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Combating Fatigue from an Integrative Medicine Approach

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Integrative Medicine Program

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Land Acknowledgement

Fred Hutchinson Cancer Center acknowledges the Coast Salish peoples of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Puyallup, Suquamish, Tulalip and Muckleshoot nations.



3 Key Points for Today's Presentation

- Define Integrative Medicine and Integrative Oncology
- Define cancer-related fatigue and understand contributing factors
- Identify evidence-based Integrative Medicine strategies and practices to “combat” cancer-related fatigue





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Part 1: Define Integrative Medicine

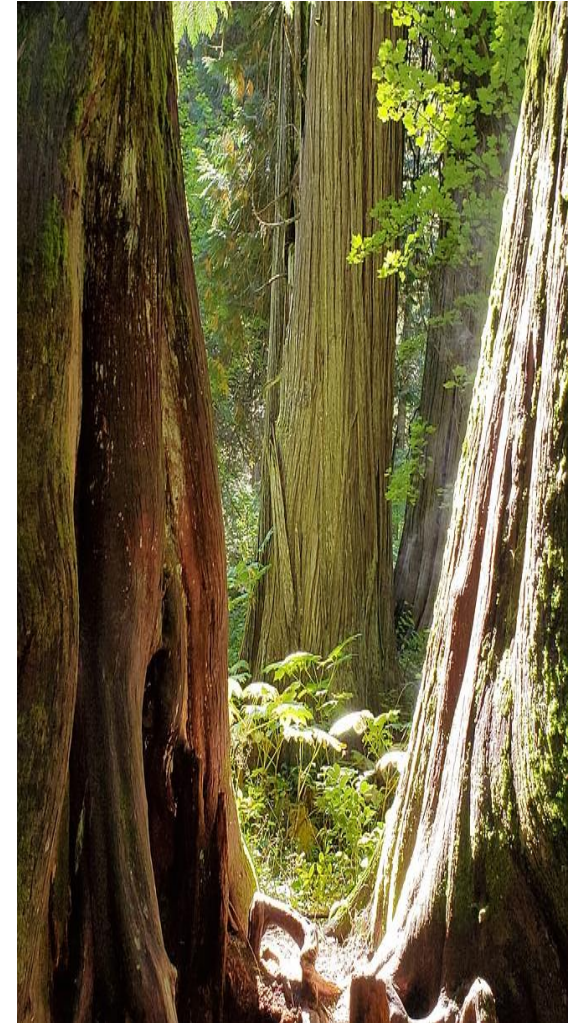
Definitions

Traditional Therapies - culturally-based health practices

Alternative Therapies - used *in place of* conventional medicine

Complementary Therapies - used *with* conventional medicine

Integrative Medicine (IM) - *coordinated use of* evidence-based complementary therapies



Integrative Oncology

- Patient-centered, evidence-informed field of cancer care
- Utilizes mind and body practices, natural products, and lifestyle modifications
- Aims to optimize health, quality of life, and clinical outcomes
- Empowers people to prevent cancer and become active participants before, during, and beyond cancer treatment



Integrative Oncology Therapies & Modalities



Complementary & Integrative Medicine Use Among Cancer Survivors

- **High and rising use** by cancer patients and survivors
 - 60-80% of US cancer survivors use integrative medicine
- **Patient goals for use**
 - Increase Survival
 - Increase the efficacy treatment
 - Prevent & treat side effects
 - Treat existing comorbidities
 - Improve the quality of life
 - Decrease stress
 - Feel better
 - General nutrition consultation

People need advice on:

- What works
- What doesn't work
- What is safe

Integrative Medicine at Fred Hutch: Program Framework

- Support patients during and after conventional treatment, throughout survivorship, and near end of life
- Services focus on symptom management and quality of life: pain, fatigue, anxiety/depression, stress, nausea, disordered sleep, peripheral neuropathy, nutrition, and physical activity
- Resources are available for patients, families, clinicians, and Fred Hutch staff with an educational focus
- We provide a platform for novel patient-centered research

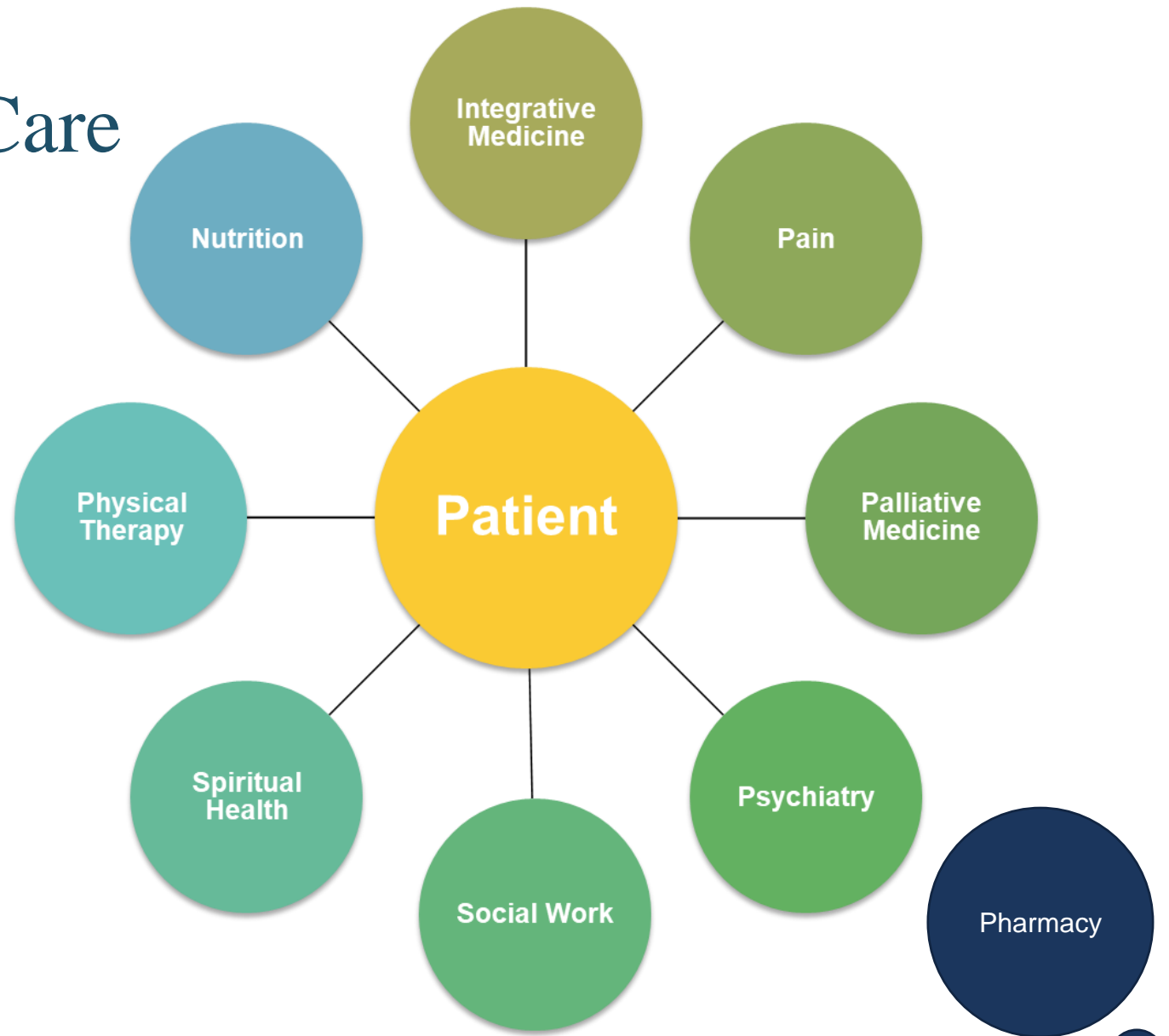


Integrative Medicine



Integrative Medicine: Division of Supportive Care

- Collaboration
- Coordination
- Referrals



Integrative Medicine Clinical Team

**Naturopathic Physician &
Medical Director**

Heather Greenlee, ND, PhD



Manager, Integrative Medicine

Jonathan Siman, DACM, LAc



Naturopathic Physician

Zach Kadro, ND, MPH



Nurse Practitioner

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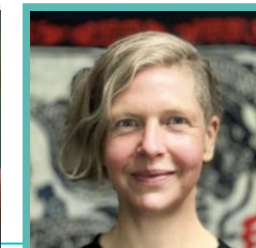
Clinical Nurse Coordinator

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Acupuncture Team

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Part 2: Define fatigue and contributing factors

What is fatigue?

- An overall feeling of the following:
 - Tiredness, lack of energy, or lack of motivation
 - Difficulty or inability to initiate activity
 - Reduced capacity to maintain activity
 - Difficulty with concentration, memory, and emotional stability



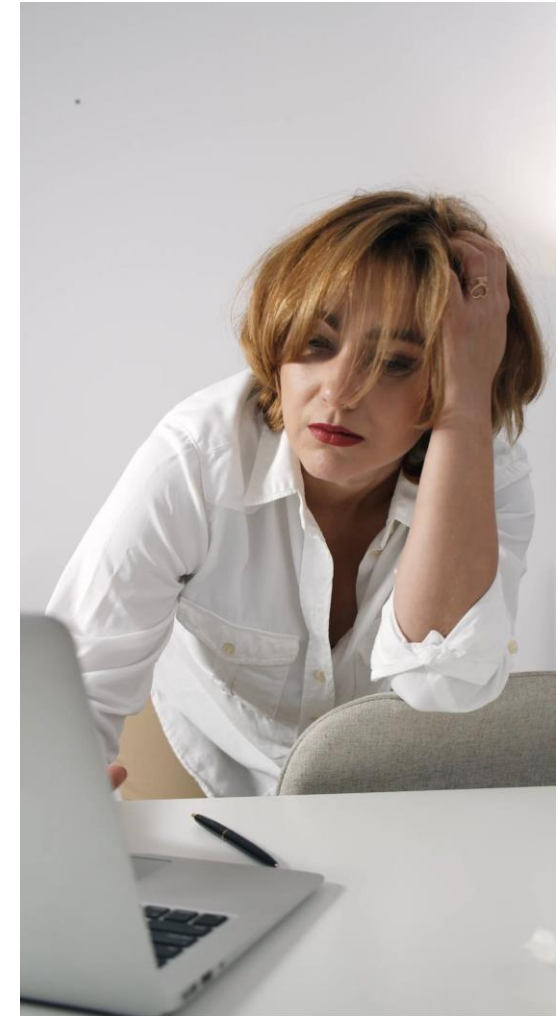
What is cancer-related fatigue (CRF)?

“Cancer-related fatigue (CRF) is a distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.”



How do people describe fatigue?

- Tired. Weak. Exhausted.
- Lazy. Weary. Worn-out.
- Heavy. Slow.
- Like they have no energy or get up and go.



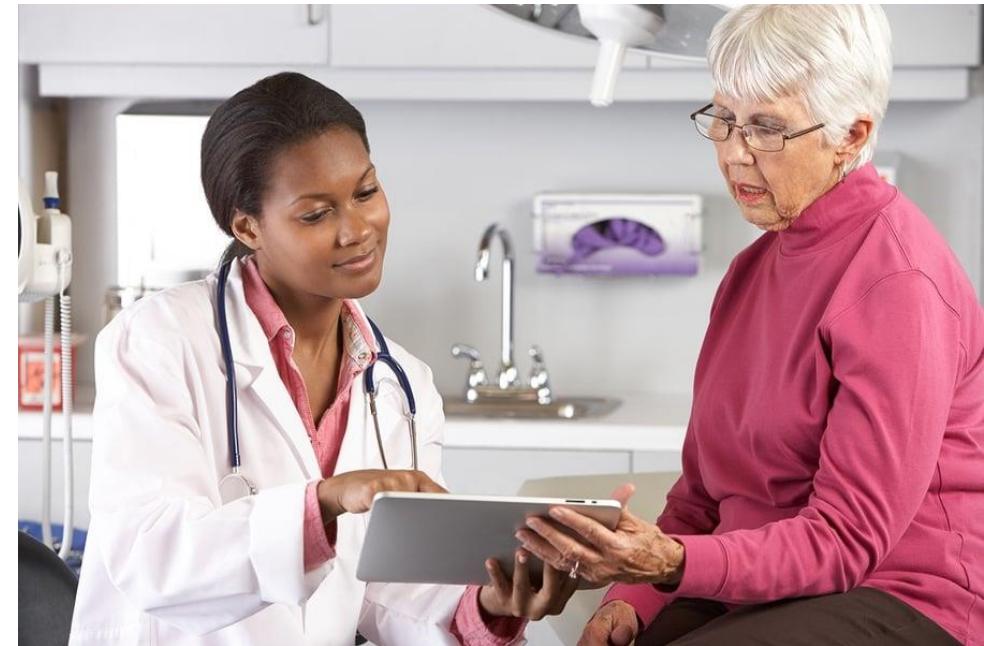
How common is cancer-related fatigue?

- Fatigue is the most common side effect of cancer treatment
- 80% report fatigue during chemo or radiation
- 39-90% report fatigue while undergoing cancer treatment
- 19-82% report fatigue post-treatment
- For some, severe fatigue may be significant long into survivorship: 30% of stage I-III breast cancer survivors from diagnosis to year 4



How do we rate fatigue?

- Ask the person to rate it on a scale from 0-10
- 0 = no fatigue; 10 = worst imaginable fatigue
- 1-3 = mild fatigue
- 4-6 = moderate fatigue
- 7-10 = severe fatigue



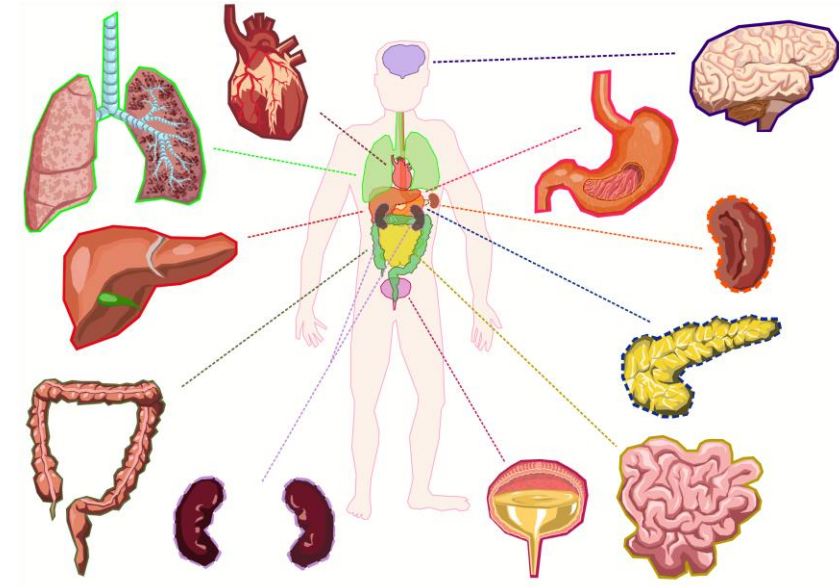
What areas of life does fatigue (CRF) impact?

- Mood. Physical function.
- Work performance. Cognitive performance.
- Social interaction. Family care.
- School work. Community activities.
- Sense of self.
- Activities of daily living in older cancer survivors.



What are contributing factors for CRF?

- Cancer treatment
- Pain, depression, anxiety, emotional distress, sleep disturbances
- Nutritional issues: weight/caloric intake
- Alcohol/substance abuse
- Activity level: excessive inactivity
- Anemia
- Medications: sleep aids, pain medications, antiemetics
- Comorbidities: heart, lungs, kidneys, endocrine, arthritis, neuromuscular





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Part 3: Identify Integrative Medicine strategies and practices to “combat” fatigue

“Combat” fatigue by addressing contributing factors

- Pain, depression, anxiety, emotional distress, sleep disturbances
- Nutritional issues: weight/caloric intake
- Alcohol/substance abuse
- Activity level
- Complementary therapies or alternatives to medication: sleep aids, pain medications, or antiemetics
- Treat underlying medical conditions



Integrative Oncology Therapies & Modalities





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Lifestyle: Nutrition

Lifestyle: Nutrition

- Nutritional issues
- Underweight?
- Overweight?
- Caloric intake changes?
- Cancer-treatment-related issues (gastrectomy, esophagectomy, colectomy)
- Work with a dietitian/nutritionist to assess and address nutritional needs



Lifestyle: Nutrition for Cancer Prevention



©World Cancer Research Fund International dietandcancerreport.org

Lifestyle: Nutrition

HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.


VEGETABLES
The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

FRUITS
Eat plenty of fruits of all colors.


WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.


WHOLE GRAINS
Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

 **STAY ACTIVE!**

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The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu 

Lifestyle: Nutrition Study - Fatigue Reduction Diet

- **Purpose:** Fatigue is linked to chronic inflammation and diets high in antioxidant nutrients are associated with lesser prevalence and severity of fatigue
- **Population:** Stage 0 to III breast cancer survivors who had completed treatment (N=30)
- **Intervention:** Fatigue Reduction Diet (FRD) a 3-month diet (no change in total calories) rich in fruit, vegetables, whole grains, and omega-3 fatty acid-rich foods (fish, walnuts)
- **Comparison:** General health curriculum (GHC)
- **Outcome:** Fatigue (Brief Fatigue Inventory 0-10) and sleep quality (19 items)



Lifestyle: Nutrition Intervention

- At least half of grain intake from whole grains
- Five servings of vegetables (one leafy green, one tomato, and one yellow or orange)
- Two servings of fruit (one high in vitamin C)
- One serving of fatty fish
- One serving of omega-3 fatty acid-rich nuts, seeds, or their associated oils (two servings of nuts or seeds for vegetarians)



Lifestyle: Nutrition Intervention

- Significant decrease in fatigue in FRD group compared to GHC ($p < 0.01$)
- Significant decrease in sleep interference in FRD compared to GHC group ($p = 0.03$)

Table 3

Fatigue and sleep measures by treatment group and visit

Measures	Fatigue reduction diet <i>N = 15</i>		General health curriculum <i>N = 15</i>	
	Mean \pm SD		Mean \pm SD	
	Baseline	3 months	Baseline	3 months
Brief fatigue inventory ^a	5.4 \pm 1.1	3.0 \pm 2.2 ^a	5.6 \pm 1.3	4.9 \pm 1.6
PSQI ^d total score (all) ²	6.8 \pm 3.9	3.9 \pm 2.1	7.5 \pm 3.4	8.5 \pm 3.4
PSQI ^d total score ^b				
Greater than or equal to 5	8.3 \pm 3.3	3.9 \pm 2.4 ^c	8.8 \pm 2.6	9.5 \pm 3.3

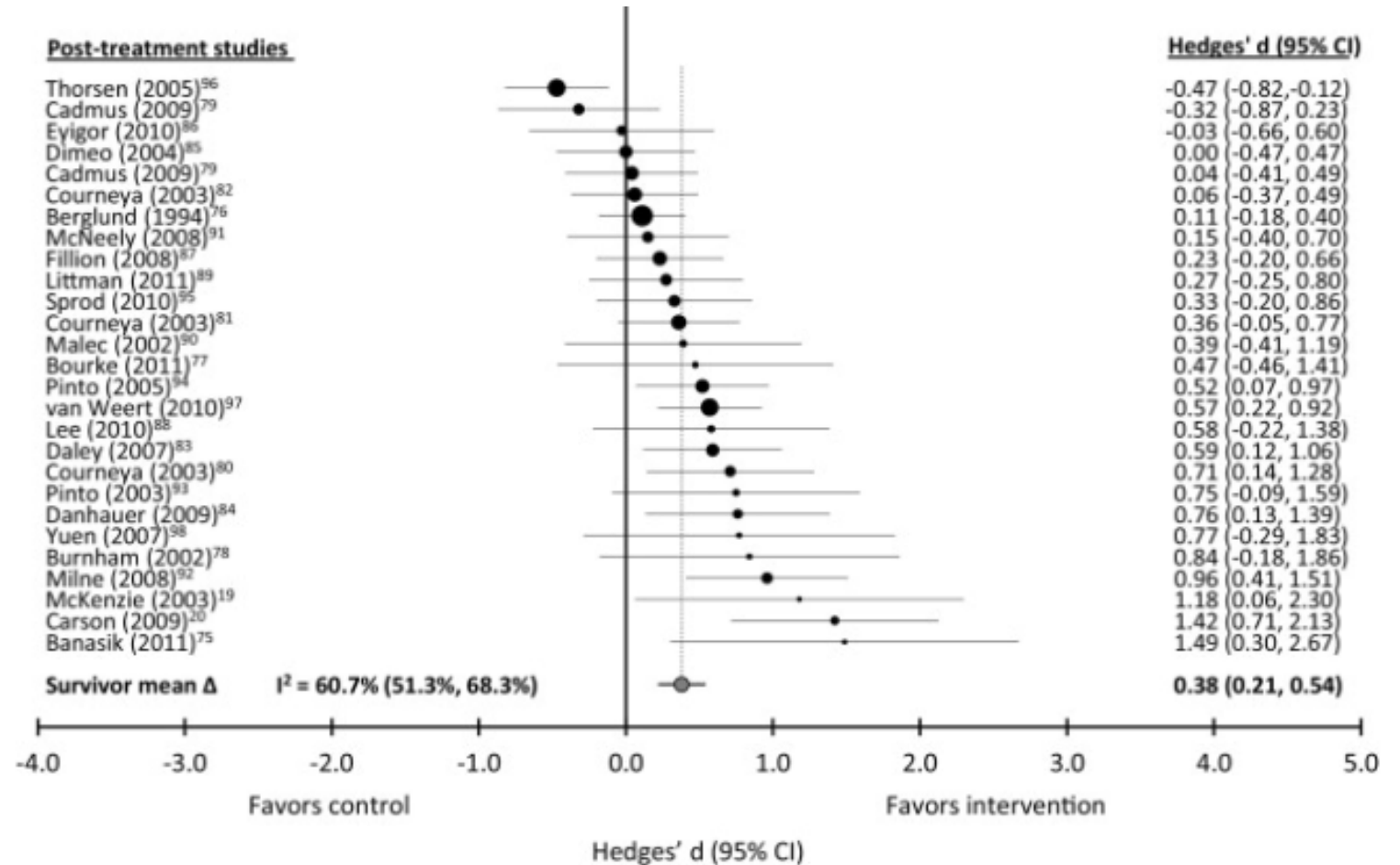


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Lifestyle: Physical Activity

Lifestyle: Physical Activity

- Meta-analysis of 27 post-treatment exercise trials found exercise training significantly reduced fatigue
- Number needed to treat was 4 people



Lifestyle: Physical Activity

- Actively encourage all patients to engage in a moderate level of physical activity after cancer treatment
- 150 minutes of moderate aerobic exercise per week
- Example: fast walking, cycling, or swimming
- Plus: two to three sessions per week of strength training, such as weightlifting, unless contraindicated



Lifestyle: Physical Activity Considerations

- Walking programs are generally safe for most cancer survivors
- Consult with a physician before starting any program
- Survivors with a high risk of injury (neuropathy, cardiomyopathy, treatment effects) should be referred to a physical therapist or exercise specialist
- If lymphedema (breast cancer survivors) consult with an exercise specialist before upper-body strength training
- Severe fatigue interfering with function: referral to physical therapist or physiatrist



Lifestyle: Physical Activity Tips

- Start slowly and increase from 10 to 20 minutes
- Take frequent breaks as needed
- Goal is to preserve and improve function
- Modify activity as needed
- Start by walking, invite others to join
- Use a pedometer and slowly work toward 10,000 steps per day
- Use a journal and record your activity, symptoms, and how you feel



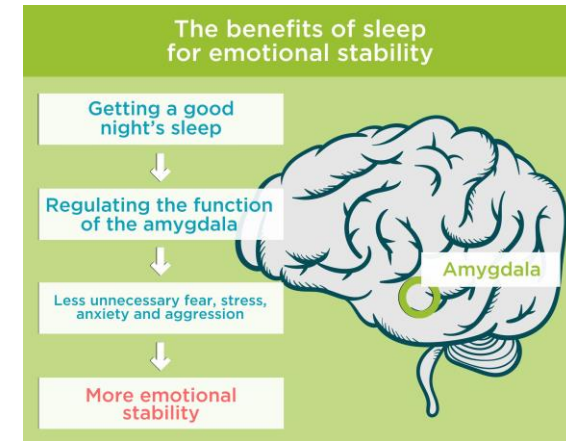


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Mind and Body Practices:

Psychoeducational Therapies

- Psychoeducational therapies have been shown to be effective for fatigue through randomized trials and systematic reviews
- One effective internet-based intervention provided tailored information on:
- Cancer-related fatigue, physical activity, pain control, distress management, sleep hygiene, nutrition, and energy conservation



Mindfulness

- Mindfulness is an attribute of consciousness
- Long believed to promote well-being
- Awareness of present events and experiences
- Mindfulness-Based Stress Reduction (MBSR) was founded by Jon Kabat-Zinn
- Practices to cultivate non-judgmental acceptance of present-moment awareness



Mind and Body Practices: Mindfulness-based approaches

- MBSR has been shown in women with breast cancer to reduce individual symptoms of the following symptoms:
 - Fatigue
 - Mood disturbance
 - Stress-related anxiety
 - Depression, anger, and confusion
 - Improved sleep quality
 - Anxiety, fears of recurrence



Mindfulness-based stress reduction (MBSR)

- Systematic review and meta-analysis of 15 randomized controlled trials (n=3008 participants) with mixed cancer types
- Results: significant reductions in fatigue compared to usual care or no intervention
- Eight weeks of MBSR, once a week for two hours, supervised by experts, has a significant effect on CRF



Mind and Body Practices: Resources for Mindfulness

- Progressive Muscle Relaxation (PMR)
- Mindful breathing, Mindfulness meditation
- [Mind-Body Relaxation Resources 10-7-22.pdf](#)
[\(\[seattlecca.org\]\(http://seattlecca.org\)\)](http://seattlecca.org)



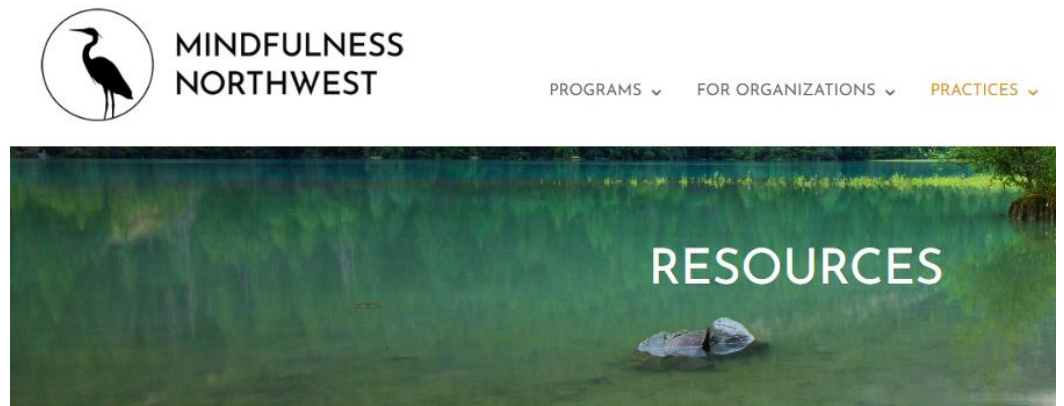
Integrative Medicine

A graphic consisting of a dark blue rounded rectangle with a light blue circle on its right side, overlaid on a photograph of hands in a yoga mudra. The text "Mind-Body Relaxation Resources" is centered in white within the dark blue area.

**Mind-Body
Relaxation Resources**

Mind and Body Practices: Resources for MBSR

- Community Resources: find a local class
- Mindfulness Northwest (Seattle-based)
- Guided audio: awareness breathing, meditation, body scans
- <https://mindfulnessnorthwest.com/practice/>



Psychosocial Service Resources

Organization	Web address
National Cancer Institute	http://www.cancer.gov/
American Cancer Society	http://www.cancer.org/
LIVESTRONG	http://www.livestrong.org/
Cancer Support Community	http://www.cancersupportcommunity.org/
CancerCare	http://www.cancercare.org/
Cancer.Net	http://www.cancer.net/
American Psychosocial Oncology Society	http://www.apossociety.org/survivors/helpline/helpline.aspx
Fred Hutch Supportive Care Services	Supportive Care Services (fredhutch.org)

Mind and Body Practices: Yoga

- Yoga has been shown to improve fatigue and depression in cancer survivors
- Meta-analysis of 29 studies (n=1828 participants)
- Average duration of the intervention was 2.3 months
- Average length of each yoga session was 77 minutes
- Average number of sessions was 19.8



Mind and Body Practices: Acupuncture

- Acupuncture has been shown to improve fatigue in cancer survivors
- Systematic review and meta-analysis of 9 randomized controlled trials (n=809 participants)
- Six studies reported significant improvement in CRF compared to controls
- Duration ranged from 2-10 weeks
- Needle retention times ranged from 20-45 minutes
- Number of sessions ranged from 6-10



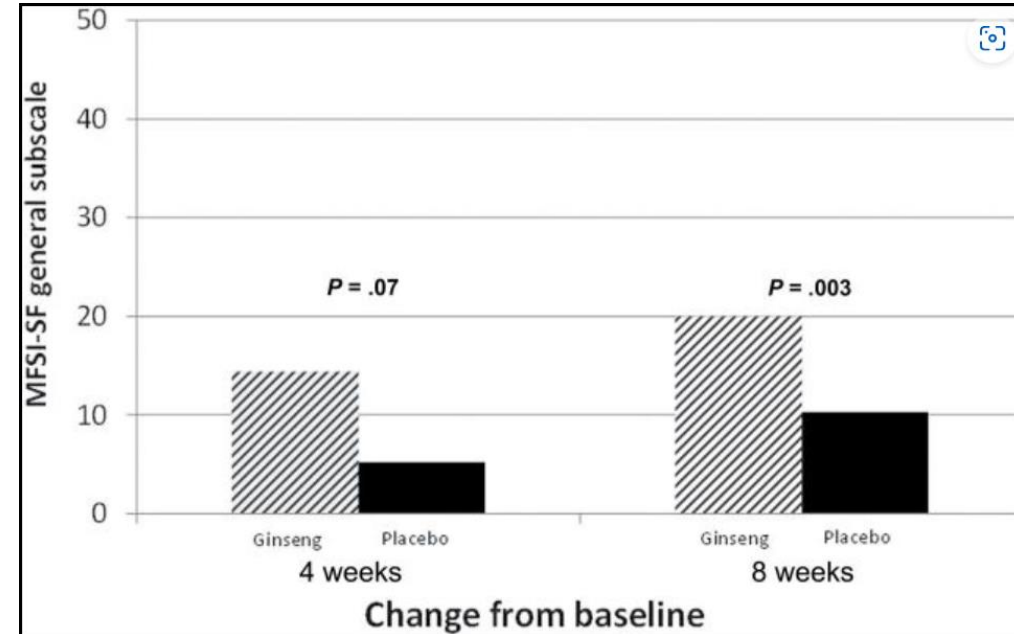


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Natural Products:

Natural Products: Wisconsin Ginseng (*Panax quinquefolius*)

- A multisite, double-blind trial randomized fatigued cancer survivors
- Participants with all cancers, other than brain or CNS lymphoma, undergoing or having undergone curative intent treatment
- 2000 mg of American ginseng vs placebo for 8 weeks (n=364 participants)
- Result: A statistically significant difference in CRF was seen at 8 weeks favoring Ginseng





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Integrative Medicine Clinical Practice Guidelines: SIO/ASCO

ASCO-Endorsed SIO Breast Cancer Guidelines

High certainty the net benefit is moderate to substantial

Anxiety and Stress

- Meditation, yoga, stress management, music therapy

Depression and Mood Disturbance

- Meditation, relaxation, massage, music therapy

Quality of Life

- Meditation, yoga

Chemotherapy Induced Nausea & Vomiting

- Acupressure, electro-acupuncture*



SIO / ASCO Pain Guidelines

Evidence quality = Intermediate

Strength of recommendation = Moderate

Aromatase Inhibitor-Related Joint Pain

- Acupuncture

General Cancer Pain or Musculoskeletal Pain

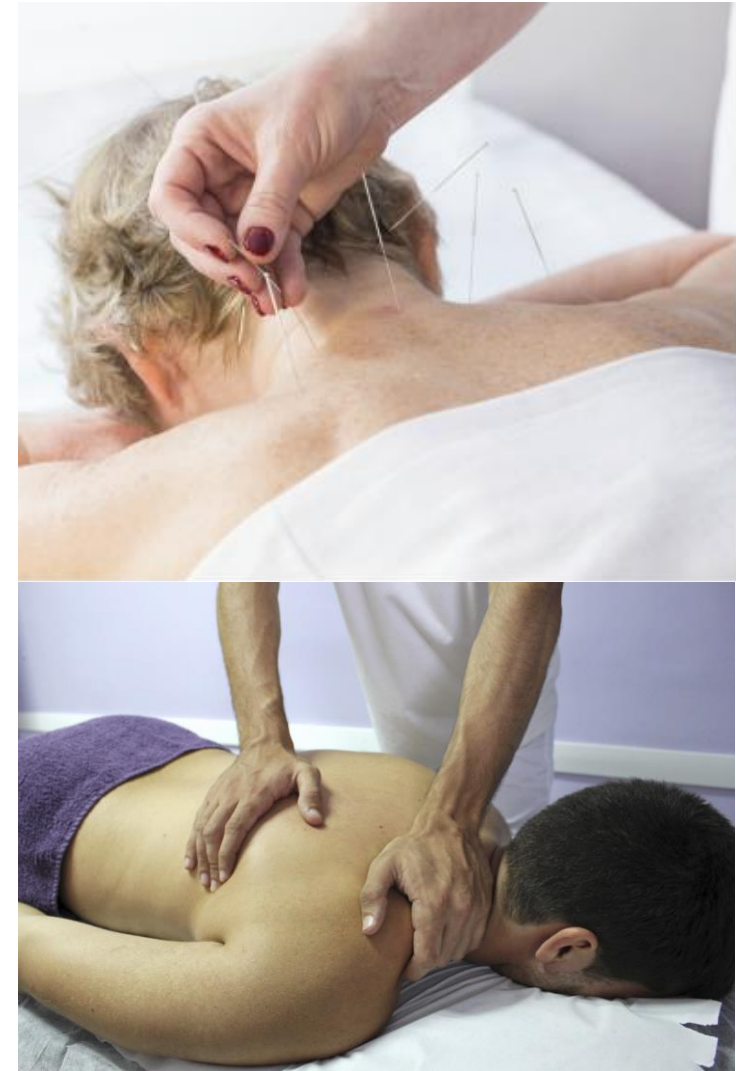
- Acupuncture, reflexology (during systemic therapy)

Procedural or Surgical Pain

- Hypnosis

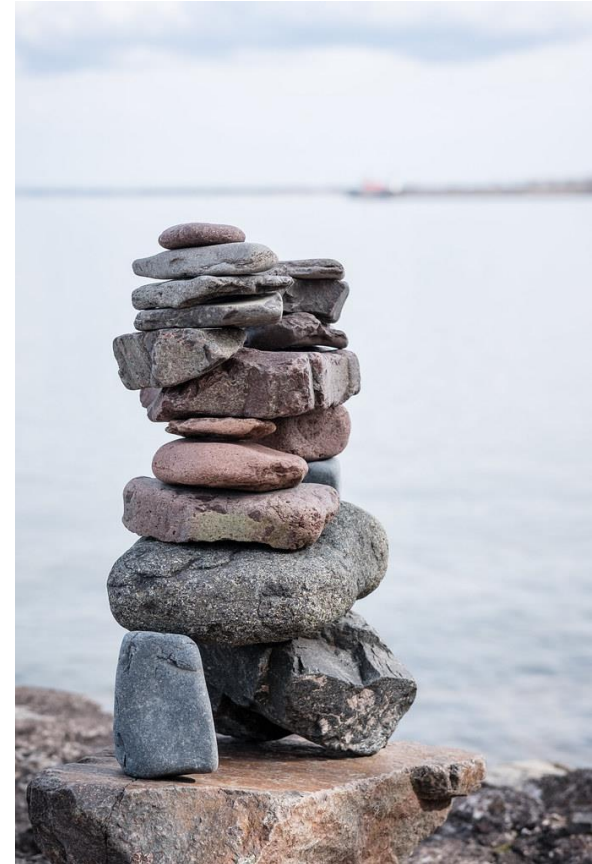
Pain During Palliative Care

- Massage



Key Takeaways

- Integrative Medicine is the **coordinated use of evidence-based complementary therapies** like mind and body practices, natural products, and lifestyle modifications
- Cancer-related fatigue (CRF) is a distressing, persistent, subjective sense of **physical, emotional, and/or cognitive tiredness or exhaustion** related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning
- Contributing factors include cancer treatment, **nutrition, pain, depression, anxiety, emotional distress, sleep disturbances, and underlying medical conditions**
- Evidence-based Integrative Medicine therapies to “combat” fatigue include **nutrition, physical activity, mindfulness, yoga, and acupuncture**



Contact and Additional Resources

Contacting the Integrative Medicine service:

Patient Care Coordinator: (for non-patient specific questions)

- Email: integrativemedtc@seattlecca.org
- Phone: 206-606-5500

Additional resources:

External Website

<https://www.seattlecca.org/services/integrative-medicine>





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Thank you

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