

The Role of Yoga in Cancer Survivorship

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- Yoga in cancer
 - Evidence
 - Limitations
 - Prostate Cancer and Yoga
- A Framework
 - Yoga in the Exercise is Medicine model
- Knowledge Translation
 - TrueNTH Lifestyle Management
 - ACE – Alberta Cancer Exercise

- Receiving diagnosis of cancer and undergoing treatment associated with lowered psychological and emotional quality of life.
 - Most common symptoms are:
 - Anxiety, depression, fatigue and pain.
 - Many patients turn to complementary therapies to help manage their symptoms
- Yoga one of the most popular of the CAM therapies

Carlson LE, Waller A, Groff SL, Giese-Davis J, Bultz BD. (2011) What goes up does not always come down: patterns of distress, physical and psychosocial morbidity in people with cancer over a one year period. *Psycho-oncology*.

- Research suggests yoga may have a number of benefits for cancer survivors.
 - Positive effects reported on health-related quality of life, psychosocial and symptom measures, fitness and PA levels.





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Breast Cancer Research and Treatment

ORIGINAL REPORTS | Palliative and Supportive Care

Yoga's Impact on Inflammation, Mood, and Fatigue in Breast Cancer Survivors: A Randomized Controlled Trial



Psychoneuroendocrinology

Volume 43, May 2014, Pages 20–29



Yoga reduces inflammatory signaling in fatigued breast cancer survivors: A randomized controlled trial

Julienne E. Bower^{a, b, c, d,}  , Gail Greendale^e, Alexandra D. Crosswell^a, Deborah Garett^c, Beth Sternlieb^f, Patricia A. Ganz^{d, g}, Michael R. Irwin^{a, b, c, d}, Richard Olmstead^{b, c}, Jesusa Arevalo^h,

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■ Benefits reported from **yoga-based** studies Smith & Pukall, 2008

- Anxiety
- Depression
- Stress
- Awareness Level
- Fatigue
- Sleep Quality
- Spiritual Well-being
- Overall Quality of Life



REVIEW ARTICLE

Review of yoga therapy during cancer treatment

Suzanne C. Danhauer¹ • Elizabeth L. Addington^{1,2} • Stephanie J. Sohl¹ •
Alejandro Chaoul³ • Lorenzo Cohen³

- Review of adult (n=8 non-RCT; 13 RCT) and pediatric (n=4 non-RCT; 0 RCT) oncology populations, while undergoing treatment
- Psychological symptoms improved – depression, anxiety, distress
- Symptom markers improved – sleep, fatigue
 - More research on immunity/stress biomarkers
- QOL improved – more research on sub-domains

Evidence-Based Complementary and Alternative Medicine
Volume 2012 (2012), Article ID 642576, 17 pages
<http://dx.doi.org/10.1155/2012/642576>

Support Care Cancer (2012) 20:3055–3064
DOI 10.1007/s00520-012-1611-8

REVIEW ARTICLE

Randomised controlled trials of yoga interventions for women with breast cancer: a systematic literature review

T.

H. Harder • L. Parlour • V. Jenkins

Effects of Yoga on Psychological Health, Quality of Life, and Physical Health of Patients with Cancer: A Meta-Analysis

Kuan-Yin Lin,¹ Yu-Ting Hu,¹ King-Jen Chang,² Heui-Fen Lin,^{1,3} and Jau-Yih Tsauo¹

- Review of 13 RCT yoga studies found...
- Large reductions in distress, stress, anxiety & depression
- Reductions in fatigue and improved sleep quality
- Improved mood
- Improved social and emotional function
- Increased functional well-being
- Enhanced quality of life
- Small effects on physical function, sleep



Buffart, L.M. et al (2012). Physical and psychosocial benefits of yoga in cancer patients and survivors, a systematic review and analysis of randomized controlled trials. *BMC Cancer*, 12, 559.

[Intervention Review]

Yoga for improving health-related quality of life, mental health and cancer-related symptoms in women diagnosed with breast cancer

Holger Cramer¹, Romy Lauche², Petra Klose¹, Silke Lange¹, Jost Langhorst³, Gustav J Dobos¹

- Yoga enhances QOL, reduces fatigue and sleep disturbances – compared to no therapy
- Yoga reduces depression, anxiety and fatigue compared to psychosocial/education interventions
- Low quality evidence – may be as effective as exercise at reducing fatigue and improving QOL

- Sample size
- Self-report of measures
- Recruitment and retention/adherence
 - Real-world, pragmatic designs that offer flexibility
 - Measuring adherence to understand efficacy
- Yoga prescription – style, dose, protocol (sequence/modifications), training of instructors, additional home practice
 - Exercise – FITT
- Behaviour change skills
 - Education on self-regulatory skills, inclusion of social support
- Breast cancer

Research Question

1. Is a cancer-specific yoga program offered to prostate cancer (PC) survivors a viable physical activity option?
2. What are the benefits – physical and psychosocial?



Ross AN, Robinson JW, Paskevich D & Culos-Reed SN. (2012). Examining a therapeutic yoga program for prostate cancer survivors. Integrative Cancer Therapies.

- $N = 15$
- 64.5 ± 9.9 years
- 86.7% localized PC
- Treatment status
 - 26.7% >1 year post-Tx
 - 53.3% <1 year post-Tx
 - 6.70% active Tx
 - 13.3% waiting / no Tx
- 7 week intervention (assessed pre/post intervention and pre/post class)

- Trained Yoga Thrive instructors
- Protocol – adapted from Yoga Thrive
- Delivered in community setting
- Included support persons
 - Recruitment and retention
- Included education to enhance adherence
 - Role of movement (yoga, other exercise) on prostate cancer symptoms
 - Self-regulatory skills
 - Goal setting, barrier management, social support

■ Outcome Measures

- Physical Activity - Adherence / Maintenance
- Quality of Life
- Fatigue
- Perceived Social Support
- Fitness
- Emotional well-being – stress, mood



■ Pre/Post Class Ratings

Week 1 – Pre-class

First, please circle the number (0-10) that best describes how much stress you are currently feeling.

Extreme Stress

No Stress

Next, please circle the number (0-10) that best describes the amount of fatigue you are currently experiencing.

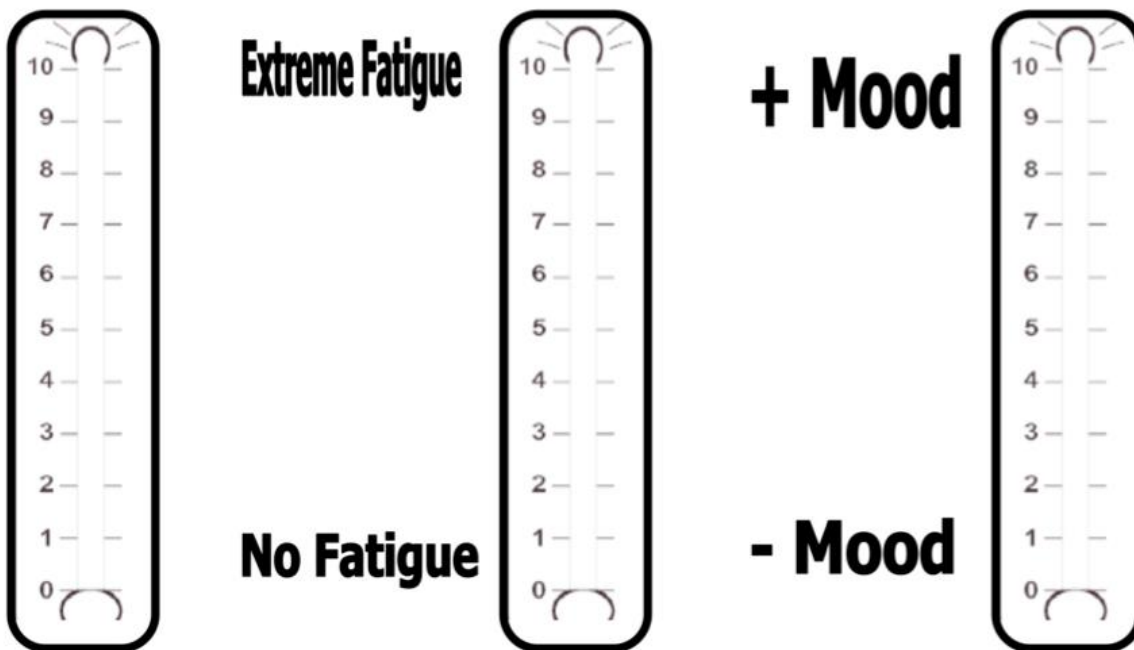
Extreme Fatigue

No Fatigue

Finally, please circle the number (0-10) that best describes your current mood.

+ Mood

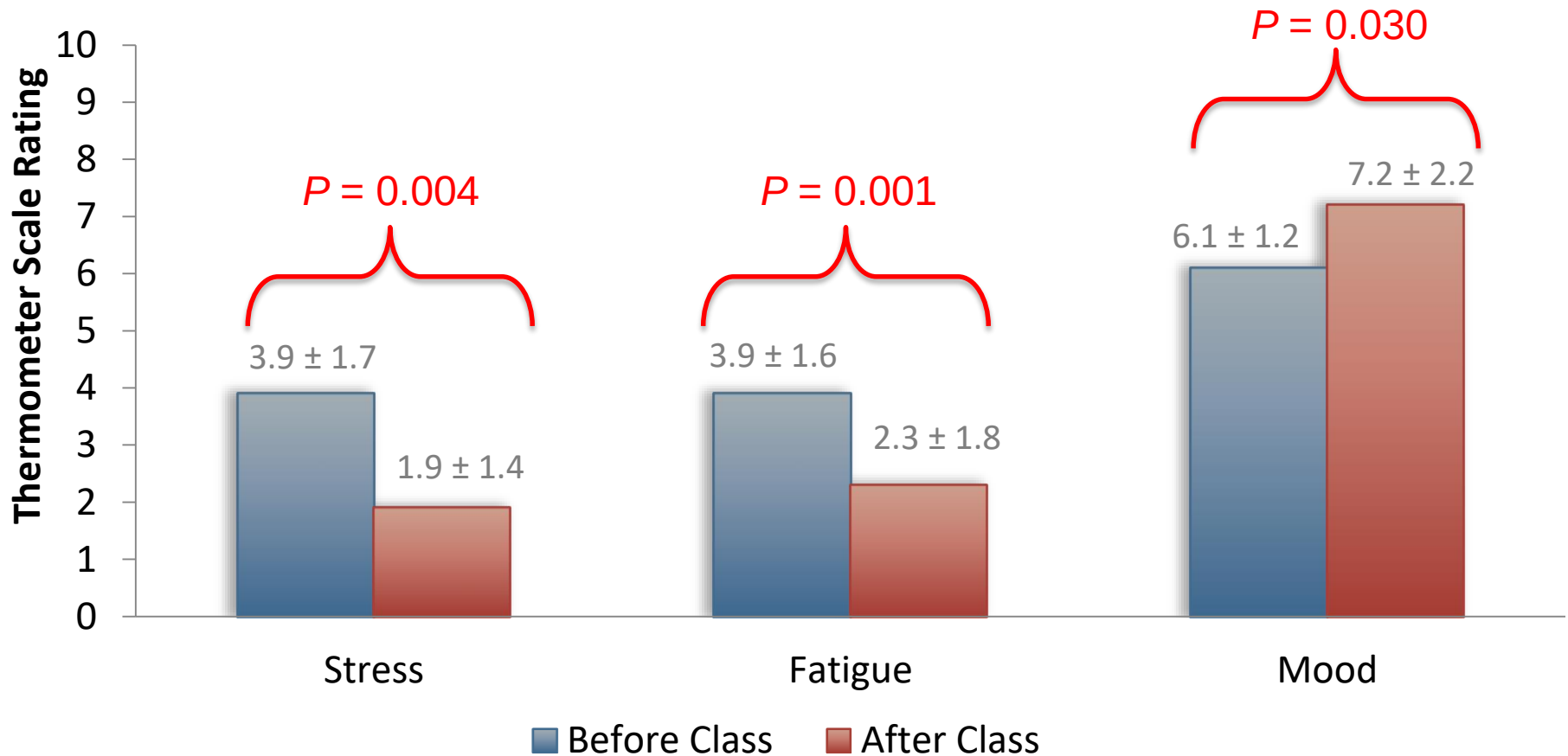
- Mood



Prostate Cancer Survivors



Support Persons



- Fitness Assessment Outcomes
 - Improved Strength, Flexibility, Functional aerobic capacity
- PROs
 - Improved Quality of life, Emotional well-being, Fatigue
- Feasibility
 - Promising uptake rates
 - High adherence rate
 - No program drop-out
 - Positive feedback



■ Knowledge Translation:

- Dynamic and iterative process that includes *synthesis, dissemination, exchange and ethically-sound application of knowledge* to improve the health of Canadians, provide more effective health services and products and strengthen the health care system.
- There is a gap between what we know (evidence for yoga) and what is being offered (yoga programs for cancer survivors)
- Role of yoga professional in KT / implementation

Santa Mina, D., Alibhai, S.M.H., Matthew, A.G., Guglietti, C.L., Steele, J., Trachtenberg, J., Ritvo, P.G. (2012). Exercise in clinical cancer care: a call to action and program development description. *Curr Oncol*, 19: e136-144.

- Yoga adds contemplative element to exercise
- ‘Mindfulness in motion’.



Salmon, P., Lush, E., Jablonski, M., & Sephton, S. E. (2009). Yoga and mindfulness: Clinical aspects of an ancient Mind/Body practice. *Cognitive and Behavioral Practice*, 16(1), 59-72.

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General Cancer Programs



Prostate Cancer Specific
Programs and Resources

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LIFESTYLE MANAGEMENT

Lifestyle Management Program

Physical Activity

- Fitness assessments
- Individualized exercise prescription by an Exercise Physiologist
- Safe, supervised group PA classes

Stress-Reduction

- Wellness assessments
- Weekly yoga classes

Nutrition

- Weekly education

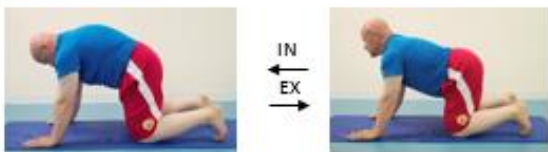
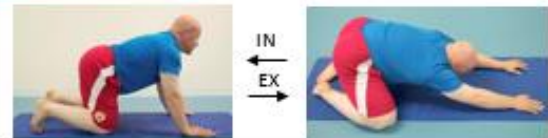
Extensive Online Resources and Support Services available Nationally

- Yoga for Prostate Cancer
- Protocol 12-week program
 - Delivered weekly or bi-weekly
 - Pelvic floor muscle focus
 - Incontinence
 - Breath work
 - Fatigue
 - Meditation
 - Training of instructors
 - Yoga Thrive PLUS prostate specific training

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LIFESTYLE MANAGEMENT

1. Reclined Knees Opening Breath - Introduce simple nostril breathing and diaphragmatic breathing - Intro connect to body, mind, breath - Intro to PF voluntary contraction - Inhale to release PF muscles – Exhale to gently engage/lift PF muscles	
2. Reclined Arm Pullovers - Thumb tips touching, palms face away from face – inhale arms toward ears, exhale back to start - Fingertips touching each other on both hands – palms pull away (spider on a mirror)	
3. Seated Shoulder Rolls Sukhasana Variation - Repeat 4-6 times - Inhale shoulders up - Exhale back and down	
4. Cat/Cow Biddhalasana - Cakravakasana - Repeat 4-6 times - Move with breath and awareness - Inhale cow – exhale cat	<u>Biddhalasana</u>  <u>Cakravakasana</u> 
5. Mountain Pose Tadasana Static, focus on postural alignment & grounding/feet	A

Meditation Toolkit

These short meditations can be used during savasana at the end of class. A suggested order is outlined in the schedule on page 2.

Guided Relaxation #1 of the 4 Part Meditation: Awareness of Breath

This breath awareness practice should be completed at the beginning of the class and again as your bring them out of silence after savasana. It provides participants with two opportunities to connect to a practice that is new to them.

- Beginning at the nostrils, have participants note the sensation of the breath – cool on the inhale, warm on the exhale.
- Have participants then focus on the breath moving in through the nose, filling the lungs and abdomen on the inhale and on the abdomen and lungs releasing on the exhale and the breath moving out of the nostrils.
- Then have participants focus on the feeling of the abdomen rising and falling with the in-breath and out-breath.
- Introduce the concept of “riding the waves” of one’s own breath from moment to moment and bringing one’s attention back to the breath and the present moment when it wanders.

Guided Relaxation #2 of the 4 Part Meditation: Awareness of Body

- Have participants begin to focus on the physical sensations of their body as a whole.
- Then beginning at the toes, moving through their bodies – toes, feet, ankles, calves, shins, knees, thighs, pelvis, abdomen (spend some time here focusing on the rising and falling of the abdomen with the breath), torso, shoulders, upper arms, forearms, hands, fingers, neck, face, top of the head...
- Have them return to focusing on sensations of their bodies as a whole.

Guided Relaxation #3 of the 4 Part Meditation: Awareness of Mind

- Have participants pay particular attention to the observation and recognition of thoughts as thoughts, as “events” in the mind.
- Just sit. Don’t hold on to anything, don’t look for anything. Practice being completely open and receptive to whatever comes into the field of awareness, letting it all come and go, watching, witnessing in stillness.
- Sit with awareness of whatever comes up, not looking for anything in particular to focus on, such as sounds or thoughts, or even breath.
- Simply be receptive to whatever unfolds in each moment.
- Let go of the entire play of inner experience, whether it be the breath, sensations, perceptions, thoughts, or feelings.

Guided Relaxation #4 of the 4 Part Meditation: Awareness of Relationship

- Invite participants to first breathe from the heart centre and envision a spaciousness of heart.
- This feeling of the heart permeates and fills the whole body.
- Have them pick a relationship to something greater than themselves to be aware of, could be with partner, kids, or Higher Power.
- Through this very personal practice, one develops a greater sense of our wholeness within a larger wholeness, a sense of belonging and being supported.

Yoga



■ Quantitative

- N>400 in PA programs
- Multiple sites
- Outcomes: PRO's – fatigue, quality of life, emotional well-being; Fitness – strength, flexibility, aerobic capacity; PA levels – adherence, maintenance, self-report

■ Qualitative

- Informed quality improvement cycles (n=5-10, 3 cycles)
- Role of yoga in wellness
 - Sense of control
 - Impact on symptoms of incontinence
 - “Time-out”
- Logistics around yoga delivery, feedback on instructors

- Role of yoga must continue to be promoted within cancer care
 - Viable physical activity option
- Research:
 - Comparison of yoga to exercise
 - Active interventions
 - Methodologically rigorous trials
 - Inclusive of all cancer types
 - Inclusion of behaviour change skills training
 - Self-regulatory skills promote adherence



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