



Integrative Medicine: Cancer Nutrition and Staying Well

Ron Stram, MD
Founder / Medical Director
The Center for Integrative Health and Healing
Delmar, New York

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Integrative Oncology: Should Physicians Pursue?

- 87% of cancer patients under active conventional treatment use some form of CAM (Complimentary and Alternative Medicine).
- 90 % of phone calls to the NIH (National Institute of Health) office of Alternative Medicine were from cancer patients.

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20th Century Medicine

"cure rarely,
relieve suffering often,
and comfort always"

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21st Century Medicine

"cure always,
relieve suffering if one has time,
and leave the comforting to someone"

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Redefining Health: The Integrative Model

- Health is more than the absence of disease, it is a dynamic state actively engaging in life.
- The integrative model emphasizes social, personal and physical resources to promote and improve health.
- Healing is more than just curing.

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Shaman: Amazon Rain Forest



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Integrative Medicine

- Reflects the balance between the art and science of medicine.
- The symmetry between knowing and caring and the synthesis of high tech with high touch.

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Healing Environment



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Healing Environment

- Pittsburgh's Montefiore Hospital, surgery patients in rooms with ample natural light required less pain medication and their drug costs were 21% lower.
- Two groups of patients with identical ailments, the group in the better rooms required less pain medication and were discharged 2 days earlier.

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Integrative Oncology: Cancer Centers

- Memorial Sloan Kettering, NY
- MD Anderson Center, Houston
- Stanford, Ca
- Mass General, Boston

These institutions are bridging the education gap between CAM and conventional practice

• [Complementary/Alternative medicine use in a comprehensive cancer center and the implications for oncology.](#) Journal of Clinical Oncology, 2000 18(13):2505-14.

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Integrative Oncology: CAM Therapies / Placebo response

- Integrative Oncology recognizes the optimal use of all available and safe resources.
- It recognizes the value of any positive response regardless of etiology, especially if the treatment is non-toxic and health-promoting.

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Shamanistic Ritual Ceremony



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Integrative Oncology: Immune Surveillance

- Refers to the natural defense process by which the immune system clears the body of dangerous particles (TNF) with immune cells like Natural Killer Cells.

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Glutathione: Our Body's Healing Agent

- Tri-peptide: Glutamate, cysteine and glycine
- Primarily synthesized in the liver
- It is involved in DNA synthesis and repair,
- Metabolism of toxins and carcinogens,
- Immune system function,
- Prevention of oxidative cell damage,

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Glutathione: Our Body's Healing Agent

- **Chemotherapy toxicity.** Administering glutathione by intravenous injection seems to help prevent chemotherapy toxicity
- Antioxidant
- Immunosupportive
- Detoxifying
- Oral administration unavailable in current form.

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Cancer Nutrition and Supplementation



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Cancer Promotion: Food



- ❖ Omega-6 fatty acids found in corn, sunflower and safflower oil promote cancer growth and metastasis in animal models.
- ❖ Excessive trans-fatty acids have been linked to an increase cancer rate.
- ❖ Saturated fat intake greater than 20% of total calories is associated with an increased risk of breast cancer.
- ❖ Men who consume dairy products have a 32% higher risk of developing prostate cancer.

• Am J Clin Nutr 74:549-54,2001 Dairy products, calcium, and prostate cancer risk in the Physician health study

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Diet

- Diet should be high in plant food (Grains, legumes, vegetables, some fruit) and as unprocessed as possible, low in salt, fat and sugar with adequate protein (1 to 2 grams per kilogram body weight).
- Reduce protein amounts in Renal Cell or other kidney disease
- Cancer cells primarily use glucose, so keep blood sugar levels stable
- Choose organic whenever possible

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Diet

- Eat healthy fats--fish, monounsaturated
- Healthy fat ratio: increase series 3 eicosanoids to reduce arachidonic acid production which may promote inflammation

Nutritional and Botanical Modulation of the Inflammatory Cascade—Eicosanoids, Cyclooxygenases, and Lipoxygenases— As an Adjunct in Cancer Therapy. Integrative Cancer Therapies, Vol. 1, No. 1, 7-37

(2002). Jeanne M. Wallace, PhD, CNC

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Fiber

- Whole foods with fresh fruit, vegetables and minimally processed grains
- Flax seeds and oils contain lignans--phytosterols

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Cancer Prevention: Cancer Protective Foods

- Cruciferous Vegetables: Broccoli, cabbage, cauliflower, decreases overall cancer risk.
- Broccoli contains sulforamenes and indole-3-carbinol, which inhibit growth of breast cancer in test tube studies.
- (American Cancer society's guide to CAM, 2000) Over 100 research studies have shown that eating cruciferous vegetables decreases overall cancer risk

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Cancer Prevention

Large-scale observational studies link a plant based diet high in fiber to a lower incidence of several types of cancer.



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Cancer Prevention: Cancer Protective Foods

A case-control study of 500 women with endometrial cancer who ingested isoflavones (phytoestrogens derived from soybean products) had half the risk of recurrence, effect was stronger in postmenopausal women.

Journal of the National Cancer Institute August 2003.

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Cancer Prevention: Cancer Protective Foods

- Soy / legumes countries that eat > amount of soy have a decrease in breast cancer rate.
- Soy beans contain isoflavones act as weak estrogens (phytoestrogens) may act as competitive inhibitor for some estrogen sensitive cancers.

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Cancer Prevention: Cancer Protective Foods

- High quality nutrients and organic is always a must.
- Healthy fat ratio higher Omega 3 and omega 9: increase series 3 eicosanoids (EPA) to reduce arachidonic acid production which may promotes inflammation.
- Reduce protein amounts in Renal Cell or other kidney disease.
- Cancer cells primarily use glucose, so keep blood sugar levels stable.

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Omega 3 fatty acids



- Weight gain and improved survival in severely ill patients with generalized malignancy.
- May have an Inhibitory effect on breast & prostate cancer through reduction of cytokine production such TNF.

Cancer 82:395-402, 1998 Dietary omega 3 PUFA plus Vit E restore immunodeficiency and prolong survival for severely ill patients with generalized malignancy.

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Cancer Fighting Foods

Food	Component	Action
Cruciferous--broccoli, cauliflower, brussel sprouts	Indoles, Isothiocyanates	Help detoxify estrogen in body
Grape, raspberry, strawberry, pomegranite	Ellagic Acid	Carcinogen scavenger and prevents alteration of DNA
Orange and yellow fruits and vegetables	Retinol, vit C, carotenoids	Anti-tumor, anti-oxidant
Green Tea, Berries	Catechins	Immune boosting, anti-oxidant
Tumeric	Curcumins	Anti-oxidant, anti-inflammatory, cancer protection



Beta carotene, Vitamin C, E, Selenium

- Anti-oxidants are essential to rebuilding tissue especially lung, gut, skin, and immune cells
- These do not remove tumor tissue, they are used to assure good normal cell reproduction and protect from toxicity as well as to assure a well functioning immune system.

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Vitamin A

- Enhances enzyme effects.
- Enhances anti-tumor effect of other treatments including chemo and radiation and enzymes by increasing penetration of the cells

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Melatonin

- Helpful in solid tumors.
- With cisplatin in NSC lung cancer used 10mg daily at 7pm. Improved one year survival.
- With tamoxifen in metastasized breast cancer 20mg daily at noon.
- With interleukin-2 in several types of solid tumors used 40mg melatonin.
- May modulate estrogen receptor expression

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CoQ10

- Coenzyme Q10 is produced in the body to aid in oxygen delivery to cells and organs.
- CoQ10 is a fat-soluble antioxidant.
- CoQ10 levels decrease with age and are low in cancers, diabetes, and HIV/AIDS
- Case studies showing reversal of met. lung cancer, adenocarcinoma of the stomach, and breast cancer using 240-390mg per day

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Mushrooms

Maitake, Reishi, Cordyceps

- Increase T and B cells and enhance phagocytosis (digesting) of tumor necrosis factor
- Increase NK cell function and stimulate other immune surveillance production
- Show anti-carcinogenic activity
- Can reduce adverse effects of radiotherapy and chemotherapy

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Eat ORGANIC!

Organic Food

- There is mounting evidence that avoiding pesticides and chemicals reduces the risk of breast cancer. Estrogen receptor stimulating chemicals are found in foods grown with chemical farming assistance. Non-organic meats often show concentrations of estradiol. *Bull. Environ. Contam. Toxicol.* 1998; 60: 609-614. Effects of pesticides on the ratio of 16 alpha/2-hydroxyestrone: A biologic marker of breast cancer risk. *Environ Health Perspect.* 1995;103 (Suppl7);147-150. Can environmental estrogen cause breast cancer? Yes. *Scientific American* 1995; (273);166-170.

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Green Tea:



• **"Better to be deprived of food for three days, then tea for one." (Chinese Proverb)**

- Women drinking green (but not black tea) had reduced risk of breast cancer. *Int. J. Cancer* 2003;106:574-579
- Polyphenols: particularly epigallocatechin gallate (EGCG) is a powerful anti-oxidant: reduces DNA damage free radicals.
- Inhibits the growth of cancer cells.

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Cancer Prevention: Supplements

- Astragalus may increase survival rates in patients being treated conventionally for breast or lung cancer.
- Astragalus increases natural killer cell activity and lowers chemotherapy requirements for breast cancer.

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Breast Cancer Supplementation

- Calcium D-glucarate
- Indole-3-carbinol or DIM
- Folic Acid
- CoQ10
- Vitamin D
- Vitamin A
- Green Tea
- Mushrooms

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Chemotherapy Support

Cisplatin (Platinol, CDDP)

- Contraindicated:
NAC, B -6 over 200 mg. Caution on days receiving chemotherapy: Curcumin, Hypericin
- Increased effectiveness:
Curcumin, Quercetin, Vitamins A, C, D, Silymarin
- Decreased toxicity:
Melatonin, Silymarin, Selenium, Ginkgo biloba

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Chemotherapy Support

Doxorubicin (Adriamycin)

- Contraindicated:
Heat applications to hands or feet Caution with NAC and Glutathione
- Increased effectiveness:
Green Tea, Quercetin, Vitamins A, C, E
- Decreased toxicity:
CoQ-10, Melatonin, Vitamin A, C, E, L- Carnitine

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Chemotherapy Support

5 - Fluorouracil (5 - FU)

- Contraindicated:
Beta-carotene
- Increased effectiveness:
Quercetin, Aloe Vera, Mushroom (Shitake), Vitamin A, C, E, Melatonin
- Decreased toxicity:
CoQ-10, L-Glutamine, Licorice root, B -6

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Chemotherapy Support

Methotrexate

- Contraindicated:
High dose folic acid, High dose glutathione
- Increased effectiveness:
L-Glutamine
- Reduce side effects:
L- Glutamine, Vitamin A

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Chemotherapy Support

Taxol

- Contraindicated:
Berberine
- Increased effectiveness:
Vitamin C
- Reduce side effects:
L- Glutamine 10 grams 3 times a day is a maximum dose, but may negatively effect liver.

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Digestive Protection During Chemotherapy

Slippery Elm Powder

- there is no toxicity and more is better (babies have been sustained on 1 cup or more a day!) Minimum dose is 6 capsules or 3 teaspoons. Can be put in food such as applesauce or stirred into juice or water by adding a little liquid at a time while stirring.

Glutamine powder

- up to 12grams daily

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Radiation

Before Treatment

- Mushrooms, Curcumin, Green tea.
- Glutamine up to 10 grams to prevent mucositis, enteritis and cachexia if pertinent.

During Treatment

- Vitamin A, Green tea, glutamine

After Treatment

- Co Q10 and other fatigue treatments, mushrooms and astragalus
- Topical: Traumeel, Aloe, Vitamin E, Lavendar essential oil.

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Complementary treatment to support chemotherapy patients

Diet:

- Sometimes it is just whatever they can keep down at first.
- Suggestions: Apple sauce, toast, crackers, flat ginger ale, gelatin, banana, potato, watermelon, oatmeal.
- Comfort foods
- Cook organic chicken soup before treatment to use in first few days after treatment.
- Avoid hot spices at first especially, due to heat syndrome from chemo

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Complementary treatment to support chemotherapy patients

Herbs

- Ginger for nausea. Sometimes peppermint is better due to the heat syndrome from the chemo
- Slippery elm is wonderful to protect mucus membranes

Aphthous Stomatitis

- Topical vitamin E, Aloe, Glutamine, Licorice, Traumeel

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Complementary treatment to support chemotherapy patients

Aphthous Stomatitis

- Topical vitamin E, Aloe, Glutamine, Licorice, Traumeel

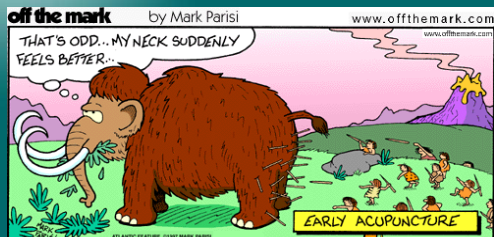
Peripheral Neuropathy

- Alpha-lipoic Acid, B6, B12

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Integrative Medicine: Traditional Chinese Medicine (TCM):



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Acupuncture




- Reduction of nausea and emesis with acupuncture, electroacupuncture and acupressure both on its own, and alongside pharmaceutical anti-emetics
- Improvement in white blood cell counts in patients receiving chemotherapy
- Reduction of pain and improvement of mobility in the cancer patient
- Reduction in radiation-induced xerostomia and related dysphagia
- Chemotherapy-induced fatigue

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Acupuncture




- Reduction of nausea and emesis with electro-acupuncture alongside pharmaceutical anti-emetics had 1/3 the number of emetic episodes in a one week trial compared to antiemetics alone. (JAMA)
- Acupuncture equal to Zofran in preventing emetic episodes
- Superior to Zofran in reducing severity and frequency of nausea. (Duke)

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Acupuncture




- Improved shoulder mobility and reduced pain in breast cancer patients following axillary lymphadenectomy.
- Reduced neuropathic pain in people already on analgesics
- Chemotherapy-induced fatigue by 31 % up to 2 years post chemo.

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Integrative Oncology: Guided Imagery / Hypnosis

- Involves a combination of relaxation and visualization can reduce side effects of chemotherapy and radiation.
- A state of restful alertness approved by the NIH for management of chronic cancer pain.



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Integrative Oncology: Massage Therapy

- Decreases stress, anxiety and pain Cancer Nurs 16(2): 93-101, 1993
- Improves general tolerance of cancer therapies
- Breast cancer lymphedema: manual lymphatic massage reduced edema
- ✓ Reduction of Lymphedema: Evaluation of the results of three different methods of Post-Mastectomy Treatment. J. Surg Oncol 26




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Changing Paradigm in Healthcare

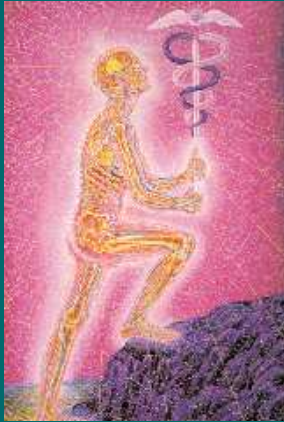
FROM:	TO:
☞ Technology & Practitioner Focus	☞ Relationship Focus
☞ Customer Service	☞ Culture of Service
☞ Western medical modalities only	☞ Integrative approaches

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Integrative Medicine

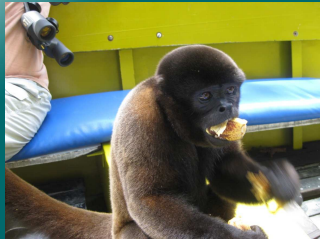
- ☞ Healing oriented
- ☞ Holistic
- ☞ Relationship-oriented
- ☞ Prevention-oriented
- ☞ Integration of complementary and alternative medicine



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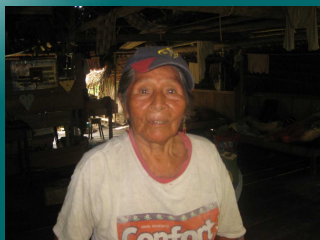
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