

Report on Breast Cancer by Kimberly Burnham, PhD

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5 Benefits of Art and Mindfulness in People with Breast Cancer

<http://5bestthings.com/benefits-of-art-and-mindfulness-in-people-with-breast-cancer/>

While being treated for breast cancer, people report anxiety, depression, fear of recurrence, fatigue, cognitive decline, and other symptoms that significantly affects physical health, psychological health, and quality of life. Several recent studies looked at art, music, and mindfulness based therapies as a way to deal with these symptoms. While encouraging further and larger studies, researchers reported,

"While limited in power, the results of meta-analysis indicated a positive effect of mindfulness-based therapy in reducing anxiety, depression, fear of recurrence, and fatigue associated with breast cancer, and improving emotional well-being, physical function, and physical health in these patients. The present data indicate that mindfulness-based therapy is a promising adjunctive therapy for patients with breast cancer."

Complementary Therapies in Medicine (2016)
<http://www.ncbi.nlm.nih.gov/pubmed/27261975>

1. Cognitive Training

Another study looked at the up to 75% of cancer survivors who may experience cognitive impairment as a result of cancer treatment. They found a benefit from computer-assisted cognitive training interventions and compensatory strategy training, but the benefit of meditation and physical activity intervention are unclear from the studies. Sometimes we just have to try things and see if they work for us because many people seem to feel better with meditation and exercise so you would think that would also be true of people with breast cancer but researchers noted, "Cognitive training demonstrated beneficial effects on objectively assessed cognitive function (including processing speed, executive functions, cognitive flexibility, language, delayed- and immediate- memory), subjectively reported cognitive function and mental well-being. Compensatory strategy training demonstrated improvements on objectively assessed delayed-, immediate- and verbal-memory, self-reported cognitive function and spiritual quality of life (QoL). The meta-analyses of two RCTs (95 participants) did not show a beneficial effect from compensatory strategy training on physical well-being

immediately or two months post-intervention or on mental well-being two months post-intervention. Evidence for physical activity and meditation interventions on cognitive outcomes is unclear."

Cochrane Database Syst Rev 8 (2016) <http://www.ncbi.nlm.nih.gov/pubmed/27529826>

2. Mindfulness

Clearly all the research does not agree since in another mindfulness study researchers found, "Mindfulness practice significantly improves attention and mindfulness programs significantly reduce symptom distress in patients with cancer, and, more specifically, in women with breast cancer. Recently, a pilot investigation of a music therapy program, built on core attitudes of mindfulness practice, reported significant benefits of enhanced attention and decreased negative mood and fatigue in women with breast cancer."

Healthcare (Basel) (2016) <http://www.ncbi.nlm.nih.gov/pubmed/27517966>

3. Art Creation

Exercising creativity by creating artwork with or without an art therapist is another way to improve emotional well being as well as increase the sense of safety and self-awareness. Researchers reported, "Narrative analysis of interviews [with women with breast cancer who participated in the art program] yielded four storylines: Art and Art Therapy as a Haven; Getting a Clearer View; Clearing the Way Emotionally; and Enhancing and Enlivening the Self. The storylines show existence being affirmed, confirmed and proclaimed through visual artistic expression and meaning making being achieved through physical acts of making."

Journal of Health Psychology (2006) <http://www.ncbi.nlm.nih.gov/pubmed/16908471>

4. Expressive Writing

Do you have a writing or journaling practice? What insights do you gain from writing? Expressive writing is one way to not only improve mood and self awareness but also has been shown to improve levels of fatigue.

"Expressive writing has been shown to improve quality of life, fatigue, and posttraumatic stress among breast cancer patients across cultures. Three themes emerged through analysis: writing as process, writing as therapeutic, and writing as a means to help others. This study augments existing evidence to support the appropriateness of expressive writing as an intervention after a breast cancer diagnosis."

Cancer Nursing (2016) <http://www.ncbi.nlm.nih.gov/pubmed/26390074>

5. Positive Psychology

In a study that helped women with breast cancer to develop their psychological strengths and enhancing positive psychology-based styles of coping, researchers assess self-esteem, well-being, and happiness and the experimental group showed higher scores on all of the study variables after the intervention. Researchers concluded, "Participants reported improved self-esteem, emotional intelligence-related abilities, resilience, and optimism, as well as positive affectivity, well-being, and happiness. The results show a beneficial effect of this psychological intervention based on positive psychology on female breast cancer patients' psychological health."

Psychological Reports (2014) <http://www.ncbi.nlm.nih.gov/pubmed/25153949>

Do you meditate; have a positive psychology or gratitude practice, or use art and music to enhance your mood and physical well being?

Poetry from Remembering the Future Series

Poem on waiting to hear whether she had breast cancer written as if everything turned out well:

I Awoke and Saw My Life

Oh my love
remember when we awoke
together in love
with so much joy and pleasure
in the physical comfort
of each other
Remember getting the news
of how healthy and long our life
together would be

Remember celebrating
with delicious spicy Mexican food
the next day bicycling
on a sunny cool day
Remember the power
of love and pleasure
manifested in the happiness
of all those around us
sharing in our good fortune
making their own pleasures

Remember the trips
romantic getaways to hot springs
enlightening experiences
of learning and leaning in
listening, travel with the kids

seeing the wonders
of the universe through their eyes

Remember all my love
for it and so much
passion for life
has come
for you and me

The Poetry Posse, J. Bond, Kimberly Burnham et al. (2014 03 01). Be My Muse, I Awoke and Saw My Life, Saving Grace of Interlocking Circles, Never Stop the Hula, Impressions in The Year of the Poet ~ March 2014 (Volume 3). Inner Child Press.

Contact Kimberly Burnham for a personalized Remembering the Future Poem

The Burnham Review (2017) on Breast Cancer

Breast Cancer and CAM

The use complementary and alternative medicine (CAM) by women with breast cancer and survivors is high. This issue of The Burnham Review looks at work with the signs and symptoms of breast cancer and chemotherapy side effects as well as ways to support the immune system.

The first study considered, examines the use of CAM in 115 breast cancer survivors at least 1 year beyond active medical treatment.

In the study, 69% of participants reported use of CAM. Of these, “73% reported initiating or changing CAM activity specifically because of their diagnosis. Patients engaging in CAM for cancer-related reasons were younger and had been diagnosed with cancer at a younger age.”

Researchers concluded, “assessing motivations for CAM use may be important in future examinations of the relationship between CAM use and quality of life among breast cancer survivors.”¹(Matthews,2007).

1. Matthews, A. K., S. A. Sellergren, et al. (2007). "Complementary and alternative medicine use among breast cancer survivors." J Altern Complement Med 13(5): 555-62. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=17604560

Reflexology & Chemotherapy Effect

This study identifies the effects of foot reflexology on nausea, vomiting and fatigue in breast cancer patients undergoing chemotherapy.

In a quasi-experimental design, the foot reflexology consisted of 4 phases for 40 minutes, given by a researcher and 4 research assistants.

“There was a statistically significant decrease in nausea, and vomiting in the experimental group [n=16] compared to the control group [n=18]. In addition, there was a statistically significant decrease in fatigue in the experimental group compared to the control group.

Foot reflexology can be usefully utilized as a nursing intervention in the field of cancer nursing for breast cancer patients receiving chemotherapy.”² (Yang,2005).

2. Yang, J. H. (2005). "[The effects of foot reflexology on nausea, vomiting and fatigue of breast cancer patients undergoing chemotherapy]." *Taehan Kanho Hakhoe Chi* 35(1): 177-85. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15778569

Massage Therapy Raises Dopamine, Natural Killer Cells and Lymphocytes

From the *International Journal of Neuroscience* comes this report on the benefits of massage therapy.

"Women diagnosed with breast cancer received massage therapy or practiced progressive muscle relaxation (PMR) for 30-min sessions 3x per week for 5 weeks or received standard treatment. The massage therapy and relaxation groups reported less depressed mood, anxiety, and pain immediately after their first and last sessions. By the end of the study, only the massage therapy group reported being less depressed and less angry and having more vigor.

Dopamine levels, Natural Killer cells, and lymphocytes also increased from the first to the last day of the study for the massage therapy group. These findings highlight the benefit of these complementary therapies, most particularly massage therapy, for women with breast cancer."³ (Hernandez-Reif & Field, 2005).

3. Hernandez-Reif, M., T. Field, et al. (2005). "Natural killer cells and lymphocytes increase in women with breast cancer following massage therapy." *Int J Neurosci* 115(4): 495-510. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15809216

In a further study, Field, noted "the positive effects of massage therapy on biochemistry, including decreased levels of cortisol and increased levels of serotonin and dopamine.

In massage therapy studies in which cortisol was assayed either in saliva or in urine, significant decreases were noted in cortisol levels (averaging decreases 31%).

In studies in which the activating neurotransmitters (serotonin and dopamine) were assayed in urine, an average increase of 28% was noted for serotonin and an average increase of 31% was noted for dopamine."

She concludes, "these studies combined suggest the stress-alleviating effects (decreased cortisol) and the activating effects (increased serotonin and dopamine) of

massage therapy on a variety of medical conditions and stressful experiences.”⁴(Field,2005).

4. Field, T., M. Hernandez-Reif, et al. (2005). "Cortisol decreases and serotonin and dopamine increase following massage therapy." *Int J Neurosci* 115(10): 1397-413. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16162447

Hernandez-Reif and Ironson also wrote, “women with breast cancer are at risk for elevated depression, anxiety, and decreased natural killer (NK) cell number. Stress has been linked to increased tumor development by decreasing NK cell activity.”

They concluded, “women with Stage 1 and 2 breast cancer may benefit from 3 per week massage therapy for reducing depressed mood, anxiety, and anger and for enhancing dopamine, serotonin, and NK cell number and lymphocytes”⁵ (Hernandez-Reif,2004).

5. Hernandez-Reif, M., G. Ironson, et al. (2004). "Breast cancer patients have improved immune and neuroendocrine functions following massage therapy." *J Psychosom Res* 57(1): 45-52. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15256294

Lymphatic Anatomy

In chapter 15 of the osteopathic text, [Applied Anatomy of the Lymphatics, Geo Laughlin, M.S., D.O. writes about the relationship of the lymphatic system to infections and to malignancy. Millard, F. P. \(1922\) from www.meridianinstitute.com/eamt/files/millard/millcont.html](#)

Manual Lymph Drainage (MLD) Reduces Lymphedema

The pre- and posttreatment volumetric measurements were compared in this study and correlated with age, body mass index, and type of surgery, chemotherapy, and radiotherapy in 250 patients with breast cancer-related lymphedema.

“Of the 250 patients, 138 were included in the final analysis. The mean age at presentation was 54.3 years. Lymphedema was managed with combined decongestive therapy in 55%, manual lymphatic drainage alone in 32%, and the home program in 13%.

The mean pretreatment volume of the affected and normal arms was 2929 and 2531 mL. At the end of 1 year, the posttreatment volume of the affected arm was 2741 mL. The absolute volume of the affected arm was reduced by a mean of 188 mL. The type of surgery, age, and body mass index were related to the severity of lymphedema."

Researchers concluded, "combined decongestive therapy and manual lymphatic drainage with exercises were associated with a significant reduction in the lymphedema volume."⁶(Koul, 2007).

6. Koul, R., T. Dufan, et al. (2007). "Efficacy of complete decongestive therapy and manual lymphatic drainage on treatment-related lymphedema in breast cancer." *Int J Radiat Oncol Biol Phys* 67(3): 841-6. [Abstract] www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=17175115

Lymphedema and Manual Lymph Drainage (MLD)

In an earlier article, McNeely et al note, "the findings suggest that multi-layered compression bandaging on its own should be considered as a primary treatment option in reducing arm lymphedema volume.

There may be an additional benefit from the application of manual lymph drainage massage for women with mild lymphedema."⁷ (McNeely,2004).

7. McNeely, M. L., D. J. Magee, et al. (2004). "The addition of manual lymph drainage to compression therapy for breast cancer related lymphedema: a randomized controlled trial." *Breast Cancer Res Treat* 86(2): 95-106. [Abstract] www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15319562

Reliability of Lymphedema Measurements

In another study on lymphedema, researchers looked at arm lymphedema following breast cancer surgery, assessing the reliability and validity of circumferential measurements and water displacement for measuring upper-limb volume.

"Two raters measured each subject by using circumferential tape measurements at specified distances from the fingertips and in relation to anatomic landmarks and by using water displacement."

Researcher summarized, "arm volumes obtained with these methods had high reliability. Compared with volumes from water displacement, volumes from

circumferential measurements had high validity, although these volumes were slightly larger.

Volumes calculated from anatomic landmarks are reliable, valid, and more accurate than those obtained from circumferential measurements based on distance from fingertips."⁸ (Taylor,2006).

8. Taylor, R., U. W. Jayasinghe, et al. (2006). "Reliability and validity of arm volume measurements for assessment of lymphedema." *Phys Ther* 86(2): 205-14.[Full Text] www.ptjournal.org/cgi/content/full/86/2/205

Acupressure Wristband for Nausea

"The proportion of patients in the acupressure wristband group who reported severe nausea following their chemotherapy treatment (41%) was significantly less than that of the standard care group (68%). Overall, these findings showed that acupressure wristbands were efficacious and may be an appropriate form of adjuvant therapy for nausea management for breast cancer patients, especially those who are most at risk for experiencing severe nausea following chemotherapy treatment."⁹ (Roscoe,2006).

9. Roscoe, J. A., P. Jean-Pierre, et al. (2006). "Exploratory analysis of the usefulness of acupressure bands when severe chemotherapy-related nausea is expected." *J Soc Integr Oncol* 4(1): 16-20. [Abstract] www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16737668

IMT Results in Ductal Carcinoma

Physical Therapist, Brenda Potter, notes the benefits of Integrative Manual Therapy (IMT) in improving signs and symptoms in a woman with both hypertension and ductal carcinoma.

"This case study focuses on a 55 year old female, with a history of hypertension. The woman was taking many medications. She had been recently diagnosed with a ductal carcinoma in the right lateral breast region. She came to therapy to prepare for tumor removal surgery. The patient received four days (total of 16 hours) of IMT.

The patient was diagnosed with a rapidly advancing ductal carcinoma 30 days prior to the operation. Since the medical specialists were alarmed at the speed and aggressiveness of the tumor, a radical approach of surgery, radiation and chemotherapy was decided upon.

The tumor, located in the right lateral breast area, was very tender to palpation. The tumor was measured with ultrasound three weeks before the operation and found to be 2 cm. in diameter.

The aims of the preoperative IMT treatments were: (a) To reduce the amount of toxicity and congestion in the whole body and specifically to the tumor area (b) To initiate the body's own healing mechanisms (c) To protect some of the more vulnerable immune system tissue against the chemotherapy and radiation (d) To build up the immune system, so that the patient's body would be able to handle the coming traumas and be able to initiate and maintain self healing as quickly and powerfully as possible after the interventions (e) To give the patient a sense of control over her condition.

Potter describes the IMT treatment outcomes: "The patient reported a reduced pain level within 2 days of starting Integrative Manual Therapy. There was less guarding of the upper right quadrant, and arm range of motion increased by approximately 30 degrees of flexion and 10 degrees of abduction, within the 4 days of treatment.

The tumor was measured at the time of the operation to be 1.5 cm. It had shrunk 0.5 cm.

The patient appeared more hopeful, planning a new, more organic diet routine to be implemented in coordination with naturopathic advice. The patient was also implementing her Neurofascial Process¹⁰ [hands-on self-care program] routine as a means of positively affecting her present and future medical problems.¹¹ (Potter,2000).

10. Weiselfish-Giammatteo, S. and T. Giammatteo (2002). *Body wisdom : light touch for optimal health*. Berkeley, Calif., North Atlantic Books. www.CenterIMT.com

11. Potter, B. (2000). "Shrinkage of Ductal Carcinoma Tumor Prior to Operation." *Center for Integrative Manual Therapy e-journal: [Full Text]* www.centerimt.com/e-journal/articles/ej00046.htm.

Integrating Ayurvedic Medicine and Allopathic Medicine

From the *Journal of the Society for Integrative Oncology*: "recent statistics indicate that the overall cancer incidence in the United States, in spite of billions of dollars spent on research each year, has not changed significantly in the last half-century.

Cancers of the prostate, breast, lung, and colon, although most common in the Western world, are least common in the Eastern world. Allopathic medicine commonly

practiced currently is only 100 years old. Although traditional medicine has been around for thousands of years, no integration exists between it and allopathic medicine.

Ayurveda, the science of long life and one of the most ancient medical systems still practiced on the Indian subcontinent, can be used in combination with modern medicine to provide better treatment of cancer.”¹²(Garodia, 2007).

12. Garodia, P., H. Ichikawa, et al. (2007). "From ancient medicine to modern medicine: ayurvedic concepts of health and their role in inflammation and cancer." *J Soc Integr Oncol* 5(1): 25-37.

Yoga Lessens Symptoms

“Physical activity provides a number of physical and psychological benefits to cancer survivors, including lessening the impact of cancer-related symptoms and treatment side-effects (fatigue, nausea), and improving overall well-being and quality of life.”

In evaluating the results from a pilot study to examine the physical and psychological benefits afforded by a 7-week yoga program for cancer survivors, researchers concluded, “these initial findings suggest that yoga has significant potential and should be further explored as a beneficial physical activity option for cancer survivors.”

Significant differences between the intervention and the control group at post-intervention were seen in psychosocial (i.e. global quality of life, emotional function, and diarrhea) variables.”¹³ (Nicole,2006).

13. Nicole Culos-Reed, S., L. E. Carlson, et al. (2006). "A pilot study of yoga for breast cancer survivors: physical and psychological benefits." *Psychooncology* 15(10): 891-7. [Abstract]

www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16374892

Effect of Chan-Chuang Qigong

In a quasi-experimental design study of breast cancer out patients receiving chemotherapy (N=35 control, N=32, experimental group), researchers found, "the overall severity of symptom distress in the experimental group was significantly lower than the control group on day 22. The symptoms with significant improvement included pain, numbness, heartburn and dizziness. The items of "unwillingness to live"

and "hopelessness about the future" were significantly improved in the experimental group."¹⁴(Lee,2006).

14. Lee, T. I., H. H. Chen, et al. (2006). "Effects of chan-chuang qigong on improving symptom and psychological distress in chemotherapy patients." *Am J Chin Med* 34(1): 37-46. [Abstract] www.worldscinet.com/cgi-bin/details.cgi?id=pii:S0192415X06003618&type=html

Polarity Therapy and Fatigue

"Results from this pilot investigation (n=15) suggest that Polarity Therapy (PT) may have a positive influence on cancer-related fatigue and health-related quality of life in women undergoing radiation treatment for breast cancer."¹⁵(Roscoe, 2005).

15. Roscoe, J. A., S. E. Matteson, et al. (2005). "Treatment of radiotherapy-induced fatigue through a nonpharmacological approach." *Integr Cancer Ther* 4(1): 8-13. [Abstract] www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=15695472

Post Conventional Treatment

Noting that "a growing number of women are being diagnosed and successfully treated for breast cancer," researchers said, "two thirds of women followed conventional treatment for breast cancer with one or more CAM therapies, which, they believed, could prevent cancer recurrence and/or improve their quality of life. CAM use did not reflect negative attitudes towards conventional medical care, but rather an orientation to self-care in the optimization of their health and well being."¹⁶ (Henderson,2004).

16. Henderson, J. W. and R. J. Donatelle (2004). "Complementary and alternative medicine use by women after completion of allopathic treatment for breast cancer." *Altern Ther Health Med* 10(1): 52-7. [Abstract] www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=14727500

Dance Improves Quality of Life

Thirty-five women completed a pilot research study to determine the effect of a dance and movement program on quality of life and shoulder function in breast cancer

survivors treated within the prior 5 years. The trial included a 12-week intervention, using The Lebed Method, Focus on Healing Through Movement and Dance.

Noting "shoulder ROM increased in both groups at 13 weeks--15 degrees and 8 degrees in the intervention and wait list groups, researcher concluded, "a dance movement program that addressed the physical and emotional needs of women following treatment for breast cancer substantially improved a breast cancer-specific quality-of-life measure."¹⁷ (Sandel, 2005)

17. Sandel, S. L., J. O. Judge, et al. (2005). "Dance and movement program improves quality-of-life measures in breast cancer survivors." *Cancer Nurs* 28(4): 301-9.[Abstract] www.cancernursingonline.com/pt/re/nca/abstract.00002820-200507000-00011.htm?jsessionid=GtMJ782z628hwnnqpmnvfhB4wfpjY172Tk3yRwnMVgvqnvXGd2VRv!29071008!181195628!8091!-1

Toxins in Breast Tissue

"For decades, researchers have sampled the air, land and sea to measure pollution from power plants, factories and automobiles. More recently, they have expressed concern about mounting "e-waste" - discarded tech gadgets that contain flame retardants, lead and other toxins. Now, in a process called biomonitoring, scientists are sampling urine, blood and mother's milk to catalogue the pollutants accumulating in humans. They call the results the "body burden."

In March, California researchers reported that San Francisco-area women have three to 10 times as much chemical flame retardant in their breast tissue as European or Japanese women."¹⁸(Elias,2003).

18. Elias, P. (2003). "Scientists begin measuring pollution in human bodies." *Monterey Herald* and *AP Wire* and wire service sources: [Full Text] www.montereyherald.com/mld/montereyherald/7570716.htm.

Risk Factors in LGBT Community

"In Washington, DC (2003), over 60 national, regional, and local LGBT organizations convened for a two-day meeting to examine the problem of tobacco use by lesbian, gay, bisexual, and transgender [LGBT] persons.

Data were presented that suggest that gay men, lesbians, and LGB youth smoke at rates nearly twice that of their straight peers. Small studies and anecdotal reports indicate that transgender persons smoke at even higher rates."¹⁹(Haller,2003).

19. Haller, K. (2003). "Historic Gathering of 60 LGBT Organizations Target Tobacco Use by LGBT Persons." Gay and Lesbian Medical Association: from www.thebody.com/content/art13665.html.

"A recent Institute of Medicine report documented the potential for double to triple the risk of breast cancer, in particular, among lesbians in comparison with other women. Possible reasons are greater prevalence rates of known reproductive-related risk factors, including nulliparity or older age at first childbirth, and behavioral risk factors, including more frequent alcohol consumption and perhaps obesity. Although none of these individual risk factors is exclusive to lesbians, the possible concentration of these risks within a single group is unique.²⁰(Cochran,2001).

20. Cochran, S. D., V. M. Mays, et al. (2001). "Cancer-related risk indicators and preventive screening behaviors among lesbians and bisexual women." *Am J Public Health* 91(4): 591-7. [Full Text] www.ajph.org/cgi/reprint/91/4/591

Sugars and Breast Cancer

In an article on glycemic index and fiber consumption Jenkins notes, "case-control studies have shown positive associations between dietary glycemic index and the risk of colon and breast cancers."²¹ (Jenkins,2002).

21. Jenkins, D. J., C. W. Kendall, et al. (2002). "Glycemic index: overview of implications in health and disease." *Am J Clin Nutr* 76(1): 266S-73S. [Full Text] www.ajcn.org/cgi/content/full/76/1/266S

A Healthy Immune System

Lots of options in the development of a healthy immune system, including a healthy diet ²² (Mouth Revolution) that provides enough vitamins, minerals, essential fatty acids, protein, antioxidants and is low in pesticides, additives, and allergens.

22. Mouth Revolution promoting health foods at www.mouthrevolution.com/

There should be nutritional and lifestyle support for the adrenal glands. These are the organs that sit on top of the kidneys and react when we come in contact with stressful situations. Neurofascial Process is a good way to support the adrenal glands and overall health. Further information is available in the book *Body Wisdom*. ²³ (Weiselfish-Giammatteo, 2002)

23. Weiselfish-Giammatteo, S. and T. Giammatteo (2002). *Body wisdom: light touch for optimal health*. Berkeley, Calif., North Atlantic Books. www.CenterIMT.com

Hands On Care for Immune

There are a number of hands-on therapies that support the immune system: massage therapy ²⁴(Shor-Posner,2006),²⁵(Field,2005) and²⁶ (Hernandez-Reif,2004); Integrative Manual Therapy²⁷(Burnham,2007) and ²⁸(Giammatteo,2005); Qigong ²⁹(Lee,2003)&³⁰(Lee,2005); Reflexology³¹(Lee,2006); Osteopathic Manual Therapy ³²(Noll,2004) and³³ (Hruby,2007), and acupuncture. ³⁴ (Karst,2003) and ³⁵(Breast Cancer Org).

24. Shor-Posner, G., M. Hernandez-Reif, et al. (2006). "Impact of a Massage Therapy Clinical Trial on Immune Status in Young Dominican Children Infected with HIV-1." *J Altern Complement Med* 12(6): 511-6.

25. Field, T., M. Hernandez-Reif, et al. (2005). "Cortisol decreases and serotonin and dopamine increase following massage therapy." *Int J Neurosci* 115(10): 1397-413.

26. Hernandez-Reif, M., G. Ironson, et al. (2004). "Breast cancer patients have improved immune and neuroendocrine functions following massage therapy." *J Psychosom Res* 57(1): 45-52.

27. Burnham, K. (2007). What to Expect in an IMT Treatment, from www.healthandgoodness.com/Therapies/IMT-session.html.

28. Giammatteo, S. W. (2005). Integrative Manual Therapy for Facial Palsy, Bell's Palsy Research Foundation: from www.bellspalsy.com/giammatteo.htm

29. Lee, M. S., H. J. Huh, et al. (2003). "Effects of Qigong on immune cells." *Am J Chin Med* 31(2): 327-35.

30. Lee, M. S., M. K. Kim, et al. (2005). "Qi-training (qigong) enhanced immune functions: what is the underlying mechanism?" *Int J Neurosci* 115(8): 1099-104.

31. Lee, Y. M. (2006). "[Effect of self-foot reflexology massage on depression, stress responses and immune functions of middle aged women]." *Taehan Kanho Hakhoe Chi* 36(1): 179-88.

32. Noll, D. R., B. F. Degenhardt, et al. (2004). "The effect of osteopathic manipulative treatment on immune response to the influenza vaccine in nursing homes residents: a pilot study." *Altern Ther Health Med* 10(4): 74-6.

33. Hruby, R. J. and K. N. Hoffman (2007). "Avian influenza: an osteopathic component to treatment." *Osteopath Med Prim Care* 1: 10 from www.om-pc.com/content/1/1/10.

34. Karst, M., D. Scheinichen, et al. (2003). "Effect of acupuncture on the neutrophil respiratory burst: a placebo controlled single-blinded study." *Complement Ther Med* 11(1): 4-10.

35. Breast Cancer Org from www.breastcancer.org/treatment/comp_med/types/acupuncture.jsp

Imagery ³⁶(Richardson,1997) and Laughter ³⁷(Berk,2001) are cheap and easy ways to help improve immunity and bring a sense of wellbeing.

36. Richardson, M. A., J. Post-White, et al. (1997). "Coping, life attitudes, and immune responses to imagery and group support after breast cancer treatment." *Altern Ther Health Med* 3(5): 62-70.

37. Berk, L. S., D. L. Felten, et al. (2001). "Modulation of neuroimmune parameters during the eustress of humor-associated mirthful laughter." *Altern Ther Health Med* 7(2): 62-72, 74-6.

So, if you want to live well at a healthy weight: eat healthy, exercise and take care of your immune system.

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