

# Optimizing Quality of Life with Integrative Oncology

Alissa Huston, MD

# Optimizing Quality of Life with Integrative Oncology



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# Disclosures

- Nothing to disclose



# Objectives

- Review the field of integrative oncology (IO) and its role in supporting quality of life for patients with cancer
- Review data behind IO based modalities for cancer specific symptoms and recent guideline updates
- Review methods of IO implementation within Hematology/Oncology programs



# Integrative Therapies



## Therapies - Democrat and Chronicle

"I went from a walker to a cane to being mobile on my own," said

[rochesterdemocrat-ny.newsmemory.com](http://rochesterdemocrat-ny.newsmemory.com)



# US PATIENT & ONCOLOGIST AWARENESS, USAGE, & ATTITUDES TOWARD WHOLE PERSON INTEGRATIVE ONCOLOGY



- 62% of individuals diagnosed with cancer want to know about complementary therapies
- 66% used at least one therapy during treatment
- Patients (50%) and oncologists (60%) strongly agreed that integrative oncology can manage side effects and improve well-being



# US PATIENT & ONCOLOGIST AWARENESS, USAGE, & ATTITUDES TOWARD WHOLE PERSON INTEGRATIVE ONCOLOGY



- 76% of oncologists wanted to learn more about the benefits, but noted multiple barriers
- 40% of patients reported they would have chosen a hospital that offered complementary therapies



# Terminology

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**Alternative**: using a non-mainstream approach “in place of” conventional medicine

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**Complementary**: using a non-mainstream approach “together” with conventional medicine

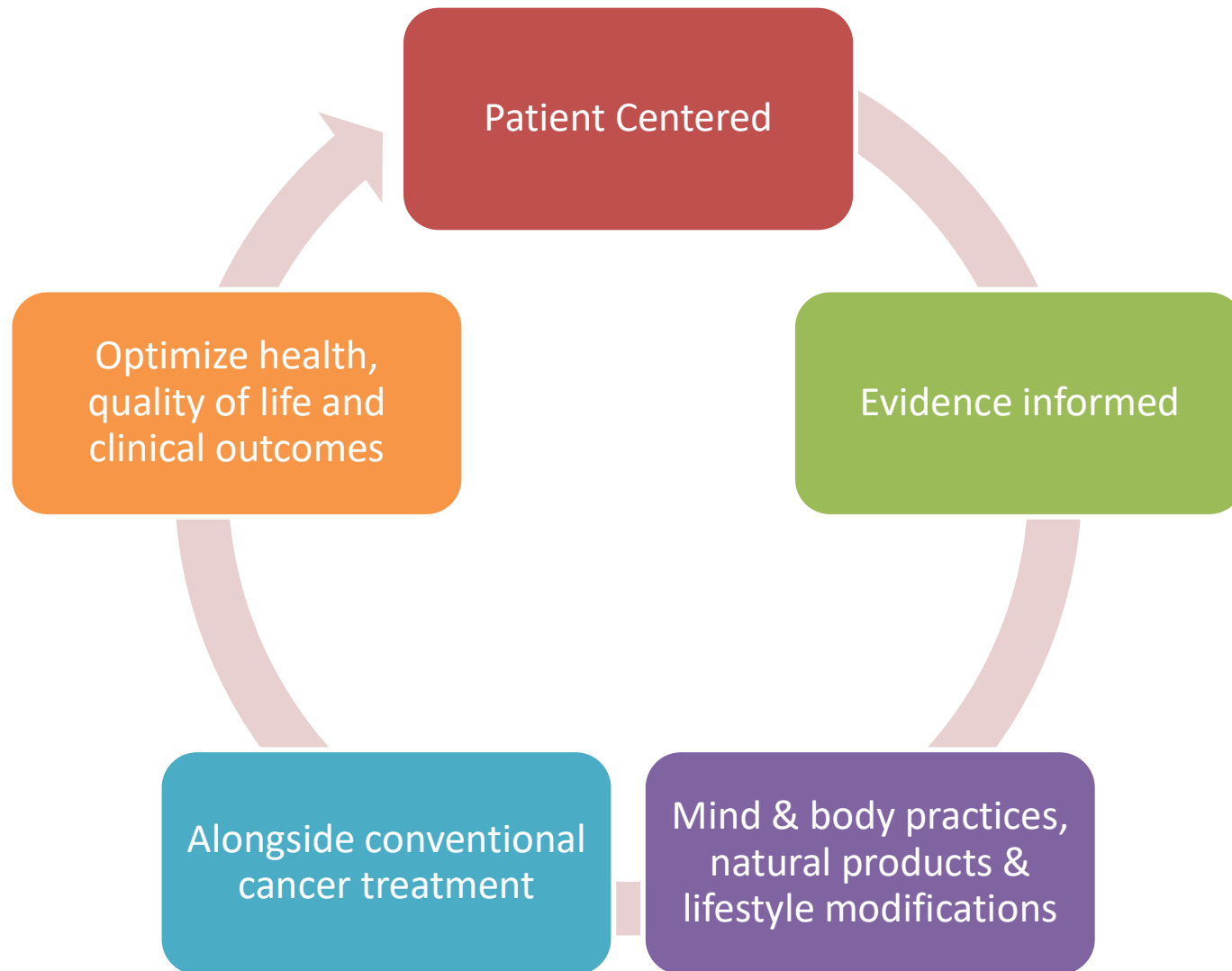
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**Integrative**: bringing together conventional and complementary approaches together in a coordinated way with a focus on treating the whole person





# Definition of Integrative Oncology



# Growth of IO Modalities at NCI Designated Cancer Centers

	2009	2016
Acupuncture	58.6 %	88.9%
Massage	53.7%	84.4%
Meditation	56.1%	88.9%
Yoga	56.1%	86.7%

 **Over 30% Increase**



## Integrative Oncology Practice Guidelines

Gary E Deng<sup>1</sup>, Barrie R Cassileth, Lorenzo Cohen, Jyothirmai Gubili, Peter A S Johnstone, Nagi Kumar, Andrew Vickers; Society for Integrative Oncology Executive Committee; Donald Abrams, David Rosenthal, Stephen Sagar, Debu Tripathy

Practice Guideline > J Soc Integr Oncol. 2009 Summer;7(3):85-120.

### Evidence-based clinical practice guidelines for integrative oncology: complementary therapies and botanicals

Gary E Deng<sup>1</sup>, Moshe Frenkel, Lorenzo Cohen, Barrie R Cassileth, Donald I Abrams, Jillian L Capodice, Kerry S Courneya, Trish Dryden, Suzanne Hanser, Nagi Kumar, Dan Labriola, Diane W Wardell, Stephen Sagar; Society for Integrative Oncology

### Integrative Medicine for Pain Management in Oncology: Society for Integrative Oncology-ASCO Guideline

Jun J. Mao, MD, MSCE<sup>1</sup>; Nofisat Ismaila, MD, MSc<sup>2</sup>; Ting Bao, MD<sup>3</sup>; Debra Barton, PhD<sup>3</sup>; Eran Ben-Arye, MD<sup>4</sup>; Eric L. Garland, PhD<sup>5</sup>; Heather Greenlee, ND, PhD<sup>6</sup>; Thomas Leblanc, MD<sup>7</sup>; Richard T. Lee, MD<sup>8</sup>; Ana Maria Lopez, MD<sup>9</sup>; Charles Loprinzi, MD<sup>10</sup>; Gary H. Lyman, MD, MPH<sup>2</sup>; Jodi MacLeod, BA<sup>11</sup>; Viraj A. Master, MD, PhD<sup>12</sup>; Kavitha Ramchandran, MD<sup>13</sup>; Lynne I. Wagner, PhD<sup>14</sup>; Eleanor M. Walker, MD<sup>15</sup>; Deborah Watkins Bruner, PhD<sup>12</sup>; Claudia M. Witt, MD, MBA<sup>16</sup>; and Eduardo Bruera, MD<sup>17</sup>

### Integrative Oncology Care of Symptoms of Anxiety and Depression in Adults With Cancer: Society for Integrative Oncology-ASCO Guideline

Linda E. Carlson, RPsych, PhD<sup>1</sup>; Nofisat Ismaila, MD<sup>2</sup>; Elizabeth L. Addington, PhD<sup>3</sup>; Gary N. Asher, MD, MPH<sup>4</sup>; Chloe Atreya, MD, PhD<sup>5</sup>; Lynda G. Balneaves, RN, PhD<sup>6</sup>; Joke Bradt, MT-BC, PhD<sup>7</sup>; Nina Fuller-Shavel, MB BChir, MA<sup>8</sup>; Joseph Goodman, MD<sup>9</sup>; Caroline J. Hoffman, OAM, RN, BSW, PhD<sup>10</sup>; Alissa Huston, MD<sup>11</sup>; Ashwin Mehta, MD<sup>12</sup>; Channing J. Paller, MD<sup>13</sup>; Kimberly Richardson, MA<sup>14</sup>; Dugald Seely, ND, MSc<sup>15,16</sup>; Chelsea J. Siwik, PhD<sup>17</sup>; Jennifer S. Temel, MD<sup>18</sup>; and Julia H. Rowland, PhD<sup>19</sup>

ASCO special articles





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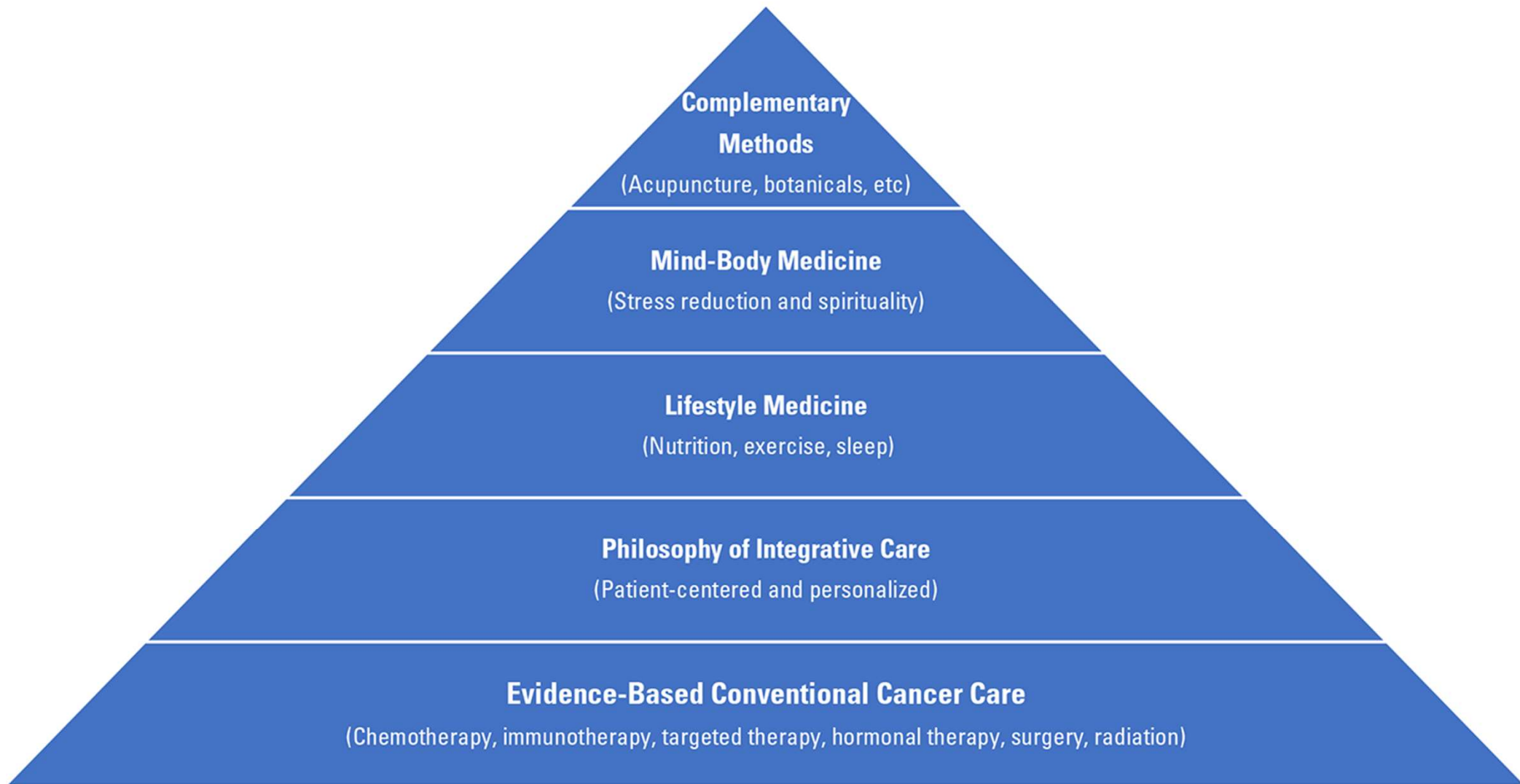
**TABLE 1. National Comprehensive Cancer Network Clinical Practice Guidelines for the Use of Integrative Medicine for Supportive Cancer Care<sup>a</sup>**

SYMPTOMS	ACUPUNCTURE	MASSAGE	MEDITATION/MBSR	YOGA	MUSIC THERAPY	EXERCISE	NUTRITION
Adult cancer pain	X	X	X	X		X	
Cancer-related fatigue	X	X	X	X		X	X
Sleep disorders			X	X			
Distress (anxiety/depression)			X	X	X	X	X
Cancer-associated cognitive dysfunction			X	X			
Hot flashes/night sweats	X			X		X	
Sexual dysfunction			X	X			
Nausea/vomiting	X			X	X		
Anorexia						X	X

Abbreviation: MBSR, mindfulness-based stress reduction.

<sup>a</sup>Derived from the National Comprehensive Cancer Network (NCCN) clinical practice guidelines for supportive cancer care (NCCN 2021,<sup>130</sup> Denlinger 2021,<sup>131</sup> Swarm 2021,<sup>132</sup> Berger 2021,<sup>133</sup> Ettinger 2021,<sup>134</sup> Riba 2021,<sup>135</sup> Dans 2021<sup>136</sup>).





# Supportive Care and Integrative Oncology Tools



# Movement





# Benefits of Exercise

**IMMEDIATE**  
A single bout of moderate-to vigorous physical activity provides immediate benefits for your health.

**LONG-TERM**  
Regular physical activity provides important health benefits for chronic disease prevention.

**Sleep**  
Improves sleep quality

**Less Anxiety**  
Reduces feelings of anxiety

**Blood Pressure**  
Reduces blood pressure

**Brain Health**  
Reduces risks of developing dementia (including Alzheimer's disease) and reduces risk of depression

**Heart Health**  
Lowers risk of heart disease, stroke, and type 2 diabetes

**Cancer Prevention**  
Lowers risk of eight cancers: bladder, breast, colon, endometrium, esophagus, kidney, lung, and stomach

**Healthy Weight**  
Reduces risk of weight gain

**Bone Strength**  
Improves bone health

**Balance and Coordination**  
Reduces risks of falls

Emerging research suggests physical activity may also help boost immune function.  
Niemann, "The Compelling Link," 201-217.  
Jones, "Exercise, Immunity, and Illness," 317-344.

**CDC**

**ACTIVE PEOPLE HEALTHY NATION**  
CREATING AN ACTIVE AMERICA TOGETHER

Source: *Physical Activity Guidelines for Americans*, 2nd edition  
To learn more, visit: <https://www.cdc.gov/physicalactivity/basics/adults/health-benefits-of-physical-activity-for-adults.html>

August 2020



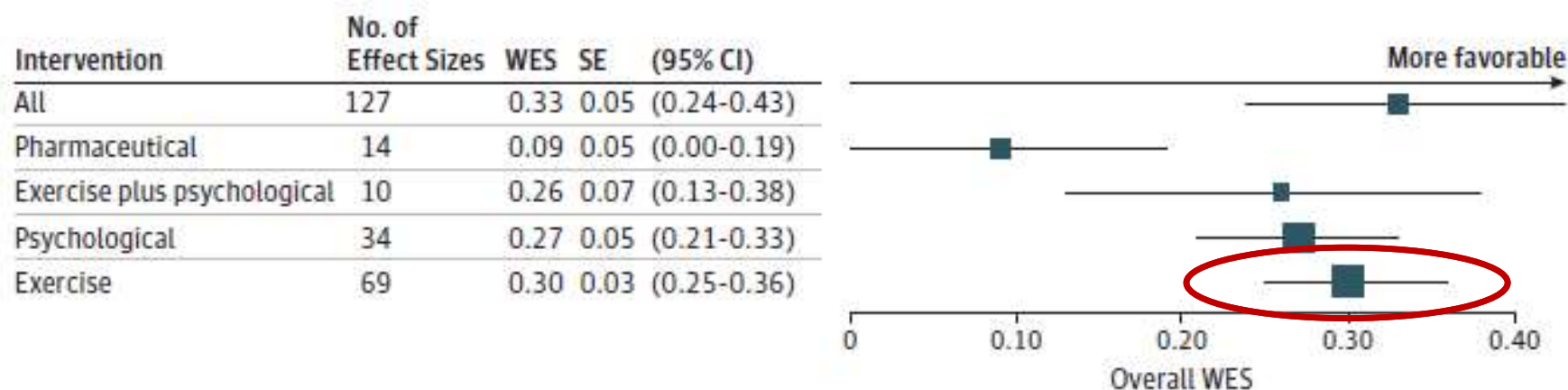
# Cancer Related Fatigue

- Chronic problem in over 2/3 of cancer survivors
- 40% describe it as severe
- Moderate exercise during and following cancer treatment can result in a reduction in fatigue and improve quality of life



# Comparison of Pharmaceutical, Psychological, and Exercise Treatments for Cancer-Related Fatigue

Figure 2. Forest Plot of Weighted Effect Sizes (WESs)



### INTERVENTIONS FOR PATIENTS ON ACTIVE TREATMENT<sup>e,f,g,k</sup>

#### Nonpharmacologic

##### • Physical activity (category 1)

- ▶ Maintain optimal level of activity
- ▶ Cautions in determining level of activity
  - ◊ Bone metastases
  - ◊ Thrombocytopenia<sup>l</sup>
  - ◊ Anemia
  - ◊ Fever, active infection, or post surgery
  - ◊ Limitations secondary to metastases or other comorbid illnesses
  - ◊ Safety issues (ie, assessment of risk of falls)
- ▶ Consider initiation and/or encourage maintenance of a physical activity/exercise program, as appropriate per health care provider, consisting of cardiovascular endurance (walking, jogging, or swimming) and resistance (weights) training.<sup>m</sup>
- ▶ Consider referral to rehabilitation: physical therapy, occupational therapy, and physical medicine
- ▶ Yoga (category 1)
- Massage therapy (category 1)
- Acupuncture
- Psychosocial interventions
  - ▶ Cognitive behavioral therapy (CBT)<sup>n</sup>/Behavioral therapy (BT)<sup>o</sup> (category 1)
  - ▶ Psycho-educational therapies/Educational therapies (category 1)
  - ▶ Supportive expressive therapies<sup>p</sup>
- Nutrition consultation
- CBT<sup>n</sup> for insomnia (CBT-I)
  - ▶ Stimulus control/Sleep restriction/Sleep hygiene
- Bright white light therapy<sup>q</sup>

- Physical activity (category 1)
  - ▶ Maintain optimal level of activity

#### Pharmacologic

- Consider psychostimulants<sup>r</sup> (methylphenidate) in consideration of other modifiable causes

Repeat screening and evaluation  
([FT-3](#)) and ([FT-4](#))  
See ([FT-5](#)) for General Strategies for  
the Management of Fatigue/Patient  
and Family/Caregiver Education and  
Counseling

<sup>e</sup> See [Discussion](#) for information on differences between active treatment, post-treatment, and end-of-life treatment.

<sup>f</sup> Interventions should be culturally specific and tailored to the needs of patients and families along the illness trajectory, because not all patients may be able to integrate these options due to variances in individual circumstances and resources.

<sup>g</sup> There is limited scientific evidence for children.

<sup>k</sup> Consider referral to appropriate specialist or supportive care provider.

<sup>l</sup> Morishita S, et al. *Hematology* 2020;25:95-100.

<sup>m</sup> [NCCN Guidelines for Survivorship](#): Physical Activity.

<sup>n</sup> A type of psychotherapy that focuses on recognizing and changing maladaptive thoughts and behaviors to reduce negative emotions and behaviors and to facilitate psychological adjustment. Trial evidence shows CBT-I can improve fatigue among participants with insomnia symptoms.

<sup>o</sup> CBT/BT influences thoughts and promotes changes in behavior; it includes a variety of strategies (eg, cognitive restructuring, relaxation, mindfulness).

<sup>p</sup> Supportive expressive therapies (eg, support groups, counseling, journal writing) facilitate expression of emotion and foster support from one or more people.

<sup>q</sup> Bright white light therapy of 1250–10,000 lux is most frequently self-administered in the early morning for 30–40 minutes. Timing needs to be adjusted for those who sleep during the day (Xiao P, et al. *J Pain Symptom Manage* 2022;63:e188-e202).

<sup>r</sup> Pharmacologic interventions remain investigational, but have been reported to improve symptoms of fatigue in some patients. Methylphenidate should be used cautiously and should not be used until treatment- and disease-specific morbidities have been characterized or excluded. Optimal dosing and schedule have not been established for use of psychostimulants in older adults and patients with cancer.

**Note: All recommendations are category 2A unless otherwise indicated.**

**Clinical Trials: NCCN believes that the best management of any patient with cancer is in a clinical trial. Participation in clinical trials is especially encouraged.**

# ACS Guidelines for Exercise

## Achieve and maintain a healthy weight throughout life.

- Keep your weight within the healthy range, and avoid weight gain in adult life.

## Be physically active.

- **Adults:** Get 150-300 minutes of moderate intensity or 75-150 minutes of vigorous intensity activity each week (or a combination of these). Getting to or exceeding the upper limit of 300 minutes is ideal.
- **Children and teens:** Get at least 1 hour of moderate or vigorous intensity activity each day.
- Limit sedentary behavior such as sitting, lying down, watching TV, and other forms of screen-based entertainment.



# Effects of Exercise on Health-Related Outcomes in Those with Cancer

## What can exercise do?

- **Prevention of 7 common cancers\***

Dose: 2018 Physical Activity Guidelines for Americans: 150-300 min/week moderate or 75-150 min/week vigorous aerobic exercise









- **Survival of 3 common cancers\*\***

Dose: Exact dose of physical activity needed to reduce cancer-specific or all-cause mortality is not yet known; Overall more activity appears to lead to better risk reduction

\*bladder, breast, colon, endometrial, esophageal, kidney and stomach cancers

\*\*breast, colon and prostate cancers

Overall, avoid inactivity, and to improve general health, aim to achieve the current physical activity guidelines for health (150 min/week aerobic exercise and 2x/week strength training).

Outcome	Aerobic Only	Resistance Only	Combination (Aerobic + Resistance)
<b>Strong Evidence</b>	Dose	Dose	Dose
 <b>Cancer-related fatigue</b>	3x/week for 30 min per session of moderate intensity	2x/week of 2 sets of 12-15 reps for major muscle groups at moderate intensity	3x/week for 30 min per session of moderate aerobic exercise, plus 2x/week of resistance training 2 sets of 12-15 reps for major muscle groups at moderate intensity
 <b>Health-related quality of life</b>	2-3x/week for 30-60 min per session of moderate to vigorous	2x/week of 2 sets of 8-15 reps for major muscle groups at a moderate to vigorous intensity	2-3x/week for 20-30 min per session of moderate aerobic exercise plus 2x/week of resistance training 2 sets of 8-15 reps for major muscle groups at moderate to vigorous intensity
 <b>Physical Function</b>	3x/week for 30-60 min per session of moderate to vigorous	2-3x/week of 2 sets of 8-12 reps for major muscle groups at moderate to vigorous intensity	3x/week for 20-40 min per session of moderate to vigorous aerobic exercise, plus 2-3x/week of resistance training 2 sets of 8-12 reps for major muscle group at moderate to vigorous intensity
 <b>Anxiety</b>	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 <b>Depression</b>	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 <b>Lymphedema</b>	Insufficient evidence	2-3x/week of progressive, supervised, program for major muscle groups does not exacerbate lymphedema	Insufficient evidence
<b>Moderate Evidence</b>			
 <b>Bone health</b>	Insufficient evidence	2-3x/week of moderate to vigorous resistance training plus high impact training [sufficient to generate ground reaction force of 3-4 time body weight] for at least 12 months	Insufficient evidence
 <b>Sleep</b>	3-4x/week for 30-40 min per session of moderate intensity	Insufficient evidence	Insufficient evidence

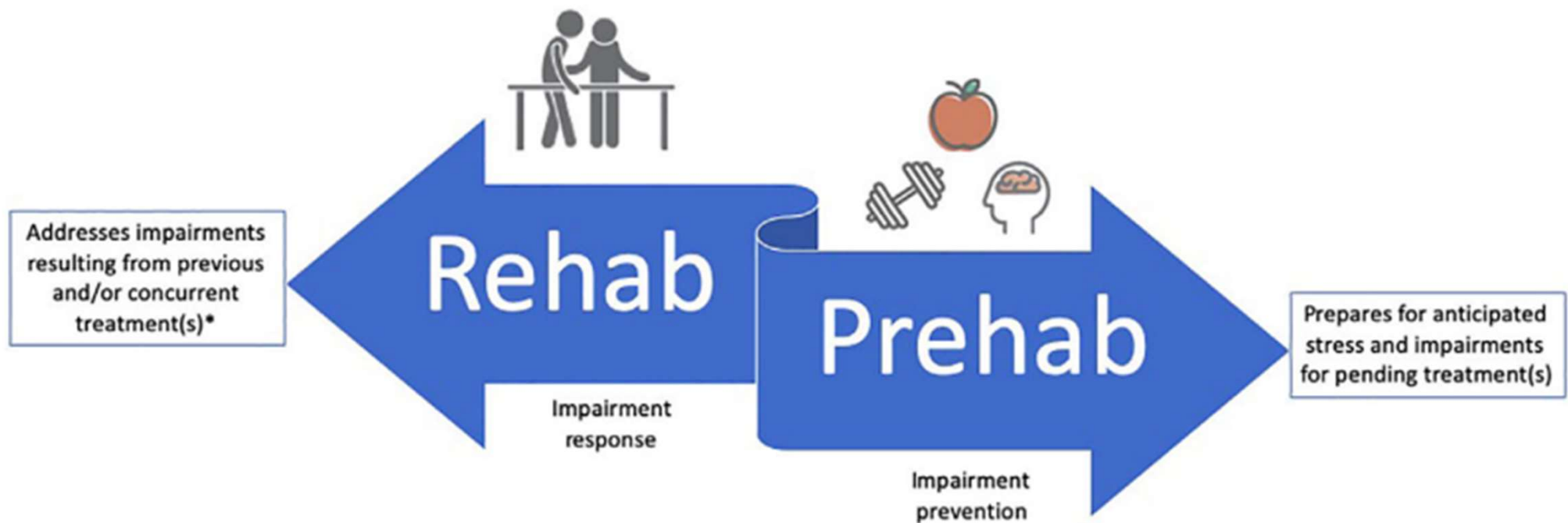
Citation: [bit.ly/cancer\\_exercise\\_guidelines](http://bit.ly/cancer_exercise_guidelines)

Moderate intensity (40%-59% heart rate reserve or  $VO_2R$ ) to vigorous intensity (60%-89% heart rate reserve or  $VO_2R$ ) is recommended.

Exercise  
is Medicine

AMERICAN COLLEGE  
of SPORTS MEDICINE

# Inclusion of Exercise throughout the Course of Cancer Treatment



# Prehabilitation

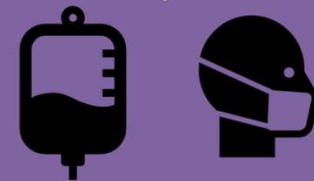
Diagnosis – treatment plan defined



Intervention – multimodality focusing on exercise and nutrition



Treatment – chemotherapy, surgery





# Touch Modalities

## Acupuncture



## Massage



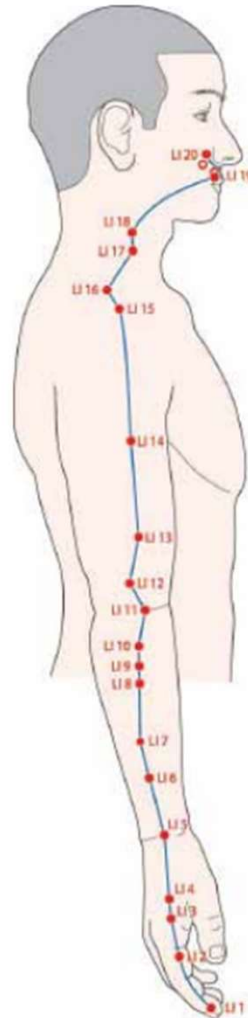
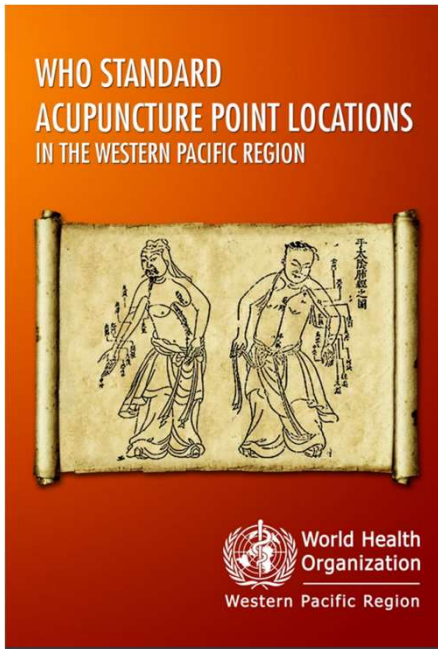
# Acupuncture

- Traditional Chinese Medicine (TCM)
- Thin sterile needles inserted into specific acupoints
- Animal models demonstrated release of endogenous opioids, serotonin, dopamine
- Functional brain imaging shows changes in areas of the brain involved in cognition and emotion



# Standardized Acupuncture Points

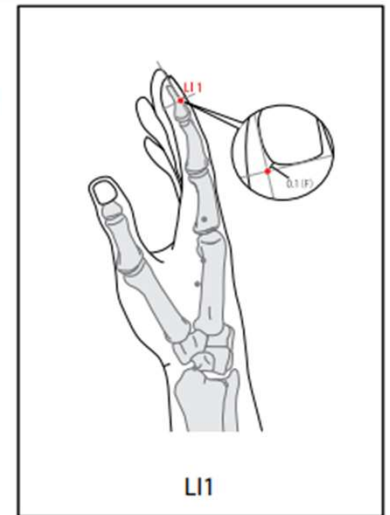
## LARGE INTESTINE MERIDIAN 手陽(阳)明大腸(肠)經(经, 经)



Large Intestine Meridian

### LI1: Shangyang 商陽(阳)

On the index finger, radial to the distal phalanx, 0.1 F-cun proximal-lateral to the radial corner of the index fingernail, at the intersection of the vertical line of the radial border of the fingernail and the horizontal line of the base of the index fingernail.



# Effect of Acupuncture vs Sham Procedure on Chemotherapy-Induced Peripheral Neuropathy Symptoms

## A Randomized Clinical Trial

Ting Bao, MD, DABMA, MS; Sujata Patil, PhD; Connie Chen, MD; Iris W. Zhi, MD, PhD; Qing S. Li, MS; Lauren Piulson, BS; Jun J. Mao, MD

### Mean Change in Chemotherapy Induced Peripheral Neuropathy Symptom Score at Week 8

Symptom	Real Acupuncture (n=24)	Sham Acupuncture (n=23)	Usual Care (n=21)
<b>Pain</b>	-1.75 (p=0.05)	-0.91 (p=0.31)	-0.19
<b>Tingling</b>	-1.83 (p=0.02)	-1.22 (p=0.18)	-0.14
<b>Numbness</b>	-1.54 (p=0.005)	-1.52 (p=0.003)	0.57

## Health-Related Quality of Life in Cancer Survivors with Chemotherapy-Induced Peripheral Neuropathy: A Randomized Clinical Trial

TING BAO <sup>a</sup>, RAYMOND BASER <sup>b</sup>, CONNIE CHEN <sup>c</sup>, MATTHEW WEITZMAN <sup>a</sup>, YI LILY ZHANG <sup>a</sup>, CHRISTINA SELUZICKI <sup>a</sup>, QJING SUSAN LI <sup>a</sup>, LAUREN PIULSON <sup>a</sup>, W. IRIS ZHI <sup>d</sup>

**Table 3.** Between-arm differences in changes from baseline

Outcome, week	RA-UC, mean (95% CI)	SA-UC, mean (95% CI)	RA-SA, mean (95% CI)
<b>FACT/GOG-Ntx</b>			
4	0.69 (−1.89 to 3.28)	0.80 (−1.77 to 3.38)	0.11 (−2.41 to 2.63)
8	4.17 (1.62 to 6.72) <sup>a</sup>	3.40 (0.81 to 5.98) <sup>b</sup>	−0.77 (−3.25 to 1.71)
12	1.86 (−0.68 to 4.41)	2.38 (−0.18 to 4.93) <sup>c</sup>	0.51 (−1.99 to 3.01)
<b>HADS anxiety</b>			
8	−1.23 (−2.61 to 0.16) <sup>c</sup>	−1.07 (−2.47 to 0.33)	0.15 (−1.20 to 1.50)
12	−0.78 (−2.18 to 0.62)	−0.62 (−2.02 to 0.78)	0.16 (−1.21 to 1.52)
<b>HADS depression</b>			
8	−0.49 (−1.81 to 0.83)	−1.70 (−3.04 to −0.37) <sup>b</sup>	−1.22 (−2.51 to 0.08) <sup>c</sup>
12	−0.42 (−1.75 to 0.92)	−0.46 (−1.80 to 0.87)	−0.05 (−1.35 to 1.25)



### CANCER PAIN SYNDROME

- Neuropathic pain<sup>f</sup>
- Paresthesias (tingling or prickling)
  - Shooting, "electrical"
  - Numbness
  - Allodynia (pain with non-painful stimulus)

### TREATMENT

**- Acupuncture**

- General measures:
  - ▶ Pharmacologic
    - ◊ Non-opioid/Adjuvant analgesics (See [PAIN-E] in the [NCCN Guidelines for Adult Cancer Pain](#))
      - Antidepressants: SNRIs (duloxetine<sup>g</sup>, TCAs, anticonvulsants)
    - ◊ Topicals
      - Patches (ie, lidocaine)
      - Creams/gels: Lidocaine
      - Compounded preparations (formulations of lidocaine, baclofen, ketamine, and amitriptyline)
  - ▶ Non-pharmacologic
    - ◊ CBT and psychological support (See [PAIN-C] in the [NCCN Guidelines for Adult Cancer Pain](#))
    - ◊ Physical modalities
      - Heat
      - Ice
      - Acupuncture
      - Transcutaneous electrical nerve stimulation (TENS) unit
- For moderate or severe pain, opioids and dual-action opioid agonist/noradrenaline reuptake inhibitor<sup>h,i</sup>
- See (PAIN-3, PAIN-4, and PAIN-5) in the [NCCN Guidelines for Adult Cancer Pain](#)
- Consider referral to pain management services, interventional specialist,<sup>j</sup> physical therapy, physical medicine and rehabilitation, integrative services, and/or palliative care as appropriate

<sup>f</sup> Also see [NCCN Guidelines for Adult Cancer Pain](#) and Loprinzi CL, et al. J Clin Oncol 2020;38:3325-3348.

<sup>g</sup> Duloxetine has the most evidence for treating neuropathic pain.

<sup>h</sup> [Principles of Opioid Use in Long-Term Survivors \(SPAIN-2\)](#).

<sup>i</sup> Initiating opioids in cancer survivors should be carefully considered if other interventions are unsuccessful.

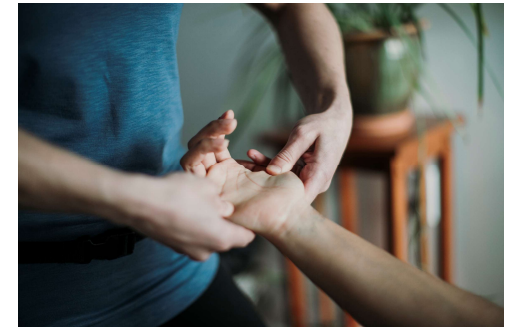
<sup>j</sup> Scrambler therapy can be considered. Loprinzi C, et al. Support Care Cancer 2020;28:1183-1197.

Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any patient with cancer is in a clinical trial. Participation in clinical trials is especially encouraged.

# Acupressure

- Uses standard acupoints
- Can stimulate release of endorphins and neurotransmitters involved in pain modulation
- Promotes relaxation and reduces stress
- Reduces inflammation



# Massage

- Involves applying pressure to muscle and connective tissue to reduce tension and pain
- Beneficial for pain, fatigue and anxiety
- Recommended for pain during palliative care





# Integrative Medicine for Pain Management in Oncology: Society for Integrative Oncology–ASCO Guideline

Jun J. Mao, MD, MSCE<sup>1</sup>; Nofisat Ismaila, MD, MSc<sup>2</sup>; Ting Bao, MD<sup>1</sup>; Debra Barton, PhD<sup>3</sup>; Eran Ben-Arye, MD<sup>4</sup>; Eric L. Garland, PhD<sup>5</sup>; Heather Greenlee, ND, PhD<sup>6</sup>; Thomas Leblanc, MD<sup>7</sup>; Richard T. Lee, MD<sup>8</sup>; Ana Maria Lopez, MD<sup>9</sup>; Charles Loprinzi, MD<sup>10</sup>; Gary H. Lyman, MD, MPH<sup>6</sup>; Jodi MacLeod, BA<sup>11</sup>; Viraj A. Master, MD, PhD<sup>12</sup>; Kavitha Ramchandran, MD<sup>13</sup>; Lynne I. Wagner, PhD<sup>14</sup>; Eleanor M. Walker, MD<sup>15</sup>; Deborah Watkins Bruner, PhD<sup>12</sup>; Claudia M. Witt, MD, MBA<sup>16</sup>; and Eduardo Bruera, MD<sup>17</sup>



# Chemotherapy Induced Peripheral Neuropathy

## Summary of Recommendations

### Chemotherapy-Induced Peripheral Neuropathy

#### Recommendation 1.8

- Acupuncture may be offered to patients experiencing chemotherapy-induced peripheral neuropathy from cancer treatment.

#### Recommendation 1.9

- Reflexology or acupressure may be offered to patients experiencing chemotherapy-induced peripheral neuropathy from cancer treatment.

Evidence-based/Informal consensus benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Low	Weak

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Low	Weak

### Integrative Therapies for Chemotherapy-Induced Peripheral Neuropathy (CIPN)

#### Key Messages

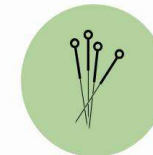
- Acupuncture may be used to help patients with CIPN
- Reflexology/Acupressure may be used to help patients with CIPN

CIPN is a **very common, persistent & debilitating** toxicity from chemotherapy



Painful symptoms **decrease quality of life and increase risk for falls**

#### What Can Help?



#### Acupuncture

The insertion of very thin needles through the skin at **strategic points on the body** to **balance one's energy**



#### Reflexology/Acupressure

Uses **gentle pressure on specific points** along the feet, hands, & ears to **reduce stress & improve body functioning**

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# General Cancer and Musculoskeletal Pain

## Summary of Recommendations

### General Cancer Pain or Musculoskeletal Pain

#### Recommendation 1.3

- Acupuncture may be offered to patients experiencing general pain or musculoskeletal pain from cancer.

#### Recommendation 1.4

- Reflexology or acupressure may be offered to patients experiencing pain during systemic therapy for cancer treatment.

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Intermediate	Moderate

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Intermediate	Moderate

### Integrative Therapies for General Cancer and Musculoskeletal Pain

**Very common** among patients and **can persist for years** after cancer treatment

Pain management requires an **interdisciplinary approach**

#### What Can Help?

**Acupuncture**  
Use of very thin needles through skin at strategic points on the body to **balance one's energy**

**Hatha Yoga**  
Physical postures, breathing and meditation used to **reduce stress and harmonize the mind and body**

**Reflexology/Acupressure**  
Gentle pressure to specific body points used to **reduce stress and improve functioning**

**Massage Therapy**  
Manipulation of the body's soft tissues to **promote relaxation, improve blood flow, and relieve muscle tension**

**Guided Imagery**  
A type of focused relaxation used for **stress reduction**

**SIO** Integrative Oncology

Get more info here

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# Procedural, Surgical or Palliative Pain

## Summary of Recommendations

### Procedural or Surgical Pain

#### Recommendation 1.10

- Hypnosis may be offered to patients experiencing procedural pain in cancer treatment or diagnostic workups.

#### Recommendation 1.11

- Acupuncture or acupressure may be offered to patients undergoing cancer surgery or other cancer-related procedures such as bone marrow biopsy.

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Intermediate	Moderate
Evidence-based/Informal consensus benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Low	Weak

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## Integrative Therapies for Procedural, Surgical, or Palliative Pain

### Key Messages

- Acupuncture or acupressure may be used for procedural cancer pain
- Hypnosis may be used for procedural cancer pain
- Music therapy may be used for surgical cancer pain
- Massage may be used for palliative and hospice cancer-related pain

### What Can Help?

#### Acupuncture

Use of very thin needles through skin at strategic points on the body to **balance one's energy**



#### Hypnosis

A changed state of awareness and increased relaxation used to **create a state of focused attention and increased suggestibility**



#### Music Therapy

Use of personalized music modalities to help improve quality of life and reduce stress



#### Massage Therapy

Manipulation of the body's soft tissues to **promote relaxation, improve blood flow, and relieve muscle tension**



More info here



## AT-A-GLANCE GUIDELINE RECOMMENDED INTERVENTIONS

Symptom Setting	Integrative Therapy	Type of Recommendation	Evidence Quality	Strength of Rec.
Aromatase inhibitor-related joint pain	<ul style="list-style-type: none"> <li>• Acupuncture</li> <li>• Yoga</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based</li> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediate</li> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate</li> <li>• Weak</li> </ul>
General cancer pain	<ul style="list-style-type: none"> <li>• Acupuncture</li> <li>• Reflexology or acupressure</li> <li>• Massage</li> <li>• Hatha yoga</li> <li>• Guided imagery with PMR</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based</li> <li>• Evidence-based</li> <li>• Evidence-based</li> <li>• Evidence-based</li> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediate</li> <li>• Intermediate</li> <li>• Low</li> <li>• Low</li> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate</li> <li>• Moderate</li> <li>• Moderate</li> <li>• Weak</li> <li>• Weak</li> </ul>
CIPN	<ul style="list-style-type: none"> <li>• Acupuncture</li> <li>• Reflexology or acupressure</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based/Informal consensus</li> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Low</li> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• Weak</li> <li>• Weak</li> </ul>
Procedural pain	<ul style="list-style-type: none"> <li>• Hypnosis</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediate</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate</li> </ul>
Surgical pain	<ul style="list-style-type: none"> <li>• Acupuncture or acupressure</li> <li>• Music therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based/Informal consensus</li> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Low</li> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• Weak</li> <li>• Weak</li> </ul>
Pain during palliative care	<ul style="list-style-type: none"> <li>• Massage</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediate</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate</li> </ul>

Mao et al *J Clin Oncol* 2022  
[ascopubs.org/survivorship-guidelines](https://ascopubs.org/doi/10.1200/JCO.2022.40.34.3998-4024)

Abbreviations. CIPN, chemotherapy-induced peripheral neuropathy; PMR, progressive muscle relaxation; Rec, recommendation



# Mind/Body Practices

- Meditation
- Yoga
- Tai Chi
- Qi Gong
- Art therapy
- Music therapy



# Mindfulness

- Meditation (MBSR/MBCT)
  - Anxiety/depression (Grade A)
  - Mood disturbance/depressive symptoms (Grade A)
  - Improving QOL in breast cancer patients (Grade A)
- Music therapy
  - Reduce anxiety during cancer treatments/procedures (Grade B)
- Progressive Muscle Relaxation and Guided Imagery
  - Evidence for mood disturbance/depressive symptoms (Grade A)



# Yoga

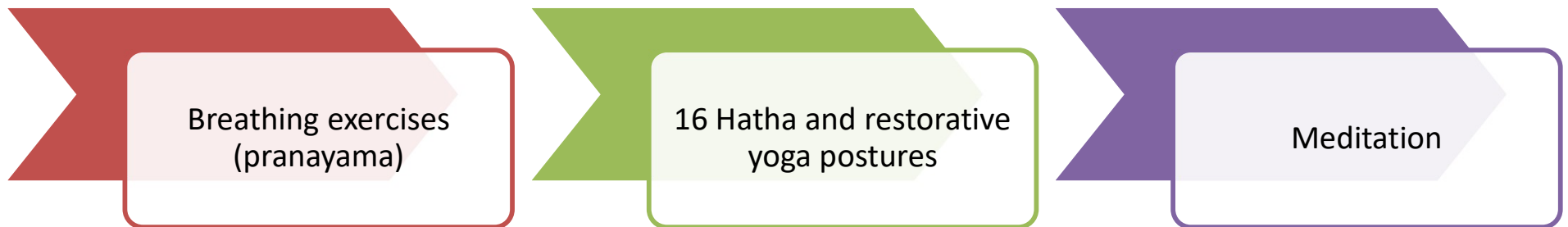
- Different types of yoga – need to be tailored
  - Asanas (poses), exercises, stretches
  - Meditation, breathing exercises
- Grade B evidence for treating mood disturbance and depressive symptoms
- Grade B evidence for reducing anxiety
- Evidence to support benefit for neuropathy





# UR Yoga for Cancer Survivors

## YOCAS<sup>®</sup>



Clinical Trial > [Integr Cancer Ther.](#) 2016 Sep;15(3):263-71. doi: 10.1177/1534735415617021.  
Epub 2015 Nov 29.

### YOCAS<sup>®</sup> Yoga Reduces Self-reported Memory Difficulty in Cancer Survivors in a Nationwide Randomized Clinical Trial: Investigating Relationships Between Memory and Sleep

Michelle C Janelins<sup>1</sup>, Luke J Peppone<sup>2</sup>, Charles E Heckler<sup>2</sup>, Shelli R Kesler<sup>3</sup>, Lisa K Sprod<sup>4</sup>, James Atkins<sup>5</sup>, Marianne Melnik<sup>6</sup>, Charles Kamen<sup>2</sup>, Jeffrey Giguere<sup>7</sup>, Michael J Messino<sup>5</sup>, Supriya G Mohile<sup>2</sup>, Karen M Mustian<sup>2</sup>

[Integr Cancer Ther.](#) 2016 Sep; 15(3): 263–271.  
Published online 2015 Nov 29. doi: [10.1177/1534735415617021](#)

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Investigating Relationships Between Memory and Sleep













[Michelle C. Janelins](#), PhD, MPH,<sup>1,2</sup> [Luke J. Peppone](#), PhD, MPH,<sup>1,2</sup> [Charles E. Heckler](#), PhD, MS,<sup>1,2</sup> [Shelli R. Kesler](#), PhD,<sup>3</sup> [Lisa K. Sprod](#), PhD, MPH,<sup>4</sup> [James Atkins](#), MD,<sup>5</sup> [Marianne Melnik](#), MD,<sup>6</sup> [Charles Kamen](#), PhD,<sup>1,2</sup> [Jeffrey Giguere](#), MD,<sup>7</sup> [Michael J. Messino](#), MD,<sup>5</sup> [Supriya G. Mohile](#), MD,<sup>1,2</sup> and [Karen M. Mustian](#), PhD, MPH<sup>1,2</sup>

PMCID: PMC4884662  
NIHMSID: [NIHMS750546](#)  
PMID: [26621521](#)



## ASCO Special Articles

# Integrative Oncology Care of Symptoms of Anxiety and Depression in Adults With Cancer: Society for Integrative Oncology–ASCO Guideline

Linda E. Carlson, RPsych, PhD<sup>1</sup> ; Nofisat Ismaila, MD<sup>2</sup> ; Elizabeth L. Addington, PhD<sup>3</sup> ; Gary N. Asher, MD, MPH<sup>4</sup>; Chloe Atreya, MD, PhD<sup>5</sup>; Lynda G. Balneaves, RN, PhD<sup>6</sup> ; Joke Bradt, MT-BC, PhD<sup>7</sup>; Nina Fuller-Shavel, MB BChir, MA<sup>8</sup> ; Joseph Goodman, MD<sup>9</sup> ; Caroline J. Hoffman, OAM, RN, BSW, PhD<sup>10</sup>; Alissa Huston, MD<sup>11</sup> ; Ashwin Mehta, MD<sup>12</sup>; Channing J. Paller, MD<sup>13</sup> ; Kimberly Richardson, MA<sup>14</sup>; Dugald Seely, ND, MSc<sup>15,16</sup> ; Chelsea J. Siwik, PhD<sup>17</sup> ; Jennifer S. Temel, MD<sup>18</sup> ; and Julia H. Rowland, PhD<sup>19</sup> 

DOI <https://doi.org/10.1200/JCO.23.00857>



# Summary of Anxiety Recommendations

## Clinical Question 1

- What integrative therapies are recommended for managing symptoms of anxiety experienced after diagnosis or during active treatment in adults with cancer?

## Recommendation 1.1

- Mindfulness-based interventions (MBIs) should be offered to people with cancer to improve anxiety symptoms during active treatment.

Evidence-based  
benefits outweigh harms

Evidence Quality  
High

Strength of Recommendation  
Strong



# Summary of Depression Recommendations

## Clinical Question 3

- What integrative therapies are recommended for managing symptoms of depression experienced after diagnosis or during active treatment in adults with cancer?

## Recommendation 3.1

- Mindfulness-based interventions should be offered to people with cancer to improve depression symptoms during active treatment.

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
High	Strong



**GUIDELINE AT-A-GLANCE RECOMMENDED INTERVENTIONS**

**Anxiety**

**During Active Treatment**

- Mindfulness-based interventions
- Yoga
- Hypnosis
- Relaxation therapy
- Music therapy or music-based interventions
- Reflexology
- Lavender essential oil inhalation

**Post-Treatment**

- Mindfulness-based interventions
- Yoga
- Acupuncture
- Tai chi and/or qigong
- Reflexology

**Depression**

**During Active Treatment**

- Mindfulness-based interventions
- Yoga
- Relaxation therapy
- Music therapy or music-based interventions
- Reflexology

**Post-Treatment**

- Mindfulness-based interventions
- Yoga
- Tai chi and/or qigong

**Carlson et al *J Clin Oncol* 2023**  
[ascopubs.org/survivorship-guidelines](https://ascopubs.org/journal/ascopubs/ascoguidelines)

Note. Evidence quality and strength of recommendations are available in the guideline publication.



# Nutrition



# Nutrition Benefits

- Improve overall health
- Maintain a healthy body weight
- Decrease side effects during and after treatment
- Learn to cook/prepare meals using, plant-based, unprocessed foods



# ACS Guidelines for Nutrition

## Follow a healthy eating pattern at all ages.

- A healthy eating pattern **includes**:
  - Foods that are high in nutrients in amounts that help you get to and stay at a healthy body weight
  - A variety of vegetables – dark green, red and orange, fiber-rich legumes (beans and peas), and others
  - Fruits, especially whole fruits in a variety of colors
  - Whole grains
- A healthy eating pattern **limits or does not include**:
  - Red and processed meats
  - Sugar-sweetened beverages
  - Highly processed foods and refined grain products

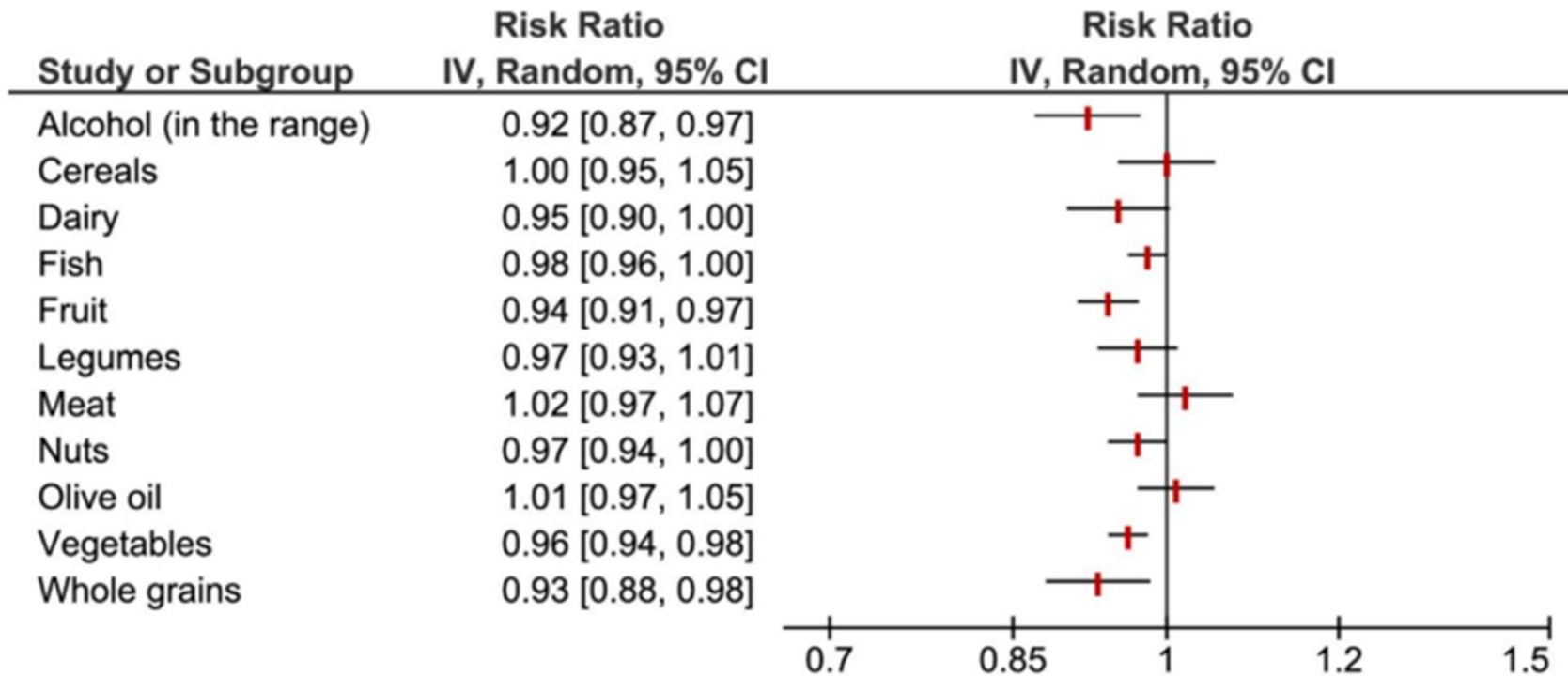
## It is best not to drink alcohol.

- People who do choose to drink alcohol should have no more than 1 drink per day for women or 2 drinks per day for men.





# Adherence to Mediterranean Diet and Risk of Cancer: An Updated Systematic Review and Meta-Analysis



	N	RR	95% CI
All-cause mortality among survivors	8	0.75	0.66, 0.86





MEDICINE of  
THE HIGHEST ORDER



# Establishing an Integrative Oncology Service: Essential Aspects of Program Development

## *A SIO Clinical Practice Committee Consensus Paper*

Judith Lacey, Alissa Huston, Gabriel Lopez, Julia Ruiz Vozmediano, Chun Sing Lam, Santhosshi Narayanan, Weidong Lu, Ursula Wolf, Ishwaria M. Subbiah, Patrick Richard, Ana Maria Lopez, Santosh Rao, Moshe Frenkel

**Table 2** Components of the IO initial consultation

1. Patient history, current or recent treatment, goals: the integrative query must be structured in different items and reflects on patient concerns and patient-reported outcome measures (PROMs)
  - (a) Personal and family history
  - (b) Oncology history: Detailed diagnosis, staging, prognosis, previous, current and planned treatments, side effects
  - (c) Carry out a comprehensive assessment within the sociocultural context of the patient
  - (d) Exploring the main concerns that patients have in coming to this consultation
2. Current and past use of complementary therapies or other therapies
3. Lifestyle approach/changes and overall health
4. Physical activity
5. Nutrition and diet
6. Medications
7. Natural products (herbs and dietary supplements) and complementary medication
8. Emotional health and well-being, mind-body-spirit
9. Sleep and other concerns
10. Development of a multidisciplinary plan of care utilizing an integrative approach

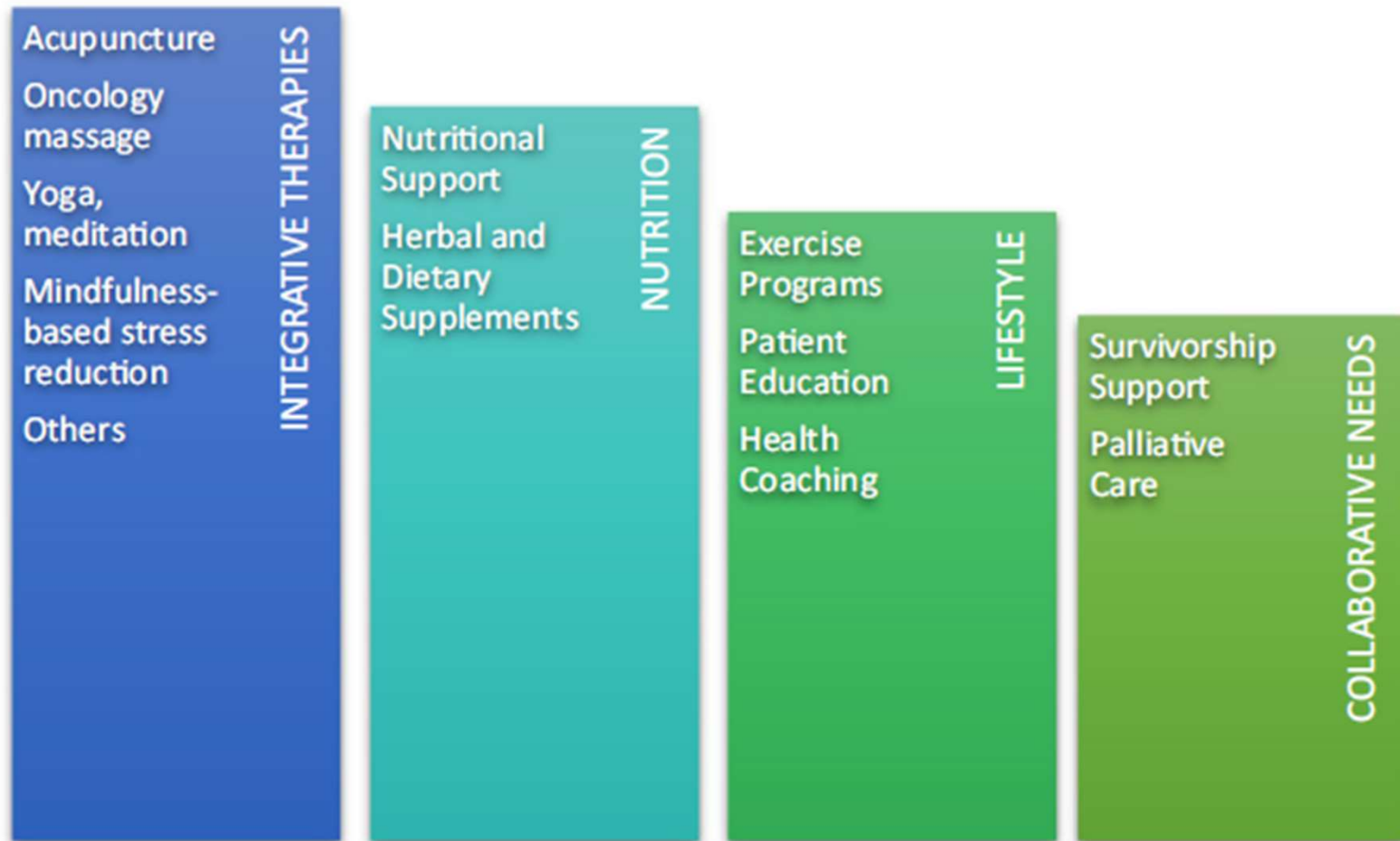


[Establishing an Integrative Oncology Service: Essential Aspects of Program Development - PubMed \(nih.gov\)](#)

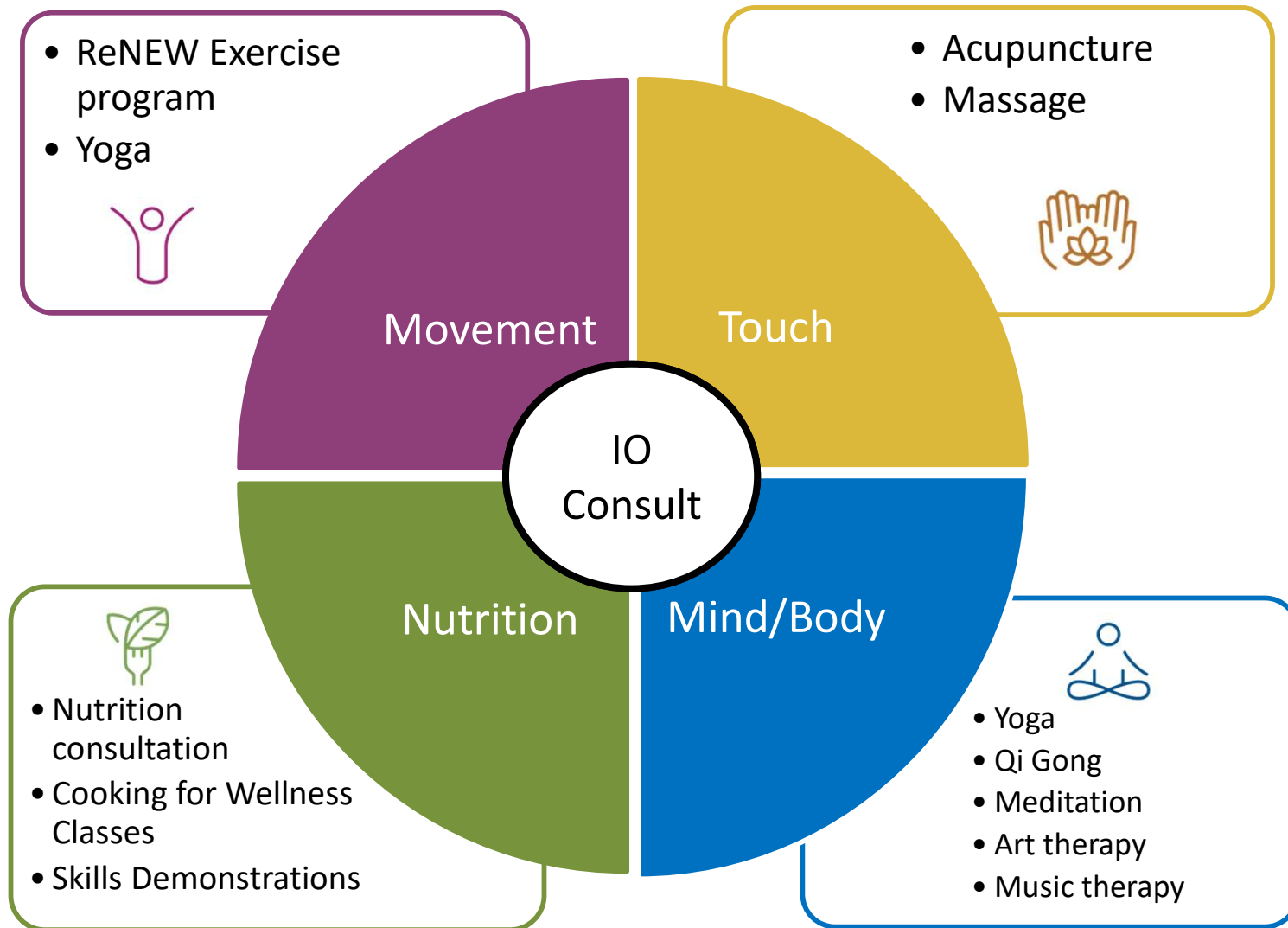


# Establishing an Integrative Oncology Service: Essential Aspects of Program Development

*A SIO Clinical Practice Committee Consensus Paper*



# Pluta Integrative Oncology and Wellness Center



# IO Implementation

- Role of the IO Consultation
- Focus on core components
- Partner with local community resources
  - *Oncology trained providers*
- Education and training



# Who Will Benefit from IO?

- Patients with symptoms not optimally managed
  - fatigue, anxiety, sleep, hot flashes, neuropathy
- Patients looking to increase quality of life
- Patients newly diagnosed, on active treatment or those in long term survivorship
- Patients wishing to actively partner in their care



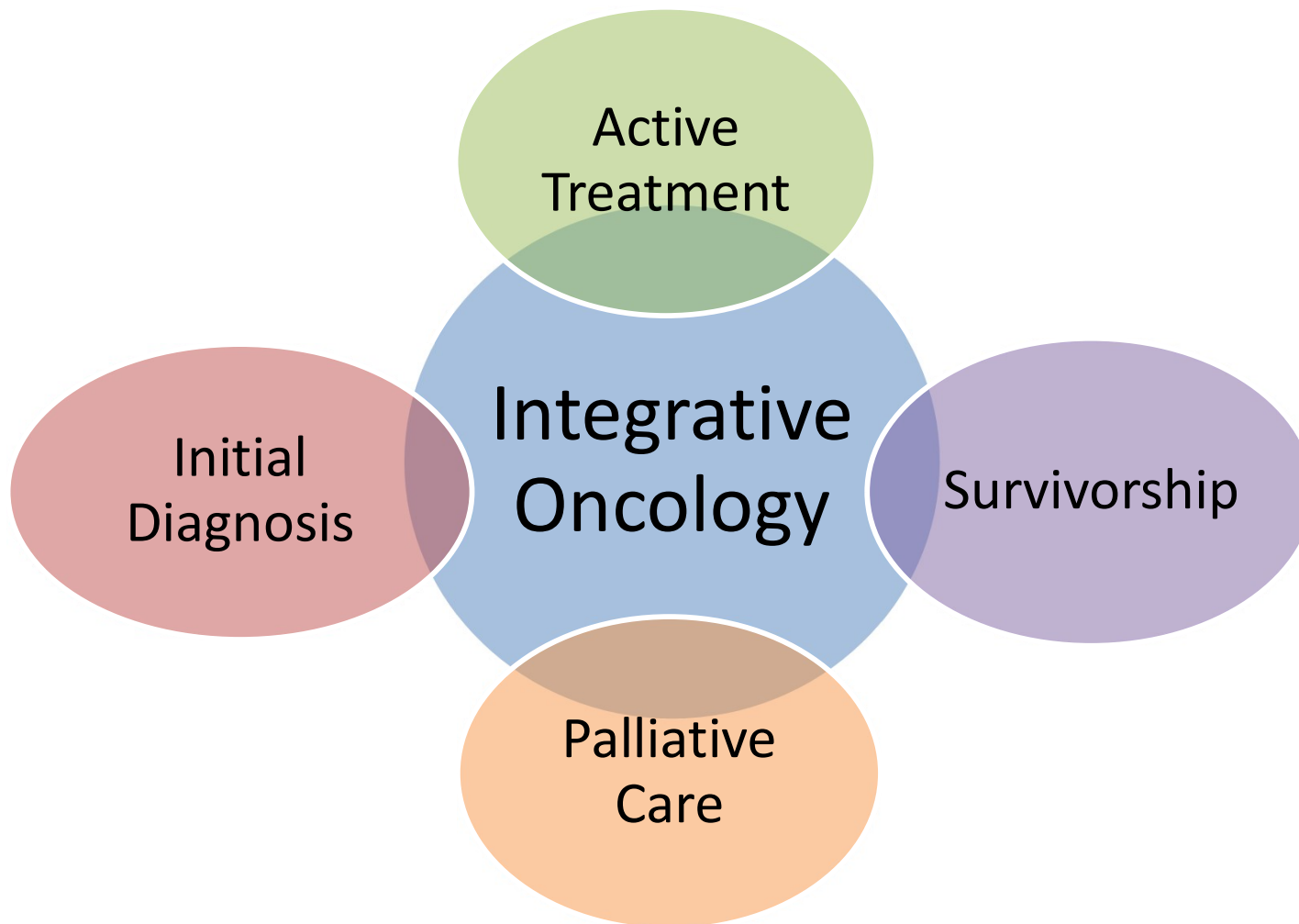
# Indirect Benefits

- Engagement in IO modalities provide a sense of control at a time when most patients feel a distinct loss of control
- Therapies to reduce patients' stress and anxiety also improve physical and emotional well-being during and after treatment





# Integrative Oncology throughout the Cancer Care Continuum



# Conclusions

- Integrative Oncology plays an important role in supporting patients throughout their cancer treatment journey
- There remains a strong need for programs to provide evidence-based education and recommendations for the use of integrative oncology care for cancer patients





# THANK YOU

