

## "Introducción a la Oncología Integrativa"

### **Expositor: Dr. Daniel Vicario**

Oncólogo Clínico y Oncólogo Integrativo. Fundador, San Diego Cancer Center (SDCC) Director Médico y Director de Oncología Integrativa - San Diego Cancer Research Institute (SDCRI)

Viernes 17/9 18 hs Argentina. Por ZOOM
Organizan:





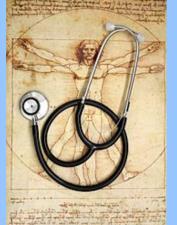
## INTRODUCCION A LA ONCOLOGIA INTEGRATIVA

Septiembre 17, 2021

#### Daniel Vicario, M.D., ABIHM

Medical Oncology and Integrative Oncology
Medical Director and Director, Integrative Oncology
San Diego Cancer Research Institute. 501 (c) (3)
Co-Founder, San Diego Cancer Center (now U.C. SDCC)
Former Medical Director, SDCC and U.C. San Diego Cancer Center
Director, Medicine of the Soul Foundation
Integrative Oncology, Pacific Pearl Center, La Jolla, CA
Clinical Professor of Medicine,

University of California San Diego (UCSD)





## Temas/objetivos del encuentro

- Definiciones
- 2. Epigenética
- 3. Causas del cáncer
- 4. Que es la Medicina Integrativa?
- 5. Importancia y beneficios de la Oncología Integrativa
- 6. Modalidades complementarias que mejoran la calidad de vida en pacientes oncológicos.
  - Se han publicado innumerables artículos científicos
- 7. Formas de empoderamiento durante el cáncer y su tratamiento
- 8. "Apoyar a los pacientes con cáncer en su camino de sanación"



Intención de traer en este encuentro: nuestros familiares, seres queridos, amigas/os, compañeras/os de trabajo, que tienen o han tenido cáncer. Podemos honrarlos y sostenerlos en nuestro corazón.





## **Definiciones**

- Medicina complementaria (<u>no uso</u> la palabra alternativa)
- Medicina holística
- Medicina Integrativa
- Oncología Integrativa
- Curación
- Verdadera sanación
- Epigenética



## **Epigenética**

## La expresión genética está influenciada por muchos factores, que activan o desactivan los genes:

- 1. Hormonas, metabolitos, alimentos, microbioma, productos químicos, fármacos, etc.
- 2. Medio ambiente: luz, temperatura, radiación, etc.
- 3. Estilo de vida
- 4. Interacciones sociales
- 5. Pensamientos. Emociones
- 6. Eventos traumáticos
- Otros factores







## $\mathbf{Carcinogenesis}$

Carcinogenesis. 2010 Jan; 31(1): 27-36.

Published online 2009 Sep 13. doi: 10.1093/carcin/bgp220

PMCID: PMC2802667

PMID: <u>19752007</u>

#### Epigenetics in cancer

#### Epigenética en cáncer

Shikhar Sharma, 1,2 Theresa K. Kelly, 1 and Peter A. Jones 1,\*

► Author information ► Article notes ► Copyright and License information <u>Disclaimer</u>

This article has been cited by other articles in PMC.

Abstract Go to: ♥

Epigenetic mechanisms are essential for normal development and maintenance of tissue-specific gene expression patterns in mammals. Disruption of epigenetic processes can lead to altered gene function and malignant cellular transformation. Global changes in the epigenetic landscape are a hallmark of cancer. The initiation and progression of cancer, traditionally seen as a genetic disease, is now realized to involve epigenetic abnormalities along with genetic alterations. Recent advancements in the rapidly evolving field of cancer epigenetics have shown extensive reprogramming of every component of the epigenetic machinery in cancer including DNA methylation, histone modifications, nucleosome positioning and non-coding RNAs, specifically microRNA expression. The reversible nature of epigenetic aberrations has led to the emergence of the promising field of epigenetic therapy, which is already making progress with the recent FDA approval of three epigenetic drugs for cancer treatment. In this review, we discuss the current understanding of alterations in the epigenetic landscape that occur in cancer compared with normal cells, the roles of these changes in cancer initiation and progression, including the cancer stem cell model, and the potential use of this knowledge in designing more effective treatment strategies.



Porqué nuestro ADN no es nuestro destino.

La nueva ciencia de epigenética revela cómo nuestras situaciones, circunstancias y/o las decisiones que tomamos pueden cambiar nuestra respuesta genética, la de nuestros hijos y nietos

## European Journal of Human Genetics

25 April 2007

Search go Advanced search

Journal home > Archive > Articles > Abstract

#### Journal home

#### Advance online publication

i.. About AOP

#### Current issue

#### Archive

#### **Practical Genetics**

**Gene Cards** 

Focuses

News

*≡[*]Online submission

For authors

For referees

Contact editorial office

About the journal

About the society

For librarians

Subscribe

Advertising

Reprints and permissions

Contact NPG

Customer services

Site features

#### Society resources

Society home



Respuesta transgeneracional a la nutrición, circunstancias tempranas de la vida y longevidad.

European Journal of Human Genetics (2007) 15, 784–790; doi:10.1038/sj.ejhq.5201832; published online

Transgenerational response to nutrition, early life circumstances and longevity

Gunnar Kaati<sup>1,2</sup>, Lars Olov Bygren<sup>2,3</sup>, Marcus Pembrey<sup>4</sup> and Michael Sjöström<sup>2</sup>

<sup>1</sup>Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden

Correspondence: Dr G Kaati, Department of Public Health and Clinical Medicine, Umeå University, SE-90541 Umeå, Sweden. Tel: § +46 90 7851212; Fax: +46 90 137919; E-mail: Gunnar.Kaati@socmed.umu.se

Received 16 January 2007; Revised 16 March 2007; Accepted 17 March 2007; Published online 25 April 2007.

Abstract - ™

Nutrition might induce, at some loci, epigenetic or other changes that could be transmitted to the next generation impacting on health. The slow growth period (SGP) before the prepubertal peak in growth velocity has emerged as a sensitive period where different food availability is followed by different transgenerational response (TGR). The aim of this study is to investigate to what extent the probands own childhood circumstances are in fact the determinants of the findings. In the analysis, data from three random samples, comprising 271 probands and their 1626 parents and grandparents, left after exclusions because of missing data, were utilized. The availability of food during any given year was classified based on regional statistics. The ancestors' SGP was set at the ages of 8-12 years and the availability of food during these years classified as good, intermediate or poor. The probands' childhood circumstances were defined by the father's ownership of land, the number of siblings and order in the sibship, the death of parents and the parents' level of literacy. An earlier finding of a sex-specific influence from the ancestors' nutrition during the SGP, going from the paternal grandmother to the female proband and from the paternal grandfather to the male proband, was confirmed. In addition, a response from father to son emerged when childhood social

#### ABSTRACT

◆ Previous | Next ▶

Table of contents

Full text

Download PDF

☑ Send to a friend

Dena to a ment

Rights and permissions

Order Commercial Reprints

CrossRef lists 104 article s citing

this article

Scopus lists 152 articles citing this

▼ Abstract

Export citation

Papers by Kaati

#### naturejobs

Faculty Positions Available in Southwest University

SOUTHWEST UNIVERSITY

Scientist / Sr. Scientist, Immunology, Valera

Valera LLC

More science jobs

Post a job

#### natureevents

Conference on Cell & Gene Therapy for HIV Cure 2015 13 August 2015 — 14 August 2015

<sup>&</sup>lt;sup>2</sup>Department of Biosciences and Nutrition, Karolinska Institutet, Stockholm, Sweden

<sup>&</sup>lt;sup>3</sup>Department of Community Medicine and Rehabilitation, Umeå University, Umeå, Sweden

<sup>&</sup>lt;sup>4</sup>Clinical and Molecular Genetics Unit, Institute of Child Health, University College, London, UK

## ¿Qué causa el cáncer?



- Múltiples factores
- Factores hereditarios. Predisposición genética
- Oncogenes (genes del cáncer) demasiado expresados o activados
- Genes supresores de tumores (poco expresados/activados)
- Factores medio-ambientales
- Factores de riesgo por el estilo de vida
- Influencias epigenéticas
- Mutaciones: errores de replicación del ADN.
- Mutaciones al azar (aleatorias)





### Errores de replicación del ADN. Mutaciones al azar (aleatorias)

CANCER ETIOLOGY

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

Cristian Tomasetti, 1,2\* Lu Li, Bert Vogelstein \*\*

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.

t 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

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

8

Fig. 1. Correlations between stem cell divisions and cancer

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 =  $1.3 \times$  $10^{-4}$ ; full range:  $2.2 \times 10^{-5}$  to  $6.7 \times 10^{-3}$ ). The median correlation was 0.80 (95% range: 0.67

## **Medicina Integrativa**

#### Especialidad médica que



- Incorpora el arte y la ciencia de cuidar a la persona en su totalidad (cuerpo, mente, espíritu) para prevenir y tratar enfermedades
- Recomienda tratamientos naturales que complementan los tratamientos médicos
- Empodera a los pacientes para crear una condición de salud, bienestar y sanación óptima
- Incorpora terapias naturales basadas en <u>evidencia</u> científica, disciplinas y modalidades de sanación complementarias en el cuidado de pacientes y sus cuidadores/familiares.
- Garantiza la <u>seguridad</u> y <u>eficacia</u> de estas terapias
- Academia de Medicina y Salud Integrativa (AIHM)



About -

Fellowship +

Conferences -

eLearning

Membership -

Donate





#### Welcome to the Academy of Integrative Health & Medicine

The Academy of Integrative Health & Medicine (AIHM) is an interprofessional association embracing a person-centered, teambased approach to health creation. We provide transformational educational programs, connections to a global network and valuable resources for our community.

Become a Member

## Oncología Integrativa

- Especialidad Oncológica que sigue evolucionando
- Sigue los mismos principios de la Medicina Integrativa



- Centrada en el paciente. El enfoque es en la salud, el bienestar y el apoyo al proceso de sanación de los pacientes con cáncer.
- Muy deseada y solicitada por los pacientes, los familiares, el personal de los centros oncológicos y la sociedad en general
- Apoya también a todo el personal médico (enfermeras, médicos, técnicos, asistentes, recepcionistas, etc.)
- Mantiene un entorno de sanación óptimo para los pacientes, sus seres queridos, cuidadores, profesionales integrativos, enfermeras, médicos, y todo el personal.
- Sociedad establecida de Oncología Integrativa (SIO)



About Us Clinicians Researchers Professional Development Media Center **Patients** 

#### **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 initiative Denations will be directly to Tuba Cit

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 Where's the Evidence?"

Herbal Medicine in COVID-19 -

#### **Events Calendar**

Deadline for TREC applications 15

SIO 2021 18th International Conference 24

Webinar presentation by Weidong Lu, MB, MPH, PhD

## Programas de Oncología Integrativa en USA

- University of California, San Diego
- University of California, Irvine
- University of California, Los Angeles
- University of California, San Francisco
- University of Texas MD Anderson Cancer Center, Houston
- Dana Farber Cancer Institute, Boston
- Memorial Sloan-Kettering, New York
- Johns Hopkins Cancer Center, Baltimore, Maryland
- Cleveland Clinic Cancer Center
- Cada vez hay más, especialmente en centros de buena reputación



doi: 10.1093/jnci/djx145 First published online August 10, 2017 Brief Communication

BRIEF COMMUNICATION

El uso de medicina "alternativa" en pacientes con cáncer fue asociado con complicaciones más severas de salud (no la Medicina Integrativa)

### Use of Alternative Medicine for Cancer and Its Impact on Survival

Skyler B. Johnson, Henry S. Park, Cary P. Gross, James B. Yu

Affiliations of authors: Department of Therapeutic Radiology, Yale School of Medicine, New Haven, CT (SBJ, HSP, JBY); Cancer Outcomes, Public Policy, and Effectiveness Research (COPPER) Center, Yale School of Medicine, New Haven, CT (CPG, JBY).

Correspondence to: Skyler B. Johnson, MD, Department of Therapeutic Radiology, Yale School of Medicine, HRT 138, 333 Cedar St, New Haven, CT 06520 (e-mail: skyler. johnson@yale.edu).

#### Abstract

There is limited available information on patterns of utilization and efficacy of alternative medicine (AM) for patients with cancer. We identified 281 patients with nonmetastatic breast, prostate, lung, or colorectal cancer who chose AM, administered as sole anticancer treatment among patients who did not receive conventional cancer treatment (CCT), defined as chemotherapy, radiotherapy, surgery, and/or hormone therapy. Independent covariates on multivariable logistic regression associated with increased likelihood of AM use included breast or lung cancer, higher socioeconomic status, Intermountain West or Pacific location, stage II or III disease, and low comorbidity score. Following 2:1 matching (CCT = 560 patients and AM = 280 patients) on Cox proportional hazards regression, AM use was independently associated with greater risk of death compared with CCT overall (hazard ratio [HR] = 2.50, 95% confidence interval [CI] = 1.88 to 3.27) and in subgroups with breast (HR = 5.68, 95% CI = 3.22 to 10.04), lung (HR = 2.17, 95% CI = 1.42 to 3.32), and colorectal cancer (HR = 4.57, 95% CI = 1.66 to 12.61). Although rare, AM utilization for curable cancer without any CCT is associated with greater risk of death.

Delay or refusal of conventional cancer treatment (CCT), when done in favor of alternative medicine (AM), may have serious survival implications for cancer patients (1–7). However, there is limited research evaluating the use and effectiveness of AM, partly due to data scarcity or patient hesitance to disclose non-medical therapy to their providers (8,9). To address this knowledge gap, we used the four most prevalent cancers (breast, prostate, lung, and colorectal) in the United States (10) from the

Demographic and clinical factors were evaluated using the chi-square test and the t test for categorical and continuous variables, respectively. Independent associations with AM use (vs CCT alone) were identified using multivariable logistic regression. Two-to-one nearest-neighbor propensity score matching without replacement was performed to compare overall survival (OS). Univariate survival analyses were completed using the Kaplan-Meier estimator, log-rank test, and Cox proportional

## Beneficios de la oncología integrativa

- Disminuye los síntomas de cáncer y sus tratamientos.
- Disminuye visitas médicas
- Mejora la calidad de vida de los pacientes y sus cuidadores
- Disminución de hospitalizaciones
- Apoya al equipo médico y su entorno
- Reducción de los costos sanitarios
- Educación
- Investigación
- Colaboración



### Colaboraciones de Oncología Integrativa en California

























## Journal NCI: Medicina Integrativa en pacientes hospitalizados con cáncer les disminuyó el dolor y la ansiedad en un 50%!

#### Effects of Integrative Medicine on Pain and Anxiety Among Oncology Inpatients

Jill R. Johnson, Daniel J. Crespin, Kristen H. Griffin, Michael D. Finch, Jeffery A. Dusek

Correspondence to: Jill R. Johnson, PhD, MPH, Penny George Institute for Health and Healing, 800 East 28th Street, MR 33540, Minneapolis, MN 55407-3799 (e-mail: Jill.Johnson3@allina.com)

Background

Few studies have investigated the effectiveness of integrative medicine (IM) therapies on pain and anxiety

among oncology inpatients.

Methods

Retrospective data obtained from electronic medical records identified patients with an oncology International Classification of Diseases-9 code who were admitted to a large Midwestern hospital between July 1, 2009 and December 31, 2012. Outcomes were change in patient-reported pain and anxiety, rated before and after indi-

vidual IM treatment sessions, using a numeric scale (0-10).

Results

Of 10 948 hospital admissions over the study period, 1833 (17%) included IM therapy. Older patients had reduced odds of receiving any IM therapy (odds ratio [OR]: 0.97, 95% confidence interval [95% CI] = 0.96 to 0.98) and females had 63% (OR: 1.63, 95% CI = 1.38 to 1.92) higher odds of receiving any IM therapy compared with males. Moderate (OR: 1.97, 95% CI = 1.61 to 2.41), major (OR: 3.54, 95% CI = 2.88 to 4.35), and extreme (OR: 5.96, 95% CI = 4.71 to 7.56) illness severity were significantly associated with higher odds of receiving IM therapy compared with admissions of minor illness severity. After receiving IM therapy, patients averaged a  $\frac{46.9\%}{46.9\%}$  (95% CI = 45.1% to 48.6%, P < 0.001) reduction in pain and a  $\frac{56.1\%}{95\%}$  CI =  $\frac{54.3\%}{10.25\%}$  to  $\frac{58.0\%}{10.25\%}$  reduction in anxiety. Bodywork and traditional Chinese Medicine therapies were most effective for reducing pain, while no significant differences among therapies for reducing anxiety were observed.

Conclusions

IM services to oncology inpatients resulted in substantial decreases in pain and anxiety. Observational studies using electronic medical records provide unique information about real-world utilization of IM. Future studies are warranted and should explore potential synergy of opioid analgesics and IM therapy for pain control.

**→** J

J Natl Cancer Inst Monogr 2014;50:330-337

Pain is a common, often debilitating symptom of cancer and a

The evidence base for integrative oncology among inpatients

## INTEGRATIVE ONCOLOGY



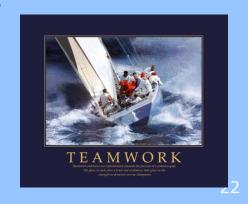
DONALD ABRAMS
AND ANDREW WEIL

VEIL INTEGRATIVE



## Rol de un oncólogo integrativo

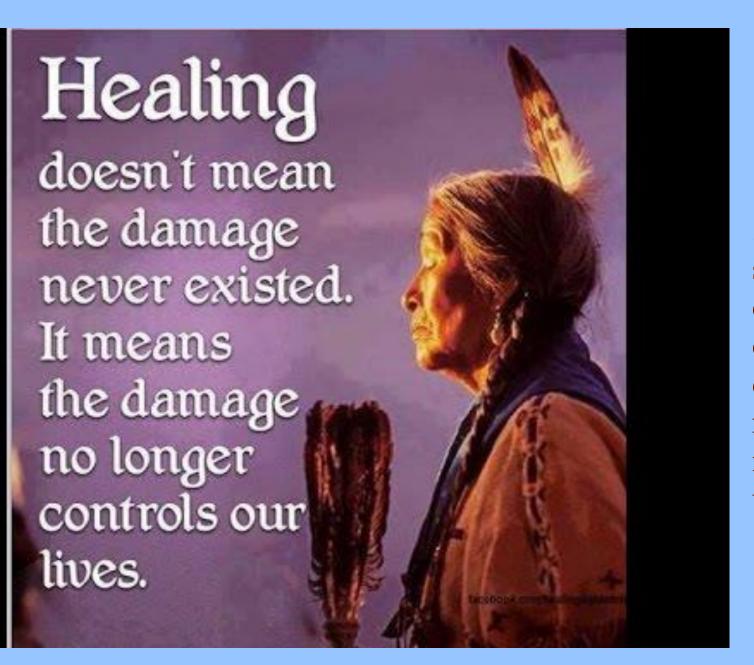
- Crear planes de tratamientos integrativos durante y después del tratamiento convencional contra el cáncer.
- Ayudar a los pacientes y familiares a descifrar/entender tantos datos e información del internet y otros lugares (confuso para todos)
- Asesorar a los pacientes sobre los beneficios y posibles riesgos de todas las opciones y modalidades de tratamiento.
- Ayudar a los pacientes a aceptar la quimioterapia y las recomendaciones médicas convencionales.
- Empoderar a los pacientes. Dar esperanza y tranquilidad de espíritu.
- Apoyar a los oncólogos, enfermeras y personal del centro oncológico.
- Colaborar con los profesionales Integrativos
- Educación: estudiantes, residentes, todo el personal medico
- Investigación



## Tradiciones Integrativas de sanación

- Hipócrates: padre de la medicina (400 a. C.)
- Medicina Osteopática
- Medicina de naturopatía
- Medicina Ayurvédica
- Medicina tradicional china (MTC)
- Medicina nativa americana
- Medicina Tibetana
- Otras tradiciones antiguas de sanación





Sanación no significa que el daño nunca existió, sino que el daño no controla más nuestras vidas

### Prevenir el cáncer ó su recurrencia

- Cambios en el estilo de vida
- Nutrición (árbol de la vida)
- Ejercicio. Movimiento. Buena respiración
- Manejo del estrés (con todas las técnicas disponibles)
- Descanso y buen dormir
- Desintoxicación (en todos los aspectos)
- Sentirse en control. Empoderamiento. Paz interior
- Homeostasis. Autorregulación
- Considerar algunas y/o varias de las disciplinas que cubriremos ahora





## Modalidades integrativas/complementarias durante el cáncer

- Ejercicio suave y aeróbico
- Nutrición
- Yoga: disciplina integral (holística). Maestros de yoga: "es un estilo de vida"
- Medicina Tradicional China. Acupuntura
- Masaje
- Grupos de Apoyo
- Meditación
- Medicina Energética
- Larga lista que sigue



- "Que tu alimento sea tu medicina, y tu medicina sea tu alimento"
  - Hipócrates, 460-370 a. C.





## Nutrición durante el tratamiento del cáncer

- Extensos estudios científicos
- Alimentos integrales, a base de plantas
- Orgánica. Recién preparada
- · Programas de nutrición: individualizados, personalizados
- Situaciones especiales (en casos individuales!)
  - restricción moderada de carbohidratos
  - ayuno intermitente
- Crear un ambiente tranquilo y relajado
- Sin extremos. Todo es cuestión de equilibrio
- Preguntas especificas: lácteos; comidas grasas; comidas ácidas vs. alcalinas
- Bendición de la comida, la fuente, quienes la prepararon y con quienes la compartimos



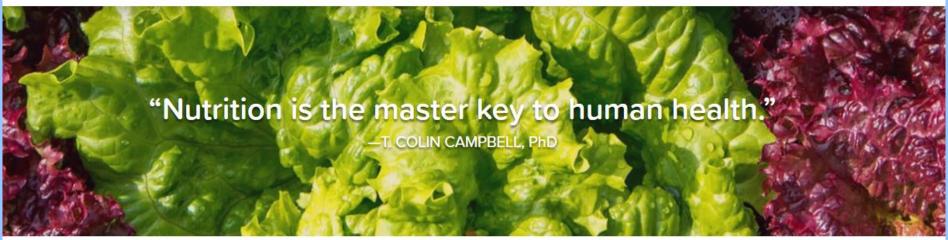




search

Q

The Guide Recipes Topics Courses About Español



Intro

The Guide

Plant-Based Shopping

Success Stories

**Get Started** 



### "Alimentos integrales, a base de plantas" 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.

## Botánicos, hierbas y suplementos

- Lista muy larga
- Potenciales riesgos y efectos secundarios.
- Varias hierbas tienen efectos poderosos
  - antioxidantes
  - antiinflamatorios
  - propiedades antineoplásicas (contra el cancer)
- Algunos pueden contrarrestar el beneficio de medicamentos.
- · La medicina herbaria es una especialidad
- Profesionales con experiencia



## Curcumina (cúrcuma)

- Varios estudios científicos en tratamientos contra el cáncer
- Efecto Antiinflamatorio potente
- Antioxidante
- Puede mejorar la actividad de la quimioterapia?
- Puede proteger los efectos adversos de la quimioterapia?
   (corazón, hígado, rinones, cerebro, etc.)
- Puede superar la quimio-resistencia?
- Cual es la dosis ideal?
- Hace falta más investigación





## Botánicos, hierbas y suplementos (cont.)

- Probióticos: microorganismos vivos destinados a mantener o mejorar las bacterias "buenas" (microbioma intestinal normal)
- Hierbas ayurvédicas
- Medicina tradicional china
- Tratamiento de llagas en la boca (mucositis)
  - Lisina
  - Glutamina
- Ácido alfa lipoico
  - Prevención y tratamiento de la neuropatía
- Aloe vera: piel (después de rayos); Gastrointestinal; etc.







Raíz de Jenjibre — Té de jenjibre Para náuseas, vómitos, digestion, problemas gastrointestinales

## Botánicos, hierbas y suplementos (cont.)

- Para mejorar la alteración del sabor: jengibre, miel, limón, sal negra (Ayurveda)
- Vitamina D
- Vitamina C
- Melatonina
- Aromaterapia
- Homeopatía
- Hongos medicinales: Reishi, Maitake (larga lista)
- Cannabis Medicinal
- Muchos más. Este es un breve resumen.







#### JOURNAL OF CLINICAL ONCOLOGY

#### ORIGINAL REPORT

Estudios de Investigación Cientifica. Yoga mejora la fatiga, depresión, insomnia y la calidad de vida

#### Randomized, Controlled Trial of Yoga in Women With Breast Cancer Undergoing Radiotherapy

Kavita D. Chandwani, George Perkins, Hongasandra Ramarao Nagendra, Nelamangala V. Raghuram, Amy Spelman, Raghuram Nagarathna, Kayla Johnson, Adoneca Fortier, Banu Arun, Qi Wei, Clemens Kirschbaum, Robin Haddad, G. Stephen Morris, Janet Scheetz, Alejandro Chaoul, and Lorenzo Cohen

See accompanying article on page 1040

ter Medical Center, Rochester, NY; Kavita D. Chandwani, George Perkins, Amy Spelman, Kayla Johnson, Adoneca Fortier, Banu Arun, Oi Wei, Robin Haddad, Janet Scheetz, Alejandro Chaoul, and Lorenzo Cohen, The University of Texas MD Anderson Cancer Center, Houston, TX; G. Stephen Morris, St. Jude Children's Research Hospital, Memphis, TN; Hongasandra Ramarao Nagendra, Nelemangala V. Raghuram, Raghuram Nagarathna, Swami Vivekananda Yoga Anusandhana Samsthana, Bengaluru, India; and Clemens Kirschbaum, Technical University of Dresden, Dresden, Germany.

Kavita D. Chandwani, University of Roches-

Published online ahead of print at www.jco.org on March 3, 2014.

Supported in part by Grants No.
R21CA102385 and R01CA138800 from
the National Cancer Institute; the
National Cancer Institute Cancer Center
Support Grant No. CA016672; National
Cancer Institute Grant No. R25CA10618;
and philanthropic support for the Integrative Medicine Program, The University of
Texas MD Anderson Cancer Center.

Presented in part at the American
Psychosomatic Society Annual Meeting, San Antonio, TX, March 2011; the
American Society of Clinical Oncology
Annual Meeting, Chicago, IL, June
2011; and the International Congress of
North American Consortium of Complex

#### ABSTRACT

#### Purpose

Previous research incorporating yoga (YG) into radiotherapy (XRT) for women with breast cancer finds improved quality of life (QOL). However, shortcomings in this research limit the findings.

#### Patients and Methods

Patients with stages 0 to III breast cancer were recruited before starting XRT and were randomly assigned to YG (n = 53) or stretching (ST; n = 56) three times a week for 6 weeks during XRT or waitlist (WL; n = 54) control. Self-report measures of QOL (Medical Outcomes Study 36-item short-form survey; primary outcomes), fatigue, depression, and sleep quality, and five saliva samples per day for 3 consecutive days were collected at baseline, end of treatment, and 1, 3, and 6 months later.

#### Results

The YG group had significantly greater increases in physical component scale scores compared with the WL group at 1 and 3 months after XRT (P=.01 and P=.01). At 1, 3, and 6 months, the YG group had greater increases in physical functioning compared with both ST and WL groups (P<.05), with ST and WL differences at only 3 months (P<.02). The group differences were similar for general health reports. By the end of XRT, the YG and ST groups also had a reduction in fatigue (P<.05). There were no group differences for mental health and sleep quality. Cortisol slope was steepest for the YG group compared with the ST and WL groups at the end (P=.023 and P=.008) and 1 month after XRT (P=.05 and P=.04).

#### Conclusion

YG improved QOL and physiological changes associated with XRT beyond the benefits of simple ST exercises, and these benefits appear to have long-term durability.

J Clin Oncol 32:1058-1065. © 2014 by American Society of Clinical Oncology

# Yoga: Disminuye la fatiga, inflamación y mejora el estado de ánimo

# 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.

© 2014 by American Society of Clinical Oncology

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- $\alpha$ ), and interleukin-1 $\beta$  (IL-1 $\beta$ ), 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- $\alpha$  (P = .027), and IL-1 $\beta$  (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-1 $\beta$  (P = .03) production but not in TNF- $\alpha$  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.

J Clin Oncol 32:1040-1049. © 2014 by American Society of Clinical Oncology

# Medicina Tradicional China y acupuntura



- Enfoque de sistemas completos: cuerpo-mente-energía
- Puntos de acupuntura. Meridianos
- Chi (Qi: energía vital)
- Extensa literatura científica
- Mejora los síntomas causados por el cáncer.
- Aminora los efectos secundarios y disminuye la toxicidad
- Mejora el efecto terapéutico de los tratamientos médicos.
- Recuperación. Restaurar la salud, la inmunidad y el bienestar.



# Acupuntura en Oncología

- Mejor control del dolor
- Xerostomía (sequedad de boca) después de radioterapia de cabeza y cuello
- Náuseas, vómitos
- Anorexia. Pérdida de peso
- Síntomas vasomotores (calores y traspiración)
- Neuropatía
- Fatiga
- Estrés, miedo, ansiedad, depresión.
- Regulación de las funciones corporales
- Promueve la sensación de bienestar y mejora la calidad de vida



# Mejora las olas de calor y traspiración

# 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. © 2016 by American Society of Clinical Oncology

# Dolores articulares causado por los anti-estrógenos

From the Department of Medicine and the Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons; Department of Epidemiology and Biostatistics, Mailman School of Public Health, Columbia University, New York, NY; and Department of Statistics, National Cheng Kung University, Tainan, Taiwan.

Submitted April 3, 2009; accepted October 28, 2009; published online ahead of print at www.jco.org on January 25, 2010.

Supported in part by a Lance Armstrong Young Investigator Award (K.D.C.) and an Advanced Clinical Research Award from the American Society of Clinical Oncology with funding from AVON Products Foundation and the Breast Cancer Research Foundation (D.L.H.).

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

Clinical Trials repository link available on JCO.org.

Corresponding author: Dawn L. Hershman, MD, MS, Columbia University, 161 Fort Washington Ave, 10-1068, New York, NY 10032; e-mail: dlh23@columbia.edu.

# Randomized, Blinded, Sham-Controlled Trial of Acupuncture for the Management of Aromatase Inhibitor—Associated Joint Symptoms in Women With Early-Stage Breast Cancer

Katherine D. Crew, Jillian L. Capodice, Heather Greenlee, Lois Brafman, Deborah Fuentes, Danielle Awad, Wei Yann Tsai, and Dawn L. Hershman

# ABSTRACT

# **Purpose**

Women with breast cancer (BC) treated with aromatase inhibitors (Als) may experience joint symptoms that can lead to discontinuation of effective therapy. We examined whether acupuncture improves Al-induced arthralgias in women with early-stage BC.

## Methods

We conducted a randomized, controlled, blinded study comparing true acupuncture (TA) versus sham acupuncture (SA) twice weekly for 6 weeks in postmenopuasal women with BC who had self-reported musculoskeletal pain related to Als. TA included full body/auricular acupuncture and joint-specific point prescriptions, whereas SA involved superficial needle insertion at nonacupoint locations. Outcome measures included the Brief Pain Inventory–Short Form (BPI-SF), Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and Modified Score for the Assessment of Chronic Rheumatoid Affections of the Hands (M-SACRAH) obtained at baseline and at 3 and 6 weeks.

# Results

Of 51 women enrolled, 43 women were randomly assigned and 38 were evaluable. Baseline characteristics were comparable between the two groups. Our primary end point was the difference in mean BPI-SF worst pain scores at 6 weeks, which was lower for TA compared with SA (3.0 v5.5; P< .001). We also found differences between TA and SA in pain severity (2.6 v4.5; P = .003) and pain-related interference (2.5 v4.5; P = .002) at 6 weeks. Similar findings were seen for the WOMAC and M-SACRAH scores. The acupuncture intervention was well-tolerated.

# Conclusion

Women with Al-induced arthralgias treated with TA had significant improvement of joint pain and stiffness, which was not seen with SA. Acupuncture is an effective and well-tolerated strategy for managing this common treatment-related side effect.

J Clin Oncol 28:1154-1160. © 2010 by American Society of Clinical Oncology

© 2010 by American Society of Clinical

# Mejora la fatiga relacionada al cáncer

# Acupuncture for <u>Cancer-Related Fatigue</u> in Patients With Breast Cancer: A <u>Pragmatic Randomized</u> 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.

Corresponding author: Alexander Molassiotis, RN, PhD, Professor of Cancer and Supportive Care, University of Manchester, School of Nursing, University Place, Manchester M13 9PL, United Kingdom; e-mail: alex .molassiotis@manchester.ac.uk.

© 2012 by American Society of Clinical Oncology

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.

Address reprint requests to Jeanette Ezzo, MPH, PhD, Director of Research, JPS Enterprises, 1905 W Rogers Ave, Baltimore, MD 21209; e-mail: jeanetteezzo@prodigy.net.

© 2005 by American Society of Clinical Oncology

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% Cl, 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% Cl, 0.58 to 0.94; P = .01), but not acute nausea severity. Electroacupuncture reduced the proportion of acute vomiting (RR = 0.76; 95% Cl, 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% Cl, -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

# Masaje terapéutico en cáncer



- Eficacia: muy eficaz
- ¿Es seguro en el cáncer? SI (en las manos adecuadas)
- Indicaciones: ¡múltiples razones!
- Profesionales con experiencia específica:
  - Riesgo de infecciones
  - Riesgo de trombosis venosa profunda (coágulos)
  - Riesgo de fracturas (metástasis ósea)
  - Sensibilidad de la piel (por radiación y/o quimioterapia)
- Terapia de linfedema
- Requiere un entrenamiento especial



ReCAPs (Research
Contributions Abbreviated for
Print) provide a structured,
one-page summary of each
paper highlighting the main
findings and significance of
the work. The full version of
the article is available online at
jop.ascopubs.org.

Memorial Sloan Kettering Cancer Center, New York, NY; and Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA

Corresponding author: Jun J. Mao, MD, MSCE, Memorial Sloan Kettering Cancer Center, Bendheim Integrative Medicine Center, 1429 First Ave, New York, NY 10021; e-mail: maoj@mskcc.org.

Disclosures provided by the authors are available with this article at jop.ascopubs.org.



DOI: 10.1200/JOP.2016.015081; published online ahead of print at jop.ascopubs.org on January 3, 2017.

# Integrating Oncology Massage Into Chemoinfusion Suites: A Program Evaluation

Jun J. Mao, Karen E. Wagner, Christina M. Seluzicki, Audra Hugo, Laura K. Galindez, Heather Sheaffer, and Kevin R. Fox

QUESTION ASKED: Can a clinical oncology massage program be safely and effectively integrated into chemoinfusion units to provide symptom control for patients with breast cancer receiving chemotherapy?

**SUMMARY ANSWER:** A clinical oncology massage program can be safely and effectively implemented into chemoinfusion suites by addressing common patient-level barriers to access of cost, time, and travel, and the institutional-level barrier of space.

WHAT WE DID: We developed an integrative oncology massage program for patients with breast cancer in private chemoinfusion suites at an academic hospital and evaluated its outcomes using tablet-based technology.

WHAT WE FOUND: The program was well received with no adverse events noted. Patients reported significant decreases in anxiety, nausea, pain, and fatigue.

BIAS, CONFOUNDING FACTORS, REAL-LIFE IMPLICATIONS: We evaluated the immediate effect of oncology massage on symptom control. This approach, along with the potential for bias due to social desirability and the lack of a control group, may overestimate the benefit of massage. Despite the limitations, our study provides initial evidence that an oncology massage program can be safely and effectively integrated into chemoinfusion suites to provide symptom relief to patients with breast cancer.



MSK/ASCO: Masaje oncológico en la sala de infusion de quimio: disminución de ansiedad, náusea, dolor y fatiga

# Grupos de apoyo

- Pacientes
- Familiares, Cuidadores
- Niños
- Enfoque en equipo:
  - Psicólogos y consejeros
  - Servicios sociales
- Grupos de autoayuda:
  - Como MACMA y 3 a 5 cáncer de mama
  - Como dice Alice: "co-guerreras"
- Dr. Carl Simonton: pionero en psico-neuroinmunología
- APOS: Sociedad Americana de Oncología Psicosocial





About •

Professionals •

Conferences •

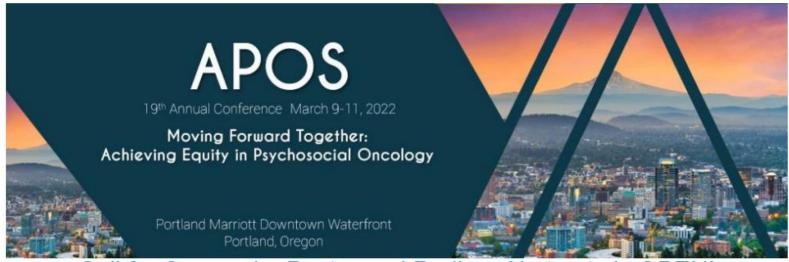
Awards •

Membership

Early Career

# 2022 Annual Conference

# Save the Date!



Call for Symposia, Poster and Podium Abstracts is OPEN!

Call for Proposals HERE

Dan-Illina



# Técnicas de empoderamiento

- Visualización
- Contemplación
- Bio-retroalimentación
- Realidad Virtual
- Mindfulness (MBSR)
  - Técnica especial de meditación
  - Jon Kabat-Zinn: Profesor emérito de medicina
- Meditación (varias otras técnicas)
- Oracion. Plegarias





# **Mindfulness Meditation**

Practices with Jon Kabat-Zinn

Home About ▼ Calendar Scientific Papers Books

New Video: Not Losing Our Minds and Hearts When We Most Need Them: Mindfulness, Healing, and Wisdom in a Time of COVID-19.

# Jon Kabat-Zinn

Jon's books and guided meditation programs describe meditation practice in such commonsensical, relevant, and compelling terms that mindfulness meditation practice has become a way of life for thousands of people. His work has contributed to a growing movement of mindfulness into mainstream institutions in our society such as medicine, health care and hospitals, schools, higher education, corporations, prisons, the legal profession, and professional sports.



Speaking Schedule

# 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

# Mejora multiples sintomas

# 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

Cecile A. Lengacher, Sophia Ramesar, Carissa Alinat, Manolete Moscoso, and Kevin E. Kip, University of South Florida College of Nursing; Jong Y. Park and Paul B. Jacobsen, H. Lee Moffitt Cancer Center and Research Institute; Branko Miladinovic and Charles E. Cox, University of South Florida Morsani College of Medicine, Tampa; Richard R. Reich, University of South Florida Sarasota-Manatee, Manatee; Versie Johnson-Mallard, University of Florida, College of Nursing, Gainesville, FL; Carly L. Paterson, National Cancer Institute, Rockville, MD; Pinky Budhrani-Shani, Texas Woman's University, Nelda C. Stark College of Nursing, Houston, TX; and Matthew Goodman, University of Virginia, Charlottesville, VA.

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. © 2016 by American Society of Clinical Oncology

# Mejora el estado de ánimo, calidad de vida y bienestar

Effectiveness of Mindfulness-Based Stress Reduction in Mood, Breast- and Endocrine-Related Quality of Life, and Well-Being in Stage 0 to III Breast Cancer: A Randomized, Controlled Trial

Caroline J. Hoffman, Steven J. Ersser, Jane B. Hopkinson, Peter G. Nicholls, Julia E. Harrington, and Peter W. Thomas

Caroline J. Hoffman and Julia E. Harrington, The Haven, London; Steven J. Ersser, University of Hull, Hull; Jane B. Hopkinson, Cardiff University, Cardiff; Peter G. Nicholls, University of Southampton, Southampton; Peter W. Thomas, Bournemouth University, Bournemouth, United Kingdom.

Submitted December 4, 2010; accepted January 18, 2012; published online ahead of print at www.jco.org on March 19, 2012.

Supported by the Girdlers' Company through the Florence Nightingale Foundation, Harvey White, MD, and The Haven.

Presented at the 8th Annual International Scientific Conference for Clinicians, Researchers and Educators, Centre for Mindfulness, University of Massachusetts, Worcester, MA, April 7-11, 2010, and the 1st British Breast Cancer Research Conference, University of Nottingham, Nottingham, United Kingdom, September 15-17, 2010.

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

Corresponding author: Caroline J. Hoffman, PhD, The Haven, Effie Rd, London SW6 1TB, United Kingdom; e-mail: caroline.hoffman@ thehaven.org.uk.

## A B S T R A C T

## Purpose

To assess the effectiveness of mindfulness-based stress reduction (MBSR) for mood, breast- and endocrine-specific quality of life, and well-being after hospital treatment in women with stage 0 to III breast cancer.

### Patients and Methods

A randomized, wait-listed, controlled trial was carried out in 229 women after surgery, chemotherapy, and radiotherapy for breast cancer. Patients were randomly assigned to the 8-week wibsh program or standard care. Profile of Mood States (POMS; primary outcome), Functional Assessment of Cancer Therapy—Breast (FACT-B), Functional Assessment of Cancer Therapy—Endocrine Symptoms (FACT-ES) scales and the WHO five-item well-being questionnaire (WHO-5) evaluated mood, quality of life, and well-being at weeks 0, 8, and 12. For each outcome measure, a repeated-measures analysis of variance model, which incorporated week 0 measurements as a covariate, was used to compare treatment groups at 8 and 12 weeks.

## Results

There were statistically significant improvements in outcome in the experimental group compared with control group at both 8 and 12 weeks (except as indicated) for POMS total mood disturbance (and its subscales of anxiety, depression [8 weeks only], anger [12 weeks only], vigor, fatigue, and confusion [8 weeks only]), FACT-B, FACT-ES, (and Functional Assessment of Cancer Therapy subscales of physical, social [8 weeks only], emotional, and functional well-being), and WHO-5.

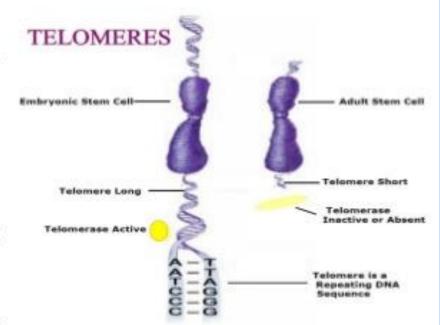
### Conclusion

MSBR improved mood, breast- and endocrine-related quality of life, and well-being more effectively than standard care in women with stage 0 to iii breast cancer, and these results persisted at three months. To our knowledge, this study provided novel evidence that MBSR can help alleviate long-term emotional and physical adverse effects of medical treatments, including endocrine treatments. MBSR is recommended to support survivors of breast cancer.

J Clin Oncol 30:1335-1342. © 2012 by American Society of Clinical Oncology

# Mindfulness and cellular ageing

- Meditation may slow genetic ageing and enhance genetic repair
  - "...we propose that some forms of meditation may have salutary effects on telomere length by reducing cognitive stress and stress arousal and increasing positive states of mind and hormonal factors that may promote telomere maintenance."
    - Epel E, Daubenmier J, Moskowitz JT, Folkman S, <u>Blackburn E</u>. Can meditation slow rate of cellular aging? Cognitive stress, mindfulness, and telomeres. <u>Ann N Y Acad Sci.</u> 2009 Aug;1172:34-53.





La Meditación disminuye el envejecimiento genético

# Terapias de biocampo (Medicina energética)

- "Healing Touch" Manos que Sanan
- "Therapeutic Touch"
- Reiki
- Qi-gong
- · Tai Chi
- Sanación energética: varios nombres, técnicas y prácticas diferentes
- Profesionales con experiencia específica





#### HEALTH PROMOTION

# Growing Healing Touch as supportive cancer care in western New York.

Suzanne M Hess, Lynda M. Beaupin

# Manos sanadoras en pediatria oncológica

## 176

Background: Healing Touch (HT) is a specific energy medicine modality that incorporates several techniques to balance the human energy field to help promote healing. It is a safe and non-invasive therapy that complements traditional, standard care and is recognized by NIH's National Center for Complementary and Integrative Health. HT was first introduced to cancer survivors at our NCI-designated Comprehensive Cancer Center in 2013. We demonstrate HT is well-received and easy to integrate into traditional cancer care. Methods: A Certified Healing Touch Practitioner taught pediatric survivors and families HT techniques, as well as trained staff and volunteers to participate in the pilot program and to offer HT sessions throughout the year. Results: See Table. Qualitative analysis of participant's feedback indicate benefits in the following themes: 1. Physical Symptom Relief 2. Emotional Issue Relief 3. Spiritual/Grief Support 4. Recommendation to Other Patients. Conclusions: Healing Touch is an energy medicine modality that is easy to teach, simple to integrate into routine cancer care, and beneficial for caregivers and survivors alike.

### Year Healing Touch

2012

HT Level I techniques taught to hospital volunteers/staff 8-week pilot program to teach

8-week pilot program to teach
Pediatric Caregivers Level I techniques
30 participants

2013

- 7 pediatric/adolescent survivors, 19 parents/caregivers, 4 siblings
- 8 2-hour sessions

4 Collaboration with Hospice and Palliative Care Center of Western New York Healing Touch for Cancer Survivors and Caregivers

#### Outcomes

5 volunteers 3 hospital staff

- · 50% attended all sessions
- Feedback surveys indicate:
- Training duration was adequate
- Expectations were met
- Would use HT for their children

Trained volunteers Level I techniques 372 sessions given to 115 cancer patients/survivors/caregivers

# **OPTIONS & TOOLS**

**Export Citation** 

• Track Citation

Add To Favorites

**Ø** Rights & Permissions



# **COMPANION ARTICLES**

No companion articles

# **ARTICLE CITATION**

DOI: 10.1200/JCO.2017.35.5\_suppl.176 *Journal of Clinical Oncology* 35, no. 5\_suppl (February 2017) 176-176.

# **WE RECOMMEND**

Pain in Cancer Survivors

Paul A. Glare et al., J Clin Oncol, 2014

Using Experience-Based Design to Improve the Care Experience for Patients With Pancreatic Cancer.

Ann Hagensen et al., J Oncol Pract, 2016

Volunteering in Honduras: Results and Reflections

Linus Chuang et al., J Clin Oncol, 2015

Shared Medical Appointments in Cancer Survivorship Care: A Review of the Literature

Sarah C. Reed et al., J Oncol Pract, 2015

Medical and Nursing Education and Training Opportunities to Improve Survivorship Care Betty R. Ferrell et al., J Clin Oncol, 2006

# GLOBAL ADVANCES

IN HEALTH AND MEDICIN

# Improving Health and Wellbeing Worldwide



Dear guest, we invite you to follow us on social media







HOME

JOURNAL

MULTIMEDIA

FOR AUTHORS

CASE REPORTS

**ADVERTISE** 

ABOUT GAHM

Search

Home > Global Advances in Health and Medicine > Volume 4, Issue suppl > Biofield Science And Healing: An Emerging Frontier in Medicine



November 2015, VOLUME 4, NUMBER suppl

Current | Available

## Related Articles

Articles citing this article:

» Google Scholar

Search for other articles:

By keyword

healing touch

psychoneuroimmunology

bioelectromagnetics

Reiki

medicine

November 2015, Volume 4, Number suppl

INTRODUCTION

« Previous Article I Next Article »

# Biofield Science and Healing: An Emerging Frontier in Medicine

Shamini Jain, PhD; John Ives, PhD; Wayne Jonas, MD; Richard Hammerschlag, PhD; David Muehsam, PhD; Cassandra Vieten, PhD; Daniel Vicario, MD; Deepak Chopra, MD, FACP; Rauni Pritten King, RN, MIH, CHTPI; Erminia Guarneri, MD, FACC

⊠ Share

Ciencia de Terapias de biocampo (Medicina energética) y Sanación

Affiliations: Consciousness and Healing Initiative, San Diego, California; and Department of Psychiatry, University of California, San Diego (Dr Jain)

Samueli Institute, Alexandria, Virginia (Dr Ives)

Samueli Institute, Alexandria, Virginia (Dr Jonas)

Consciousness and Healing Initiative, San Diego, California; and The Institute for Integrative Health, Baltimore, Maryland (Dr Hammerschlag)

Consciousness and Healing Initiative, San Diego, California; and National Institute of Biostructures and Biosystems, VID Art Science, Bologna, Italy (Dr Muehsam)

Institute of Noetic Sciences, Petaluma, California, and California Pacific Medical Center Research Institute (Dr Vieten)

San Diego Cancer Research Institute and Moores Cancer Center, University of California, San Diego (Dr Vicario)

Department of Family Medicine and Public Health, University of California, San Diego, the Chopra Center for Wellbeing, Chopra Foundation, and Kellogg School of Management, Evanston, Illinois (Dr Chopra)

Miraglo Foundation, San Diego, California, Guarneri Integrative Health, and Academy of Integrative Health and Medicine, Duluth, Minnesota (Ms King)

Miraglo Foundation, San Diego, California, Guarneri Integrative Health, and Academy of Integrative Health and Medicine, Duluth, Minnesota (Dr Guarneri)

Correspondence: sjain@ucsd.edu

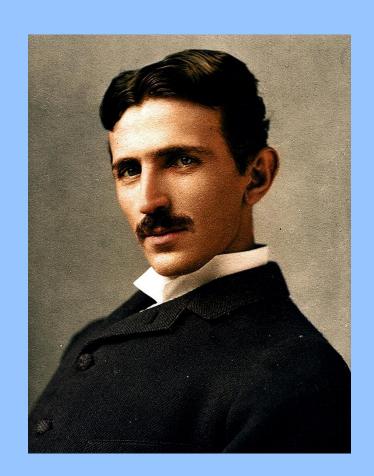
Citation: Global Adv Health Med. 2015;4(suppl):5-7

# **Qi gong**Fay McGrew



"Si quieres encontrar los secretos del Universo, piensa en términos de Energía, Frecuencia y Vibración"

Nikola Tesla (1856-1943)



# Modalidades complementarias (cont.)

- Terapia física
- Terapia craneosacral
- Terapia de arte
- Terapia de mascotas
- Musicoterapia
- Humor. Yoga de la risa
- Llevar un diario
- Estar en contacto con la naturaleza
- Espiritualidad y cáncer
- Poder de la oración





THE NEW YORK TIMES BESTSELLER

# HEALING WORDS

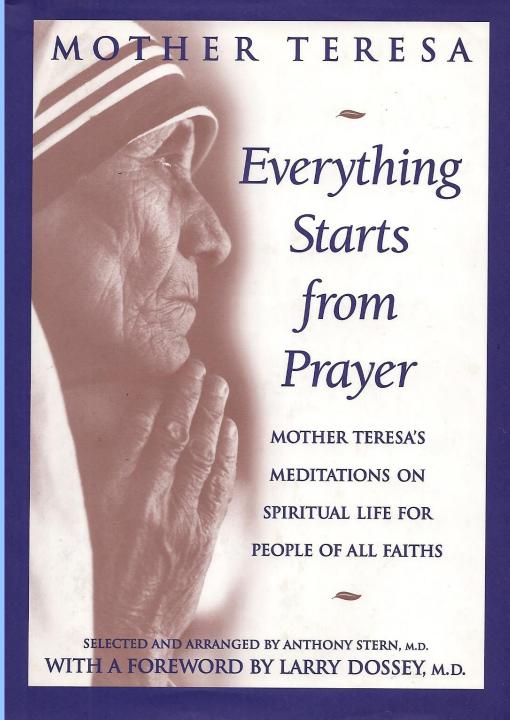
THE POWER OF PRAYER AND THE PRACTICE OF MEDICINE



"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.

Palabras que Sanan. El Poder de la Oración y la práctica de la Medicina



Meditaciones sobre la vida espiritual para la gente de todos los credos



# Arte-terapia

Alessandra Colfi, Ph.D.









# **Hope Made Visible (HMV)**

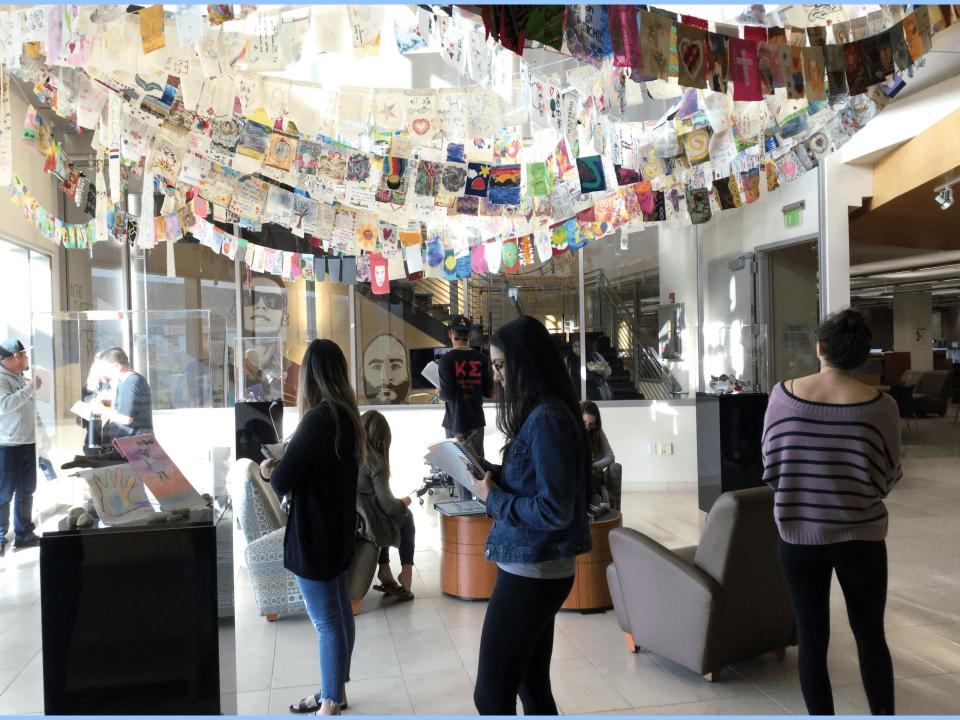
# Esperanza visible: Banderas de oracion

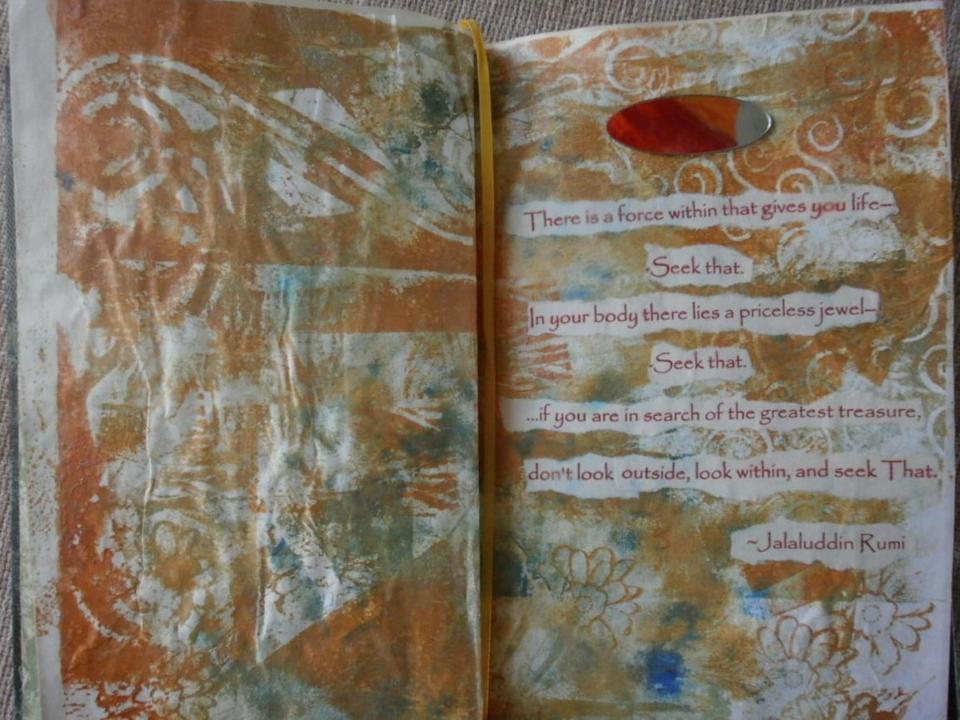
Programa internacional de SDCRI. Alessandra Colfi, Ph.D. Más de 2.500 banderas a mediados de 2020











# La Musicoterapia mejora la ansiedad pre-operatoria

Effects of Music Therapy on Anesthesia Requirements and Anxiety in Women Undergoing Ambulatory Breast Surgery for Cancer Diagnosis and Treatment: A Randomized Controlled Trial

Jaclyn Bradley Palmer, Deforia Lane, Diane Mayo, Mark Schluchter, and Rosemary Leeming

Jaclyn Bradley Palmer, Deforia Lane, and Diane Mayo, University Hospitals Case Medical Center; Mark Schluchter, Case Western Reserve University, Cleveland, OH; and Rosemary Leeming, Geisinger Health System, Danville, PA.

Published online ahead of print at www.jco.org on August 17, 2015.

Supported by Grant No. J0251, from The Kulas Foundation. Assistance with REDCap was provided through Clinical and Translational Science Collaborative Grant No. UL1TR 000439 at Case Western Reserve University.

The Kulas Foundation had no role in the design or conduct of the study; the collection, management, analysis, or interpretation of the data; the preparation, review, or approval of the manuscript; or the decision to submit the manuscript for publication.

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: NCT01669733.

Corresponding author: Jaclyn Bradley Palmer, MM, MT-BC, 11100 Euclid Ave, Mailstop WRN 5065, Cleveland,

## ABSTRACT

# Purpose

To investigate the effect of live and recorded perioperative music therapy on anesthesia requirements, anxiety levels, recovery time, and patient satisfaction in women experiencing surgery for diagnosis or treatment of breast cancer.

## Patients and Methods

Between 2012 and 2014, 207 female patients undergoing surgery for potential or known breast cancer were randomly assigned to receive either patient-selected live music (LM) preoperatively with therapist-selected recorded music intraoperatively (n = 69), patient-selected recorded music (RM) preoperatively with therapist-selected recorded music intraoperatively (n = 70), or usual care (UC) preoperatively with noise-blocking earmuffs intraoperatively (n = 68).

### Results

The LM and the RM groups did not differ significantly from the UC group in the amount of propofol required to reach moderate sedation. Compared with the UC group, both the LM and the RM groups had greater reductions (P < .001) in anxiety scores preoperatively (mean changes [and standard deviation: -30.9 [36.3], -26.8 [29.3], and 0.0 [22.7]), respectively. The LM and RM groups did not differ from the UC group with respect to recovery time; however, the LM group had a shorter recovery time compared with the RM group (a difference of 12.4 minutes; 95% CI, 2.2 to 22.5; P = .018). Satisfaction scores for the LM and RM groups did not differ from those of the UC group.

## Conclusion

Including music therapy as a complementary modality with cancer surgery may help manage preoperative anxiety in a way that is safe, effective, time-efficient, and enjoyable.

J Clin Oncol 33:3162-3168. © 2015 by American Society of Clinical Oncology



# BENDICIÓN y AGRADECIMIENTO



- Agua
- Comida
- Medicamentos
- Suplementos
- Quimioterapia
- Radioterapia
- •Todo y a todos!





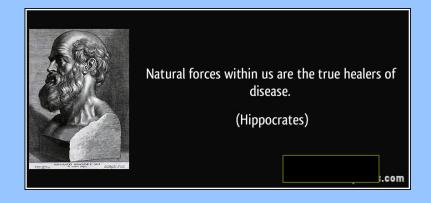
# Modalidades Integrativas Mecanismos y efectos

- Inmunomoduladores: regulan el sistema inmune
- Anti-inflamatorio
- Producción de endorfinas
- Regulación hormonal
- Antioxidante
- Inducción de apoptosis: muerte celular natural
- Anti angiogénesis: contra la vascularización de tumores
- Efecto epigenético
- Restauración del equilibrio y la armonía
- El objetivo es la sinergía: mejorar los resultados de los tratamientos médicos
- A menudo, los resultados dependen del "profesional integrativo".



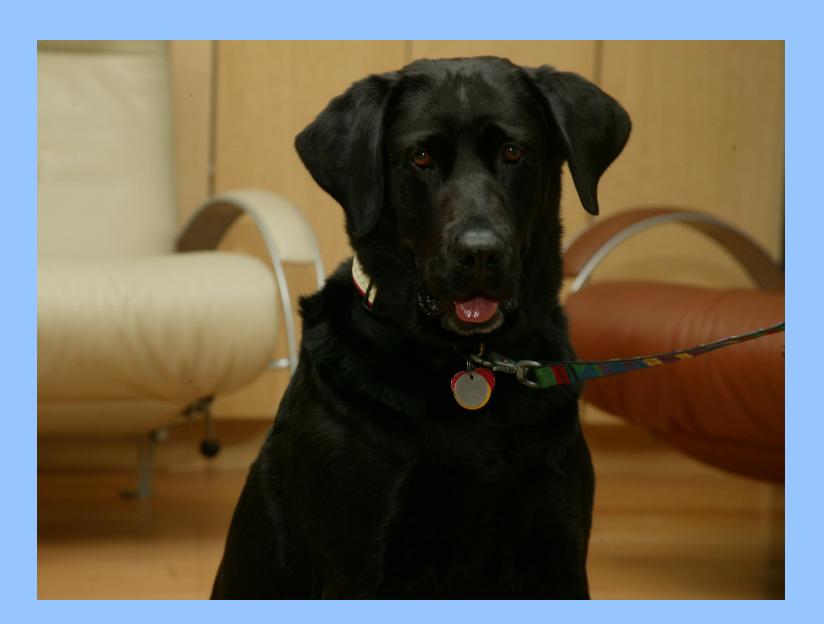
### RECORDATORIO IMPORTANTE

A través de la meditación e intuición, encontrar a los verdaderos profesionales, tratamientos y sanadores que nos puedan ayudar a sentirnos empoderados y nos apoyen en nuestro camino a la sanación.





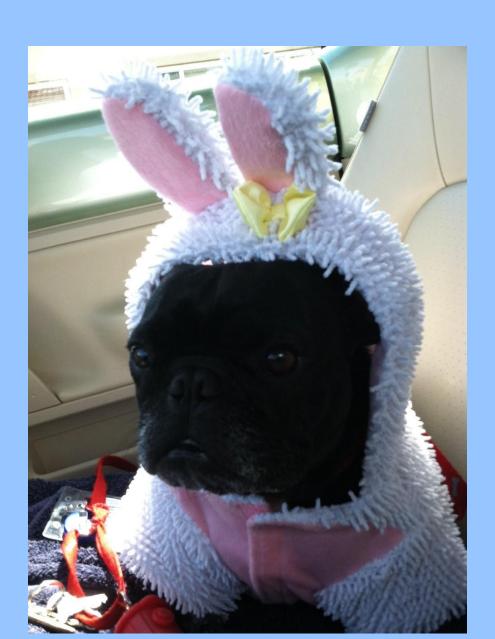
# Gracie (con Norma Spencer)







# Isabella (con Teri Polley)



# Programa de Oncología Integrativa en el Instituto de Investigación del Cáncer de San Diego (SDCRI)

- 1. SDCRI: organización sin fines de lucro creada en 1995: www.sdcri.org
- 2. Programa creado en el Centro Oncológico SDCC. Bajo el mismo techo.
- 3. Fue una **co-creación** con Profesionales licenciados de <u>diferentes</u> <u>especialidades</u> que se ofrecieron como *voluntarios* en nuestro Centro Oncológico.
- 4. Las modalidades integrativas fueron *gratuitas*; abiertas a todos los pacientes
- Promedio de 150 visitas por semana; mas de 200 pacientes con cáncer cada mes
- 6. En un momento, hubo hasta 50 profesionales voluntarios en el programa.
- 7. Funcionó durante dos décadas: 1995 a 2015
- 8. Este fue un modelo de lo que es posible









# Programa de Oncología Integrativa en SDCC y SDCRI (cont.)

- Reuniones periódicas con los profesionales de todas las artes integrativas.
- Aprendimos de la profesión, experiencia y lecciones de vida de cada uno.
- Programas educativos para pacientes y profesionales.
- Cena de agradecimiento dos veces al año.
- Crearon un entorno de sanación óptima
- Seguimos reuniéndonos 2 veces al año desde 2015.
- Durante la pandemia: por zoom cada 3-4 meses



# Programa de Oncología Integrativa SDCRI



# U.C. San Diego Cancer Center Enfermeras/o de Oncología (sala de infusión)



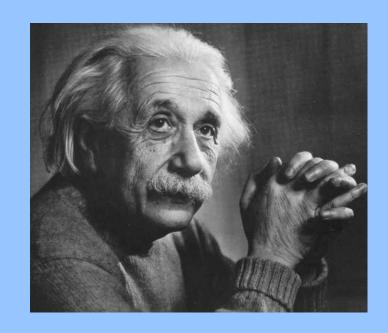
### Desafíos con el cáncer

- Podemos hacer todo bien y aun así desarrollar cáncer.
- Niños con cáncer. Sanadores con cáncer.
- Tumores resistentes
- Cánceres recurrentes
- La importancia de la calidad de vida
- La bendición de la medicina paliativa y los equipos paliativos
- Siempre hay <u>esperanza</u>



"Solo hay dos maneras de vivir tu vida. Una es como si nada fuera un milagro. La otra es como si todo fuera un milagro ".

Albert Einstein (1879-1955)



## Para los que tienen o han tenido cáncer

- <u>Honra</u> todos los sentimientos: miedo, ansiedad, tristeza, enojo, vergüenza, desamparo, angustia, agobiados, etc.
- · Confíar en tu poderosa sabiduría interior, intuición.
  - Nuestro yo superior sabe exactamente lo que es mejor para nosotros
- Estar con los que te hacen sentir bien, en paz.
- Tú eres única. Por favor no te compares con los demás
- Acepta <u>ayuda</u>. Siempre estas dando...
- Los profesionales están haciendo lo mejor que pueden con los recursos que tienen
- Ver y sentir los medicamentos y la quimioterapia como tratamientos y herramientas en tu camino de sanación.
- Visualizar tú potencial de posibilidades infinitas de sanación y curación.
- Mensaje de esperanza: para cualquier condición considerada "incurable" hasta hoy, una solución puede aparecer en cualquier momento
- Los milagros ocurren. <u>Remisiones espontáneas.</u>



# **Importante**

- Ustedes son <u>únicas!</u>
- No se comparen con nadie
- Somos todos distintos
- Respondemos en forma distinta a cada comida, hierba, medicina, tratamiento médico, modalidad integrativa/complementaria
- · Nuestros cuerpos son distintos: células, sistema inmune, genes, epigenética, memoria celular
- Nuestras experiencias, creencias, historias, traumas, etc. son diferentes.
- Este es un momento muy importante para cuidarte a ti misma. "Cuidado personal"
- · Escucha tu voz interna, tu intuición, y seguí lo que sentís que es lo mejor para vos
- "Son mujeres maravillosas, pero no tienen que ser la Mujer Maravilla"





## Resúmen de un ritual diario

- 1. Manejo del estrés
- 2. Buen sueño. Descanso necesario
- 3. Meditación, Reflexión, Oración
- 4. Optimización de la nutrición
- 5. Ejercicio. Yoga. Técnicas de respiración
- 6. Contacto con la naturaleza
- 7. Honrar nuestras emociones.
- 8. Sentirnos en control. Empoderadas
- 9. Equilibrio. Paz interior
- 10. Sentido de propósito. Gratitud



# Resúmen: experiencia con el cáncer

- Honrar la necesidad de nuestro cuerpo de descansar, recuperarse y sanar
- Meditación. Paz interior. Abrazar la incertidumbre
- Practicar modalidades integrativas con regularidad (una o solo algunas)
- Agregamos instrumentos a nuestra caja de herramientas: técnicas, experiencias, lecciones, etc.
- Abrazar todas las sabidurías: medicina y todas las modalidades de sanación
- Sentirse en control. Empoderadas
- Todo en equilibrio. Evitar los extremos
- Aceptar ayuda
- Conexión. Saber que somos amados



## Temas para otro encuentro

- Que es el cáncer?
- 2. Estadísticas del cáncer
- 3. Presentación mas detallada sobre el cáncer de mama
- 4. Avances en medicina y ciencia: nuevos tratamientos médicos
- Otros avances científicos
- 6. Epigenética
- 7. Nutrición en mas detalle
- 8. Importancia de grupos de apoyo en mas detalle
- 9. Tratamientos integrativos en mas detalle
- 10. Contestar más preguntas!



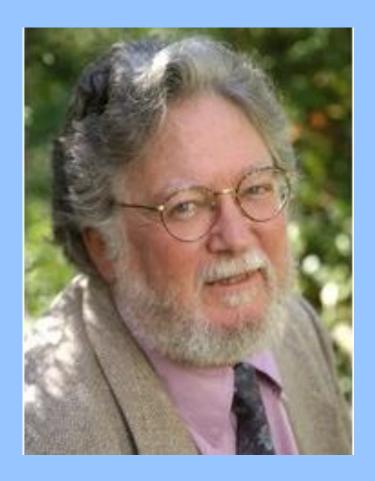
## **AGRADECIMIENTOS**

- María Cecilia Palacios, María Paula Castillo, Alice Galdeano, MACMA y 3 a
   5 cáncer de mama por organizar este encuentro.
- Estamos muy agradecemos a todas las voluntarias y colaboradores de MACMA y 3 a 5 cáncer de mama
- 3. A todas las enfermeras, profesionales médicos, de salud, y todos los profesionales integrativos que trabajan con las personas con cáncer.
- 4. A la familia de Oncología Integrativa del **SDCRI** (Instituto de Investigación del cáncer en San Diego)
- 5. A todos ustedes hoy presentes y los que verán el video en el futuro



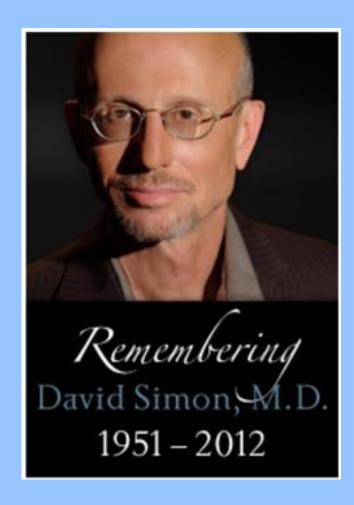






O. Carl Simonton, M.D.

1942 - 2009





Thomas Chippendale, M.D. 1949 - 2014



**Jeremy Geffen, M.D.** 1956 - 2015

# Cómo ayudar a alguien con cáncer

- Para familiares, amigos, cuidadores, profesionales de salud e integrativos:
- Ya saben cómo!
- Estar presente con intención. Empatía. Compasión.
- Sanación y curación
- Respetando creencias y diferencias culturales
- Apoyándolas en la creación de su propio entorno de sanación óptima
- No verbal: abrazando la incertidumbre, tener esperanza, tener fe
- Alquimista: transformar la enfermedad en sanación (oración de San Francisco)
- Resonancia límbica, neuronas espejo



### Cuidando de nosotros mismos

- Aplicar la sabiduría de todas las tradiciones de sanación
- "Practicar lo que predicamos"
- Los pacientes son nuestros maestros
- Sentir las emociones.
- Lidiar con el estrés, la impotencia, el agobio, el agotamiento
- "Fatiga de la compasión"
- Desafíos en el entorno médico
- Aceptar la incertidumbre/lo imprevisible



## Mas temas para la proxima charla

- 1. Epigenética: usos terapéuticos:
  - Azacitidine (a hypomethylating agent) is a pyrimidine nucleoside analog of cytidine that inhibits DNA/RNA methyltransferases; it is incorporated into DNA and RNA and inhibits DNA and RNA methyltransferases, reduces DNA and RNA methylation, alters DNA gene expression (including re-expression of genes that regulate tumor suppression and cell differentiation), and decreases RNA stability and decreases protein synthesis.
- 2. Uso de Vacunas mRNA (ARNm) para tratar el cancer



## Epigenetica en cancer

#### THERAPEUTIC USES

The epigenome is a therapeutic target in cancer and other conditions. One of the advantages of targeting epigenetic changes that differs from genetic changes is the reversibility of epigenetic marks, which translates to a greater potential for reprogramming.

A number of medical therapies have been developed that alter various types of epigenetic marks and may be therapeutically useful for manipulating gene expression. Most therapeutic applications and ongoing research focus on cancer treatment [14]. However, pilot studies are investigating possible roles in other conditions, as described below.

In addition to drugs that target enzymes that make or remove epigenetic marks, medications commonly known to act by non-epigenetic mechanisms may also have an epigenetic component. As an example, some studies of the mechanism of glucocorticoid action have demonstrated that suppression of inflammation may be mediated in part by the histone deacetylase HDAC2, as discussed separately. (See "Molecular effects of inhaled glucocorticoid therapy in asthma", section on 'Switching off inflammatory genes'.)

#### **Drug classes**

**Hypomethylating agents** — Drugs that inhibit DNA methyltransferases (DNMTs) result in reduced DNA methylation. Examples include the nucleoside analogues 5-azacytidine and <u>decitabine</u>. Since these drugs are incorporated into the DNA during replication, they may also trigger the DNA damage response, especially when administered at higher doses.

**Histone deacetylase inhibitors** — In contrast to histone methylation, which can be either repressive or activating, depending on the lysine modified, histone acetylation is always activating. Drugs that inhibit histone deacetylases (HDACs) result in increased histone acetylation, resulting in increased gene expression. Their structures are diverse and include non-peptide and peptide molecules; some of the peptides are cyclic [14]. Of interest, some of the HDACs in clinical use were isolated from bacteria, suggesting that they are likely to have biologic functions in these microorganisms.

HDAC inhibitors available for clinical use include the following:

- Butyric acid (also called butyrate) is a short-chain fatty acid (SCFA) that was the first compound identified as an HDAC inhibitor [53]. Butyrate and related compounds may be responsible for some of the epigenetic changes induced by starvation. (See 'Environmental effects on health' above.)
- Trichostatin A (TSA) is a natural product obtained by microbial fermentation. TSA is under investigation in disorders associated with increased cell proliferation such as systemic sclerosis (scleroderma).
- Romidepsin (also called depsipeptide) is a natural product HDAC inhibitor isolated from bacterial fermentation of Chromobacterium violaceum [14]. Romidepsin is used in the treatment of T-cell lymphomas.
- Valproic acid (the anti-seizure drug) inhibits HDACs in addition to its other roles in neurotransmitter modulation [53]. Valproic acid has been evaluated in various solid tumors and sickle cell disease (SCD).

# Epigenetica en cancer (cont.)

• <u>Panobinostat</u> and <u>vorinostat</u> are HDAC inhibitors derived from hydroxamic acid [54,55]. Panobinostat and vorinostat are used in the treatment of multiple myeloma and cutaneous T-cell lymphoma.

A number of other HDAC inhibitors are under various stages of development [1,14]. A significant characteristic of the clinically available HDAC inhibitors is that they are not specific for histone deacetylases; they also inhibit other protein deacetylases (ie, enzymes that deacetylate non-histone proteins such as tubulin). However, these therapies generally appear well-tolerated despite potential effects on multiple organ systems. (See 'Potential adverse effects' below.)

#### Disease targets

Cancer therapy — As discussed above, epigenetic changes are a hallmark of cancer. (See 'Cancer' above.)

Several hematologic malignancies are treated with therapies that incorporate DNMT and/or HDAC inhibitors [41,56]. As examples:

- Hypomethylating agents are used in myelodysplastic syndromes and myelodysplastic/myeloproliferative overlap syndromes. (See "Treatment of lower-risk myelodysplastic syndromes" (MDS)", section on 'Hypomethylating agents' and "Treatment of high or very high risk myelodysplastic syndromes", section on 'Hypomethylating agents'.)
- HDAC inhibitors are used in some individuals with lymphoid malignancies including multiple myeloma and Sezary syndrome. (See "Treatment of Sézary syndrome", section on 'Histone deacetylase inhibitors'.)

Studies are ongoing for other hematologic malignancies [41].

**Hemoglobinopathies** — In sickle cell disease (SCD) and beta thalassemia major, therapies that shift the ratio of gene expression from the beta globin gene (which carries the sickle hemoglobin mutation or thalassemic variant) to gamma globin gene (which lacks the disease-associated genetic changes and can pair with alpha chains to make fetal hemoglobin [HbF]) can greatly ameliorate the disease phenotype. Several approaches are under investigation that may work by increasing gamma globin gene expression, including DNMT inhibitors and HDAC inhibitors. Evidence for their efficacy and mechanism of action is presented separately. (See "Management and prognosis of the thalassemias", section on 'Epigenetic and JAK2 regulators'.)

**Infection/inflammation** — Epigenetic changes have been shown to play a role in viral infections, including human herpes virus 8 (HHV8) and human immunodeficiency virus (HIV), and small studies are testing valproic acid as a means to reduce latent HIV infection in individuals receiving antiviral therapies [53] (see "Virology, epidemiology, and transmission of human herpesvirus 8 infection", section on 'Lytic replication'). Epigenetic therapies have also been proposed in inflammatory and fibrotic disorders such as systemic sclerosis (scleroderma) [57].

**Neurologic and psychiatric disorders** — Preliminary evidence has suggested that certain neurologic and psychiatric disorders may be subject to epigenetic regulation:

- Pathophysiologic studies of psychiatric disorders such as drug addiction, depression, and bipolar disorder may be associated with abnormal histone acetylation. (See "Unipolar depression: Genetics", section on 'Epigenetics' and "Bipolar disorder in adults: Epidemiology and pathogenesis", section on 'Epigenetics'.)
- Some epidemiologic data also suggest that Alzheimer disease risk may have an epigenetic component. (See "Epidemiology, pathology, and pathogenesis of Alzheimer disease".)

RESEARCH

CANCER MOONSHOTS

**EDUCATION & TRAINING** 



### Can mRNA vaccines be used in cancer care?

FOR PHYSICIANS

#### BY DEVON CARTER

The COVID-19 vaccines mark the first widespread use of mRNA technology. They work by using synthetic genetic code to instruct the patient's cells to recognize the coronavirus and activate the immune system against the virus.

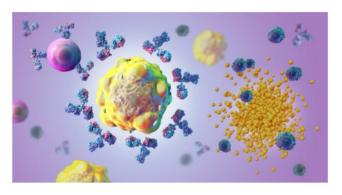
But researchers began exploring how to use mRNA vaccines as a new way to treat cancer long before this technology was used against the coronavirus.

"We've known about this technology for a long time, well before COVID-19," says Van Morris, M.D. Here, he explains how mRNA vaccines work and how a team of MD Anderson colorectal cancer experts led by Scott Kopetz, M.D., Ph.D., are testing the technology in a Phase II clinical trial.

#### What is mRNA?

Messenger RNA - known as mRNA - are genetic instructions for our cells. "mRNA serves as a code to make proteins," Morris says. Proteins are needed for cellular functions inside our bodies, including growth, energy production and defense against illnesses.

mRNA technology is a strand of mRNA created in a lab that prompts the recipient's cells to create protein fragments that are based on the "nonself" DNA characteristics of the vaccine's target. When recognized, the protein fragments trigger a response from the patient's immune system. "The protein fragments created from the mRNA signal are recognized by the immune system as foreign," Morris says. "The immune system kills those cells and says, 'I'm going to see if I can find any other cells in the body with these foreign proteins and kills those, too."



A B-cell displaying antibodies created in response to foreign protein fragments produced from a personalized mRNA vaccine recognizes a colorectal cancer cell and signals killerT-cells to destroy it.



We're hopeful that with the personalized vaccine, we're priming the immune system to go after the residual tumor cells, clear them out and cure the patient.





