

Cancer and Yoga

DR. PETER HAIMA



HOW YOGA IMPROVES THE HEALTH OF CANCER PATIENTS

health benefits of yoga practice for cancer patients



DECREASES	IMPROVES	Reference
fatigue, sleeplessness	general physical and mental health	1,2,3,5,16,17
pain, nausea	vitality, energy	3,16,17
stress, anxiety, depression	breathing, relaxation	2,16,17
concentration problems	quality of life	2,4
chance of cancer recurrence ²	immune system ²	6,7,8,11-15



Safe poses and movements

Stretching, bending, twisting and rotation of the body, muscles are tightened and relaxed. This gives a gentle massage to the internal organs, and improves blood and lymph circulation:

- increased removal of waste, debris, pathogens, toxins, and cancer cells
- boosts immune system by increased contact between pathogens and lymphocytes + antibodies
- improves flexibility, strengthens muscles, improves coordination and balance



Deep breathing

Deep and slow abdominal breathing exercises by contracting the diaphragm; in addition ancient breathing techniques (pranayama's) are practiced:

- improved breathing, more oxygen, energy and vitality
- physical and mental relaxation (physical stress response is deactivated)
- lowering of blood pressure and more harmonious heart rhythms (cardiac coherence)
- improved lymph circulation through movement of the largest lymphatic vessel (thoracic duct)



Mindfulness/meditation

Full awareness and concentration throughout the whole yoga session. All physical, mental, and emotional reactions are observed with a nonjudgmental and mild attitude. Feeling = Healing.

- more peace of mind, body awareness and concentration
- reduces pain, anxiety and fear.
- builds self-confidence and a caring relationship with yourself and your body



Relaxation

A long relaxation is practiced towards the end of the yoga session :

- deep physical, mental and emotional relaxation ⁴
- body recovers from exercise
- activation of "healthy" and deactivation of "unhealthy" genes (science of epigenetics) ³

Scientific references and notes on backside

Notes:

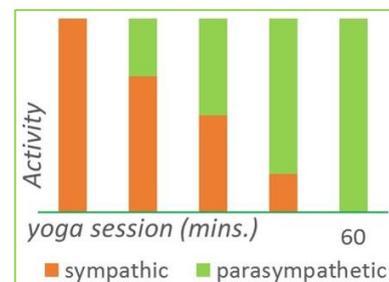
¹ Yoga improves physical, mental and emotional fitness. It induces a deep relaxation response, boosting the immune system. Several studies demonstrate that the practice of yoga and mindfulness results in activation of lymphocytes, including natural killer cells that play a major role in defending the body from cancer cells [11-15]. One study assessed rapid changes in gene activity in lymphocytes in people that practiced either a comprehensive yoga program or a control regimen. The yoga program had a rapid and significantly greater effect on gene activity compared with the control group. These data suggest that yoga and related practices result in rapid gene activation in lymphocytes which may be the basis for the health effects of yoga.

² Many studies demonstrate an inverse relationship between physical activity and mortality in cancer patients [6-8].

³ Mind-body practices that elicit the relaxation response (RR) have been used worldwide for millennia to prevent and treat disease.

In two studies, gene activity was studied in a group of people practicing yoga, mindfulness, diaphragmatic breathing and body scan. Gene activity changed significantly, compared to the control group. Hundreds of genes were activated that are involved in immune response, energy metabolism and insulin regulation. Genes that were switched off were involved in stress and inflammation response. All changes supported the body to better respond to chronic and psychological stress, heart rate and blood pressure were lowered [9,10].

⁴ Mind-body practices like yoga induce a relaxation response by activating the parasympathetic nervous system, the one that calms you down. At the same time yoga calms the sympathetic nervous system, the one that causes stress by activating the fight-or-flight response.



About the author:

Dr. Peter Haima held various scientific and management positions in medical companies throughout North America and Europe. After being diagnosed and treated for cancer, he started practicing yoga and mindfulness to recover from the severe side effects of the treatment. Being inspired by the very positive effects on his body, mind and spirit, he started integrating modern Western and ancient Eastern health sciences. His mission is to help people develop a healthy body and mind through yoga, mindfulness, healthy nutrition and lifestyle. Based on his own experiences as a cancer survivor, he believes that empowering people to become an important player in their own healing process is key to recover from disease.

Peter consults people on yoga and mindfulness practices that improve health and quality of life. He also consults patients on diagnostic and treatment options, health promoting yoga practices, nutrition and lifestyle. He is a certified molecular biologist, coach and yoga instructor, writes articles on health subjects and gives talks on various health topics.

References:

1. Taso CJ et al. **The effect of yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer: a randomized controlled trial.** J Nurs Res. 2014; 22(3):155-64.
2. Kuan-Yin Lin et al. **Effects of Yoga on Psychological Health, Quality of Life, and Physical Health of Patients with Cancer: a Meta-Analysis.** Evidence-Based Complementary and Alternative Medicine. Volume 2011, Article ID 659876.
3. Julianne E. Bower et al. **Yoga for persistent fatigue in breast cancer survivors: A randomized controlled trial.** Cancer. 2012 Aug 1; 118(15): 3766–3775.
4. Kavita D et al. **Randomized, Controlled Trial of Yoga in Women With Breast Cancer Undergoing Radiotherapy.** J Clin Oncol. 2014 Apr 1; 32(10): 1058–1065.
5. Janice K. Kiecolt-Glaser et al. **Yoga's Impact on Inflammation, Mood, and Fatigue in Breast Cancer Survivors: A Randomized Controlled Trial.** J Clin Oncol. 2014 Apr 1; 32(10): 1040–1049.
6. Ballard-Barbash, R et al. **Physical activity, biomarkers, and disease outcomes in cancer survivors: A systematic review.** Journal of the National Cancer Institute, 2012. 104, 815–840.
7. Friedenreich CM et al. **Physical Activity and Survival After Prostate Cancer.** Eur Urol. 2016 Jan 7. S0302-2838(15)01241-5.
8. Barbara L. Andersen et al. **Psychologic Intervention Improves Survival for Breast Cancer Patients. A Randomized Clinical Trial.** Cancer. 2008 Dec 15; 113(12): 3450–3458.
9. Jeffery A et al. **Genomic Counter-Stress Changes Induced by the Relaxation Response.** PLoS ONE 1 July 2008 Vol.3 Issue 7
10. Manoj K et al. **Relaxation Response Induces Temporal Transcriptome Changes in Energy Metabolism, Insulin Secretion and Inflammatory Pathways.** PLOS ONE 1 May 2013 | Volume 8 | Issue 5.
11. Su Qu et al. **Rapid Gene Expression Changes in Peripheral Blood Lymphocytes upon Practice of a Comprehensive Yoga Program.** PLOS ONE | www.plosone.org 1 April 2013 | Volume 8 | Issue 4 | e61910
12. Li QZ et al. **Genomic profiling of neutrophil transcripts in Asian Qigong practitioners: a pilot study in gene regulation by mind-body interaction.** (2005) J Altern Complement Med 11: 29–39.
13. Dusek JA et al. **Genomic counter-stress changes induced by the relaxation response.** (2008) PLoS One 3: e2576.
14. Sharma H et al. **Gene expression profiling in practitioners of Sudarshan Kriya.** (2008) J Psychosom Res 64: 213–218.
15. Black DS et al. **Yogic meditation reverses NF-kappaB and IRF-related transcriptome dynamics in leukocytes of family dementia caregivers in a randomized controlled trial.** (2012) Psychoneuroendocrinology.
16. Tara Prinsterer. **Yoga for cancer.** Healing arts press, Rochester Vermont 2014.
17. Barrie Casselith. **Survivorship, evidence based guide for cancer patients on using complementary therapies.** Spry publishing LLC, Ann Arbor, MI, 48104 USA.