“What can I do?”

Integrative Medicine for Patients with Lung Cancer

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Conflict of Interest

• Grant Support from
  – National Institutes of Health
  – Department of Defense
  – Patient-Centered Outcomes Research Institute
  – Cheezheng
  – ZhongKe
Complementary and Alternative Medicine (CAM)

- 6 of 10 Cancer survivors used CAM
- 4 of 10 Cancer survivors used CAM in the last 12 months

Why use CAM?

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A Comprehensive Definition for Integrative Oncology


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Abstract

Background: Integrative oncology, which is generally understood to refer to the use of a combination of complementary medicine therapies in conjunction with conventional cancer treatments, has been defined in different ways, but there is no widely accepted definition. We sought to develop and establish a consensus for a comprehensive definition of the field of integrative oncology.

Methods: We used a mixed-methods approach that included a literature analysis and a consensus procedure, including an interdisciplinary expert panel and surveys, to develop a comprehensive and acceptable definition for the term “integrative oncology.”

Results: The themes identified in the literature and from the expert discussion were condensed into a two-sentence definition. Survey respondents had very positive views on the draft definition, and their comments helped to shape the final version. The final definition for integrative oncology is: “Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments. Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment.”

Conclusions: This short and comprehensive definition for the term integrative oncology will facilitate a better understanding and communication of this emerging field. This definition will also drive focused and cohesive effort to advance the field of integrative oncology.
Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments.

Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment.
“What can I do?”

...when we want to improve lives, you've got to deal with more basic things...

Bill Gates
Integrative Approaches to Healthy Living

Diet & Nutrition
- Emphasize healthy foods where possible over supplements

Mind-Body Therapy
- Tai chi (taiji)
- Yoga
- Acupuncture

Physical Activity / Exercise
- Low Risk
- High benefit

Supplements & Alt Tx
- Safety
- Interactions with drugs
Physical Activity Benefits Lung CA Pts

High benefit; low risk vs usual care

• Feasible/effective to manage anxiety/depression \(^1\)

• Inverse association of midlife cardiorespiratory fitness (mCRF) and incident lung CA \(^2\)

• High mCRF associated with lower mortality risk \(^2\)

• Adjusted HR for lung CA with high CRF \(^2\)
  \(0.45 (95\% \text{ CI}, 0.29–0.68)\)

Mediterranean Diet Benefits CA Pts

- Inverse association between CA risk and intake of fruits, vegetables, fish, and nuts \(^1\text{-}^3\)
- Meta-analysis confirms an important inverse association between the Mediterranean Diet and cancer mortality / risk of several cancers \(^2\)
- Possible association of dietary tocopherol with reduced lung CA risk \(^4\text{-}^5\)

Dietary sources include: plant-derived oils such as wheat germ, soybean, sunflower, almond, safflower oils, eggs, nuts, seeds, green leafy vegetables, whole grains

2. Schwingshackl L et al. Nutrients. 2017;9
3. SEE ALSO AH Monograph on Mediterranean Diet.
Tai Chi Reduces CA-Related Fatigue

- In lung CA pts undergoing CT vs low-impact exercise: Reduced general and physical fatigue, Increased vigor.

- Preliminary data in other cancer populations: Improved QoL, fatigue, depression, and sleep. Improved neuropsychological functioning. Feasible in senior CA survivors.

2. SEE ALSO [AH monograph on Tai Chi](#)
Yoga Dyadic Therapy Pilots\textsuperscript{1,2}

- Safe, feasible, and useful for lung CA pts during active treatment
- A majority of completers had advanced disease
- Sig improved spiritual well-being, mental health, and benefit finding
- Medium effect sizes on depression and sleep disturbance + corresponding clinical reductions
- Caregivers: Large fx on fatigue and anxiety; medium to sig fx on sleep disturbance and benefit finding

1. Milbury K et al. Psychooncology 2015;24:117-120
2. Milbury K et al. Integr Cancer Ther 2015;14:446-451
SEE also AH monograph on Yoga
## Yoga In Other CA Populations

- Reduced pre-existing + RT-related fatigue \(^1\)
- Improved fatigue and joint pain \(^2,3\)
- Improved QOL and RT-associated physical functioning / physiological changes \(^4\)
- Improved lung function \(^5\)
- Well documented to improve sleep, quality and reduce sleep medication use \(^6\)

6. SEE Multiple citations in **AH monograph on Yoga**
Acupuncture for **Dyspnea, Fatigue, QoL**

- Preliminary **feasibility** and **effectiveness** in lung ca pts with clinically significant dyspnea
- **10 weekly acupuncture sessions**; follow-up 4 wk post
- 1° OC: dyspnea severity
- Majority women and/or Caucasian
  - 10/12 (83.3%) completed all 10 sessions
- Mean (SD) dyspnea scores sig improved from BL 6.3 (1.7)
  - Post-Tx 3.6 (1.9; \( P = .003 \))
  - 4 wk FU 3.2 (2.3; \( P = .008 \))
- **Fatigue** and **QoL** also improved (\( P < .05 \))
- Well tolerated; mild AEs

Bauml J ... Mao. *Integr Cancer Ther* 2016;15:326-332
Acupuncture for Dyspnea/Reduced Meds

- In NSCLC or mesothelioma patients (N=173)
- VAS dyspnea score ≥4
- Randomized to acupuncture (A), morphine (M), or both (AM)
- Points: upper sternal, thoracic paravertebral, trapezius trigger, LI4
- Semi-permanent AC studs massaged when symptomatic; rescue morphine available

### Acupuncture for Dyspnea/Reduced Meds

<table>
<thead>
<tr>
<th>VAS dyspnea ≥1.5 at 4 h</th>
<th>Day 7 Lar Anxiety Score</th>
<th>P &lt; .003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acupuncture (A)</strong></td>
<td>74%</td>
<td>Acupuncture (A)</td>
</tr>
<tr>
<td>Morphine (M)</td>
<td>60%</td>
<td>Morphine (M)</td>
</tr>
<tr>
<td>Both (AM)</td>
<td>66%</td>
<td>or Both (AM)</td>
</tr>
<tr>
<td>Maintained at 2 wk</td>
<td>45%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relaxation improved</th>
<th>P &lt; .001</th>
<th>≥1 Morphine Dose</th>
<th>P &lt; .001</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acupuncture (A)</strong></td>
<td>1.06</td>
<td>Acupuncture (A)</td>
<td>21%</td>
</tr>
<tr>
<td>Morphine (M)</td>
<td>-0.19</td>
<td>Morphine (M)</td>
<td>87%</td>
</tr>
<tr>
<td>Both (AM)</td>
<td>1.48</td>
<td>or Both (AM)</td>
<td>87%</td>
</tr>
</tbody>
</table>

**Acupuncture relieved anxiety and provided an alternative to morphine**

CHOICE:
Choosing Options for Insomnia in Cancer Effectively

Patient-Centered and Patient-Powered


Jun J. Mao, Sharon Xie, Katherine Duhamel, Ting Bao, Philip W. Kantoff, Qing Susan Li, ...
Study Methods

Baseline Randomization

Total N=160

Follow-Up

Patients evaluated at:

- **Week 8**: End of treatment
- **Week 20**: 12 weeks after treatment ended
N=160

- Breast: 32%
- Prostate: 23%
- Colorectal: 6%
- Head/Neck: 7%
- Blood: 8%
- Gynecologic: 4%
- Other types: 14%
- >1 Type: 6%
- Other types: 14%
Primary Results: Insomnia Severity Score

$P = .0007$

8-point reduction clinically meaningful
Insomnia Severity in Patients with Pain Scores ≥4 (N=70)

Change in ISI Score

Weeks

CBT-I

Acupuncture

P = .18

-10.32 (95% CI -12.08 to -8.56)

-11.35 (95% CI -13.15 to -9.55)

n=35

n=35
Change in Pain Severity by Treatment

-2.10 (95% CI -3.08 to -1.12)

-1.00 (95% CI -0.02 to -1.98)

$P = .15$

$n=35$
Clinical Responders by Treatment

- **Insomnia Responder**
  - ≥8 pt reduction in ISI score or ISI score <8 after treatment
  - CBT-I: 73%
  - Acupuncture: 69%
  - $P = .69$

- **Pain Responder**
  - ≥30% reduction in BPI pain severity score
  - CBT-I: 37%
  - Acupuncture: 55%
  - $P = .15$
“What about supplements?”

The evidence base suggests supplements may provide more harm than benefit.
### Supplements: More Harm Than Benefit

| Vitamin E $^{1-3}$ | • Does not reduce cancer incidence / mortality  
|                     | • May increase lung CA risk / overall mortality  
| Beta carotene $^{1, 4-6}$ | • Does not reduce cancer incidence / mortality  
|                      | • May increase lung CA incidence in smokers  
|                      | • May reduce cancer Tx efficacy, increasing recurrence / mortality  
| B6 and B12 individual supplements $^{7}$ | • Not chemopreventive for lung cancer and may be harmful  
|                                | • Sex- (male) and source-specific (individual, not multivitamin) associations  
|                                | • Increased lung CA risk among men by 30–40%  
|                                | • ~2-fold increased risk in highest users vs nonusers  
|                                | • Risk even higher among smokers  
| Alt therapies $^{8}$ | • Greater risk of death when used instead of conventional Tx  

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A Resource used in 194 countries by Clinicians & Patients

27,013,000 Internet Hits
7,103,000 Unique Visitors
199,179 App Downloads
282 Monographs

Since inception. Data as of September 2019.

Gut Microbiome May Improve Immunotherapy Response

- **High fiber diet** linked to
  - More diversity in gut microbiome
  - Better response to anti-PD-1 immunotherapy

- **Probiotics** actually linked to decreased microbiome diversity

Spencer et al. The gut microbiome (GM) and immunotherapy response are influenced by host lifestyle factors. Abstract 2838/24. AACR Annual Meeting 2019.

“There’s a perception that taking probiotics improves gut health, but our results, although early, suggest that may not be the case for patients [with cancer],” said Dr. Spencer
Cannabidiol (CBD) for Cancer Symptoms

• May reduce cancer-related pain ¹,²

• Dronabinol and nabilone may reduce chemotherapy-induced nausea and vomiting (CINV) resistant to standard therapy ³,⁴

• No appetite improvement in a multicenter phase III trial of patients with anorexia-cachexia syndrome ⁵

• Associated with reduced response to immunotherapy but not with survival⁶

• Patients should seek guidance from a physician experienced in medical marijuana and oncology

1. Whiting et al. JAMA 2015;313:2456-2473
5. Strasser et al. J Clin Oncol 2006;24:3394-3400
6. Taha et al. Oncologist 2019
“What Can I Do?”

- Stay **physically active**
- Work toward a **healthier diet**
- Manage **stress & mood**
- Choose **safe, effective therapies** for symptom management
Thank you.