INTEGRATIVE ONCOLOGY
CONSCIOUSNESS AND HEALING INITIATIVE

November 20, 2020

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Learning Objectives

1. Causes of cancer
2. Evolving cancer treatments
3. Importance and benefits of Integrative Oncology
4. Complementary modalities that improve quality of life in cancer patients. Countless scientific articles have been published
5. Empowering ways to look at cancer and its treatment
6. For integrative practitioners, health care professionals and all caregivers: "the importance of taking care of self"
7. Most importantly: "Supporting cancer patients in their Healing Journey"

Intention to bring into this gathering: our family members, loved ones, friends, coworkers, who have or had cancer. We can honor them, and hold them in our hearts.

What causes cancer?

- Multifactorial
- Hereditary factors. Genetic predisposition
- Oncogenes (cancer genes) overexpressed
- Tumor suppressor genes (down regulated)
- Environmental factors
- Lifestyle risk factors
- Epigenetic influences
- DNA replication errors. Random mutations

REPORT

CANCER ETIOLOGY

Stem cell divisions, somatic mutations, cancer etiology, and cancer prevention

Cristian Tomasetti,[1,2]* Lu Li,[2] Bert Vogelstein[3]*

Cancers are caused by mutations that may be inherited, induced by environmental factors, or result from DNA replication errors (R). We studied the relationship between the number of normal stem cell divisions and the risk of 17 cancer types in 69 countries throughout the world. The data revealed a strong correlation (median = 0.80) between cancer incidence and normal stem cell divisions in all countries, regardless of their environment. The major role of R mutations in cancer etiology was supported by an independent approach, based solely on cancer genome sequencing and epidemiological data, which suggested that R mutations are responsible for two-thirds of the mutations in human cancers. All of these results are consistent with epidemiological estimates of the fraction of cancers that can be prevented by changes in the environment. Moreover, they accentuate the importance of early detection and intervention to reduce deaths from the many cancers arising from unavoidable R mutations.

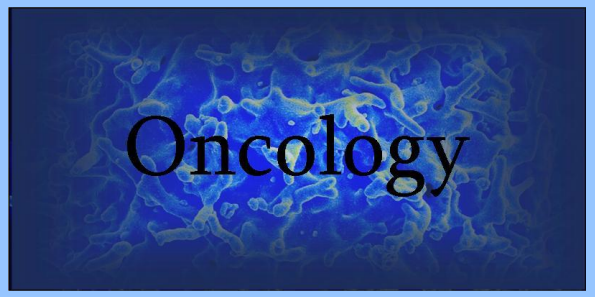
It is now widely accepted that cancer is the result of the gradual accumulation of driver gene mutations that successively increase cell proliferation (*1*–*3*). But what causes these mutations? The role of environmental factors (E) in cancer development has long been evident from epidemiological studies, and this has fundamental implications for primary prevention. The role of heredity (H) has been conclusively demonstrated from both twin studies (*4*) and the identification of the genes responsible for cancer predisposition syndromes (*3*, *5*). We recently hypothesized that a third source—mutations due to the random mistakes made during normal DNA replication (R)—can explain why cancers occur much more commonly in some tissues than others (*6*). This hypothesis was based on our observation that the number of normal cell divisions dictates cancer risk in many organs (*10*).

This hypothesis has generated much scientific and public debate and confusion, in part because our analysis was confined to explaining the relative risk of cancer among tissues rather than the contribution of each of the three potential sources of mutations (E, H, and R) to any single cancer type or cancer case. Determination of the contributions of E, H, and R to a cancer type or cancer case is challenging. In some patients, the contribution of H or R factors might be high enough to cause all the mutations required for that patient's cancer, whereas in others, some of the mutations could be due to H, some to R, and the remainder to E. Here we perform a critical evaluation of the hypothesis that R mutations play a major role in cancer. Our evaluation is predicated on the expectation that the number of endogenous mutations (R) resulting from stem cell divisions in a tissue, unlike those caused by environmental exposures, would be similarly distributed at a given age across human populations. Though the number of stem cell divisions may vary with genetic constitution (e.g., taller individuals may have more stem cells), these divisions are programmed into our species' developmental patterns. In contrast, deleterious environmental and inherited factors, either of which can directly increase the mutation rate or the number of stem cell divisions, vary widely among individuals and across populations.

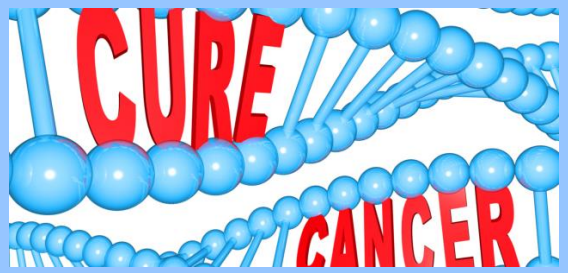
Our previous analyses were confined to the U.S. population, which could be considered to be exposed to relatively uniform environmental conditions (*6*). In this study, we have evaluated cancer incidence in 69 countries, representing a variety of environments distributed throughout the world and representing 4.8 billion people (two-thirds of the world's population). Cancer incidences were determined from analysis of 423 cancer registries that were made available by the International Agency for Research on Cancer (IARC) (http://ci5.iarc.fr/CI5-X/Pages/download.aspx). All 17 different cancer types recorded in the IARC database for which stem cell data are available were used for this analysis (see supplementary materials). The Pearson's correlation coefficients of the lifetime risk of cancer in a given tissue with that tissue's lifetime number of stem cell divisions are shown in Fig. 1. Strong, statistically significant correlations were observed in all countries examined (median P value = 1.3×10^{-4}; full range: 2.2×10^{-5} to 6.7×10^{-3}). The median correlation was 0.80 (95% range: 0.67

Fig. 1. Correlations between stem cell divisions and cancer

Cancer (cont)



- Metastasis
- Cancer cells can remain **dormant** for years (even decades)
- Surgical, Medical & Radiation Oncology
- Genomic Oncology
- Integrative Oncology



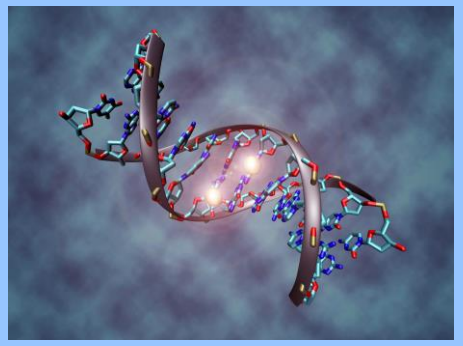
Advances in Medicine and Science

- Improved medicines
- Monoclonal antibodies
  - Rituxan, Herceptin, Cetuximab (Erbitux), Nivolumab (Opdivo), Pembrolizumab PD-L1 (Keytruda), etc.
- Targeted molecular therapies
  - Imatinib (gleevec), Nilotinib (Tasigna), Erlotinib (Tarceva), Sunitinib, Crizotinib, Olaparib, Pazopanib (Votrient), many more
- Anti-angiogenic agents
  - Avastin (VEGF receptor inhibitor)
  - Thalidomide, Revlimid for Multiple Myeloma
- Immunotherapy
- Vaccines (modified polio for GBM, etc)

Chemotherapy side effects

- GI: N/V, anorexia, diarrhea
- Low energy. Body aches
- Neuropathy
- Potential organ damage: liver, kidney, lung, heart
- Hair and skin
- Bone Marrow Suppression
- Intimacy affected
- Other

New advances (cont.)



- Symptom management
- Apoptotic agents (natural cell death)
- Stem cells
- Chemosensitivity and chemoresistance Assays
- **Microbiome**
- **Molecular profiling. Genomic oncology. Precision therapies**
- **Metronomic chemotherapy: lower doses. Also timing**
- **Epigenetics** (Modulating genes: up and down regulation)

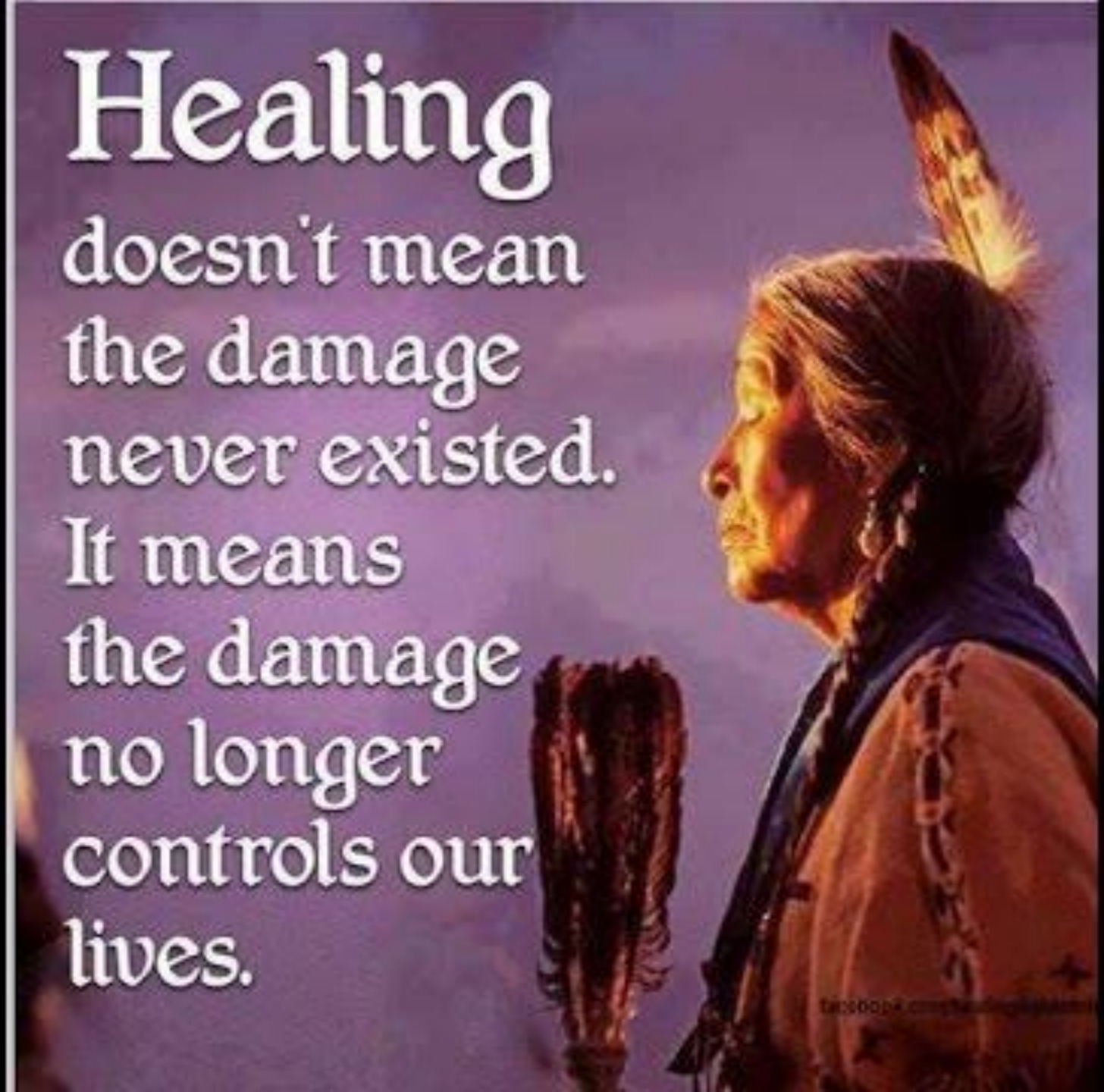
Epigenetics

Gene expression is influenced by many factors:

1. Hormones, metabolites, foods, microbiome, chemicals, drugs, etc.
2. Environment: light, temperature, radiation, etc.
3. Lifestyle
4. Social Interactions
5. Relationships
6. Thoughts. Emotions
7. Other factors

Definitions

- CAM: Complementary and Alternative Medicine
- Holistic Medicine
- **Integrative Medicine**
- **Integrative Oncology**
- Cure
- True Healing


Healing
doesn't mean
the damage
never existed.
It means
the damage
no longer
controls our
lives.

Integrative Medicine

Emerging medical specialty that incorporates

- Art and Science of caring for the whole person - body, mind, spirit - to prevent and treat disease
- Empowering patients to create a condition of optimal Health, Wellness and Healing
- Incorporating evidenced based natural therapies, complementary healing disciplines and modalities in the care of patients and caregivers
- Safety and Efficacy of these therapies
- **Academy of Integrative Health & Medicine (AIHM)**

Integrative Oncology

- Evolving specialty in Oncology
- Patient centered. Focuses on Health, Wellness and supporting the Healing journey of cancer patients
- Very much desired and requested by patients, family members, cancer centers staff and society at large
- Caring for the caregivers (nurses, doctors, all staff)
- Maintaining an *optimal healing environment* for patients, their loved ones, caretakers, nurses, doctors and all staff
- **Established Society for Integrative Oncology (SIO)**

OUR MISSION:

TO ADVANCE EVIDENCE BASED, COMPREHENSIVE, INTEGRATIVE HEALTHCARE TO IMPROVE THE LIVES OF PEOPLE AFFECTED BY CANCER.

Navajo Nation's Regional Healthcare Facility Needs Our Help

The current COVID-19 pandemic has acutely affected the Navajo Nation, which lives in a region spanning parts of Arizona, Utah and New Mexico. Historically, the Navajo People have suffered high rates of diabetes, cardiovascular disease and cancer, all of which contribute to increased risk for poorer COVID-19 outcomes.

For decades, tribal land has been left without basic infrastructure such as running water, electricity and paved roads.

The Indian Health Service has been chronically underfunded, and the Tuba City Regional Healthcare Corporation is the only cancer treatment location on any Native American soil. The SIO is honored to present this support

Please read the press release about the joint SIO/ASCO work on guidelines for integrative approaches for cancer care on our news page.

Read the latest blog from Eugene and Linda Carlson, PhD, C.Psych

"What Now? Navigating cancer treatment during a possible COVID-19 'second wave'"

"The Use of Traditional Chinese Herbal Medicine in COVID-19 - Where's the Evidence?"

Webinar presentation by Weidong Lu, MB, MPH, PhD

Events Calendar

Jan 15 — Deadline for TREC applications

Sep 24 — SIO 2021 18th International Conference

Benefits of Integrative Oncology

- Less symptoms from cancer and its treatments
- Fewer visits to the doctor
- **Improving the QOL of patients and their caregivers**
- **Decrease in hospitalizations**
- **Supports the medical environment**
- **Reduction of health care costs**
- Education
- Research
- **Collaboration**

Integrative Oncology Collaborations in CA

San Diego Cancer Research Institute

CHI Consciousness and Healing Initiative

UC San Diego Health System

Pacific College of Oriental Medicine

Bastyr University
Leading Innovation in Natural Health Education

AIHM
Academy of Integrative Health & Medicine

The Chopra Foundation
Dedicated. Conscious. Caring.

Scripps

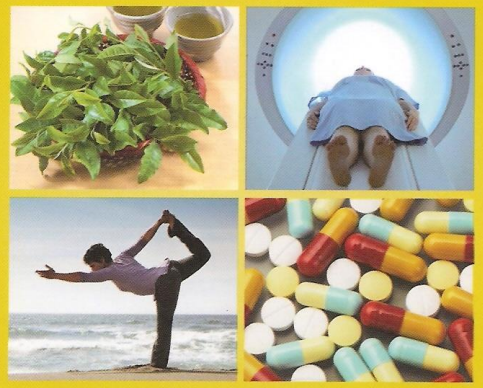
MIRAGL foundation

IONS Institute of Noetic Sciences

UCSF
University of California
San Francisco

UCLA Health

INTEGRATIVE ONCOLOGY



DONALD ABRAMS

AND ANDREW WEIL

WEIL INTEGRATIVE MEDICINE LIBRARY

Integrative Healing Traditions

- Hippocrates: Father of Medicine (400 BC)
- Osteopathic Medicine
- Naturopathic Medicine
- Ayurvedic Medicine
- Traditional Chinese Medicine (TCM)
- Native American Medicine
- Other ancient Healing Traditions

Cancer Prevention (and Treatment)

- Nutrition (Tree of Life)
- Exercise. Movement. Good breathing
- Stress management (with all techniques available)
- Good rest and sleep
- Detoxification (in all aspects)
- Feeling in control. Empowered. Inner Peace
- Homeostasis. Self Regulation
- **Early detection**

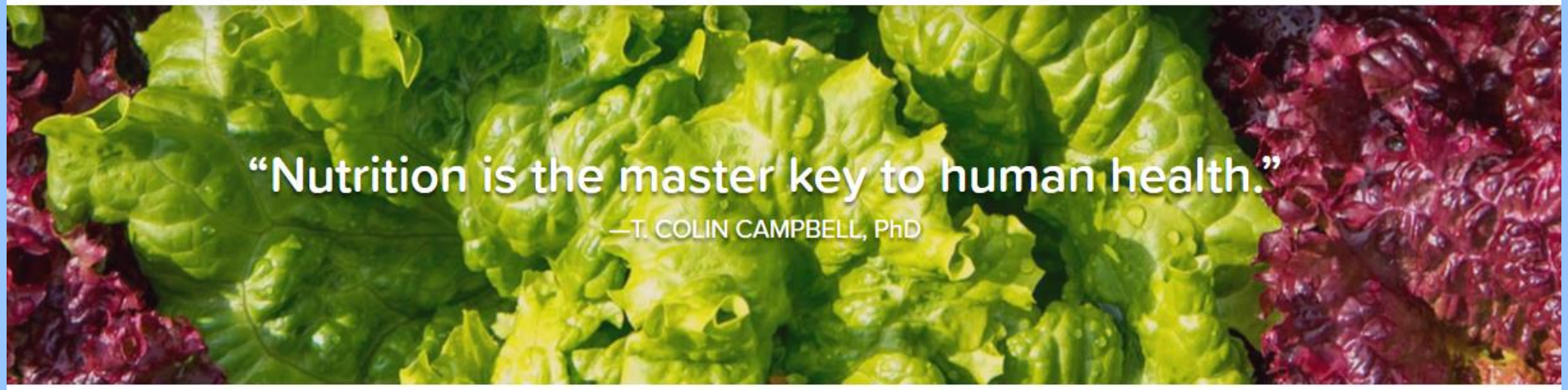
Integrative/Complementary Modalities

- Life style changes
- Nutrition
- Gentle and aerobic exercise
- **Yoga**: Whole (Holistic) discipline. Yoga teachers: "it's a lifestyle"
- Acupuncture. TCM
- Massage
- Aromatherapy: Healing Aromas
- Long list will continue

- “Let food be thy medicine; thy medicine shall be thy food”
- Hippocrates, 460-370 BC

Nutrition during cancer treatment

- Extensive scientific data
- Whole Food, Plant-Based
- Organic. Freshly prepared
- Nutrition programs: Individualized, Customized
- Special situations: Ketogenic diet, Intermittent Fasting, etc.
- Creating a peaceful and relaxed environment
- No extremes. It's all about balance
- **Blessing** of the food, the source, those who prepared it, and the company we are in



Living a Whole Food, Plant-Based Life

March 3, 2017 — *Updated May 30th, 2019*

Are you curious about a whole-food, plant-based diet (WFPB)? The T. Colin Campbell Center for Nutrition Studies is here to help you get started.

The term "whole" in WFPB describes foods that are minimally processed. This includes as many whole grains, fruits, vegetables, and legumes as you want.

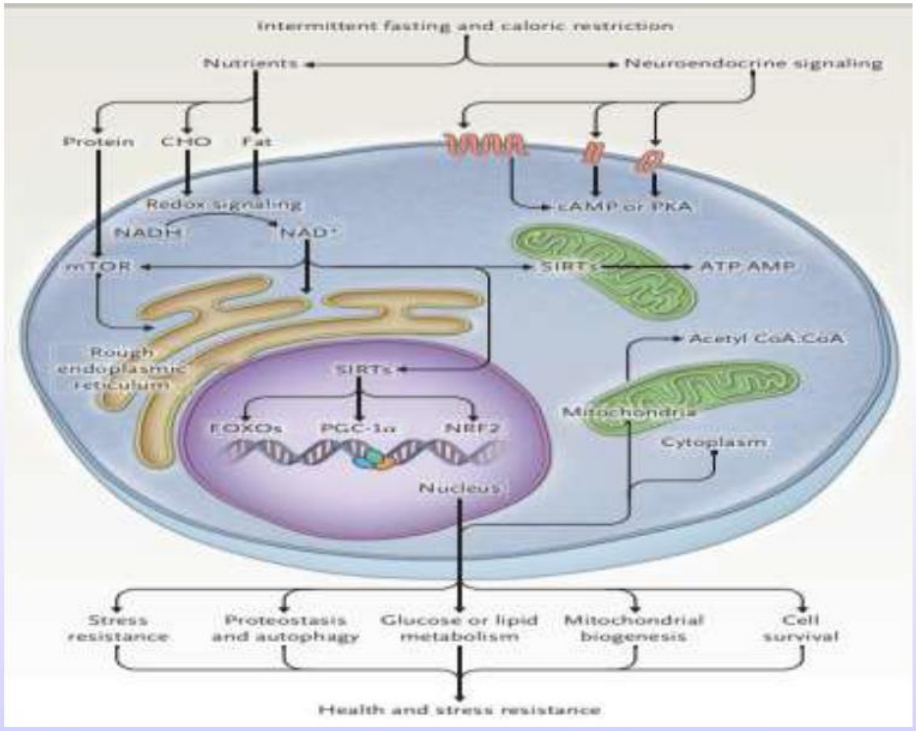
Many eventually give up the "diet" label, in favor of "lifestyle." Perhaps that's because our popular notion of dieting has become so confusing. A WFPB lifestyle is different. It's not a short-term punishment charged by guilt. It's not a set of complicated meal plans. It's simply a return to whole foods, rich flavors, and natural health.

Personalized Nutrition in Oncology
Current scientific data

- Moderate Carb restriction
  - HR positive postmenopausal breast cancer
  - Colorectal cancer and overweight
- Ketogenic Diet
  - Glioblastoma multiforme
  - Radiation
- Fasting
  - Chemotherapy: 24 hours before and after
  - Cancer Risk Reduction

Effects of Intermittent Fasting on Health, Aging, and Disease

Rafael de Cabo, Ph.D., and Mark P. Mattson, Ph.D.



N ENGL J MED 381;26 NEJM.ORG DECEMBER 26, 2019

Four Types of Fasting

1. Water Fast
2. Alternating Days
3. Time Restricted
4. Fasting Mimicking

Botanicals and dietary supplements

- TNTC (too numerous to count)
- Potential risks and side effects
- Several herbs have powerful
  - antioxidant
  - anti-inflammatory
  - antineoplastic properties
- Some may counteract with medicines
- Herbal Medicine is a specialty
- Practitioners with experience

Curcumin (turmeric)

- Integrate into cancer treatments
- May enhance Chemotherapy activity
- May have chemo-related protection (cardiac, liver, renal and brain)
- Overcoming chemo-resistance (MDR)
- Inducing Chemosensitivity
- Anti-inflammatory
- Anti-Angiogenesis
- Antioxidant

Botanicals and dietary supplements (cont)

- **Probiotics**
- **Ayurvedic herbs**
- **Traditional Chinese Medicine**
- **Treatment of mouth sores (mucositis)**
  - Lysine
  - Glutamine
- **Alpha Lipoic Acid**
  - Prevention and treatment of Neuropathy
- **Aloe vera (skin and GI)**

Ginger root – Ginger Root Tea
For nausea, vomiting, gastroparesis

Botanicals and dietary supplements (cont)

- For altered taste: ginger, honey, lemon, black salt
- Vitamin D
- Vitamin C
- Melatonin
- Homeopathy
- Medicinal mushrooms
- Medical CBD (Cannabidiol)
- **Many, many others. This is a brief summary**

VOLUME 32 · NUMBER 10 · APRIL 1 2014

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

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

Janice K. Kiecolt-Glaser, Jeanette M. Bennett, Rebecca Andridge, Juan Peng, Charles L. Shapiro, William B. Malarkey, Charles F. Emery, Rachel Layman, Ewa E. Mrozek, and Ronald Glaser

See accompanying article on page 1058

All authors: The Ohio State University, Columbus, OH.

Published online ahead of print at www.jco.org on January 27, 2014.

Supported in part by Grants No. R01 CA126857, R01 CA131029, K05 CA172296, UL1RR025755, and CA016058 from the National Institutes of Health.

Terms in blue are defined in the glossary, found at the end of this article and online at www.jco.org.

Authors' disclosures of potential conflicts of interest and author contributions are found at the end of this article.

Clinical trial information: NCT00486525.

Corresponding author: Janice K. Kiecolt-Glaser, PhD, Institute for Behavioral Medicine Research, The Ohio State University College of Medicine, 460 Medical Center Dr, Room 130C, Columbus, OH 43210; e-mail: Janice.Kiecolt-Glaser@osumc.edu.

0732-183X/14/3210w-1040w/$20.00

DOI: 10.1200/JCO.2013.51.8860

ABSTRACT

Purpose
To evaluate yoga's impact on inflammation, mood, and fatigue.

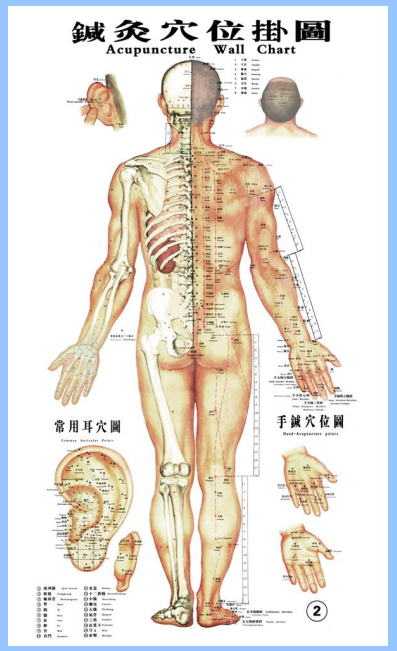
Patients and Methods
A randomized controlled 3-month trial was conducted with two post-treatment assessments of 200 breast cancer survivors assigned to either 12 weeks of 90-minute twice per week hatha yoga classes or a wait-list control. The main outcome measures were lipopolysaccharide-stimulated production of proinflammatory cytokines interleukin-6 (IL-6), tumor necrosis factor alpha (TNF-α), and interleukin-1β (IL-1β), and scores on the Multidimensional Fatigue Symptom Inventory-Short Form (MFSI-SF), the vitality scale from the Medical Outcomes Study 36-item Short Form (SF-36), and the Center for Epidemiological Studies-Depression (CES-D) scale.

Results
Immediately post-treatment, fatigue was not lower ($P > .05$) but vitality was higher ($P = .01$) in the yoga group compared with the control group. At 3 months post-treatment, fatigue was lower in the yoga group ($P = .002$), vitality was higher ($P = .01$), and IL-6 ($P = .027$), TNF-α ($P = .027$), and IL-1β ($P = .037$) were lower for yoga participants compared with the control group. Groups did not differ on depression at either time ($P > .2$). Planned secondary analyses showed that the frequency of yoga practice had stronger associations with fatigue at both post-treatment visits ($P = .019$; $P < .001$), as well as vitality ($P = .016$; $P = .0045$), but not depression ($P > .05$) than simple group assignment; more frequent practice produced larger changes. At 3 months post-treatment, increasing yoga practice also led to a decrease in IL-6 ($P = .01$) and IL-1β ($P = .03$) production but not in TNF-α production ($P > .05$).

Conclusion
Chronic inflammation may fuel declines in physical function leading to frailty and disability. If yoga dampens or limits both fatigue and inflammation, then regular practice could have substantial health benefits.

TCM and Acupuncture

- **Whole systems approach**: Body-mind-energy
- Acupuncture points. Meridians
- Chi (Qi: vital energy)
- **Extensive Scientific Literature**
- ***Improve symptoms caused by cancer***
- ***Mitigate side effects, attenuate toxicity***
- ***Enhance therapeutic effect of medical treatments***
- Recovery. Restore health, immunity and well being



Acupuncture in Oncology

- Pain management
- Xerostomia after Head and Neck Radiation Rx
- Nausea, vomiting
- Anorexia. Weight Loss
- Vasomotor symptoms (hot flashes)
- Neuropathy
- Fatigue
- Stress, fear, anxiety, depression
- Regulate body functions
- Promotes sense of well-being and improves QOL

VOLUME 34 · NUMBER 15 · MAY 20, 2016

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Acupuncture As an Integrative Approach for the Treatment of Hot Flashes in Women With Breast Cancer: A Prospective Multicenter Randomized Controlled Trial (AcCliMaT)

Grazia Lesi, Giorgia Razzini, Muriel Assunta Musti, Elisa Stivanello, Chiara Petrucci, Benedetta Benedetti, Ermanno Rondini, Maria Bernadette Ligabue, Laura Scaltriti, Alberto Botti, Fabrizio Artioli, Pamela Mancuso, Francesco Cardini, and Paolo Pandolfi

Grazia Lesi, Muriel Assunta Musti, Elisa Stivanello, Chiara Petrucci, Pamela Mancuso, and Paolo Pandolfi, Bologna Local Health Authority; Francesco Cardini, Health and Social Agency of Emilia-Romagna Region, Bologna; Giorgia Razzini, Benedetta Benedetti, and Fabrizio Artioli, Civil Hospital, Carpi; Ermanno Rondini, Istituti di Ricovero e Cura a Carattere Scientifico–Arcispedale S. Maria Nuova di Reggio Emilia, Reggio Emilia; Maria Bernadette Ligabue, Civil Hospital, Coreggio; Laura Scaltriti, Civil Hospital, Guastalla; and Alberto Botti, Hospital of Piacenza, Piacenza, Italy.

Published online ahead of print at www.jco.org on March 28, 2016.

Written on behalf of the AcCliMaT collaborators.

Supported by Osservatorio Medicine Non Convenzionali Regione Emilia Romagna.

G.L. and G.R. contributed equally to this work.

Presented at the Fifth European Congress of Integrative Medicine, Florence, Italy, September 21-22, 2012.

Authors' disclosures of potential conflicts of interest are found in the article online at www.jco.org. Author contributions are found at the end of this article.

Clinical trial information: NCT01275807.

Corresponding author: Giorgia Razzini, PhD, Unit of Medical Oncology Civil Hospital, Via G. Molinari, 2, Carpi 41012 (MO) Italy;

ABSTRACT

Purpose

To determine the effectiveness of acupuncture for the management of hot flashes in women with breast cancer.

Patients and Methods

We conducted a pragmatic, randomized controlled trial comparing acupuncture plus enhanced self-care versus enhanced self-care alone. A total of 190 women with breast cancer were randomly assigned. Random assignment was performed with stratification for hormonal therapy; the allocation ratio was 1:1. Both groups received a booklet with information about climacteric syndrome and its management to be followed for at least 12 weeks. In addition, the acupuncture group received 10 traditional acupuncture treatment sessions involving needling of predefined acupoints. The primary outcome was hot flash score at the end of treatment (week 12), calculated as the frequency multiplied by the average severity of hot flashes. The secondary outcomes were climacteric symptoms and quality of life, measured by the Greene Climacteric and Menopause Quality of Life scales. Health outcomes were measured for up to 6 months after treatment. Expectation and satisfaction of treatment effect and safety were also evaluated. We used intention-to-treat analyses.

Results

Of the participants, 105 were randomly assigned to enhanced self-care and 85 to acupuncture plus enhanced self-care. Acupuncture plus enhanced self-care was associated with a significantly lower hot flash score than enhanced self-care at the end of treatment ($P < .001$) and at 3- and 6-month post-treatment follow-up visits ($P = .0028$ and .001, respectively). Acupuncture was also associated with fewer climacteric symptoms and higher quality of life in the vasomotor, physical, and psychosocial dimensions ($P < .05$).

Conclusion

Acupuncture in association with enhanced self-care is an effective integrative intervention for managing hot flashes and improving quality of life in women with breast cancer.

J Clin Oncol 34:1795-1802.

VOLUME 30 · NUMBER 36 · DECEMBER 20 2012

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Acupuncture for Cancer-Related Fatigue in Patients With Breast Cancer: A Pragmatic Randomized Controlled Trial

Alexander Molassiotis, Joy Bardy, Jennifer Finnegan-John, Peter Mackereth, David W. Ryder, Jacqueline Filshie, Emma Ream, and Alison Richardson

See accompanying editorial on page 4449

Alex Molassiotis and Joy Bardy, School of Nursing, Midwifery, and Social Work, University of Manchester; Peter Mackereth and David W. Ryder, Christie National Health Service (NHS) Foundation Trust, Manchester; Jennifer Finnegan-John and Emma Ream, Florence Nightingale School of Nursing and Midwifery, King's College London; Jacqueline Filshie, The Royal Marsden Hospital NHS Foundation Trust, London; and Alison Richardson, University of Southampton, Southampton, United Kingdom.

Submitted January 4, 2012; accepted July 26, 2012; published online ahead of print at www.jco.org on October 29, 2012.

Supported by a grant from Breakthrough Breast Cancer.

Authors' disclosures of potential conflicts of interest and author contributions are found at the end of this article.

Clinical trial information: NCT00957112.

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0732-183X/12/3036-4470/$20.00

DOI: 10.1200/JCO.2012.41.6222

ABSTRACT

Purpose
We aimed to assess the effectiveness of acupuncture for cancer-related fatigue (CRF) in patients with breast cancer.

Patients and Methods
We conducted a pragmatic, randomized controlled trial comparing acupuncture with enhanced usual care. Three hundred two outpatients with breast cancer participated. We randomly assigned 75 patients to usual care and 227 patients to acupuncture plus usual care (random assignment of 1:3 respectively) with minimization controlling for baseline general fatigue and maintenance treatment. Treatment was delivered by acupuncturists once a week for 6 weeks through needling three pairs of acupoints. The usual care group received a booklet with information about fatigue and its management. Primary outcome was general fatigue at 6 weeks, measured with the Multidimensional Fatigue Inventory (MFI). Other measurements included the Hospital Anxiety and Depression Scale, Functional Assessment of Cancer Therapy–General quality-of-life scale, and expectation of acupuncture effect. Analyses were by intention to treat.

Results
Two hundred forty-six of 302 patients randomly assigned provided complete data at 6 weeks. The difference in the mean General Fatigue score, between those who received the intervention and those who did not, was −3.11 (95% CI, −3.97 to −2.25; $P < .001$). The intervention also improved all other fatigue aspects measured by MFI, including Physical Fatigue and Mental Fatigue (acupuncture effect, −2.36 and −1.94, respectively; both at $P < .001$), anxiety and depression (acupuncture effect, −1.83 and −2.13, respectively; both at $P < .001$), and quality of life (Physical Well-Being effect, 3.30; Functional Well-Being effect, 3.57; both at $P < .001$; Emotional Well-Being effect, 1.93; $P = .001$; and Social Functioning Well-Being effect, 1.05; $P < .05$).

Conclusion
Acupuncture is an effective intervention for managing the symptom of CRF and improving patients' quality of life.

J Clin Oncol 30:4470-4476. © 2012 by American Society of Clinical Oncology

Acupuncture-Point Stimulation for Chemotherapy-Induced Nausea and Vomiting

Jeanette Ezzo, Andrew Vickers, Mary Ann Richardson, Claire Allen, Suzanne L. Dibble, Brian Issell, Lixing Lao, Michael Pearl, Gilbert Ramirez, Joseph A. Roscoe, Joannie Shen, Jane Shivnan, Konrad Streitberger, Imad Treish, and Grant Zhang

From JPS Enterprises, Baltimore, MD; Memorial Sloan-Kettering Cancer Center, New York, NY; National Foundation for Alternative Medicine, Washington, DC.

Submitted June 3, 2004; accepted May 9, 2005.

Supported by the Danish Cancer Society and ViFab (Videns- og Forsknings-Center for Alternative Behandling; The Knowledge and Research Center for Alternative Medicine), the National Cancer Institute, and the National Center for Complementary and Alternative Medicine. Early funding was provided by the National Institutes of Health Grant No. U24 CA66826-03 through the National Center for Complementary and Alternative Medicine and the National Cancer Institute.

The results of this study have not been published or presented elsewhere.

Authors' disclosures of potential conflicts of interest are found at the end of this article.

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0732-183X/05/2328-7188/$20.00

DOI: 10.1200/JCO.2005.06.028

ABSTRACT

Purpose
Assess the effectiveness of acupuncture-point stimulation on acute and delayed chemotherapy-induced nausea and vomiting in cancer patients.

Materials and Methods
Randomized trials of acupuncture-point stimulation by needles, electrical stimulation, magnets, or acupressure were retrieved. Data were provided by investigators of the original trials and pooled using a fixed-effects model.

Results
Eleven trials (N = 1,247) were pooled. Overall, acupuncture-point stimulation reduced the proportion of acute vomiting (relative risks [RR] = 0.82; 95% CI, 0.69 to 0.99; $P = .04$), but not the mean number of acute emetic episodes or acute or delayed nausea severity compared with controls. By modality, stimulation with needles reduced the proportion of acute vomiting (RR = 0.74; 95% CI, 0.58 to 0.94; $P = .01$), but not acute nausea severity. Electroacupuncture reduced the proportion of acute vomiting (RR = 0.76; 95% CI, 0.60 to 0.97; $P = .02$), but manual acupuncture did not; delayed symptoms were not reported. Acupressure reduced mean acute nausea severity (standardized mean difference = −0.19; 95% CI, −0.38 to −0.01; $P = .03$) and most severe acute nausea, but not acute vomiting or delayed symptoms. Noninvasive electrostimulation showed no benefit for any outcome. All trials used concomitant pharmacologic antiemetics, and all, except electroacupuncture trials, used state-of-the-art antiemetics.

Conclusion
This review complements data on postoperative nausea and vomiting, suggesting a biologic effect of acupuncture-point stimulation. Electroacupuncture has demonstrated benefit for chemotherapy-induced acute vomiting, but studies with state-of-the-art antiemetics as well as studies for refractory symptoms are needed to determine clinical relevance. Acupressure seems to reduce chemotherapy-induced acute nausea severity, though studies did not involve a placebo control. Noninvasive electrostimulation seems unlikely to have a clinically relevant impact when patients are given state-of-the-art pharmacologic antiemetic therapy.

J Clin Oncol 23:7188-7198. © 2005 by American Society of Clinical Oncology

Massage therapy in cancer

- Efficacy
- Is it safe in cancer? YES (in the right hands)
- Indications: multiple reasons!
- Therapists have specific awareness:
  - Risk of infections
  - Risk of DVT (clots)
  - Risk of fractures (bone metastasis)
  - Skin sensitivity (from radiation and/or chemo)
- Lymphedema therapy
- **Requires Special Training**

Support Groups

- Patients
- Caregivers. Caretakers
- Children
- Team approach:
  - Social Services
  - Psychologists and Counselors
  - Bereavement
- Survivorship. Thrivers. “Metathrivers”
- **APOS**: American Psychosocial Oncology Society

Empowerment Techniques (MBM)

- Visualization
- Contemplation
- Guided Imagery
- Biofeedback
- Mindfulness (MBSR)
- Meditation (PSM, etc.)

Published Ahead of Print on May 31, 2016 as 10.1200/JCO.2015.65.7874
The latest version is at http://jco.ascopubs.org/cgi/doi/10.1200/JCO.2015.65.7874

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Examination of Broad Symptom Improvement Resulting From Mindfulness-Based Stress Reduction in Breast Cancer Survivors: A Randomized Controlled Trial

Cecile A. Lengacher, Richard R. Reich, Carly L. Paterson, Sophia Ramesar, Jong Y. Park, Carissa Alinat, Versie Johnson-Mallard, Manolete Moscoso, Pinky Budhrani-Shani, Branko Miladinovic, Paul B. Jacobsen, Charles E. Cox, Matthew Goodman, and Kevin E. Kip

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Published online ahead of print at www.jco.org on May 31, 2016.

Supported by Award No. 1R01CA131080-01A2 from the National Cancer Institute and in part by the Survey Methods Core Facility at the H. Lee Moffitt Cancer Center and Research Institute.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the National Institutes of Health. This study protocol was approved by the institutional review board at the University of South Florida to ensure the

ABSTRACT

Purpose
The purpose of this randomized trial was to evaluate the efficacy of the Mindfulness-Based Stress Reduction for Breast Cancer (MBSR[BC]) program in improving psychological and physical symptoms and quality of life among breast cancer survivors (BCSs) who completed treatment. Outcomes were assessed immediately after 6 weeks of MBSR(BC) training and 6 weeks later to test efficacy over an extended timeframe.

Patients and Methods
A total of 322 BCSs were randomly assigned to either a 6-week MBSR(BC) program (n = 155) or a usual care group (n = 167). Psychological (depression, anxiety, stress, and fear of recurrence) and physical symptoms (fatigue and pain) and quality of life (as related to health) were assessed at baseline and at 6 and 12 weeks. Linear mixed models were used to assess MBSR(BC) effects over time, and participant characteristics at baseline were also tested as moderators of MBSR(BC) effects.

Results
Results demonstrated extended improvement for the MBSR(BC) group compared with usual care in both psychological symptoms of anxiety, fear of recurrence overall, and fear of recurrence problems and physical symptoms of fatigue severity and fatigue interference ($P < .01$). Overall effect sizes were largest for fear of recurrence problems ($d = 0.35$) and fatigue severity ($d = 0.27$). Moderation effects showed BCSs with the highest levels of stress at baseline experienced the greatest benefit from MBSR(BC).

Conclusion
The MBSR(BC) program significantly improved a broad range of symptoms among BCSs up to 6 weeks after MBSR(BC) training, with generally small to moderate overall effect sizes.

J Clin Oncol 34.

Biofield therapies (Energy Medicine)

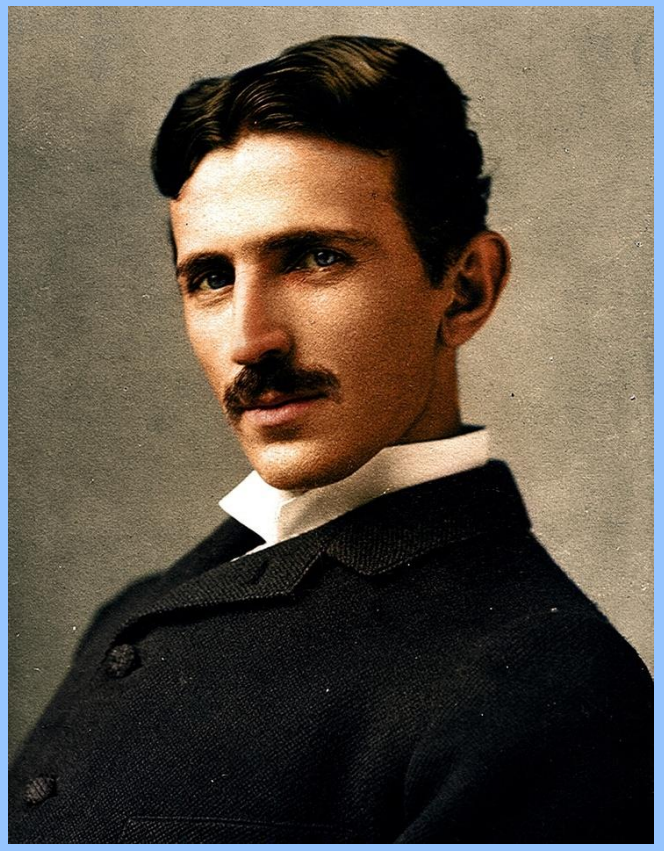
- Healing Touch
- Therapeutic Touch
- Reiki
- Qigong
- Tai Chi
- **Energy Healing: several different names, techniques and practices**

Qi gong

Fay McGrew

“If you want to find the secrets of the Universe, think in terms of Energy, Frequency and Vibration”

Nikola Tesla (1856-1943)



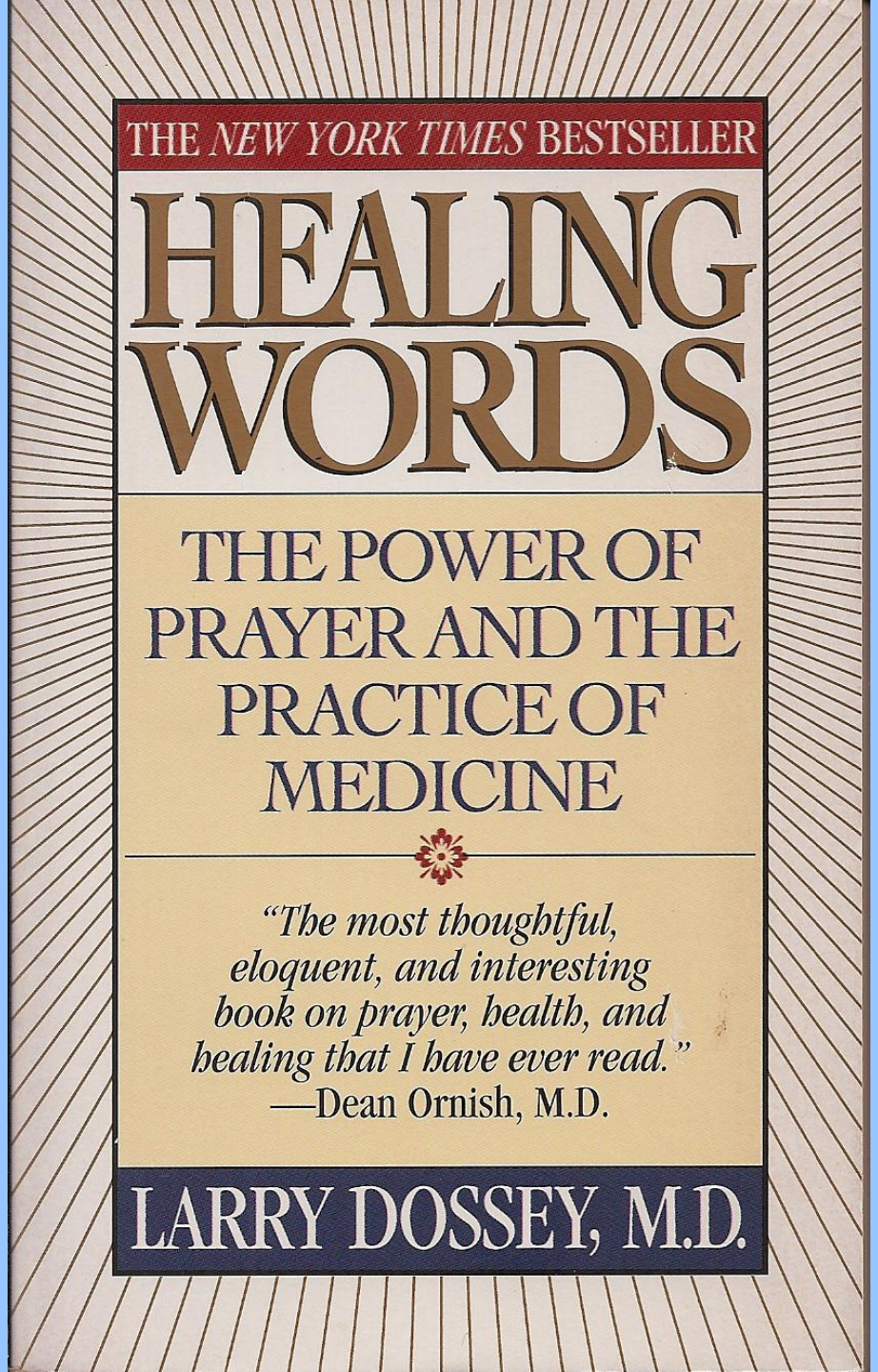
Complementary Modalities (cont.)

- Physical Therapy
- Art therapy
- Pet therapy
- Music. Sound Therapy
- Humor. Laughter Yoga
- Journaling
- Grounding
- QOL: Quality of Life
- Spirituality and Cancer
- Power of Prayer

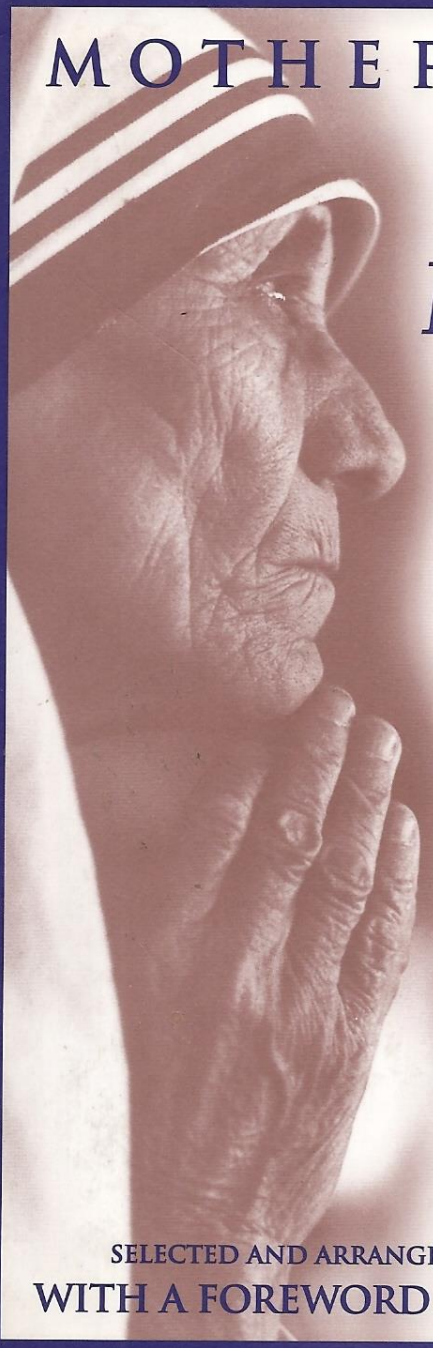
Hope Made Visible (HMV)

SDCRI **International** Program. Alessandra Colfi, Ph.D.

More than 2,500 Flags by mid 2020


THE NEW YORK TIMES BESTSELLER
HEALING WORDS
THE POWER OF PRAYER AND THE PRACTICE OF MEDICINE
"The most thoughtful, eloquent, and interesting book on prayer, health, and healing that I have ever read."
—Dean Ornish, M.D.
LARRY DOSSEY, M.D.

MOTHER TERESA



Everything Starts from Prayer

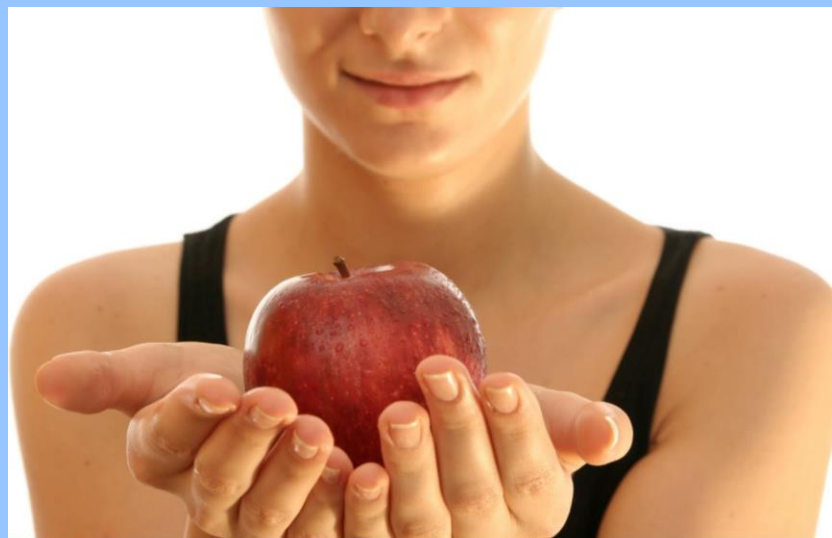
MOTHER TERESA'S MEDITATIONS ON SPIRITUAL LIFE FOR PEOPLE OF ALL FAITHS

SELECTED AND ARRANGED BY ANTHONY STERN, M.D.

WITH A FOREWORD BY LARRY DOSSEY, M.D.

BLESSING

- Water
- Food
- Medicines
- Supplements
- Chemotherapy
- Radiation Therapy
- Everything and Everyone!

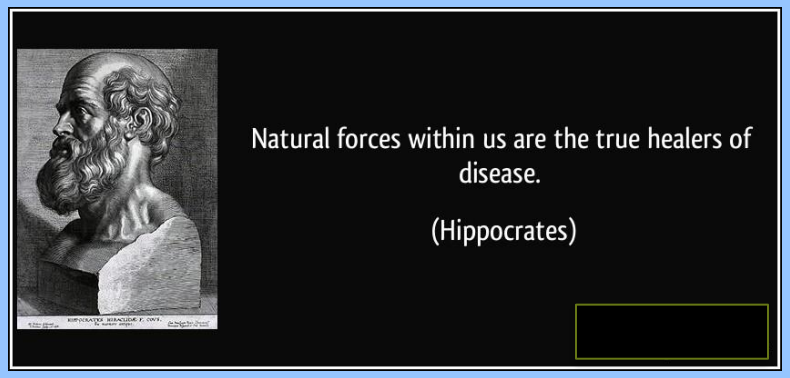


Integrative Modalities
Mechanisms and effects

- Immune modulating
- Anti-inflammatory
- Endorphin producing
- Hormone regulating
- Antioxidant
- Induce apoptosis
- Antiangiogenesis
- Epigenetic effect
- Restore balance and harmony
- **Goal** is **Synergy**: improve medical Rx outcomes
- Often *results* can be "**practitioner dependent**"

IMPORTANT REMINDER

Through your Meditation and Intuition, find those powerful healers (and teams) with **true integrity** that will help you feel empowered and **support** you in your healing journey.




EARTH

Gracie (with Norma Spencer)

Taking care of ourselves

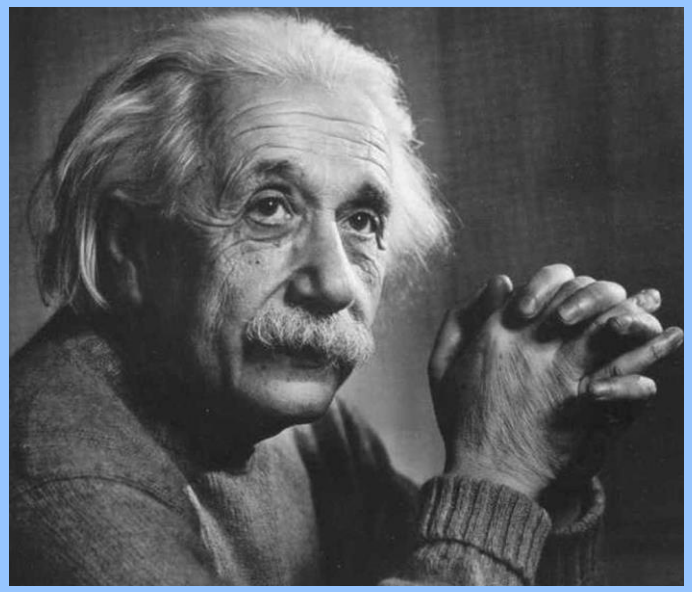
- **Apply Wisdom of all healing traditions**
- “Practice what we preach”
- **Patients as Teachers**
- Grieving with patients and staff.
- Dealing with stress, helplessness, overwhelm, burnout
  - **"Compassion fatigue"**
- Challenges in the medical environment
- Embracing uncertainty/unpredictability

Challenges with cancer

- We can do everything right and still develop cancer
- Children with cancer. Healers with cancer
- Resistant tumors. Recurrent cancers
- The importance of QOL
- The Blessing of Palliative Medicine and Hospice Teams
- There is always Hope

“There are only two ways to live your life. One is as though nothing is a miracle. The other is as though *everything is a miracle*.”

Albert Einstein (1879-1955)



What can we tell Patients

- Honor all your feelings
- Trust your powerful inner wisdom, **intuition**.
- Be with those who make you feel good, peace
- You are unique. Do not compare yourself with others
- Accept help. You are always giving
- See medicines and chemotherapy as Healing treatments, tools in your healing journey
- Visualize your potential for infinite possibilities and healing
- Message of **hope**: for any condition considered “incurable” at this time, an answer may be around the corner
- Miracles do happen. Spontaneous remissions

How to help someone with cancer

- You know how!
- Being present with Intention. Empathy. Compassion.
- Healing and Curing
- Respecting beliefs and cultural differences
- Supporting them in creating their own **optimal healing environment** (OHE)
- Non verbal: embracing uncertainty, hope, belief, faith
- Alchemist: transmute disease into ease (St. Francis prayer)
- Entrainment, limbic resonance, mirror neurons

Daily Ritual Summary

1. Good sleep. Plenty of rest
2. Meditation. Reflection. Prayer
3. Optimizing Nutrition
4. Exercise. Yoga. Breathing Techniques
5. Stress management
6. Honoring our emotions. Embracing uncertainty
7. Feeling in Control. Empowerment
8. Balance. Inner Peace
9. Grounding. Being in Nature
10. Sense of purpose. Gratitude

Integrative Oncology Program at the San Diego Cancer Research Institute (SDCRI)

- **Community Co-creation**. Licensed practitioners of different healing arts who **volunteered** at the Cancer Center
- From **1995 till 2015**: two decades
- The compl***e***mentary modalities were compl***i***mentary (free) and open to the cancer community.
- **Free** services to over 200 cancer patients every month
- Average of 150 visits per week.
- Up to 50 active volunteers enrolled in the program.

Integrative Oncology Program at SDCC and SDCRI

- Created in 1995. At SDCC. Under same roof. **Co-creation**
- First modalities: support groups, massage, acupuncture, nutrition classes
- San Diego Cancer Research Institute (SDCRI):
  - ✓ Non-profit created in 2000: **www.sdcri.org**
- Volunteers: devoted experienced practitioners of the many healing arts who were accredited, licensed and had a very successful practice
- **Integrative services offered for free; open to all patients**
- ***Community based Integrative program***
- **Up to 50 volunteers at one time**
- **This is a model of what's possible**

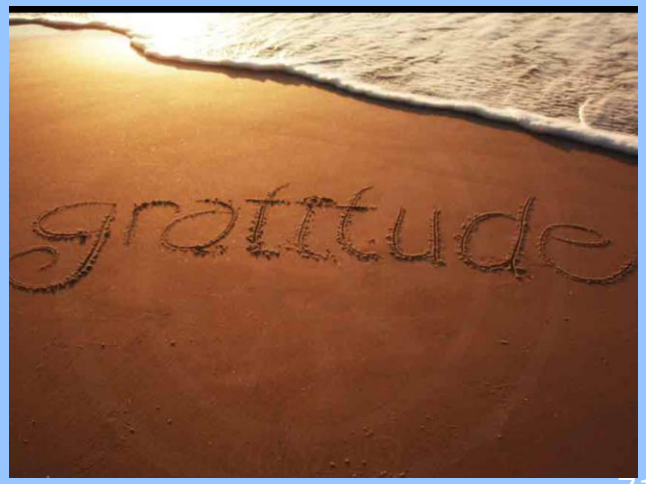
Integrative Oncology Program at SDCC and SDCRI (cont.)

- Regular meetings with practitioners of all the healing arts
- Learn from each others profession and experience
- Support each others journeys
- Educational programs for patients and for the practitioners
- Appreciation dinner twice a year
- Co-created an optimal healing environment
- We continue to meet once a year since 2015

Integrative Oncology Program at SDCRI

Appreciation for SDCRI Volunteers

- **Yoga**: Daniela Caniglia, Justine Shelton
- **Nutrition**: Mary Hollander, R.N., Jessica Leibovich
- **Massage**: Teri Polley R.N., Raquel Ramos, Maureen Miner, Cathy Ziska, Yukari Kono, Angelic Rendon, Dana Wylie, John Chang
- **Acupuncture**: Kim Taylor, Dodie Hemingway, Joe Voss, Mary Fong, John Chang
- **Support Groups**: Dr. Paul Brenner, Maura McBratney, Erin Graves
- **Mindfulness**: Diana Shimkus, Pete Kirchmer
- **Art**: Alessandra Colfi Ph.D., Juli Shelton
- **Qi gong**: Fay McGrew, Reyna Lerma
- **Biofeedback**: Suzie Lemmons
- **Biofield Therapies** (see separate slide)
- **Pet therapy:** Norma Spencer, Teri Polley, R.N.



Biofield therapies at SDCRI

- Mary Hollander, R.N.
- Daniela Caniglia
- Maura McBratney
- Blanca Noel
- Lynn Sawyer
- Eric Sjoberg
- Janice Motley
- Maria Melendrez
- Todd Sargeant
- Natasha Jaksch

U.C. San Diego Cancer Center
Oncology R.N.'s (Infusion room)