA

Cancer-specific yoga should incorporate physical postures, breathing techniques, and mindfulness exercises such as meditation.

Physical postures might include a series of seated, standing, transitional, and supine poses. These poses can help build strength, flexibility and breath capacity, as well as facilitate lymphatic drainage and weight management. Breathing exercises might include slow, controlled, diaphragmatic, and movement-coordinated breath work. These practices can help patients and survivors reduce stress and improve sleep. Meditations might include body scanning (progressive relaxation), Metta meditation (loving kindness), breath awareness and mindfulness. Meditation can help survivors manage anxiety and pain, as well as improve overall quality of life.

“All elements should be adapted for each individual’s abilities, goals, and physical and emotional status.”

The volume and application of the physical postures and the meditation exercises is adaptable to fit the needs of the participants. But all elements should be focused on addressing common treatment side effects and be adapted for each individual’s abilities, goals, and physical and emotional status

SPACE AND LOCATION

Cancer-specific yoga classes should be held in self-contained, spacious, and temperature controlled environments.

Another consideration for cancer-specific yoga is the need for a space that ensures hygiene, safety, and privacy. Unfortunately, yoga classes for cancer patients and survivors are often held in inadequate settings such as conference areas or waiting rooms after hours due to budgetary constraints. While this might be necessary to get a yoga program started, classes should be moved to private, non-carpeted, temperature-controlled rooms as soon as possible.

The temperature of the yoga room should be around 70-75 degrees Fahrenheit. Warmer rooms can be uncomfortable for students, since many cancer treatments (e.g. chemotherapy and hormone therapy) cause hot flashes and increase in body temperature. Rooms should be non-carpeted, because carpet absorbs bacteria and a cancer patient's immune system may be compromised during treatment. Finally, the room should be secluded and free from passing traffic so each student feels safe.

If space is limited in the hospital or medical center, yoga program coordinators might consider partnering with a local yoga studio to offer classes to cancer patients and survivors. This type of partnership also helps encourage cancer patients and survivors to practice in a community outside the medical or clinical environment.

ADAPTATION AND SAFETY

Cancer-specific yoga classes should give students ample opportunities to modify the poses and practices.

Cancer patients and survivors experience many fluctuations in their strength, mobility, breath capacity, pain thresholds, and energy levels during and after treatment. Yoga professionals who lead cancer-specific yoga classes should be aware of these changing factors and encourage students to adapt and modify the poses per their particular needs and goals. Poses and practices should be selected for the particular students in the room to ensure safety and reduce the risk of injury.

Many elements of the yoga practice can be modified for physically compromised patients during active treatment. For example, breathing exercises may be done in a chemotherapy chair rather than seated on the floor. Blocks and bolsters can be used to support students with limited flexibility and range of motion. Weight-bearing exercises and more active practices can be added over time as individuals gain strength, flexibility, energy and confidence.



The classes are amazing in how “customized” they are. I have tried Yoga before and was discouraged because I could not do many poses due to lack of flexibility and other surgeries. No other class I have ever taken has been so accommodating to my special needs and limitations. In other classes the instructors just do their own practice and you are left to “fend or yourself.” I plan my week around these classes.

Billie

yoga4cancer Trained Teacher

YOGA PROPS

Cancer-specific yoga classes should allow students access to props (e.g. blocks, bolsters, blankets, and straps) to support their practice.

Yoga is commonly perceived as an activity for hyper-flexible individuals. For new students or individuals with physical limitations, this perception can make the practice seem daunting. The role of yoga props (e.g., blocks, bolsters, blankets, and straps) is to help individuals access the benefits of a yoga pose or practice without discomfort or fear. For example, blocks can be used to help individuals balance and transition between poses if they cannot reach the floor. Bolsters and blankets can help students sit comfortably without pain.

For a cancer survivor or patient, yoga props are even more vital because cancer and its treatments can interfere with individuals' capacity to engage in physical activity. Fatigue and lethargy can make everyday tasks difficult to perform, least of all regular exercise. Surgeries and other forms of treatment can leave scar tissue that limits individuals' range of motion. Even experienced yoga practitioners and previously active individuals face limitations during and after treatment that can be aided by the use of props.

AGENCY AND ACTION

Cancer-specific yoga classes should aim to help patients and survivors foster a sense of agency about their bodies, health, and lives.

A cancer diagnosis often brings with it feelings of helplessness and lack of control — an illness that might prematurely end your life, a team of specialists who control your treatments, a cloud of fear and anxiety about your health and the future. Cancer-specific yoga classes should empower students with tools and information to manage these feelings. Yoga class can become an opportunity for students to learn how to exert the influence they do have to reduce symptoms and side effects.

Yoga classes for patients and survivors should encourage students to take an active role in their recovery and long-term health. For example, instructors can discuss how some poses may help reduce side effects such as lymphedema, range of motion and neuropathy. Yoga teachers can emphasize movement and stretching as a means of reducing scar tissue after surgery. Cancer patients and survivors can be taught how to use breathing and mindfulness practices to manage stress and anxiety about their diagnosis.



HELPFUL KNOWLEDGE

How You Can Help

Yoga is a safe, effective, and low-cost modality that must be included in the continuum of care. For the most part, the onus is on patients themselves to seek out, pay for, participate in, and assess the therapeutic benefits of yoga programs. This is no small task for healthy people. For patients dealing with illness, multi-stage treatment plans, and crippling medical costs, these barriers can deter patients from seeking out a yoga practice or exercise regime at the onset.

Removing these burdens will require the involvement of knowledgeable physicians who can refer patients and survivors to vetted classes, interventions, and yoga professionals. Physicians and medical professionals are uniquely well positioned to encourage patients to integrate yoga in their treatment plans and should be equipped with research on its benefits. Insurance and wellness benefits programs can help make yoga programs more available to cancer patients and survivors, and community-based groups that are committed to full-spectrum cancer recovery have an essential role to play. Finally, a ready cadre of certified yoga professionals who are trained in the specifics of cancer will ensure that these programs are not only accessible but effective as well.

Here's what you can do to ensure cancer patients and survivors have access to safe, effective yoga programs:

OFFER A YOGA FOR CANCER PROGRAM IN YOUR INSTITUTION:

- ✓ Create an oncology yoga program in your healthcare facility
- ✓ Partner with local yoga studios to offer cancer-focused classes and support
- ✓ Seek ways to expand insurance coverage for evidence-based yoga programs in your institution

DISSEMINATE EVIDENCE ON YOGA'S THERAPEUTIC BENEFITS:

- ✓ Distribute this white paper to healthcare and yoga professionals in your community
- ✓ Share the research on yoga with your cancer patients
- ✓ Ensure yoga professionals working in your institution are familiar with the latest research

COLLABORATE WITH YOGA PROFESSIONALS TO CONDUCT RESEARCH:

- ✓ Work with yoga professionals to track outcomes and collect data on yoga programs
- ✓ Conduct studies on the benefits of yoga for various populations affected by cancer

IF YOU ARE A YOGA PROFESSIONAL:

- ✓ Build your knowledge and credibility by attending a cancer-specific yoga training program
- ✓ Host an 'introduction' yoga class or workshop specifically for healthcare professionals
- ✓ Offer mini-classes in locations frequented by cancer patients and survivors (e.g. chemotherapy wards)

This white paper was funded by:

yoga4cancer

YOGA 4 CANCER (y4c), LLC is a specialized yoga methodology developed by Tari Prinster, a cancer survivor, master yoga teacher, and author of *Yoga for Cancer; A Guide to Managing Side Effects, Boosting Immunity, and Improving Recovery for Cancer Survivors*. yoga4cancer is tailored to address the physical and emotional needs left by cancer and its treatments. This unique approach is based on the growing literature on the benefits of yoga for cancer and other diseases. Over 2,300 certified teachers trained in the y4c methodology have learned about the biology and experience of cancer, common cancer treatments and side effects, and how to build upon established yoga practices to develop classes appropriate for cancer survivors. Today, yoga4cancer and their trained teachers are supporting thousands of cancer survivors worldwide.

y4c.com

yoga4cancer FOUNDATION

yoga4cancer Foundation (501c3), the non-profit partner of yoga4cancer, launched in August 2012, is dedicated to improving the lives of low-income or underserved cancer survivors through yoga and other modalities. The yoga4cancer Foundation offers specialized yoga classes, grants, resources and scholarships to ensure access to the safe and effective yoga practice is available to all those that need it. Additionally, the yoga4cancer Foundation is committed to funding research projects

- like this white paper - to improve the quality of research and understanding of yoga for cancer survivors and patients.



GIVE BACK YOGA FOUNDATION believes in making yoga available to all those who might not otherwise have the opportunity to experience the transformational benefits of this powerful practice. As a national nonprofit yoga organization, the organization supports and funds certified teachers in all traditions to offer the teachings of yoga to underserved and under-resourced socio-economic segments of the community. Through this work, the Give Back Yoga Foundation aims to inspire grassroots social change and community cooperation.

givebackyoga.org

ABOUT

Authors



GAYLE SULIK, PH.D.

Gayle Sulik Ph.D. is an accomplished medical writer with a strong scientific background, experience in health research and communications, and specializations in the domains of medical sociology, oncology, critical health literacy, and the principles of evidence-based medicine. She is author of the acclaimed book *Pink Ribbon Blues: How Breast Cancer Culture Undermines Women's Health* (Oxford, 2012), more than 200 popular and trade pieces in the areas of health and medicine, and dozens of scholarly publications in her areas of expertise. A practicing yogi for nearly two decades, she is a certified yoga teacher with specialized training in yoga4cancer.



JOSI KYTLE

Josi Kytle, is the founder and Managing Director of Yoga 4 Cancer and The yoga4cancer Foundation. These organizations provide specialized yoga4cancer classes, workshops and an accredited training program, available worldwide, that prepares yoga teachers and healthcare professionals in yoga4cancer methodology, which integrates classic yoga and current scientific research. The organization is partnering with several hospitals on IRB research projects to measure the impact of yoga4cancer on cancer survivors.



CHELSEA ROFF

Chelsea Roff is an author, researcher, and educator. She has spent the past decade pioneering integrative health programs for people with mental health challenges. Roff began her career as a research assistant in a psychoneuroimmunology laboratory. Her early research focused on the effectiveness of yoga for breast cancer and HIV/AIDS. Roff went on to apply what she learned in the lab to develop Eat Breathe Thrive, a nonprofit organization that offers yoga-based programs to people with eating disorders.

Advisory Council & Endorsements

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