

DEFEAT Cancer

EXERCISE & NUTRITION during/after CANCER

**CURRENT PEER-REVIEWED MEDICAL LITERATURE
and EXPERT COMMENTARY from RELIABLE MEDIA SOURCES and DR. BLEYER**

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Exercise

Yoga gives immune boost to breast cancer survivors

By Megan Rauscher

An athletic form of yoga is shown to improve quality of life but also is associated with a biological mechanism than may mediate the sense of well being

NEW YORK (Reuters Health) - In breast cancer survivors, the Iyengar method of yoga not only promotes psychological well-being, but seems to offer immune system benefits as well, according to research reported Monday.

The research was reported at the American Physiological Society meeting in Washington, DC.

The Iyengar method, created by B. K. S. Iyengar, "is considered to be one of the more active forms of yoga," lead researcher and presenter **Pamela E. Schultz** from **Washington State University**, Spokane, told Reuters Health.

"It still has the meditative component, but it's been shown to have a **physical output equivalent to a moderate-intensity exercise**," she explained.

Schultz and colleagues randomly assigned 10 breast cancer survivors to **8 weeks of Iyengar yoga (2 classes and 1 solo session at home per week)** and 9 to a wait-list control group. The women had an average age of 61 years, were about 4 years out from initial cancer diagnosis and were being treated with hormone therapy. None of the women had any prior experience with Iyengar yoga.

Psychosocial tests showed that the "demands of illness," which reflects the burden of hardship of being a breast cancer survivor, fell in the yoga participants.

"Psychosocial variables indicated improved quality of life with Iyengar yoga," Schultz said.

Importantly, these improvements correlated with **decreased activation of** an important immune system protein called **NF-kB**, which is a marker of stress in the body.

"So it's possible," Schultz said, "that decreased activation of NF-kB indicates decreased stress in the body, which would be a positive thing. NF-kB can be activated by any type of stress in the body, like physical stress and mental stress."

Schultz plans to continue her research by looking at different immune system proteins to see if they too show changes for the better, "which would confirm immune and psychosocial benefits of Iyengar yoga."

Dr. Bleyer:

- ☑ Small but randomized trial for which no statistical significances in the observed differences are reported.
- ☑ The very short interval (2 months) required to show a benefit is impressive.
- ☑ Also, NF-kB is only one of many markers of the immune system; the observed difference could be insignificant in the greater composition of stress-related markers and cytokines.
- ☑ Nonetheless the data are a sufficient body of pilot data to warrant further investigation of this more athletic form of yoga
- ☑ Again, if nutrition were combined with the physical activity intervention, the results may have shown an even greater, statistically-significant difference

Changing lives through fun and physical fitness

Fran Mason, MD, is an oncologist on a mission to shape the way survivors cope.

HemOnc Today - March 10, 2008

By Stacey L. Adams

For ten years, a dedicated medical oncologist in Boulder, Colorado has stimulated breast cancer patients to undertake triathlon training

"Empowerment through fitness and fun," is what Fran Mason, MD, and the group at Rocky Mountain Team Survivor in Boulder, Colo., strive to provide for the 500 women cancer survivors in their program. For over a decade, Rocky Mountain Team Survivor, an affiliate of the National Association of Team Survivor, has given these women a sense of control in an otherwise powerless struggle by offering physical fitness programs and activities at any stage of cancer, cancer recovery or survivorship. "Team Survivor promotes participation in physical fitness and

2007 Rocky Mountain Team Survivor at the Denver Danskin Women's Triathlon.

Source: Rocky Mountain Team Survivor



fun activities. Our signature event, and the signature event for many of the Team Survivor groups, is the Danskin Triathlon,” Mason, medical director of Cancer Exercise Programs for Healthlinks Clinic at the University of Colorado, Boulder, and Rocky Mountain Team Survivor Board Member, told HemOnc Today.

Participants are assisted in the training process and during the triathlon; ‘swim angels’ are available in the water to help.

“We have about 175 survivors who all swim, bike, run and cross that finish line,” she said. “If you put your foot on the starting line, you’re going to make it to the finish line.”

Oncologist, fitness advocate

Mason, a board certified medical oncologist, began her physical fitness advocacy in Colorado in the 1990s when she realized how beneficial exercise programs were to her patients. While working part-time in a cancer center, Mason spent the rest of her time lecturing to physicians, nurses, physical therapists, patients and advocacy groups about cancer and fitness.

“I began doing some physical fitness for myself, and then I started applying it among my patients by encouraging them to be more active, to gain the benefits of training, to learn to use a heart rate monitor and to monitor their training progress. I became increasingly dedicated to promoting fitness in a hands-on way as a doctor,” she said.

Despite medically practiced beliefs about the detriments of physical fitness on the health of patients diagnosed with or recovering from cancer, Mason continued to work to change that paradigm in the professional arena. Working with a physiologist and a physical therapist, Mason developed and instructed a class at the University of Colorado called The Clinical Exercise where students were taught the therapeutic benefits of fitness in a clinical setting. Using their hands-on knowledge and experience, the group moved to a clinic to help patients recovering from cancer therapy become strong and regain energy. Mason and her group performed original research and presented two papers at the American College of Sports Medicine, one that confirmed the benefit of resistance training in patients recovering from chemotherapy and a second that reported a suitable exercise program for patients with stage-IV advanced cancers.

At their clinic, Mason and her group work with patients recovering from cancer therapies to design individualized exercise programs to suit their needs, whether that included resistance training, flexibility or balance training.

“I try to do things that are fun for patients and that make them feel better. My clinic is full of laughter. It is not full of tragic stories, but instead full of people really working hard but having a good time,” she said. “There is really good data and evidence that show that for patients recovering from cancer therapy, a supervised exercise program can lead to improved self esteem, which is really important because it is their body that has let them down in the first place.”

Improving quality of life

Rocky Mountain Team Survivor coincides with the efforts Mason works toward every day in her clinic, but according to her, they go beyond her team’s work.

“Team Survivor is an extension of my work; what I do in my practice is really much more for people acutely going through their treatments or getting better. The Team Survivor group goes beyond that for people who are, essentially, anywhere with their cancer survivorship; they’ve done some incredible things.”

The survivors participate in weekly hikes, snowshoeing outings, yoga classes and weekly gym nights at a local clinic with a volunteer physical therapist. The organization has also teamed up with local survivorship organizations such as Casting for a Cure, a lottery-drawn fly fishing program for women survivors, and the Colorado Therapeutic Riding Center, an equestrian program where three-quarters of the volunteers are survivors themselves.

“These are activities that seem to be suitable for almost everyone, and the women in the horse class told me, ‘I’ve gotten more out of working with these other cancer survivors and horseback riding than I could’ve ever gotten out of sitting in a support group,’” Mason said. “So that is the concept behind Team Survivor — to really encourage participation and healing through physical fitness.”

A perfect example of how much survivors can achieve is Rocky Mountain Team Survivor board member, Diane Groff. Groff is a two-time cancer survivor who has competed in every Danskin Triathlon in one season. She will receive the 2007 Inspiration Award at the 34th Annual Sports Women of Colorado award ceremony in March.

“This is statewide recognition for cancer survivorship and how far you can take that,” Mason said. “We’re not Lance Armstrong here, but by golly, we can do things and inspire other women, and men too, to reach the highest heights.”

For more information: www.rockymtn-teamsurvivor.org. 2007 Rocky Mountain Team Survivor at the Denver Danskin Women’s Triathlon.

Dr. Bleyer:

- A great program that needs to include other cancers and males, and nutrition!
- We have three athletic teams for this year; maybe we enter Pole Pedal Paddle teams next year.
- We should consider equestrian and fly-fishing, too, since our environment even more conducive to these activities than the Boulder, Colorado region

The contribution of dragon boat racing to women's health and breast cancer survivorship

Parry DC.

Qual Health Res. 2008 Feb;18(2):222-33

Department of Recreation and Leisure Studies, University of Waterloo, Waterloo, Ontario, Canada.

This study and the next one suggest that exercise in groups, with the associated camaraderie and goal setting, may be more beneficial than individual programs

Survivorship is one of the least studied and thus least understood aspects of a breast cancer experience. Defined as a life-long, dynamic process, survivorship begins when people have completed medical treatment for breast cancer, yet live with the memories of their treatment and the possibility of a cancer recurrence. The numbers of women surviving breast cancer are growing, which means research on survivorship is imperative. In this article, I examine dragon boat racing for breast cancer survivors. Dragon boat racing has been adapted to a woman-centered, community-based leisure pursuit focused on life after medical treatment for breast cancer. Active interviews with 11 participants revealed that DBR contributes to women’s social, emotional, physical, spiritual, and mental health. In turn, feeling healthy in these five dimensions enhanced the women’s survivorship of breast cancer. The findings demonstrate the roles of leisure in the health and well-being of women who are breast cancer survivors.

Dr. Bleyer:

- Somehow Canada and dragon boat racing seem incongruous.
- DEFEAT is also based on the benefits derived from peer-pressure and leisure physical activities

Psychosocial experiences of breast cancer survivors involved in a dragon boat program: exploring links to positive psychological growth

Sabiston CM, McDonough MH, Crocker PR

J Sport Exerc Psychol. 2007 Aug;29(4):419-38. Links

University of British Columbia, Vancouver, BC.

Dragon boat racing in teams is another way of exercising to gain control collectively

This study explored psychosocial experiences of breast cancer survivors involved in dragon boat programs. Twenty women (M(age) = 58.69, SD = 6.85) were interviewed for 45-60 min about their experiences as members of survivor dragon boat teams. Interviews were analyzed using constructivist grounded theory methods. The dragon boat program facilitated social support from women with common challenges and a shared understanding of survivorship. It also provided opportunities to (re)gain a sense

of personal control, develop new identities as athletes, and overcome physical challenges. Together these elements contributed to positive psychological growth and linked to the literature on posttraumatic growth. Future physical activity interventions targeting breast cancer survivors may benefit from developing strategies that share key characteristics of dragon boating.

Dr. Bleyer:

The personification in a dragon of DEFEATING cancer should not go unnoticed.

Physical activity may lower breast cancer risk [Prevention]

New York, MAR 18, 2008 (Reuters Health)

This study, from Poland, focuses the benefit of exercise in preventing breast cancer to the age range of the 50s, when it is becomes most likely to occur and be diagnosed.

A new study in the journal *Epidemiology* adds to evidence that women can cut their breast cancer risk by being physically active.

Dr. Beata Peplonska of the Nofer Institute of Occupational Medicine in Lodz, **Poland**, and her colleagues also found that the benefits appeared to be particularly strong for women who boosted their recreational activity levels in their 50s.

There is a growing body of research showing that very active women are significantly less likely to develop breast cancer than their sedentary peers, Peplonska and her team note, but there is less information on whether the timing of exercise during a woman's life also influences the risk, and whether moderate physical activity is also beneficial.

To investigate, the researchers compared **2,176 women with breast cancer** and **2,346 healthy controls**. All were asked about their level of recreational and occupational physical activity throughout their adult lives.

The women with the **highest total adult lifetime activity were 20 percent less likely** to have developed breast cancer than the least active women, the researchers report in the medical journal *Epidemiology*.

Being in the top fourth of the group based on moderate-to-vigorous recreational physical activity conferred a 26 percent lower risk of the disease compared to being in the bottom fourth.

Furthermore, exercise was beneficial no matter whether a woman was slim, normal weight, or overweight; whether or not she had a family history of breast cancer; and whether or not she had reached menopause.

In fact, women who spent **more time in moderate-to-vigorous recreational activities in their 50s than they had in their 20s, 30s and 40s were 34 percent less likely to develop breast cancer**, while those who increased their activity the most were at 41 percent lower risk, Peplonska's team found.

They conclude: "Although the beneficial role of engaging in physical activity was observed for all age periods, our study suggests that increases in activity levels when a woman is in her 50s might be particularly relevant."

SOURCE: *Epidemiology*, March 2008

Dr. Bleyer:

Just how many more countries need to demonstrate the value of physical activity in preventing breast cancer?

The benefit would likely have been demonstrated to be even greater if good nutrition were combined with exercise.

It's never too late to begin a regular regimen of physical activity, and it may be particularly important when typically, at the age of 50, many tend to reduce or stop exercising

Nutrition

Drinking plus hormones may up breast cancer risk [Prevention]

Tue Mar 11, 2008 ...

The risk of breast cancer associated with alcohol consumption may be more related to the use of hormone replacement therapy to reduce or prevent menopause symptoms than to the alcohol

NEW YORK (Reuters Health) - Even moderate drinking may raise the risk of breast cancer among postmenopausal women on hormone replacement therapy, new research suggests.

A number of studies have linked regular drinking to a higher risk of breast cancer; it's thought that the risk reflects the effects of alcohol on women's levels of estrogen and other hormones. Similarly, hormone replacement therapy (HRT) after menopause has been shown to raise the risk of breast cancer.

The new findings, reported in the *International Journal of Cancer*, suggest that alcohol and HRT may combine to further boost the odds of developing the disease.

Among the more than 5,000 Danish women researchers followed, those who were on HRT and averaged one or two drinks per day had a three-fold higher risk of breast cancer than women who neither drank nor took hormones.

Women who had **more than two drinks per day had a nearly five-times higher risk of the disease.**

In contrast, **drinking habits were not related to breast cancer risk among women who did not use HRT**, according to Drs. Naja Rod Nielsen and Morten Gronbaek of the **Danish** National Institute of Public Health, Copenhagen.

The findings, according to the researchers, raise the possibility that drinking affects postmenopausal breast cancer risk differently depending on women's hormone use. However, more studies are needed to confirm the interaction between alcohol and hormones, they write.

The findings come from **two decades' worth of data on 5,035 postmenopausal women** who were surveyed about their drinking habits and hormone use at the beginning of the study. Over the next 20 years, 267 women developed breast cancer.

Overall, **regular drinking was linked to a slightly higher risk of the disease. But when the researchers considered hormone use, drinking affected breast cancer risk only among women who were on HRT at the outset.**

In one previous study of postmenopausal women taking oral estrogen, those who drank were found to have estrogen levels that were three times higher than those of non-drinkers, Nielsen and Gronbaek note. This may be one explanation for the higher breast cancer risk seen in this study, they write.

If further research confirms the findings, they conclude, there should be an impact on both HRT use and recommendations for "sensible drinking limits" among postmenopausal women.

SOURCE: *International Journal of Cancer*, March 2008.

Dr. Bleyer:

- ☑ The Danes have one of the best registries in the world to study health and human behavior
 - ☑ If true, moderate drinking without estrogen replacement for menopause may not increase the risk of cancer and allow the well-known benefit on cardiovascular health, most recently extended to the benefits of moderate drinking in former non-drinkers (*Am. J. Med.* 2008;121:201-6)
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