

Integrative Medicine for Pain Management in Oncology

SIO-ASCO Guideline

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Background & Methodology

Introduction

- Pain is one of the most common, disabling, and feared symptoms experienced by patients diagnosed with cancer.^{1,2}
- Many conventional cancer treatments can result in both acute and chronic pain conditions.^{3,4}
- Pain in patients and survivors of cancer is complex and pain management requires an interdisciplinary approach.²
- Integrative medicine, defined as the coordinated use of evidence-based complementary practices and conventional care treatments,⁵ includes interventions such as acupuncture, massage, meditation, and yoga which are increasingly available and are recommended for symptom and pain management.^{6,7}
- The key guiding principle of integrative medicine is to use these interventions along with conventional pain management approaches.

Introduction

- A growing number of well-conducted RCTs have found interventions such as acupuncture or massage can alleviate pain in patients and survivors of cancer.⁸⁻¹⁰
- For many other interventions, trials are small and are often limited by a lack of methodological rigor; ideally these studies should not only report the statistical significance of their findings but also the clinically meaningful change in pain severity.
- The purpose of this guideline is to systematically appraise the evidence from randomized controlled clinical trials, systematic reviews, and meta-analyses, and to provide guidance to clinicians on the effectiveness of integrative medicine treatment options for pain in adults with a cancer diagnosis.

Guideline Development Methodology

- The SIO and ASCO guideline process includes:
 - a systematic literature review by guidelines staff with health research methodology expertise
 - an expert panel provides critical review and evidence interpretation to inform guideline recommendations
 - final guideline approval by the SIO Clinical Practice Guidelines Committee and the ASCO Evidence Based Medicine Committee
- The full SIO Guidelines Methodology Manual can be found at: <https://integrativeonc.org/practice-guidelines/sio-guidelines-guidelines-methodology>
- The full ASCO Guideline Methodology Manual can be found at: www.asco.org/guideline-methodology

Quality of Evidence Rating Definitions

Quality of Evidence	Definition
High	High confidence that the available evidence reflects the true magnitude and direction of the net effect (e.g., balance of benefits versus harms) and further research is very unlikely to change either the magnitude or direction of this net effect.
Intermediate	Intermediate confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research is unlikely to alter the direction of the net effect, however it might alter the magnitude of the net effect.
Low	Low confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research may change the magnitude and/or direction of this net effect.
Insufficient	Evidence is insufficient to discern the true magnitude and direction of the net effect. Further research may better inform the topic. Reliance on consensus opinion of experts may be reasonable to provide guidance on the topic until better evidence is available.

Strength of Recommendation Rating Definitions

Strength of Recommendation	Definition
Strong	<p>There is high confidence that the recommendation reflects best practice. This is based on:</p> <ul style="list-style-type: none"> a) strong evidence for a true net effect (e.g., benefits exceed harms). b) consistent results, with no or minor exceptions. c) minor or no concerns about study quality; and/or d) the extent of panelists' agreement. <p>Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a strong recommendation.</p>
Moderate	<p>There is moderate confidence that the recommendation reflects best practice. This is based on:</p> <ul style="list-style-type: none"> a) good evidence for a true net effect (e.g., benefits exceed harms).consistent results with minor and/or few exceptions. b) minor and/or few concerns about study quality; and/or c) the extent of panelists' agreement. <p>Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a moderate recommendation.</p>
Weak	<p>There is some confidence that the recommendation offers the best current guidance for practice. This is based on:</p> <ul style="list-style-type: none"> a) limited evidence for a true net effect (e.g., benefits exceed harms). b) consistent results, but with important exceptions. c) concerns about study quality; and/or d) the extent of panelists' agreement. <p>Other considerations (discussed in the guideline's literature review and analyses) may also warrant a weak recommendation.</p>

Clinical Questions

This clinical practice guideline addresses two overarching clinical questions:

1. What mind-body therapies are recommended for managing pain experienced by adult and pediatric patients diagnosed with cancer?
2. What natural products are recommended for managing pain experienced by adult and pediatric patients diagnosed with cancer?

Target Population and Audience

Target Population

- Patients of any age diagnosed with any cancer who are experiencing pain during any stage of their cancer care trajectory.

Target Audience

- Clinicians who provide care to patients with cancer, cancer survivors, and family caregivers.

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Summary of Recommendations

Summary of Recommendations

Aromatase Inhibitor-Related Joint Pain

Recommendation 1.1

- Acupuncture should be offered to patients experiencing aromatase inhibitor-related joint pain in breast cancer.

Recommendation 1.2

- Yoga may be offered to patients experiencing aromatase inhibitor-related joint pain in breast cancer.

Evidence-based
benefits outweigh harms

Evidence Quality	Strength of Recommendation
Intermediate	Moderate

Evidence-based
benefits outweigh harms

Evidence Quality	Strength of Recommendation
Low	Weak

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.

Evidence-based
benefits outweigh harms

Evidence Quality	Strength of Recommendation
Intermediate	Moderate

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

Summary of Recommendations

Recommendation 1.5

- Massage may be offered to patients experiencing chronic pain following breast cancer treatment.

Evidence-based
benefits outweigh harms

Evidence Quality
Low

Strength of Recommendation
Moderate

Recommendation 1.6

- Hatha yoga may be offered to patients experiencing pain after treatment for breast or head and neck cancers.

Evidence-based
benefits outweigh harms

Evidence Quality
Low

Strength of Recommendation
Weak

Summary of Recommendations

Recommendation 1.7

- Guided imagery with progressive muscle relaxation may be offered to patients experiencing general pain from cancer treatment.

Evidence-based benefits and harms not assessable	
Evidence Quality	Strength of Recommendation
Low	Weak

Summary of Recommendations

Chemotherapy-Induced Peripheral Neuropathy

Recommendation 1.8

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

Evidence-based/Informal consensus
benefits outweigh harms

Evidence Quality
Low

Strength of Recommendation
Weak

Recommendation 1.9

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

Evidence-based
benefits outweigh harms

Evidence Quality
Low

Strength of Recommendation
Weak

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.

Evidence-based
benefits outweigh harms

Evidence Quality
Intermediate

Strength of Recommendation
Moderate

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/Informal consensus
benefits outweigh harms

Evidence Quality
Low

Strength of Recommendation
Weak

Summary of Recommendations

Recommendation 1.12

- Music therapy may be offered to patients experiencing surgical pain from cancer surgery.

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

Summary of Recommendations

Pain During Palliative Care

Recommendation 1.13

- Massage may be offered to patients experiencing pain during palliative and hospice care.

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

Summary of Recommendations

Pediatric Populations

- There is insufficient/inconclusive evidence to make recommendations for pediatric patients.

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Discussion

Patient and Clinician Communication

- Effective communication between health care providers and their patients is essential.
- Health care providers need to have a knowledge base to engage in meaningful communication about integrative medicine use and provide answers to patients' questions.¹¹
- Results of a large survey suggest that lack of knowledge about integrative medicine is often the biggest barrier for patients, particularly among racial and ethnic minorities and those with less education.^{12,13}
- Patients with positive beliefs about natural health approaches, higher treatment expectancy, lower barriers, and with family endorsement are likely to prefer integrative medicine over pharmacology to manage pain.^{13,14}
- Facilitating open communication and acknowledging patient values and preferences will enable shared decision-making about selecting the most appropriate pain management approach.

Health Disparities

- Although SIO-ASCO clinical practice guidelines represent expert recommendations on the best practices to provide the highest level of cancer care, many patients have limited access to medical care or receive fragmented care.
- Demographic factors such as race and ethnicity, age, socioeconomic status, sexual orientation and gender identity, geographic location of residence, immigration status, insurance access, and other social determinants are known to impact cancer care outcomes.¹⁵
- These demographic elements are bolstered by structural factors that maintain health inequities in marginalized communities in the U.S. and other countries. In countries without universal healthcare, the quintessential barrier is access to health insurance.
- As integrative medical care generally is not covered by health insurance, and many countries with universal healthcare do not provide routine integrative medical care, its access is often limited to those who can pay the out-of-pocket costs.

Health Disparities

- This clinical practice guideline should be considered in the context of existing health inequities and structural barriers to access to care.
- Health care professionals should strive to deliver the highest level of cancer care to all populations including those who have traditionally been marginalized and underserved.
- Stakeholders should work towards achieving health equity by:
 - Ensuring equitable access to both high-quality cancer care and research
 - Addressing the structural barriers that uphold inequities in health and health care.¹⁵

Guideline Implementation and Potential Barriers

- SIO-ASCO guidelines are developed for implementation across oncology care settings.
- Patient, provider, and health system barriers exist for the implementation of this guideline:
 1. Patients and health care providers often lack the knowledge and awareness of the evidence base of integrative medicine for pain.
 2. Despite the recent growth of integrative medicine programs in comprehensive cancer centers,⁷ these clinical services may not be as available in community hospitals, especially hospitals serving low income, racial or ethnic minority populations.¹⁶
 3. Oncology patients often have medical complexity, which community integrative health providers may not have the necessary knowledge of or competency to ensure safe and effective care.¹⁷
 4. Although many non-pharmacological integrative medicine interventions have relatively low cost, they generally are not covered by health insurance.¹⁸

Future Directions

- As this guideline has identified gaps in several mind-body interventions for pain management in specific populations, careful intervention development, testing, well-designed and executed RCTs are needed.
- Where results were mixed, additional large-scale trials and meta-analyses are needed to resolve ambiguity stemming from the presence of both positive and negative trials.
- Currently, no botanical or natural supplements can be recommended for treatment of pain thus, well-designed, placebo-controlled phase I-III trials are needed to establish the safety and efficacy of high-quality natural products for pain.
- For treatments where there is an existing evidence base, there is a need for hybrid trials using appropriate implementation research frameworks and measures to determine optimal implementation and integration of these interventions into community oncology practices.

Future Directions

- It is particularly important to conduct trials that address the needs of underserved cancer patients and survivors.
- Patient-centered outcomes research, comparative effectiveness trials, and real-world trials are especially beneficial for comparing the relative benefits and harms of different integrative medicine treatments and other appropriate treatments so patients and clinicians can choose among evidence-based approaches to manage pain.
- Finally, with advances in omics technology, wearable sensors, behavioral and neuroscience, big data, and novel trial designs, research needs to guide precision integrative pain management so that the right patient receives the right treatment to improve their pain and related outcomes.

Additional Resources

- More information, including a supplement and clinical tools and resources, is available at www.asco.org/survivorship-guidelines
- Patient information is available at www.cancer.net

Guideline Panel Members

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Abbreviations

- ASCO, American Society of Clinical Oncology
- RCT, randomized controlled trial
- SIO, Society for Integrative Oncology
- U.S., United States

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