



# RESEARCH UPDATES

For the latest in worldwide integrated cancer care

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**InspireHealth**  
INTEGRATED CANCER CARE

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*Research Updates* is produced once a month by InspireHealth to inform those interested of newly published articles in integrative cancer care. Authoritative articles are selected based on their evidence and their relevance to this area of medicine.

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## Top 10 Things you can do to Support your Health if you have been Diagnosed with Breast Cancer

**1) Eat the right kinds of fats.** Low fat diets have been shown to reduce the risk of breast cancer<sup>1</sup> and breast cancer recurrence<sup>2</sup>. However it's also important to choose the right types of fat to include in your diet. Increasing Omega 3 fats (e.g. wild salmon, fish oil supplements) and decreasing Omega 6 fats (e.g. vegetable oils, margarines, and commercial salad dressings) in the diet may help prevent breast cancer, as well as other chronic diseases<sup>3</sup>.

**2) Eat lots of fruits & vegetables.** They have many healthy components including fiber, vitamins, minerals, and phytochemicals, which provide antioxidants. Combined with an overall healthy diet, eating more fruits and vegetables can improve survival in breast cancer patients<sup>4</sup>.

**3) Avoid Eating Highly Processed foods.** They usually have lower nutritional value than fresh food, and may contain unhealthy food additives and preservatives, such as nitrites in packaged meats. They are often high in sodium and calories, contributing to weight gain and obesity, which is a likely risk factor for breast cancer<sup>5</sup>.

**4) Get lots of vitamin D.** Research shows that women with lower blood Vitamin D levels are at greater risk of breast cancer<sup>6</sup>. Vitamin D levels can be measured with a simple blood test; optimal levels are at least 80 nmol/L<sup>8,9,10</sup>. Vitamin D experts now recommend daily supplements of 1000-2000 IU per day<sup>9,10,11</sup>. Moderate sun exposure also provides Vitamin D during summer months<sup>12</sup>; approximately 20 minutes per day in the sun without sunscreen is recommended.

**5) Exercise.** Women with breast cancer who are physically active are more likely to survive<sup>13</sup>; obese women also have increased survival with physical activity<sup>14</sup>. These studies recommend at least 3 hours of moderate exercise per week. Exercise can also reduce fatigue<sup>15,16</sup> and improve quality of life<sup>17</sup>.

**6) Have a sense of humour.** A large study in Norway showed that healthy adults and adults with cancer, who had a greater sense of humour were less likely to die from any cause<sup>18</sup>. Humour is useful as a relaxation and coping mechanism, it can lessen anxiety, and has a positive effect on the immune system<sup>19</sup>.

**7) Learn to relax.** Practicing relaxation techniques can reduce nausea and vomiting in women undergoing chemotherapy<sup>20,21</sup>; they can also help control hot flashes<sup>22</sup>. Relaxing activities such as massage<sup>23</sup>, yoga<sup>24,25</sup>, and meditation<sup>26,27,28</sup> can reduce depression, anxiety, and stress, help control insomnia, pain, and fatigue, and improve quality of life and well-being.

**8) Don't smoke.** Smoking is a risk factor for breast cancer<sup>29,30</sup>. Secondhand smoke is also harmful<sup>31</sup>. Quitting smoking and avoiding secondhand smoke is part of adopting a healthy lifestyle.

**9) Avoid toxins.** Pick up a copy of CancerSmart 3.0<sup>32</sup> to learn how to reduce and avoid toxins in your diet and household products.

**10) Develop a support network.** Friends, family, support groups, and online support<sup>33</sup> help by providing information and emotional support among other things, which can improve psychological well-being, and even improve survival<sup>34</sup>. Practitioners who support health, such as acupuncturists and massage therapists may also be sources of support.

## Prostate

Dall'Era, MA, B. R. Konety, J. E. Cowan, et al. **Active Surveillance for the Management of Prostate Cancer in a Contemporary Cohort** *Cancer*. 2008 Jun 15; 11212: 2664-2670. **BACKGROUND:** Active surveillance followed by selective treatment for men who have evidence of disease progression may be an option for select patients with early-stage prostate cancer. In this article, the authors report their experience in a contemporary cohort of men with prostate cancer who were managed with active surveillance. **METHODS:** All men who were managed initially with active surveillance were identified through the authors' institutional database. Selection criteria for active surveillance included: prostate-specific antigen (PSA) 0.75 ng/mL per year, was a secondary outcome. Chi-square and log-rank tests were used to compare groups. The association between clinical characteristics and receipt of active treatment was analyzed by using Cox proportional hazards regression. **RESULTS:** Three hundred twenty-one men (mean age [+/-standard deviation]: 63.4+/-8.5 years) selected active surveillance as their initial management. The overall median follow-up was 3.6 years (range, 1-17 years). The initial mean PSA level was 6.5+/-3.9 ng/mL. One hundred twenty men (37%) met at least 1 criterion for progression. Overall, 38% of men had higher grade on repeat biopsy, and 26% of men had a PSA velocity >0.75 ng/mL per year. Seventy-eight men (24%) received secondary treatment at a median 3 years (range, 1-17 years) after diagnosis. Approximately 13% of patients with no disease progression elected to obtain treatment. PSA density at diagnosis and rise in Gleason score on repeat biopsy were associated significantly with receipt of secondary treatment. The disease-specific survival rate was 100%. **CONCLUSIONS:** Selected individuals with early-stage prostate cancer may be candidates for active surveillance. Specific criteria can be and need to be developed to select the most appropriate individuals for this form of management and to monitor disease progression. A small attrition rate can be expected because of men who are unable or unwilling to tolerate surveillance. Copyright (c) 2008 American Cancer Society.

Lin, K, R. Lipsitz, T. Miller, S. Janakiraman, U.S and Force Preventive Services Task. **Benefits and Harms of Prostate-Specific Antigen Screening for Prostate Cancer: An Evidence Update for the U.S. Preventive Services Task Force.** *Ann Intern Med*. 2008 Aug 5; 1493: 192-199. **BACKGROUND:** Prostate cancer is the most common nonskin cancer in men in the United States, and prostate cancer screening has increased in recent years. In 2002, the U.S. Preventive Services Task Force concluded that evidence was insufficient to recommend for or against screening for prostate cancer with prostate-specific antigen (PSA) testing. **PURPOSE:** To examine new evidence on benefits and harms of screening asymptomatic men for prostate cancer with PSA. **DATA SOURCES:** English-language articles identified in PubMed and the Cochrane Library (search dates, January 2002 to July 2007), reference lists of retrieved articles, and expert suggestions. **STUDY SELECTION:** Randomized, controlled trials and meta-analyses of PSA screening and cross-sectional and cohort studies of screening harms and of the natural history of screening-detected cancer were selected to answer the following questions: Does screening for prostate cancer with PSA, as a single-threshold test or as a function of multiple tests over time, decrease morbidity or mortality? What are the magnitude and nature of harms associated with prostate cancer screening, other than overtreatment? What is the natural history of PSA-detected, nonpalpable, localized prostate cancer? **DATA EXTRACTION:** Studies were reviewed, abstracted, and rated for quality by using predefined U.S. Preventive Services Task Force criteria. **DATA SYNTHESIS:** No good-quality randomized, controlled trials of screening for prostate cancer have been completed. In 1 cross-sectional and 2 prospective cohort studies of

fair to good quality, false-positive PSA screening results caused psychological adverse effects for up to 1 year after the test. The natural history of PSA-detected prostate cancer is poorly understood. **LIMITATIONS:** Few eligible studies were identified. Long-term adverse effects of false-positive PSA screening test results are unknown. **CONCLUSION:** Prostate-specific antigen screening is associated with psychological harms, and its potential benefits remain uncertain. [References: 37]

 Thank you to the **BC Foundation for Prostate Disease** for their generous support.  
[www.BCPROSTATECANCER.org](http://www.BCPROSTATECANCER.org)

## Lung

Clark, MM, P. J. Novotny, C. A. Patten, et al. **Motivational Readiness for Physical Activity and Quality of Life in Long-Term Lung Cancer Survivors.** *Lung Cancer*. 2008 Jul; 611: 117-122.

Little is known about the relationship between motivational readiness for physical activity and quality of life (QOL) in long-term lung cancer survivors. Long-term survivors are considered those who are living 5 years or more following a cancer diagnosis. This project examined the relationship between a self-report measure of motivational readiness for physical activity and QOL in a sample of 272 long-term lung cancer survivors. Participants (54% male, average age 70 years old) completed the mailed survey an average of 6 years after being diagnosed with lung cancer. Survey measures included the stage of change for physical activity and a set of single item QOL and symptom scales. Thirty-seven percent of respondents reported they currently engaged in regular physical activity (a total of 30 min or more per day, at least 5 days per week). Kruskal-Wallis tests revealed that those who reported engaging in regular physical activity reported a better overall QOL, better QOL on all five domains of QOL functioning (mental, physical, social, emotional, and spiritual), and fewer symptoms compared to those with a sedentary lifestyle. Physical activity level may have important QOL and symptom management benefits for long-term lung cancer survivors. copyright 2008 Elsevier Ireland Ltd. All rights reserved.

Kubik, A, P. Zatloukal, L. Tomasek, et al. **A Case-Control Study of Lifestyle and Lung Cancer Associations by Histological Types.** *Neoplasma*. 2008 553: 192-199.

The objective of the study was to investigate the contribution of dietary factors and physical exercise to the variation in the risk of lung cancer and its major histological types among men and women in the Czech Republic, and reveal interactions between smoking and diet/physical exercise, if any. In a hospital based case-control study, data collected by in-person interviews from 1096 microscopically confirmed lung cancer cases (587 women, 509 men) and 2966 controls were analyzed using unconditional logistic regression stratified by appropriate factors. Among all nonsmoking women protective effects were observed for black tea (OR=0.69), among all smoking women for wine (OR=0.71), physical exercise (OR=0.64) and vitamin supplements (OR=0.71). Among all men, inverse associations were found in smokers between lung cancer risk and frequent intake of fruits (OR=0.69) or moderate intake of spirits (OR=0.64), and a direct association for fat foods (OR=1.68). Comparing the effects of diet/physical activity on lung cancer risk among nonsmokers versus smokers, interactions with smoking appeared for the intake of black tea and milk/dairy products among women, and for moderate intake of spirits in men. When the effects of diet/physical exercise on risk were analyzed by major cell types in women, the intake of wine and physical exercise were inversely associated with the risk of both adenocarcinoma and small cell cancer, the intakes of fruits and vitamin supplements were inversely associated with the risk of squamous cell cancer. In men, the intake of fat foods was directly

associated with the risk of squamous cell cancer, while the frequent intake of apples was inversely associated with the risk of both squamous- and small cell cancers. In men an inverse association with the risk of squamous cell cancer was found for the intake of other fruits. These data suggest that diet/physical exercise may affect the risk of lung cancer and major cell types, and that interactions between some dietary items and smoking may occur. Lung cancer is a multifactorial disease, since smoking, its main determinant, and other environmental and lifestyle factors interact with one another and with genetic factors to cause the disease.

## Colon

Hoensch, H, B. Groh, L. Edler and W. Kirch. **Prospective Cohort Comparison of Flavonoid Treatment in Patients with Resected Colorectal Cancer to Prevent Recurrence.** *World Journal of Gastroenterology.* 2008 Apr 14; 14(14): 2187-2193. AIM: To investigate biological prevention with flavonoids the recurrence risk of neoplasia was studied in patients with resected colorectal cancer and after adenoma polypectomy. METHODS: Eighty-seven patients, 36 patients with resected colon cancer and 51 patients after polypectomy, were divided into 2 groups: one group was treated with a flavonoid mixture (daily standard dose 20 mg apigenin and 20 mg epigallocatechin-gallat, n = 31) and compared with a matched control group (n = 56). Both groups were observed for 3-4 years by surveillance colonoscopy and by questionnaire. RESULTS: Of 87 patients enrolled in this study, 36 had resected colon cancer and 29 of these patients had surveillance colonoscopy. Among the flavonoid-treated patients with resected colon cancer (n = 14), there was no cancer recurrence and one adenoma developed. In contrast the cancer recurrence rate of the 15 matched untreated controls was 20% (3 of 15) and adenomas evolved in 4 of those patients (27%). The combined recurrence rate for neoplasia was 7% (1 of 14) in the treated patients and 47% (7 of 15) in the controls (P = 0.027). CONCLUSION: Sustained long-term treatment with a flavonoid mixture could reduce the recurrence rate of colon neoplasia in patients with resected colon cancer.

## Mistletoe

Grossarth-Maticek, R and R. Ziegler. **Randomized and Non-Randomized Prospective Controlled Cohort Studies in Matched Pair Design for the Long-Term Therapy of Corpus Uteri Cancer Patients with a Mistletoe Preparation (Iscador).** *Eur J Med Res.* 2008 Mar 31; 133: 107-120. BACKGROUND: Mistletoe preparations such as Iscador are in common use as complementary/anthroposophic medications for many cancer indications, particularly for solid cancers. Efficacy of this complementary therapy is still discussed controversially. OBJECTIVE: Does the long-term therapy with Iscador show any effect on survival or psychosomatic self-regulation of patients with corpus uteri cancer? PATIENTS AND METHODS: Prospective recruitment and long-term follow-up in the following 4 controlled cohort studies. (1) Two randomized matched-pairs studies: corpus uteri cancer patients without (30 pairs) and with distant metastases (26 pairs) that never used any kind of mistletoe therapy were matched for prognostic factors. By pairwise random allocation, one of the patients was suggested mistletoe therapy to be applied by the attending physician. (2) Two non-randomized matched-pairs studies: corpus uteri cancer patients without (103 pairs) and with distant metastases (95 pairs) that already received mistletoe (Iscador) therapy were matched by the same criteria to control patients without Iscador therapy. RESULTS: Concerning overall survival in the randomized studies, a significant effect in favour of Iscador therapy was present only in the first study, the second showed no evidence for an effect: estimate of the hazard ratio and 95% confidence interval: 0.36 (0.16, 0.82) and 1.00 (0.46, 2.16) respectively. In the non-randomized studies, the results that adjusted for relevant prognostic variables were: 0.41 (0.26, 0.63), and 0.61 (0.39, 0.93). The effect of therapy with Iscador within 12

months on psychosomatic self-regulation as a measure of autonomous coping with the disease shows a significant rise in the Iscador group against the control group in the randomized as well as in the non-randomized study on patients with corpus uteri cancer without metastases: estimate of the median difference and 95% confidence interval: 0.40 (0.15, 0.70) and 0.70 (0.25, 1.15) respectively. CONCLUSION: The mistletoe preparation Iscador in these studies has the effect of prolonging overall survival of corpus uteri cancer patients. Psychosomatic self-regulation as a measure of autonomous coping with the disease, rises significantly more under Iscador therapy than under conventional therapy alone.

## Nutrition

Andreatta, MM, S. E. Munoz, M. J. Lantieri, A. R. Eynard and A. Navarro. **Artificial Sweetener Consumption and Urinary Tract Tumors in Cordoba, Argentina.** *Prev Med.* 2008 Jul; 47(1): 136-139.

Objective: To determine the role of the habitual use of the most common artificial sweeteners (AS) in the development of urinary tract tumors (UTT) in Argentina. Methods: Case-control study of 197 patients with histologically confirmed UTT of transitional varieties, and 397 controls with acute, non-neoplastic, and non-urinary tract diseases, admitted to the same hospitals in Cordoba (Argentina) between 1999 and 2006. All subjects were interviewed about their use of AS and their exposure to other known or suspected risk factors for UTT. Results: Fifty-one UTT patients (26%) and 87 controls (22%) used AS. The risk of UTT was significantly increased in long-term ([greater-than or equal to] 10 years) AS users compared with none-AS users. The OR (95% CI) for long-term consumers was 2.18 (1.22-3.89) and for short-term users was 1.10 (0.61-2.00) after adjustment for age, gender, BMI, social status, and years of tobacco use. Conclusion: Regular use of AS for 10 years or more was positively associated with UTT. copyright 2008 Elsevier Inc. All rights reserved.

Hatcher, H, R. Planalp, J. Cho, F. M. Torti and S. V. Torti. **Curcumin: From Ancient Medicine to Current Clinical Trials** *Cellular & Molecular Life Sciences.* 2008 Jun; 65(11): 1631-1652. Curcumin is the active ingredient in the traditional herbal remedy and dietary spice turmeric (*Curcuma longa*). Curcumin has a surprisingly wide range of beneficial properties, including anti-inflammatory, antioxidant, chemopreventive and chemotherapeutic activity. The pleiotropic activities of curcumin derive from its complex chemistry as well as its ability to influence multiple signaling pathways, including survival pathways such as those regulated by NF-kappaB, Akt, and growth factors; cytoprotective pathways dependent on Nrf2; and metastatic and angiogenic pathways. Curcumin is a free radical scavenger and hydrogen donor, and exhibits both pro- and antioxidant activity. It also binds metals, particularly iron and copper, and can function as an iron chelator. Curcumin is remarkably non-toxic and exhibits limited bioavailability. Curcumin exhibits great promise as a therapeutic agent, and is currently in human clinical trials for a variety of conditions, including multiple myeloma, pancreatic cancer, myelodysplastic syndromes, colon cancer, psoriasis and Alzheimer's disease. [References: 228]

Levine, ME, M. G. Gillis, S. Y. Koch, A. C. Voss, R. M. Stern and K. L. Koch. **Protein and Ginger for the Treatment of Chemotherapy-Induced Delayed Nausea.** *Journal of Alternative and Complementary Medicine.* 2008 01 Jun; 14(5): 545-551. Background: Nausea that develops during the period that begins 24 hours after the administration of chemotherapy is called delayed nausea, and occurs in many patients with cancer. Meals high in protein decrease the nausea of motion sickness and pregnancy, possibly by reducing gastric dysrhythmias. Ginger also has anti-nausea properties. Objectives: To explore the use of protein meals with ginger for the treatment of the delayed nausea of chemotherapy. Design: Twenty-eight (28) patients with cancer receiving chemotherapy for the first time were assigned to 1 of 3

groups. For 3 days beginning the day after their chemotherapy, Control Group patients continued with their normal diet, Protein Group patients consumed a protein drink and ginger twice daily, and High Protein Group patients consumed a protein drink with additional protein and ginger twice daily. Outcome measures: Patients recorded in a diary each day whether they had experienced nausea, whether their nausea had been frequent, whether their nausea had been bothersome, and whether they had needed any antiemetic medication. Gastric myoelectrical activity was assessed in 5 patients before and after ingestion of a high protein meal and ginger. Results: Reports of nausea, frequent nausea, and bothersome nausea were significantly less common among High Protein Group patients than among Control and Protein Group patients. Furthermore, significantly fewer patients in the High Protein Group used antiemetic medication. Differences between the Protein and Control groups were not statistically significant. In the 5 patients who had tests of gastric myoelectrical activity performed, a significant decrease in gastric dysrhythmia occurred after ingestion of the protein and ginger. Conclusions: High protein meals with ginger reduced the delayed nausea of chemotherapy and reduced use of antiemetic medications. Protein with ginger holds the potential of representing a novel, nutritionally based treatment for the delayed nausea of chemotherapy. copyright 2008 Mary Ann Liebert, Inc.

### Yoga

Danhauer, SC, J. A. Tooze, D. F. Farmer, et al. **Restorative Yoga for Women with Ovarian Or Breast Cancer: Findings from a Pilot Study.** *Journal of the Society for Integrative Oncology.* 2008 Mar; 62: 47-58.

Yoga has demonstrated benefit in healthy individuals and those with various health conditions. There are, however, few systematic studies to support the development of yoga interventions for cancer patients. Restorative yoga (RY) is a gentle type of yoga that has been described as "active relaxation." The specific aims of this pilot study were to determine the feasibility of implementing an RY intervention as a supportive therapy for women diagnosed with ovarian or breast cancer and to measure changes in self-reported fatigue, psychological distress and well-being, and quality of life. Fifty-one women with ovarian (n = 37) or breast cancer (n = 14) with a mean age of 58.9 years enrolled in this study; the majority (61%) were actively undergoing cancer treatment at the time of enrollment. All study participants participated in 10 weekly 75-minute RY classes that combined physical postures, breathing, and deep relaxation. Study participants completed questionnaires at baseline, immediately postintervention, and 2 months postintervention. Significant improvements were seen for depression, negative affect, state anxiety, mental health, and overall quality of life. Fatigue decreased between baseline and postintervention follow-up. Health-related quality of life improved between baseline and the 2-month follow-up. Qualitative feedback from participants was predominantly positive; relaxation and shared group experience were two common themes.

### Acupuncture

Cho, JH, W. K. Chung, W. Kang, S. M. Choi, C. K. Cho and C. G. Son. **Manual Acupuncture Improved Quality of Life in Cancer Patients with Radiation-Induced Xerostomia.** *Journal of Alternative and Complementary Medicine.* 2008 01 Jun; 145: 523-526.

Purpose: Radiotherapy-induced xerostomia seriously reduces the quality of life (QOL) for patients with head and neck cancer. This study aimed to investigate the effects of manual acupuncture on objective and subjective assessment of symptom changes in patients with cancer who have with radiation-induced xerostomia. Materials and methods: Twelve (12) patients with radiation-induced xerostomia were randomized into 2 groups (real or sham acupuncture). Acupuncture was conducted twice weekly for 6 weeks in a single-blind setting. The effect was evaluated by measuring whole salivary flow rates (stimulated and unstimulated) and questionnaire-based assessment of subjective symptoms pre- and post-treatment (3 and 6 weeks after acupuncture treatment). Results: Both groups showed a slight increase in whole salivary flow rates, with no significant

difference between them. However, real acupuncture markedly increased unstimulated salivary flow rates, and improved the score for dry mouth according to the xerostomia questionnaire, by 2.33 points versus 0.33 in the controls. Conclusions: Our results showed the significantly meaningful amelioration of the subjective sensation of xerostomia closely associated with QOL in patients with head and neck cancer treated with irradiation. copyright 2008 Mary Ann Liebert, Inc.

### CAM of the Month

Payne, JK, J. Held, J. Thorpe and H. Shaw. **Effect of Exercise on Biomarkers, Fatigue, Sleep Disturbances, and Depressive Symptoms in Older Women with Breast Cancer Receiving Hormonal Therapy** *Oncol Nurs Forum.* 2008 07; 354: 635-642.

Purpose/Objectives: To compare the effectiveness of a prescribed home-based walking exercise intervention with usual care in older women receiving hormonal treatment for breast cancer, and to examine relationships among levels of the cortisol, serotonin, interleukin-6, and bilirubin biomarkers and fatigue, sleep disturbances, and depressive symptoms. Design: Longitudinal randomized clinical trial. Setting: A National Cancer Institute-designated cancer center in the southeastern United States. Sample: 20 women (aged 55 years or older) with breast cancer receiving hormonal treatment. Methods: Participants were randomized to a walking exercise intervention or usual care. Laboratory samples and the Pittsburgh Sleep Quality Index (PSQI), the Piper Revised Fatigue Scale, and the Center for Epidemiological Studies-Depression Scale were collected at the initial clinic visit and at 12 weeks from the groups. Questionnaires also were collected at weeks 2 and 14. Main Research Variables: Fatigue, sleep disturbances, depressive symptoms, biomarkers, and exercise. Findings: Effect of the exercise intervention on sleep scores was highly significant between groups. Exercise group scores on the PSQI decreased significantly over time (indicating improved sleep quality), although scores did not change significantly within the control group. Sleep actigraphy also showed significantly shorter actual wake time and less movement in the exercise group. Serotonin levels also were significantly affected by the intervention. Conclusions: Data suggest that a walking exercise intervention improves sleep in older women receiving hormonal treatment for their breast cancer. Serotonin levels may be a useful biomarker when assessing sleep disturbances in this group. Implications for Nursing: Clinicians need to be aware that older women receiving hormonal treatment for their breast cancer may experience fatigue, sleep disturbances, and depressive symptoms. Homebased walking activity may reduce symptom severity in this group.

InspireHealth provides an integrated whole person approach to health for individuals living with cancer. Our medical doctors guide patients to explore and learn about a variety of wellness approaches to health and healing in addition to conventional cancer treatment. This integrated medical model, which engages people in their own care, improves quality of life and reduces the likelihood of cancer recurrence. The editorial board includes: Dr. Hal Gunn, CEO and Co-founder, Dr. Janice Wright, Dr. Teresa Clarke, Dr. Ron Puhky, and Dr. Walter Lemmo, ND.

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