



## Coverage Policy

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## Complementary and Alternative Medicine

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### Related Coverage Resources

- [Acupuncture](#)
- [Autism Spectrum Disorders/Pervasive Developmental Disorders: Assessment and Treatment](#)
- [Biofeedback](#)
- [Chiropractic Care](#)
- [Hyperbaric and Topical Oxygen Therapies](#)
- [Physical Therapy](#)

### INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting benefit plans administered by Cigna Companies. Please note, the terms of a customer’s particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer’s benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer’s benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s). Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see “Coding Information” below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy will be denied as not covered. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines.

### Overview

This Coverage Policy addresses complementary and alternative medicine diagnostic testing methods, systems, therapies, and treatments that are proposed to reduce disease-based clinical symptoms and improve health and wellness.

## Coverage Policy

Coverage for complementary and alternative testing and therapies varies across plans. Please refer to the customer's benefit plan document for coverage details.

For information on Acupuncture and Biofeedback, refer to the applicable Cigna Coverage Policies.

Each of the following complementary or alternative medicine diagnostic testing methods, systems, therapies, or treatments is considered experimental, investigational, or unproven:

Approach	Therapeutic Input
Diagnostic Testing Methods	<ul style="list-style-type: none"> <li>• antioxidant function testing (e.g., Spectrox™)</li> <li>• applied kinesiology (AK)</li> <li>• chemical hair analysis</li> <li>• Greek cancer cure test</li> <li>• Iridology</li> <li>• live blood cell analysis</li> <li>• nutrient panel testing, including micronutrient panel testing</li> <li>• Ream's Testing</li> </ul>
Nutritional	<ul style="list-style-type: none"> <li>• auto urine therapy</li> <li>• Kelley-Gonzales therapy</li> <li>• Macrobiotics</li> <li>• megavitamin therapy</li> <li>• over-the-counter biologics (e.g., glucosamine, coenzyme Q10, fish oil [omega-3 fatty acids])</li> </ul>
Psychological	<ul style="list-style-type: none"> <li>• color therapy</li> <li>• faith healing</li> <li>• guided Imagery interactive</li> <li>• humor Therapy</li> <li>• hypnosis</li> <li>• mirror box therapy</li> <li>• primal therapy</li> <li>• meditation/Transcendental Meditation (TM®)</li> <li>• psychodrama</li> </ul>
Physical	<ul style="list-style-type: none"> <li>• acupressure</li> <li>• Alexander technique</li> <li>• AMMA Therapy®</li> <li>• Bio Photonic Lymphatic Drainage Treatment (BELD)</li> <li>• craniosacral therapy</li> <li>• cupping</li> <li>• ear candling</li> <li>• Hellerwork®</li> <li>• inversion therapy</li> <li>• myotherapy</li> <li>• Pfrimmer Deep Muscle Therapy®</li> <li>• Pilates</li> <li>• remedial massage</li> <li>• reflexology (zone therapy)</li> <li>• Rolfing®</li> <li>• therapeutic touch</li> <li>• Trager®</li> <li>• Tui Na</li> <li>• visceral massage</li> </ul>

Approach	Therapeutic Input
Combination	<ul style="list-style-type: none"> <li>• art therapy</li> <li>• bioenergetics' analysis</li> <li>• dance movement therapy</li> <li>• equestrian therapy (hippotherapy)</li> <li>• Feldenkrais therapy</li> <li>• Martial arts including Chung Moo Doe Therapy</li> <li>• music therapy</li> <li>• outdoor youth programs</li> <li>• pet therapy</li> <li>• Qigong Longevity</li> <li>• recreational therapy</li> <li>• wilderness therapy</li> <li>• yoga</li> </ul>
Other	<ul style="list-style-type: none"> <li>• antineoplastons</li> <li>• Ayurveda</li> <li>• biofield therapeutics</li> <li>• Coley's Toxin</li> <li>• crystal healing</li> <li>• gemstone therapy</li> <li>• homeopathy</li> <li>• hydrogen peroxide, intravenous</li> <li>• immunoaugmentative therapy</li> <li>• meridian therapy</li> <li>• magnet therapy</li> <li>• magnetic resonance therapy</li> <li>• millimeter wave therapy</li> <li>• moxibustion therapy</li> <li>• MTH-68</li> <li>• Naprapathy</li> <li>• Naturopathy</li> <li>• neural therapy</li> <li>• ozone therapy</li> <li>• polarity therapy</li> <li>• Reiki</li> <li>• Revisi's Guided Chemotherapy</li> <li>• Trichuris suis ova therapy</li> </ul>

**Prescription medications are generally subject to a separate pharmacy benefit. Many pharmacy and medical benefit plans specifically exclude coverage of over-the-counter (OTC) medications, including OTC vitamins and nutritional and dietary supplements.**

## Coding Information

**Notes:**

1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

**Experimental/Investigational/Unproven**

**Considered Experimental/Investigational/Unproven:**

<b>CPT®* Codes</b>	<b>Description</b>
90880	Hypnotherapy

<b>HCPCS Codes</b>	<b>Description</b>
A9152	Single vitamin/mineral/trace element, oral, per dose, not otherwise specified
A9153	Multiple vitamins, with or without minerals and trace elements, oral, per dose, not otherwise specified
G0176	Activity therapy, such as music, dance, art or play therapies not for recreation, related to the care and treatment of patient's disabling mental health problems, per session (45 minutes or more)
H2032	Activity therapy, per 15 minutes
S8940	Equestrian/hippotherapy, per session
S9451	Exercise classes, non-physician provider, per session
T2036	Therapeutic camping, overnight, waiver; each session
T2037	Therapeutic camping, day waiver; each session

**Considered Experimental/Investigational/Unproven when used to report chemical hair analysis:**

<b>CPT®* Codes</b>	<b>Description</b>
80178	Lithium
82108	Aluminum
82175	Arsenic
82300	Cadmium
82310	Calcium; total
82525	Copper
83018	Heavy metal (eg, arsenic, barium, beryllium, bismuth, antimony, mercury); quantitative, each, not elsewhere classified
83540	Iron
83655	Lead
83735	Magnesium
83785	Manganese
83825	Mercury, quantitative
83885	Nickel
84100	Phosphorus inorganic (phosphate);
84255	Selenium
84302	Sodium; other source

<b>HCPCS Codes</b>	<b>Description</b>
P2031	Hair analysis (excluding arsenic)

**Other Complementary and Alternative Medicine Diagnostic Testing and Therapies**

**Considered Experimental/Investigational/Unproven when used to report any complementary or alternative medicine diagnostic testing methods, systems, therapies or treatments listed in this Coverage Policy that do not have an assigned code:**

<b>CPT®* Codes</b>	<b>Description</b>
45399	Unlisted procedure, colon
76498	Unlisted magnetic resonance procedure (eg, diagnostic, interventional)
84999	Unlisted chemistry procedure

86353	Lymphocyte transformation, mitogen (phytomitogen) or antigen induced blastogenesis
86849	Unlisted immunology procedure
90899	Unlisted psychiatric service or procedure
96379	Unlisted therapeutic, prophylactic, or diagnostic intravenous or intra-arterial injection or infusion
96549	Unlisted chemotherapy procedure
97039	Unlisted modality (specify type and time if constant attendance)
97139	Unlisted therapeutic procedure (specify)
97799	Unlisted physical medicine/rehabilitation service or procedure
99199	Unlisted special service, procedure or report

**\*Current Procedural Terminology (CPT®) © 2025 American Medical Association: Chicago, IL.**

## General Background

Complementary and alternative medicine (CAM) describes non-mainstream health approaches, not historically part of conventional medical care, or that may have originated outside of usual Western practices. When CAM is used together with conventional medicine, these approaches are referred to as complementary or integrative. When CAM is used in place of conventional medicine, these approaches are referred to as alternative. The concept of whole person health expands this approach further by attempting to address the biological, behavioral, social, and environmental factors associated with comprehensive well-being. The National Center for Complementary and Integrative Health (NCCIH) (2021) classifies complementary health approaches by primary therapeutic input:

- Nutritional approaches involve the use of products that are often widely marketed and readily accessible to consumers as dietary supplements, including herbs, vitamins, minerals, and probiotics.
- Psychological approaches include practices that focus on mental and emotional well-being, e.g., mindfulness and spiritual practices.
- Physical approaches involve body-based techniques, e.g., massage and spinal manipulation.
- Combination approaches integrate two or more therapeutic inputs, e.g., psychological and physical. Yoga, tai chi, and art therapy are examples of combination approaches.

Some complimentary approaches are not easily classified by primary therapeutic input, e.g., Ayurveda, homeopathy, and naturopathy (NCCIH, 2021). CAM may also include diagnostic testing methods, e.g., applied kinesiology (AK) or chemical hair analysis.

Many CAM therapies lack sufficient, published, peer-reviewed, high-quality scientific evidence demonstrating safety and efficacy and are not considered established treatment options within conventional medical practice.

### U.S. Food and Drug Administration (FDA)

The U.S. Food and Drug Administration (FDA) regulates the approval, marketing, and safety of products such as drugs, biologics, medical devices, and certain diagnostic tests. However, the FDA does not regulate the practice of medicine or clinical procedures. This includes many complementary and alternative medicine (CAM) approaches, including mindfulness, massage, and yoga. These are considered procedures and fall outside FDA jurisdiction. The FDA does not maintain a database of clinical procedures that do not require FDA approval (FDA, 2024a)

Prescription drugs and some over-the-counter (OTC) drugs must go through the New Drug Application (NDA) process for FDA approval. Biologics, including vaccines, blood products, and gene therapies, require a Biologics License Application (BLA). Drugs and biologics are reviewed for safety, efficacy, and quality. Dietary supplements and homeopathic remedies generally do not require FDA approval before marketing. However, these products cannot be marketed to diagnose, treat, cure, or prevent any diseases or conditions. Despite not requiring premarket approval, these products remain under FDA post-market oversight to address safety concerns. The FDA does not maintain a comprehensive database of homeopathic and dietary supplement products (FDA, 2025b; FDA, 2024b; FDA, 2023; FDA, 2022; FDA, 2021).

In vitro diagnostic tests (IVDs), including the reagents, instruments, and systems used to analyze human specimens, are regulated as medical devices by the FDA. However, laboratory-developed tests (LDTs), which are designed, manufactured, and used within a single laboratory, are not currently subject to FDA premarket review. Some CAM diagnostic testing methods may be considered LDTs or even clinical procedures (e.g., applied kinesiology) and may not fall under FDA jurisdiction. The FDA does not maintain a database of LDTs that do not require FDA approval. Though, the laboratories performing LDTs must be certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) and meet certain regulatory requirements to perform high complexity testing. (FDA, 2025a; FDA, 2025c; FDA, 2024c).

## Literature Review

### Diagnostic Testing Methods

**Antioxidant Function Testing (e.g., Spectrox™) and Nutrient Panel Testing, including Micronutrient Panel Testing:** These tests are purported to provide a comprehensive analysis of nutritional status and cellular health, with the potential to inform strategies aimed at improving health outcomes. Examples include Spectrox® (SpectraCell Laboratories) and NutrEval® (Genova Diagnostics).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to establish the accuracy or clinical utility of antioxidant function testing and nutrient panel testing, including micronutrient panel testing.

**Applied Kinesiology (AK):** Applied kinesiology (AK) is purported as a technique for allergy testing that measures changes in muscle strength before and after exposure to a test allergen. The technique typically involves placing a sealed vial of allergen extract on the patient's skin. Muscle strength is then assessed in the contralateral arm (Bernstein, et al., 2008).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to establish the accuracy or clinical utility of AK.

**Chemical Hair Analysis:** Chemical hair analysis is a test in which a person's hair is analyzed for mineral content. Hair analysis has been proposed to aid in the evaluation of a person's general state of health, mental and physical conditions (e.g. autism, cancer, hypertension, myocardial infarction, kidney disease, osteoarthritis and diabetes mellitus), skin diseases (e.g., alopecia), detect heavy metals (e.g., lead, mercury, arsenic) and pesticides, identify nutritional/mineral deficiencies, analyze deoxyribonucleic acid (DNA), and identify the presence of illegal drugs (e.g., cocaine, marijuana) (Guo, et al., 2019; Wolowiec, et al., 2013; Caprara, et al., 2006; Balíková, 2005).

Published, peer-reviewed, high-quality scientific evidence to support the accuracy and clinical utility of hair analysis is lacking.

**Greek Cancer Cure Test:** The Greek cancer cure test is an in vitro diagnostic developed by Dr. Hariton Alivizatos. The blood test is purported to have clinical utility for determining the type, location, and severity of a patient's cancer. A corresponding Greek cancer cure is purported as a definitive treatment for cancer (Unproven Methods of Cancer Management, 1983).

Neither the Greek cancer cure test nor the Greek cancer cure have been validated by published, peer-reviewed, high-quality scientific research, or recognized by established evidence-based oncology guidelines.

**Iridology:** Iridology is purported as a technique for allergy testing and the diagnosis of various medical conditions. The technique involves examining the eye for irregularities in iris pigmentation. Iridology is based on the premise that all bodily organs are represented on the iris through neural connections, and that dysfunctions manifest as pigmentary changes (Berstein et al., 2008; Ernst, 2000).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to establish the accuracy or clinical utility of iridology.

**Live Blood Cell Analysis:** Live blood cell analysis is a diagnostic technique purported to provide information about person's health by examining live blood cells. A drop of blood is taken from the fingertip and placed on a microscope slide. It is then viewed under a dark-field microscope, which projects the image onto a monitor. The results may be used to prescribe nutritional supplements. Live blood cell analysis is not recognized as a provider-performed microscopic procedure (PPMP) and is classified as a high-complexity test under CLIA regulations (U.S. Centers for Medicare & Medicaid Services, 2017). An example of live blood cell analysis is Hemaview™ (Health in Harmony, n.d.).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to establish the accuracy or clinical utility of live blood cell analysis.

**Ream's Testing:** Ream's Testing is promoted as a noninvasive investigation of the body's overall metabolic function, utilizing urine and saliva samples. An individual's pancreatic function, blood sugar control, pH levels, digestive function, liver function, hydration status, mineral status, kidney and adrenal function, and systemic inflammation are reviewed with recommendations made for diet, specific pH, and supplementation of other nutrients. It is used by proponents to monitor progress with various treatment regimens.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the accuracy and clinical utility of Ream's testing.

### **Nutritional Approaches**

**Auto Urine Therapy:** Auto urine therapy purports to purge embedded toxins and parasites from the colon, bloodstream, arteries, and internal organs simply by drinking one's own urine.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the safety and effectiveness of auto urine therapy.

**Kelley-Gonzales Therapy:** Kelley-Gonzales therapy, also referred to as the Gonzalez regimen, is purported as a treatment for cancer that combines prescribed diets, nutritional supplements, coffee enemas, and pancreatic enzymes. The regimen is intended to detoxify the body, correct nervous system imbalances that might lead to impaired general health, and support the natural immune processes. (National Cancer Institute [NCI], 2018a).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the safety and effectiveness of Kelley-Gonzales therapy. Additionally, Kelley-Gonzales therapy is not recognized as a treatment for cancer by established evidence-based oncology guidelines.

**Macrobiotics:** Macrobiotics is the art and science of health and longevity through the study and understanding of the relation and interactions between oneself, foods, lifestyles, and the environment.

The clinical utility of macrobiotics has not been established.

**Megavitamin Therapy:** Megavitamin therapy, orthomolecular medicine, megamineral therapy, intravenously or orally, is the use of vitamins, minerals, or hormones in amounts considerably greater than the recommended daily allowance in the belief that abundant use of vitamins can prevent or cure various ailments. An example of megavitamin therapy is the Myers' Cocktail, which is the intravenous infusion of a combination of Vitamins B1, B2, B3, B5, B6, B12, Vitamin C, magnesium, and calcium. The solution is proposed for the treatment of fatigue, fibromyalgia, migraines, allergies, and many other conditions (Ali, et al., 2009).

There is a lack of evidence that megavitamin therapy improves health outcomes.

**Over-the-Counter Biologics:** Although proposed for a variety of conditions, over-the-counter biologics are not supported by the peer-reviewed evidence to have a positive impact on health care outcomes. Over-the-counter biological products include the following (this list may not be all inclusive):

- Actra-Rx (Yillshen)
- Apitherapy

- Aromatherapy
- Bilberry
- Black Cohosh (cimicifuga racemosa, rattle root, snake root)
- Bovine Cartilage Products
- Cancell/Entelev (Sheridan's Formula, Jim's Juice, Crocinic Acid, JS-114, JS-101, 126-F, Cantron)
- Cat's Claw (Uncaria tomentosa)
- Coenzyme Q10 (CoQ10, Q10, vitamin Q10, ubiquinone, ubidecarenone)
- Coriolus (versicolor, trametes versicolor, Yun Zhi)
- Echinacea
- Essiac
- Fish Oil
- Flower Essence
- Gerson Therapy
- Ginkgo Biloba (maidenhair tree)
- Glucosamine
- Hoxsey Herbal Therapy
- Hydrazine Sulfate (sehydrin)
- Kava (Piper methysticum)
- Lorenzo's Oil
- Milk Thistle (Silybum marianum; silymarin)
- Mistletoe (Iscador®)
- Saw Palmetto
- 714-X
- Shark Cartilage Products
- St. John's Wort
- Valerian (Valeriana officinalis)
- Yohimbe

### **Psychological Approaches**

**Color Therapy:** Color therapy, also known as chromotherapy or visible range radiation therapy uses specific wavelengths of visible light (colors) to address various medical conditions. Color therapy is purported as a treatment for Dengue Fever, insomnia, diabetes, psychiatric illnesses, including seasonal affective disorder, hypertension, hyperacidity, wound healing, chronic joint disorders, and inflammation. (Azeemia, et al, 2019).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of color therapy.

**Faith Healing:** Faith healing is the belief that some individuals are able to channel divine powers to heal injury and cure disease. Patients who seek the assistance of a faith healer may believe strongly in the healer's divine gifts and ability to focus on illness.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of faith healing.

Following a systematic review of five randomized controlled trials (RCTs) (n=1130), Candy et al. (2012) found "inconclusive evidence" that interventions with spiritual or religious components for adults in the terminal phase of a disease enhanced well-being. Limitations of the studies included: all studies were undertaken in the same country; in the multi-disciplinary palliative care interventions it was unclear if all participants received support from a chaplain or a spiritual counselor; it was unclear whether the participants in the comparative groups received spiritual or religious support, or both, as part of routine care or from elsewhere; and there was a "paucity of quality research".

**Guided Imagery Interactive:** Guided imagery promotes the use of imagery to help a patient connect with deeper resources at the cognitive, affective, and somatic levels. The guide's role is to facilitate an enhanced

awareness of the unconscious imagery the patient has and train them to work effectively with this imagery on their own behalf.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of interactive guided imagery.

In a systematic review of 15 RCTs (n=1172), Posadzki et al. (2012a) reported that the evidence for guided imagery for the relief of non-musculoskeletal pain was inconclusive. Overall, the methodology was poor; outcomes were conflicting; and patient populations, study design, outcome measures, and types of guided imagery were heterogeneous.

**Humor Therapy:** Humor therapy targets laughter to lower blood pressure, reduce stress hormones, increase muscle flexion, and boost immune function. It is proposed to raise levels of infection-fighting T-cells, disease-fighting proteins called Gamma-interferon, and B-cells, which produce disease-destroying antibodies. Laughter is also thought to trigger the release of endorphins, the body's natural painkillers, and to produce a general sense of well-being.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of humor therapy.

**Hypnosis:** Hypnosis is a complementary technique involving focused attention, relaxation, and altered perception, intended to enable changes in behaviors governed by the subconscious. The exact neurophysiological mechanism of hypnosis is not fully understood. For pain, hypnosis may dissociate awareness of painful stimuli from sensory experience, allowing pain to be present, but not perceived. Hypnosis has been studied as a treatment for a multitude of conditions including acute and chronic pain, pain management during labor and childbirth, anxiety, breast cancer care, depression, inflammatory bowel disease, insomnia, smoking cessation, stress reduction, and weight loss. It is also purported to enhance postoperative recovery, shorten hospital stays, and reduce opioid and non-opioid medication use (Yerzhan, et al., 2025; Chamine, et al., 2018; Fisch, et al., 2017; Madden, et al., 2016; Cramer, et al., 2015).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of hypnosis. Existing systematic reviews of hypnosis for acute and chronic pain and opioid consumption (Yerzhan, et al., 2025); clinical pain (Jones, et al., 2024), reducing anxiety, pain, and physiological stress during invasive procedures (Walter, et al., 2025); depression (Souza, et al., 2024), insomnia (Chamine, et al., 2018; Lam, et al., 2015), burn wound pain and anxiety (Provençal, et al., 2018); stress reduction (Fisch, et al., 2017); cancer-related anxiety (Chen, et al., 2017); childbirth (Fernández-Gamero, et al., 2024; Madden, et al., 2016); breast cancer care (Cramer, et al., 2015), and treatment of irritable bowel syndrome (Webb, et al., 2007) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include heterogeneity in intervention protocols, control groups, and outcomes, low methodological quality, limited long-term follow-up, and insufficient reporting of adverse events.

**Mirror Box Therapy:** Mirror box therapy, also known as mirror therapy, is a rehabilitation intervention in which a mirror is placed in the patient's midsagittal plane to reflect movements of the non-affected limb, creating the visual illusion that the affected limb is moving normally. This visual feedback is intended to stimulate brain regions involved in movement, sensation, and pain. Mirror box therapy has been proposed as a treatment for a variety of medical conditions, including to improve motor function and motor impairment following stroke, and has also been studied for its effects on activities of daily living (ADLs), pain (particularly in cases of complex regional pain syndrome), and visuospatial neglect (Thieme, et al., 2018).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of mirror box therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Hsieh et al., (2025) conducted a systematic review and meta-analysis to investigate the effect of mirror therapy on motor and functional recovery of the upper limb and to examine the effect of unimanual or bimanual mirror therapy in individuals with subacute stroke. The systematic review included 15 RCTs involving 546 participants.

Inclusion criteria included studies of participants with a clinical diagnosis of stroke in the subacute stage (<6 months) regardless of age or stroke subtypes. Review articles, case reports, and qualitative studies were excluded. Primary outcomes included motor recovery (Fugl-Meyer Assessment upper extremity subscale) and upper limb function (action research arm test, Bhakta scale, box and block test, or Wolf motor function test). Secondary outcomes included ADLs (Barthel index, modified Barthel index, functional independence measure, or instrumental activities of daily living) and quality of life (QOL) (stroke impact scale). Adverse events were not reported. The study results revealed that an overall effect of mirror therapy was observed for motor impairment (effect size 95% Confidence Interval [CI]: 0.473, 0.274 to 0.673,  $p < 0.001$ ), motor function (0.266, 0.059 to 0.474,  $p = 0.012$ ), and ADLs (0.461, 0.25 to 0.671,  $p < 0.001$ ), compared with controls. Additionally, there was a significant difference in motor impairment (0.39, 0.134 to 0.647,  $p = 0.003$ ), motor function (0.298, 0.003 to 0.593,  $p = 0.048$ ), and ADL (0.461, 0.157 to 0.766,  $p = 0.003$ ) in favor of bimanual mirror therapy compared with controls. However, no significant effect was observed for unimanual mirror therapy. The authors concluded that mirror therapy, specifically bimanual mirror therapy, was an effective intervention for improving motor recovery, motor function, and ADL in participants with subacute stroke. Though, additional well-designed RCTs are needed to further elucidate the effects of unimanual mirror therapy in this population. Limitations of the systematic review include the small number of included studies and limited follow-up data precluding analysis of long-term outcomes.

Özdemir et al. (2024) conducted a single-blind RCT to investigate the effects of mirror therapy on clinical outcomes in post-traumatic complex regional pain syndrome type 1 (CRPS-1) involving the hand. The study included 40 participants who were randomized to receive routine physical therapy and rehabilitation for 20 sessions over four weeks, with ( $n = 20$ ) or without ( $n = 20$ ) an additional 30 minutes per session of mirror therapy. Inclusion criteria included participants aged  $\geq 18$  with a diagnosis of CRPS-1 due to traumatic causes (surgical procedures, fractures, and/or immobilization of the hand and/or the upper extremity). Participants with CRPS type 2, post-stroke CRPS-1, recurrent CRPS-1, comorbid conditions affecting function and health-related QOL, hand arthritis, acute deep arterial/vein thrombosis in the upper extremity, arterial/venous injuries and/or undergoing arterial revascularization were excluded. The primary outcome was pain intensity using a numeric rating scale. Secondary outcomes included grip/pinch strength, hand/wrist circumference, dexterity, hand activities, and health-related QOL. No patients were lost to follow-up. The study results revealed that both the mirror therapy and control group showed statistically significant improvements regarding pain, grip/pinch strength, wrist circumference, dexterity, and hand activities ( $p < 0.05$ ). However, when the two groups were compared, there was no statistically significant difference found in any of the outcomes ( $p > 0.05$ ). Adverse events were not reported. The authors concluded that mirror therapy added to routine physical therapy and rehabilitation did not provide extra benefit with regards to improvement in pain, function, and other clinical outcomes in this population. This study is limited by the single-center design and lack of long-term follow-up.

Zeng et al. (2018) evaluated the treatment effect of mirror therapy on motor function of the upper extremity in patients with stroke. Eleven studies ( $n = 347$ ) were included in the meta-analysis. Although some improvement in motor function was seen, the heterogeneity of the studies, including the patient ( $n = 15-60$ ) characteristics and treatment regimens, prevented firm conclusions from being drawn regarding the clinical effectiveness of mirror box therapy.

Thieme et al. (2018) investigated mirror therapy compared to no treatment, placebo/sham therapy, or other treatments for improving motor function and motor impairment after stroke. RCTs and randomized cross-over trials comparing mirror therapy with any control intervention were included ( $n = 62$  studies; 1982 subjects). Mirror therapy was provided 3-7 times a week, for 15-60 minutes for 2-8 weeks (average of five times a week, 30 minutes a session for four weeks). There was moderate-quality evidence that mirror therapy had a significant positive effect on motor function and motor impairment. The authors noted that effects on motor function were influenced by the type of control intervention. Based on moderate-quality evidence, it was reported that mirror therapy may improve ADLs. There was low-quality evidence for a significant positive effect on pain ( $n = 248$ ) and no clear effect for improving visuospatial neglect (failure to orientate, to report or to respond to stimuli located on the contralesional side) ( $n = 175$ ). No adverse effects were reported. The major limitations of the studies included the small patient populations, short-term therapy, and lack of reporting of methodological details, resulting in uncertain evidence quality.

Barbin et al. (2016) conducted a systematic review to evaluate the efficacy of mirror therapy on phantom limb pain. Five RCTs and 15 nonrandomized studies met inclusion criteria. Study methodologies were heterogeneous

with low level evidence, patient populations were small, and outcomes were conflicting. Meta-analysis was not possible. The data did not support the use of mirror therapy for the treatment of phantom limb pain.

**Primal Therapy:** Primal therapy explores, studies, researches, and promotes certain forms of psychotherapy and growth, including those that emphasize uncovering and resolving traumatic experiences. It also aims to develop a community that is congruent with the principles developed from this work.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of primal therapy.

**Meditation/Transcendental Meditation (TM®):** Meditation is a mind-body practice defined as a set of techniques for self-regulating attention, often involving focused awareness or repetition of a word or phrase (mantra). Transcendental Meditation (TM) is a specific form of mantra-based meditation. These practices are intended to promote mental and emotional calm, improve awareness and emotional regulation, and evoke a relaxation response. Meditation has been studied for a variety of medical conditions including cardiovascular disease and lowering blood pressure, chronic pain, cognitive decline, mild cognitive impairment, and Alzheimer's disease, reducing opioid use, depression, posttraumatic stress disorder (PTSD), and hematological malignancies (Shi, et al., 2025; Orme-Johnson, et al., 2025; Orme-Johnson, et al., 2024; Hecht, 2024; Rees, et al., 2024; Salhofer, et al., 2016).

Shi et al. (2025) conducted a systematic review and meta-analysis of RCTs to evaluate the effectiveness of meditation for subjective cognitive decline, mild cognitive impairment, and Alzheimer's disease across cognitive, sleep, health status, and mood outcomes. The systematic review included 25 RCTs and involved 2095 participants. The interventions comprised multiple meditation modalities (e.g., mindfulness-based stress reduction, mindfulness-based cognitive therapy, Kirtan Kriya, Kundalini, Tibetan Sound Meditation), compared against active and non-active controls such as usual care, cognitive rehabilitation therapy, Tai Chi Chuan, aerobic exercise, health education, and psychoeducation. Studies meeting the following criteria were included in the systematic review: RCTs enrolling individuals with subjective cognitive decline, mild cognitive impairment, or Alzheimer's disease diagnosed using recognized guidelines, and reporting Mini-Mental State Examination as the primary outcome with secondary outcomes of Pittsburgh Sleep Quality Index, 36-Item Short Form Health Survey, and Geriatric Depression Scale. Studies of non-randomized designs, reviews or reports, abstracts, conference presentations, or empirical studies without adequate methodological description or accessible full text and complete dataset were excluded. Primary and secondary outcomes were global cognitive performance (Mini-Mental State Examination), sleep quality (Pittsburgh Sleep Quality Index), health status (36-Item Short Form Health Survey), and depression (Geriatric Depression Scale). Intervention duration ranged from 2 to 96 weeks across included trials. Participant attrition was not reported. Meta-analytic results indicated significant improvements in global cognitive performance (mean difference (MD) 2.22, 95% CI 0.83 to 3.62,  $p=0.002$ ), sleep quality (MD -1.40, 95% CI -2.52 to -0.27,  $p = 0.015$ ), and health status (MD 3.50, 95% CI 0.45 to 6.56,  $p=0.020$ ). No significant effect on depression was observed (MD -0.16, 95% CI -0.63 to 0.31,  $p=0.514$ ). Most trials reported no meditation-related adverse events. A few trials noted only minor meditation-related adverse events. Though, one trial reported 25 adverse events (including 5 serious), across study arms, but without compromising feasibility. The authors concluded that the meta-analysis suggested meditation is an effective adjunct therapy for improving global cognitive performance, sleep quality, and health status in this population. However, due to heterogeneity and limited sample sizes, these conclusions require cautious interpretation. The authors also recommended additional larger-scale and high-quality RCTs to confirm these conclusions. Limitations of the systematic review include small sample sizes and risk of bias in some included trials, clinical population and comparator heterogeneity, limited adverse event synthesis, and limited long term follow up across included studies.

Orme-Johnson et al. (2025) conducted a systematic review and meta-analysis to evaluate the efficacy of Transcendental Meditation (TM) for the treatment of PTSD. This study was performed in follow-up to the systematic review and multiple-treatments meta-analysis performed by Orme-Johnson et al. (2024) that compared the effectiveness of different meditation categories for treating post-traumatic stress disorder. The current systematic review included 15 controlled trials, comprising 1248 participants with a mean age of 40.5 years (range 20.6 to 54.4 years), and 46.9% males. The studies compared TM to various control conditions, including psychotherapy, adapted mantra meditation, patient-centered therapy, wait-list controls, treatment-as-usual, health education, facilitated group support, and prolonged exposure therapy. Studies meeting the

following criteria were included: populations presumptively diagnosed with PTSD, all age groups, and all gender identifications. Studies were excluded if they lacked sufficient data for effect size calculation, were not longitudinal, were correlational, were reviews only, or lacked permission for data use. The study populations included military veterans with combat exposure, individuals displaced by war, incarcerated men and women, university students, survivors of urban trauma, and healthcare professionals experiencing occupational stress. The primary outcome was change in PTSD symptoms over 3 months measured using a standardized and validated clinician-administered assessment tools. Secondary outcomes were self-reported PTSD symptoms and depression using a similar, but self-reported questionnaire. The mean duration of follow-up was 12.3 weeks, ranging from 1 to 19 weeks. Attrition was low, with 93% of participants learning TM, 89% completing the course, and 94% participating in post-testing. Dropout rates were higher in the prolonged exposure group but not determined to be statistically significant. The study results revealed that TM demonstrated a pooled effect size of  $g = -1.01$  (95% CI: -1.29 to -0.74,  $p < 0.00000001$ ), with 61% of TM participants showing clinically significant improvements. TM was non-inferior to prolonged exposure therapy ( $p = 0.0001$ ) and produced faster symptom reduction ( $p = 0.04$  at week 6). Adverse events were only reported in one study. The frequency of adverse events was determined to not be statistically significant between the TM group and control group. The authors concluded that TM was effective in reducing PTSD symptoms across diverse populations. However, the authors also recommended additional phase 3, multisite, RCTs to assess TM's general applicability as a non-trauma focused therapy for PTSD. Limitations of the systematic review noted by the authors included small sample sizes in some studies, short follow-up durations, and few studies that directly compared TM with other meditation techniques or with first-line treatments for PTSD.

Orme-Johnson et al. (2024) conducted a systematic review and multiple-treatments meta-analysis to compare the effectiveness of different meditation categories for treating post-traumatic stress disorder. The systematic review included 61 studies involving 3440 participants encompassing diverse trauma-exposed populations such as veterans, refugees, disaster survivors, survivors of interpersonal violence, nurses, prison inmates, and students. Interventions were grouped as Mindfulness-Based Stress Reduction, Mindfulness-Based Other, Transcendental Meditation, and Other Meditations. Studies meeting the following criteria were included in the systematic review: participants diagnosed with post-traumatic stress disorder, any trauma type, and longitudinal designs measuring change over time with sufficient data to calculate effect sizes; designs encompassed RCTs, non-RCTs, and single-group pre-post studies. Studies that lacked sufficient data to compute effect sizes, duplicated cohorts, or were not longitudinal intervention studies on meditation for post-traumatic stress disorder were excluded. The primary outcome was PTSD symptom severity using a standardized and validated clinician- or self-administered assessment tools. Follow-up across studies ranged from 1 to 48 weeks (average: 13.1 weeks). The study results revealed statistically significant reductions in PTSD symptoms across all meditation categories, with pooled effects of -0.52 (Mindfulness-Based Stress Reduction), -0.66 (Mindfulness-Based Other), -0.63 (Other Meditations), and -1.13 (Transcendental Meditation). No serious side effects were reported, but adverse events were not systematically reviewed or reported across the included studies. The authors concluded that each category of meditation was helpful in reducing PTSD symptoms. In particular, TM produced clinically significant reductions in PTSD for all trauma groups. However, additional multisite, phase 3, clinical trials to assess TM's efficacy compared with standard treatment were recommended. Limitations of the systematic review reported by the authors include few direct head-to-head comparisons between techniques, relatively small study sizes, and inconsistent reporting of implementation details (e.g., dropouts, completion rates, and regularity of meditation practices).

Rees et al. (2024) conducted a systematic review and meta-analysis to determine the effectiveness of meditation, primarily mindfulness-based interventions (MBIs), and transcendental meditation (TM), for the primary and secondary prevention of cardiovascular disease (CVD). The systematic review included 81 RCTs involving 6971 participants. The following four comparisons were analyzed: MBIs versus active comparators (alternative interventions), MBIs versus non-active comparators (no intervention, wait list, usual care), TM versus active comparators, and TM versus non-active comparators. Studies meeting the following criteria were included in the systematic review: RCTs of 12 weeks or more in adults at high risk of CVD and those with established CVD. Studies of interventions that comprised predominantly physical practices, as well as meditation, such as yoga, tai chi, and qigong, were excluded to avoid confounding effects of physical activity on CVD outcomes. The primary outcomes measured were CVD clinical events, blood pressure, measures of psychological distress and well-being, and adverse events. Secondary outcomes included other CVD risk factors, QOL, and coping abilities. The length of follow-up in included studies ranged from 12 weeks to five years. Participant attrition rates were variably reported, with some studies experiencing high losses to follow-up and high differential loss between

intervention and comparison groups. Based on the results of the meta-analysis, the authors concluded that despite the large number of included studies, there was substantial heterogeneity for many outcomes, limiting the certainty of findings. The authors attempted to address this by presenting four main comparisons of MBIs or TM versus active or inactive comparators, and by subgroup when there were sufficient studies. However, the majority of studies were small and there was an unclear risk of bias for the majority of domains. Overall, the authors found very little information on the effects of meditation on CVD clinical endpoints, blood pressure, and psychological outcomes in this population. Adverse events were rarely reported, with only one small study noting two non-serious adverse events in the MBI group. Limitations of this systematic review include that most included studies were small in size and at unclear risk of bias, with substantial heterogeneity in interventions, comparators, and outcomes. There were inconsistencies in reporting, particularly regarding adverse events, which were infrequently and inconsistently reported.

Hilton et al. (2017) conducted a systematic review and meta-analysis of 38 RCTs investigating mindfulness meditation for chronic pain (e.g., back pain, headache, fibromyalgia, cancer, musculoskeletal pain, irritable bowel syndrome). Treatments ranged from 3–12 weeks. Interventions included mindfulness-based stress reduction (MBSR), mindfulness-based cognitive therapy (MBCT), and other types of meditation. Some interventions were monotherapy while others used meditation as an adjunctive therapy. Comparators included: treatment as usual, education, support groups, stress management, massage, multidisciplinary pain interventions, relaxation/stretching, nutritional information/food diaries, and cognitive-behavioral therapy. These low quality, heterogeneous studies reported some evidence that meditation was associated with a small decrease in pain. Well-designed, rigorous, and large-scale RCTs are needed to decisively provide data for the efficacy of mindfulness meditation for chronic pain.

In an analysis of eight systematic reviews (SR) and meta-analyses, Ooi et al. (2017) reported that transcendental meditation may potentially reduce systolic blood pressure by ~4 mm Hg and diastolic blood pressure by ~2 mm Hg. The SRs included 5–15 studies and follow-ups ranged from six weeks to 18 months. The outcomes were comparable to those seen with other lifestyle interventions including weight loss and exercise. However, the strength of evidence was considered weak due to conflicting findings across reviews and potential risks of bias. Further research is still needed to validate these findings.

Salhofer et al. (2016) conducted a Cochrane systematic review of RCTs investigating the benefits and harms of meditation as an adjunctive therapy for adults with hematological malignancies. One abstract was found. There is insufficient evidence to support meditation for this patient population.

**Psychodrama:** Psychodrama, or Morenian psychodrama, is a method of psychotherapy in which clients engage in dramatization, role-playing, and dramatic self-presentation to address psychological functioning and psychopathology. The primary intention of psychodrama is to improve QOL and mental health by fostering spontaneity and creativity, which are considered essential for adapting to life changes and facing unexpected challenges. This approach is most commonly implemented in group settings and has been applied to diverse populations such as adolescents, adults, refugees, and individuals with clinical diagnoses. Psychodrama has been studied to improve emotional awareness, communication skills, and family relationships; enhance emotional regulation strategies and psychological well-being; reduce anxiety, aggression, burnout, attention-deficit/hyperactivity disorder (ADHD), PTSD, and depression symptoms; improve school-related fears and antisocial behavior in adolescents; increase feelings of empowerment in vulnerable populations; and improve psychotic symptoms and QOL in patients with schizophrenia (Maya. et al., 2025).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of psychodrama. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Maya et al. (2025) conducted a systematic review to evaluate psychodrama implementation characteristics, methodological designs, and effectiveness across studies published from 2018 to 2022. The systematic review included 27 studies encompassing 971 participants. The majority of studies examined the effectiveness of psychodrama in adult populations (n=19), with a smaller number focusing on adolescents (n=8), and only a single study addressing children. Study types included RCTs (11.1%), quasi-experimental designs (48.1%), and single-group designs without controls (40.1%). Psychodrama was primarily delivered in a group format. Comparators included no-treatment, waitlist, support therapy, psychoeducation, or other standard treatments.

Studies meeting the following criteria were included in the systematic review: peer-reviewed empirical articles in English, published during 2018 to 2022, involving psychodrama-based interventions that evaluated effectiveness with at least 10 participants in pretest–posttest comparisons. Studies of non-intervention content, non-empirical designs, those not evaluating effectiveness, systematic reviews and meta-analyses, instrument validations, single-case studies, and studies with sample sizes fewer than 10 were excluded. Outcomes of interest included effectiveness, symptom reduction, and psychosocial constructs, like empowerment, and QOL. Follow-up was reported in 26% of studies, with time frames ranging from six weeks to five years. Participant attrition was not reported. Psychodrama interventions demonstrated effectiveness in enhancing several outcomes, such as emotional awareness among nurses, emotional intelligence and reducing antisocial behavior in adolescents, improving QOL for individuals with psychotic disorders, alleviating PTSD symptoms in those with trauma and substance use issues, and improving psychotic symptoms and QOL in patients with schizophrenia. However, some areas showed no significant benefits, including traumatic symptoms in refugee children and parents, burnout and coping strategies in nurses, QOL in nursing students, and outcomes for women affected by domestic or sexual violence. No consistent pattern emerged regarding which populations or outcomes were most responsive to psychodrama. In studies that included qualitative assessments, participants frequently described positive changes across a range of domains. These included reductions in anxiety and guilt among women experiencing domestic violence, decreased anger and anxiety in university students, improved well-being for those facing infertility, and better communication between parents and adolescents with behavioral challenges. Out of the 27 included studies, 22 (81.5%) reported positive impacts from psychodrama on at least one targeted dimension, either quantitatively or qualitatively. The authors concluded that psychodrama in a group format showed effectiveness across various populations. However, there is a need for more robust clinical studies with larger samples, longer follow-up, standardized interventions, and improved outcome measurement to validate current findings and establish evidence-based treatments. Limitations of the systematic review include geographic bias (only one study was conducted in the U.S.), small samples across included studies, scarcity of RCTs, heterogeneity of interventions and outcomes, inconsistent reporting of effect sizes across studies, predominance of group-based format limits generalizability to individual or couple formats, and varied and limited follow-up.

### **Physical Approaches**

**Acupressure:** Acupressure is a Traditional Chinese Medicine technique that applies pressure to specific points along the body's energy meridians. These points are believed to influence psychological, neurological, and immunological processes. Acupressure is purported as a treatment for managing pain, reducing anxiety, inducing labor, alleviating insomnia, promoting sleep quality, control of emesis-related symptoms during pregnancy, and supporting weight loss (Godley & Smith, 2022; Chen, et al. 2021; Torkzahrani, et al., 2017; Hmwe, et al., 2016; Matthews, et al., 2015).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of acupressure. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Lee et al. (2025) conducted a systematic review and meta-analysis to assess the effectiveness of auricular acupressure in managing pain, pain-related disability, and other clinical outcomes among individuals with chronic musculoskeletal pain. The systemic review included six RCTs (496 participants) including studies of chronic low back pain, chronic nonspecific spinal pain, osteoarthritis, and chronic neck pain. Inclusion criteria included studies that enrolled adults (≥18 years) with chronic musculoskeletal pain with interventions that involved auricular acupressure alone compared with sham/placebo controls. Studies of acute pain or other types of pain (e.g., cancer pain) and other forms of alternative therapy (e.g., acupuncture) or combined interventions were excluded. The primary outcomes were pain intensity and disability. Secondary outcomes included pressure pain threshold, pain catastrophizing, and fear-avoidance beliefs. Outcome assessments were conducted immediately post-treatment (five trials) or at one week (one trial), with additional follow-up at one month (one trial) and six months (one trial). The drop-out rate varied by trial and arm, with reported dropout rates ranging from 4% to 32%. The study results revealed that low-quality evidence demonstrated auricular acupressure had a large effect size on postintervention subjective pain reduction (standardized mean difference [SMD] -0.95; 95% CI: -1.36 to -0.54;  $p=0.00$ ;  $I^2 = 52.61\%$ ). Moderate-quality evidence demonstrated that auricular acupressure had a large effect size on enhancing postintervention pressure pain threshold (SMD = -0.55; 95% CI: -0.88 to -0.23;  $p=0.00$ ;  $I^2 = 0\%$ ). Low-quality evidence demonstrated that auricular acupressure had a large effect on reducing

postintervention disability (SMD = -0.68; 95% CI: -1.24 to -0.12;  $p=0.02$ ;  $I^2 = 51.33\%$ ). Additionally, a sensitivity analysis reaffirmed the same conclusion regarding pain reduction immediately after the intervention. Adverse events were minimal (e.g., soreness, tenderness, irritation, redness) and resolved within 1 to 7 days, with several studies reporting no treatment-related events. The authors concluded that auricular acupressure had immediate post-treatment benefits for chronic musculoskeletal pain. However, the effects at the 1- or 6-month follow-up remained uncertain. The authors recommended that future RCTs should evaluate the effectiveness of auricular acupressure on chronic musculoskeletal pain using consistent and detailed protocols over a longer follow-up period. Limitations of the systematic review include low-to-moderate methodological quality among included studies, some studies had a high risk of bias, the small numbers of studies per meta-analysis, an inability to conduct a meta-regression due to the small numbers of studies, and heterogeneity of auricular acupressure protocols.

Larki et al. (2025) conducted a systematic review, meta-analysis, and Grading of Recommendations Assessment, Development, and Evaluation (GRADE) assessment to assess the effectiveness of acupressure in managing labor pain. The systematic review included 37 RCTs involving 4254 participants. Inclusion criteria included studies of women in labor, both spontaneous and induced, with singleton or multiple pregnancies. Studies with mixed interventions, inadequate data, or irrelevant control groups were excluded. Acupressure interventions were compared to sham, touch, no treatment, or routine care across the studies. The primary outcome was labor pain intensity, assessed using various validated scales immediately after intervention and up to 24 hours post-intervention. Fifty-seven percent of the included studies were determined to be at a low risk for attrition bias. The study results revealed acupressure significantly reduced labor pain compared to touch (MD = -1.19, 95% CI -1.66 to -0.72,  $p < 0.00001$ ) compared to sham (MD = -1.41, 95% CI -2.55 to -0.27,  $p=0.01$ ), and no intervention (MD = -2.32, 95% CI -2.87 to -1.76,  $p < 0.00001$ ). However, a funnel plot comparing the effect of acupressure with a touch on labor pain intensity suggested possible publication bias. The GRADE assessment indicated a moderate to low level of certainty regarding these results. Adverse events were not reported. The authors concluded that acupressure appeared to be a viable method for alleviating labor pain and was supported by moderate to low-quality evidence. However, high-quality RCTs are needed to confirm these findings and clarify underlying mechanisms. Limitations of the systematic review noted by authors include the overall low quality of the included studies, risk of bias, and high level of statistical heterogeneity due to use of different methodologies.

Huang et al. (2025) conducted a systematic review and meta-analysis to investigate the safety and efficacy of auricular acupressure to treat insomnia in women with breast cancer. The systematic review included 15 RCTs and a total of 1125 adult participants. Eligible studies included trials published in English or Chinese, focusing on auricular acupressure for insomnia in breast cancer patients. The primary outcome indicator was sleep quality using validated, but subjective self-report questionnaires. Secondary outcomes indicators included QOL, depression, and anxiety using validated questionnaires and information obtained from sleep monitoring devices. The included studies compared auricular acupressure to sham or placebo, medication, or usual care, with intervention periods ranging from 6 days to 8 weeks. The study results revealed that auricular acupressure demonstrated significant improvements in sleep quality (MD = -3.36, 95% CI: [-4.65 to -2.07],  $p < 0.001$ ) and life quality (MD = -7.82, 95% CI: [-14.76 to -0.88],  $p=0.03$ ). Sleep monitoring devices demonstrated auricular acupressure was valuable for improving sleep efficiency (MD = -3.63, 95% CI: [-4.19 to -3.07],  $p=0.03$ ). Adverse events were reported in five studies, with no serious adverse effects reported. Common adverse reactions included auricular skin allergic reaction (3.9%), bruising (2.7%), pain (1.2%), and local pressure ulcers (0.8%). The authors concluded that the systematic review demonstrated auricular acupressure the safety and efficacy to treat insomnia in women with breast cancer. However, the authors also noted that the current body of high-quality RCTs is insufficient. Additional rigorous trials are needed to support the efficacy of auricular acupressure in this population. Limitations of the systematic review include the overall moderate quality of available evidence, small sample size, short duration of follow-up, and lack of adverse event reporting in some studies, and substantial heterogeneity.

Issac et al. (2024) conducted a systematic review and meta-analysis to determine whether acupressure is effective in treating acute nausea and vomiting brought on by chemotherapy, as well as delayed nausea and vomiting, in patients with breast cancer. The systematic review included six RCTs involving 287 participants. Eligible studies included participants diagnosed with breast cancer and receiving chemotherapy, with outcomes focused on the severity and frequency of acute and delayed nausea and vomiting. Studies that measured outcomes that were different from nausea or vomiting were not included in the analysis. Interventions consisted

of acupressure, either alone or in combination with antiemetics, compared to routine medical care or antiemetic medications. The primary outcome was the effectiveness of acupressure combined with antiemetics versus control on severity of acute nausea, acute vomiting, delayed nausea, and delayed vomiting. The study results revealed that acupressure combined with antiemetics significantly reduced the severity of acute nausea ( $p=0.01$ ), delayed nausea ( $p<0.001$ ), and delayed vomiting ( $p=0.02$ ), but did not show a statistically significant effect on the frequency of acute nausea ( $p=0.33$ ), acute vomiting ( $p=0.64$ ), or delayed vomiting ( $p=0.81$ ). The authors concluded that acupressure is a helpful complementary therapy for easing nausea and vomiting brought on by chemotherapy in participants with breast cancer. Limitations of the systematic review include the small number of studies, heterogeneity in chemotherapy regimens, patient demographics, acupressure points, and protocols, lack of information regarding length of follow-up and subjects lost to follow-up, and absence of systematic adverse event reporting.

Godley and Smith (2020) performed a systematic review to establish the utility of acupressure for chronic low back pain. The systematic review included six RCTs involving 468 participants. The RCTs included adults aged 18 years or older with chronic low back pain lasting at least three months and without comorbid conditions that could exacerbate pain. Interventions consisted of auricular acupressure or general acupressure, with control groups receiving sham acupressure, usual care, or no treatment. The primary outcomes measured were changes in pain, disability, and sleep, with treatment durations ranging from 3 to 6 weeks and follow-up periods extending up to 6 months in some studies. The results of the systematic review revealed that all studies reported clinically significant reductions in pain ( $\geq 30\%$ ), clinically significant and/or statistically significant improvements in disability, and statistically significant improvements in sleep. No significant adverse events were reported. The authors concluded that acupressure is a feasible, effective, safe, and low-cost nonpharmacologic treatment for chronic low back pain. However, the establishment of standardized treatment protocols to facilitate ease of use and future research was recommended. Limitations of the systematic review noted by the authors include small sample sizes for some studies, selection bias, variability in treatment protocols and different control groups, and limited follow-up duration.

Chen et al. (2021) performed a systematic review and meta-analysis of RCTs to evaluate acupressure in combination with standard procedures during labor and delivery, compared with standard procedures with/without sham acupressure. Thirteen RCTs ( $n=1586$ ) met criteria resulting in moderate evidence indicating that acupressure may have promising effects on labor pain and duration. There were no adverse events, but the data was inconclusive on how acupressure affects Cesarean section rates. Makvandi et al. (2016) previously conducted a systematic review and meta-analysis ( $n=13$  studies) of RCTs to assess the evidence regarding the effects of acupressure on duration of labor and mode of delivery. Studies were included if they examined the effect of acupressure at any acupoint during childbirth for these indications. The results were that acupressure increased the chance of vaginal delivery when compared with placebo/no intervention ( $p=0.002$ ) and decreased the duration of the active phase by 1.310 hours ( $p=0.001$ ) and the second stage of labor by 5.808 minutes ( $p=0.001$ ). However, there were several limitations to the studies including: high risk of bias; inadequate and/or unclear allocation concealment; and significant heterogeneity between the studies regarding the research questions, study design, intervention protocols, and outcome measures. Conclusions from Chen et al. (2021) and Makvandi et al. (2016) were that more high-quality trials are needed to support these findings.

In an RCT ( $n=162$ ), Torkzahrani et al. (2017) reported that the use of acupressure versus acupressure sham and control showed no significant differences between the groups in spontaneous initiation of labor.

Hmwe et al. (2016) conducted a systematic review of the literature to evaluate the effectiveness of acupressure in promoting sleep quality in adults. Eight RCTs met the inclusion criteria. The studies were conducted in hemodialysis units, long-term care facilities, nursing homes, psychogeriatric inpatients, and in a cardiology outpatient department. Comparators were routine care or conventional medical treatment, sham, transcutaneous electrical acupoints stimulation, or acupressure with light touch. The results showed that the quality of sleep was significantly improved in the acupressure group compared with usual care, but there were no difference between the acupressure and sham acupressure groups. The studies were limited by the small patient populations, heterogeneity of acupoints, methodological limitations, and unclear risk of bias. Further studies with well-designed trials are needed to confirm the efficacy and safety of acupressure for sleep.

Matthews et al. (2015) conducted a systematic review of RCTs to assess the safety and effectiveness of various types of interventions for nausea, vomiting, and retching in early pregnancy. Of the 41 trials that met inclusion

criteria, five studies used acupressure. Four studies compared P6 acupressure to placebo and there were no statistically significant effects with acupressure.

**Alexander Technique:** Alexander technique is a method of postural reeducation intended to improve movement and reduce chronic pain. It emphasizes conscious control of posture and breathing to correct habitual motion patterns. The technique has shown promise in managing recurrent low back pain. Alexander technique has also been studied for improving balance in older adults and individuals with Parkinson's disease (Atchison, 2021).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Alexander technique. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Qin et al. (2024) conducted a systematic review and meta-analysis to evaluate the clinical efficacy of Alexander technique on pain and adverse events in chronic non-specific neck pain compared to the conventional therapy. The systematic review included two RCTs and one quasi-randomized trial involving 407 participants. Eligible studies included participants with  $\geq 3$  months of neck pain with specified thresholds on the Northwick Park Neck Pain Questionnaire (NPQ) or Neck Disability Index, and that reported outcomes of interest. Studies were excluded if participants were diagnosed with cervical radiculopathy, myelopathy, or myofibromatosis syndrome, there were contraindications to spinal manipulation, a history of neck trauma or surgery, or other serious comorbid conditions. The experimental group received one-to-one or group taught sessions of Alexander technique therapy. The control group received conventional care therapy, including one or more prescribed medications, acupuncture, exercise therapy, and physiotherapy. Outcomes of interest included cervical pain level measured by NPQ and visual analogue scale (VAS), and adverse events (disk herniation, knee injury, inflammation, muscle spasms, muscle stiffness). Follow-up was categorized as immediate ( $\leq 1$  week), short term ( $\leq 3$  months), intermediate (3 to 6 months), and long term ( $> 6$  months), though available time points varied by study. Subjects lost to follow-up was not reported. The study results revealed that the initial pooled analyses reported no statistically significant effect on pain when aggregating all time points (SMD: -0.12, 95% CI: -0.33 to 0.08,  $p=0.246$ ,  $I^2 = 46.9\%$ ). However, after restricting the analysis by follow-up, short-term effects (SMD: -0.33, 95% CI: -0.55-0.10,  $P = 0.005$ ,  $I^2 = 0\%$ ) and intermediate-term effects (SMD: -0.34, 95%CI: -0.87 to 0.19,  $p=0.208$ ,  $I^2 = 0.0\%$ ) favored Alexander technique. Additionally, adverse events did not significantly differ from usual care (risk ratio [RR] = 1.690, 95% CI: 0.67 to 4.27,  $p=0.267$ ,  $I^2 = 44.3\%$ ). The authors concluded that preliminarily Alexander Technique did not appear to have a significant effect on chronic non-specific neck pain relief. Relief was related to the follow-up time of the post-intervention, and the quality of the included studies was low, making the conclusions unreliable. Further investigations of Alexander Technique are needed to elucidate these findings. Limitations of the systematic review include the limited number of studies, high risk of bias due to low methodological quality of the included studies, and heterogeneity in control interventions.

**AMMA Therapy®:** AMMA Therapy, an integration of Chinese medical principles, is a specialized form of massage that focuses on the balance and movement of energy within the body. Hand techniques are used to balance the flow of energy in the channels of the body through which energy passes. The therapist relies on the sensitivity and strength of hand massage and manipulation of the energy movement.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of AMMA Therapy.

**Bio Photonic Lymphatic Drainage Treatment (BELD):** Bio Photonic Lymphatic Drainage Treatment (BELD) is a device-based intervention that utilizes a proprietary technology intended to remove blockages within the lymphatic system, promoting decongestion, restoring fluidity, maintaining nutritional balance, and repolarizing proteins. According to The Center for Natural and Integrative Medicine (2019): "The BELD has been shown to improve breast lumps, inflammations, chronic pain, joint aches, allergies, sinus pressure and infections, respiratory problems, headaches, prostate problems, hormone imbalance and chronic female conditions, dental trauma, heavy metal toxicity, neuromuscular, immune and fatigue syndromes."

There is a lack of evidence in the published, peer reviewed literature to support the safety and efficacy of BELD for any indication.

**Craniosacral Therapy:** Craniosacral therapy involves mindful, non-invasive palpation of the fascial tissues between the cranium and sacrum. It is derived from osteopathic manipulative techniques. Craniosacral therapy is intended to release myofascial structures, normalize sympathetic nerve activity by modifying craniosacral body rhythms, reduce physiological arousal, and enhance physiologic regulation and tissue relaxation. This therapy is purported for the treatment of numerous medical conditions including tension-type headaches, migraines, low back pain, neck pain, fibromyalgia, pelvic girdle pain, lateral epicondylitis, and related stress or mental health issues (Haller, et al., 2020).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of craniosacral therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Amendolara et al. (2024) conducted a systematic review and meta-analysis to assess the clinical effectiveness of craniosacral therapy compared to standard care, sham treatment, or no treatment in adults and children. The analysis included 24 RCTs and involved 1613 participants. Eligible studies included those assessing the clinical effectiveness of craniosacral therapy performed by experts on non-healthy adults or children as compared to standard of care, sham treatment, or no treatment. Studies that were not available in English, which combined craniosacral techniques with other non-osteopathic treatments, which did not separate or distinguish results, and that that did not present data in such a way as to allow meta-analysis were excluded. The primary outcome was the effectiveness of craniosacral therapy as measured by SMD effect size, with all treatment outcomes considered (secondary outcomes). Because the conditions addressed by craniosacral therapy in the included studies varied considerably, clinical outcomes were organized into distinct categories, and separate meta-analyses were conducted for each category. The length of follow-up and subject attrition were not reported. The study results revealed no significant effects when subgroup analyses were performed by primary outcome only. When secondary outcomes were included in subgroup analyses, the results revealed that two categories, Neonate health, structure ( $g=0.66$ , 95% CI [0.30 to 1.02], prediction interval [PI] [-0.73 to 2.05]) and Pain, chronic somatic ( $g=0.34$ , 95% CI [0.18 to 0.50], PI [-0.41 to 1.09]) showed a reliable, statistically significant effect. However, the authors cautioned these findings should not be interpreted as positive results due to wide PI, a high risk of bias, and statistical limitations. Adverse events were not reported. The authors concluded that craniosacral therapy demonstrated no significant effects, indicating a lack of usefulness for any of the studied indications. The systematic review has several limitations including an analysis that included the variation within and between the individual studies, differing outcomes, and multiple indications. Additionally, there was a high risk of bias, and some studies had methodological issues including small samples, poor blinding, poor randomization, incomplete result reporting, and inadequate description of techniques.

Ceballos-Laita et al. (2024) conducted a systematic review and meta-analysis to evaluate the clinical effectiveness of craniosacral therapy in the management of any condition. The systematic review included 15 RCTs in the qualitative synthesis and seven in the quantitative synthesis. The total number of participants was 832. Inclusion criteria included studies of musculoskeletal or non-musculoskeletal conditions that applied craniosacral therapy in isolation or in addition to standard care, which compared the intervention to a sham control or standard care intervention, and that reported variables related to the clinical effectiveness. Studies that included healthy participants, applied a multimodal intervention or comparator in which the effects of craniosacral therapy could not be extrapolated, reported no clinical outcomes, or the outcome measures were not quantified using validated instruments were excluded. Outcomes measured included pain intensity, disability or impact, crying and sleeping diaries, motor function, autism evaluation, behavioral symptoms, and visual function tests. The length of session duration, frequency, and follow-up varied by study. Attrition was noted for some studies, with approximately 14% lost to follow-up in one study of non-musculoskeletal conditions and a dropout rate higher than 15% in some studies of musculoskeletal conditions. The study results revealed craniosacral therapy produced no statistically significant or clinically relevant changes in pain and/or disability/impact in participants with headache disorders, neck pain, low back pain, pelvic girdle pain, or fibromyalgia. Craniosacral therapy was also not observed to be effective for managing infant colic, preterm infants, cerebral palsy, or visual function deficits. Adverse events were not mentioned in ten RCTs. Five RCTs reported no serious adverse events. The authors concluded that craniosacral therapy was not clinically effective for any condition assessed. Two RCTs that suggested benefits in children were determined to be flawed by the authors and likely false positives. The authors stated future studies are likely unnecessary due to the biological implausibility of craniosacral therapy. However, any future research should incorporate higher methodological standards, including prospective protocol registration, proper randomization procedures, blinding of both participants and assessors, and the use

of objective outcome measures. Limitations of the systematic review noted by the authors include analysis of many diverse conditions may complicate interpretation of the results and weaken the strength of conclusions. Additionally, there was considerable heterogeneity across the included RCTs with regards to treatment duration and outcome variables.

Haller et al. (2020) conducted a systematic review and meta-analysis of RCTs to assess the effectiveness of craniosacral therapy for the treatment of chronic pain. Ten RCTs (n=681) met inclusion criteria which included: adult patients with a chronic, non-malignant pain condition, examining a type of craniosacral therapy regardless of length or content, and reported at least one primary or secondary outcome assessed at the end of the intervention period, or at a follow-up point closest to six months. The studies included patients with neck and back pain, migraines, tension-type headaches, fibromyalgia, epicondylitis, and pelvic girdle pain. Primary outcome measures were pain intensity and functional disability. Secondary outcome measures included: physical QOL, mental QOL, global involvement, and safety. The studies that compared craniosacral therapy to treatment as usual found small to medium size pooled effects immediately following craniosacral therapy intervention for pain intensity, functional disability, and physical QOL. Studies that compared manual and non-manual sham controls found medium to large, pooled effects directly after, as well as six months after for pain intensity, functional disability, physical QOL, and global involvement. Only minor adverse events were reported across the studies. The results suggested significant effects of craniosacral therapy on pain and function compared to general treatment. The limitations of the review included the small number of studies in the meta-analysis, small patient populations, unclear risk of bias profile, lack of subgroup analyses, and patient-reported outcomes.

**Cupping:** Cupping uses one of several types of cups (e.g., glass, bamboo) placed on the desired acupoints of the skin to make a local place of hyperemia or hemostasis for the purpose of curing disease (e.g., fibromyalgia, knee osteoarthritis, low back pain, urticaria, asthma, cough, herpes zoster). There are several types of cupping including: retained cupping, flash cupping, water cupping, bleeding or wet cupping, moving cupping, needle cupping, medicinal or herbal cupping, and combined cupping (Li, et al., 2017; Al Bedah, et al. 2016; Cao, et al., 2012).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of cupping. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Jia et al. (2025) conducted a systematic review and meta-analysis to assess the effectiveness of cupping in participants with chronic musculoskeletal pain. The systematic review included ten RCTs involving 656 participants. Inclusion criteria included studies of adults with musculoskeletal pain or stiffness lasting more than three months, which evaluated cupping against no treatment or sham/placebo, and measured pain intensity, functional disability, or mental health. Studies that included non-chronic conditions, involved visceral or orofacial pain sites, or used active treatments in control groups were excluded. The primary outcome was pain intensity. Secondary outcomes included functional disability and mental health. Outcomes were based on standardized instruments, e.g., VAS, Oswestry Disability Index, Neck Disability Index, Short-Form 36. Only immediate post-treatment effects were analyzed. The study results revealed that cupping demonstrated a significant reduction in pain intensity with moderate quality based on a random-effect model (SMD -1.17; 95% CI -1.93 to -0.42; p=0.002; I<sup>2</sup> = 94%). However, cupping demonstrated no improvement on functional disability (SMD -0.24; 95% CI -0.93 to 0.46; p=0.51; I<sup>2</sup> = 93%) and mental health (SMD 0.08; 95% CI -0.12 to 0.27; p=0.46; I<sup>2</sup> = 0%). Adverse events and subject attrition were not reported. The authors concluded that cupping may be efficient in alleviating pain intensity in patients with chronic musculoskeletal pain with immediate effects. However, cupping cannot improve functional disability and mental health significantly. Limitations of the systematic review noted by the authors include small number of included studies, analysis limited only to immediate outcomes, heterogeneity related to cupping dose, and the small number of included trials.

Yiyang et al. (2025) conducted a systematic review and meta-analysis to update the current best evidence on the effectiveness and safety of cupping in pain management. The systematic review included 72 RCTs involving 5720 participants and encompassing various forms of cupping therapy and comparators such as no treatment, usual care, drugs, acupuncture, and other therapies. Inclusion criteria included studies of participants of any gender over 18 years with pain conditions, regardless of the cause and type of diseases. Studies without analyzable data were excluded. Primary outcomes included pain severity scores and cure rates. Secondary

outcomes included QOL, sleep quality, and adverse events. Treatment durations varied across studies. The study results revealed the majority of trials demonstrated that cupping therapy, alone or in combination, improved pain scores (MD reduction 0.16 to 7.0 cm), increased cure rates (RR 1.38 to 2.20), and enhanced QOL and sleep. Adverse events were infrequently reported in the cupping groups and were less common compared to drug therapy (RR 0.11, 95% CI 0.03 to 0.39). Adverse events were infrequently reported in the cupping groups and were less common compared to drug therapy (RR 0.11, 95% CI 0.03 to 0.39). The authors concluded that cupping may be beneficial for pain relief and associated outcomes, and have less potential for harm than drugs, but these findings were supported only by low-quality evidence. Limitations of the systematic review noted by the authors include limited information about study design and methodology of the available studies. The overall quality of evidence was rated as low or very low because of possible selection bias, detection bias, variability in results across trials, and the likelihood of publication bias.

Ma et al. (2018) conducted a systematic review and meta-analysis of five RCTs (n=564) to assess the effectiveness of cupping for the management of ankylosing spondylitis (AS). Studies were included if cupping therapy was used as the sole intervention or as an adjunct therapy in conjunction with Western medicine therapy and patients were diagnosed with ankylosing spondylitis using definitive modified New York criteria. The primary outcome was the functional condition measured by recognized scales including the Bath Ankylosing Spondylitis Functional Index (BASFI). Other outcomes were disease activity as measured on the Bath Ankylosing Disease Activity Index (BADAI), and serum levels of erythrocyte sedimentation rate (ESR) and C reactive protein (CRP). Four studies (n=294) showed cupping plus Western medicine had a significantly better response rate than Western medicine alone ( $p<0.001$ ). Three RCTs (n=242) showed significantly better BASFI ( $p<0.001$ ), BASDAI ( $p<0.01$ ), ESR ( $p<0.01$ ), and CRP ( $p<0.01$ ) outcomes with Western medicine plus cupping. Limitations of the analysis include the limited number of studies with small patient populations, high risk of bias, and lack of blinding to the intervention. The authors noted that caution must be taken when attempting to generalize the results of this systematic review due to the low quality of the studies and that the power of the analysis based on small sample size effects may be exaggerated. Most of the included RCTs were conducted on Chinese populations making it difficult to apply the result to the general population.

Al Bedah et al. (2016) conducted a systematic review to evaluate the safety and efficacy of wet cupping. Fourteen RCTs (n=863) met the inclusion criteria. The included studies evaluated wet cupping for multiple conditions including: nonspecific low back pain (three studies), hypertension (one study), brachialgia (one study), carpal tunnel syndrome (one study), chronic neck pain (two studies), metabolic syndrome (one study), migraine headaches (one study), oxygen saturation in smokers with chronic obstructive pulmonary disease (one study), physiologic and biochemical parameters of healthy individuals (two studies) and oral and genital ulcers due to Behcet disease (one study). Outcomes were conflicting with nine studies favoring cupping for various conditions and five studies reporting no statistically significant difference when cupping was used. Adverse effects included fainting, discomfort, headache, skin laceration, whole body itching, pain, generalized body pain, circulatory instability, migraine attack, repeating tinnitus, and wound-healing itch. Limitations of the studies included the heterogeneity of the conditions, limited number of studies per condition, variable risk of bias, small patient populations (n=20–126) with no power of calculations, heterogeneity of treatment regimens (e.g., number of sessions, length of each session; frequency of sessions) and comparators (e.g., acetaminophen; conventional treatment, no treatment), lack of blinding and no control for placebo effect. Due to the limitations of the studies and poor overall methodology, firm conclusions could not be made regarding the clinical effectiveness of wet cupping.

In a systematic review of 135 RCTs (Cao, et al., 2012), cupping therapy (mainly wet cupping) was used for the treatment of herpes zoster, facial paralysis (Bell's palsy), cough and dyspnea, acne, lumbar disc herniation, and cervical spondylosis. Data on cupping therapy combined with other treatments, such as acupuncture or medications, showed significant benefit (e.g.,  $p<0.00001$ ) over other treatments used alone in the treatment of herpes zoster, acne, facial paralysis, and cervical spondylosis. Despite the number of RCTs included in this analysis, the authors stated that there was a lack of well-designed studies and 84.4% of the studies were at high risk of bias. Additional limitations of the studies included: lack of blinding, especially of outcome assessors and statistics; lack of reporting of methodology details; and heterogeneity of treatment regimens.

**Ear Candling:** Ear candling, sometimes referred to as ear coning, involves the insertion of a hollow, lit candle into the ear canal. These candles are often made out beeswax, honey extract, essential oils, and organic linen.

Ear candling is purported to create a vacuum effect that removes earwax and debris (Mehta et al., 2021; Schwartz et al., 2017).

According to authoritative medical textbooks and evidence-based guidelines, ear candling is largely ineffective, and may deposit hot candle wax into the canal, resulting in burns to the ear canal and tympanic membrane (Mehta et al., 2021; Schwartz et al., 2017).

**Feldenkrais Therapy:** Feldenkrais is a method of exercise therapy designed to improve coordination. It is a bodywork system in which the person is viewed as a complex system of intelligence and function and all movement reflects the state of the nervous system and the individual's self-awareness. The process of intention, action, gaining feedback, making decisions, and reenacting with adaptations constitutes the learning framework (Hillier and Worley, 2015).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Feldenkrais therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

**Hellerwork®:** According to Hellerwork International LLC (2025), "Hellerwork is a structural integration modality that uses soft tissue manipulation, and movement re-education to bring the body back to a natural state of alignment and balance. Hellerwork also uses somatic dialogue to create a better understanding of one's own body and movement capacity."

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Hellerwork.

**Inversion Therapy:** Inversion therapy is proposed to relieve back and neck pain by gently stretching the vertebrae using the person's own body weight by hanging upside down. It is proposed that inversion therapy can relieve back pain, decompress the spine, stretch muscles and ligaments, relieve stress, improve circulation, and help maintain overall good health. However, inversion is contraindicated in numerous conditions, including bone weakness, recent fractures, conjunctivitis, glaucoma, heart disorders, hernias, and many others.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of inversion therapy.

**Myotherapy:** Myotherapy is a method of relaxing muscle spasms, improving circulation, and alleviating pain. To diffuse trigger points, pressure is applied to the muscle for several seconds by means of fingers, knuckles, and elbows. The success of this method is said to depend on the use of specific corrective exercise for the freed muscles.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of myotherapy.

**Pfrimmer Deep Muscle Therapy®:** According to the International Association of Deep Muscle Therapists (n.d.), "Pfrimmer Deep Muscle Therapy is an advanced massage modality that produces results where other massages fail. Developed by Therese Pfrimmer, a pioneering Canadian physical therapist who used the technique to heal her own paralysis, Pfrimmer massage utilizes digital pressure and specialized Pfrimmer release techniques to relieve chronic pain and tension."

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Pfrimmer Deep Muscle Therapy.

**Pilates:** Pilates is a physical fitness system grounded in principles such as breathing control, balance, flexibility, proprioception, and strengthening of the core muscular unit encompassing the abdominal muscles, lumbar spine, pelvic floor, and hips. Pilates has been studied to alleviate pain and disability, as a rehabilitation strategy for Parkinson's disease, as a treatment for various chronic conditions, knee osteoarthritis, fibromyalgia, and non-communicable diseases, reduce fall risk in older adults, positively affect pregnancy outcomes, reduce body weight and body composition, and enhance QOL (Abonie, et al. 2025; de Oliveira, et al., 2025; Li, et al., 2025; de

Campos Júnior, et al., 2024; Nithuthorn, et al., 2024; Wang, et al., 2021; Suárez-Iglesias, et al., 2019; Miranda and Marques, et al., 2018).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Pilates. Existing systematic reviews of Pilates for the treatment of chronic conditions (e.g., multiple sclerosis, cancer, Parkinson disease, diabetes, rheumatoid arthritis) (Abonie, et al., 2025), knee osteoarthritis (de Oliveira, et al., 2025; Zhang, et al., 2025), non-communicable diseases (Miranda and Marques, et al., 2018), and low back pain (Yamato, et al., 2015; Pereira, et al., 2012; Lim, et al., 2011), reduction of fall risk in older adults (de Campos Júnior, et al., 2024) and body weight and body composition in adults (Wang, et al., 2021), positively affect pregnancy outcomes (Li, et al., 2025), and as a rehabilitation strategy for Parkinson's disease (Suárez-Iglesias, et al., 2019) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include heterogeneity in intervention protocols, control groups, and outcomes, low methodological quality, limited long-term follow-up, and insufficient reporting of adverse events.

**Remedial Massage:** Remedial massage is the rhythmical kneading and stroking of the body's soft tissues to relieve accumulated tension, restore flexibility to muscles, and offer relief from pain. In addition, holistic massage is proposed to have a calming effect on the neuromuscular system bringing about deep relaxation and restoring energy.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of remedial massage.

**Reflexology:** Reflexology, sometimes referred to as zone therapy, involves applying targeted pressure to specific areas of the hands or feet, which are thought to correspond with different organs and systems within the body. Reflexology is purported to treat a wide range of conditions, including pain, anxiety, fatigue, muscle spasms, bowel and bladder dysfunction, menopausal symptoms, premenstrual syndrome, diabetes, symptomatic idiopathic detrusor overactivity, sleep disturbances, and dementia. It is also claimed to help with labor pain, anxiety, birth satisfaction, and vital sign stabilization in pregnant women, as well as to alleviate physical and psychological symptoms associated with multiple sclerosis and improve QOL (Deenadayalan, et al., 2024; Yang, et al., 2024; Huang, et al., 2021; NCCIH, 2020; Ernst, et al., 2011).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of reflexology. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Deenadayalan et al. (2024) conducted a systematic review to review the effect of foot reflexology on subjective and objective outcomes in multiple sclerosis. The systematic review included eight RCTs and one randomized crossover trial involving 545 participants. Inclusion criteria included studies that examined and compared manual foot reflexology interventions with usual care, control, or placebo groups. Studies that included other interventions were excluded. Outcomes of interest included fatigue, pain, QOL, bowel and bladder function, muscle stiffness and spasm, sleep quality, psychological symptoms (e.g., anxiety, stress, depression), cardiovascular measures (e.g., heart rate, blood pressure), and cortisol levels. Length of follow-up varied by study, but the authors noted that none of the included studies had long-term follow-up. Dropout was generally low. Results from the meta-analysis revealed that across studies, significant symptom improvements were frequently reported within groups, although between-group differences were mixed. The pooled effect using a random-effects model showed foot reflexology may have a positive role in pain management (SMD -0.58, 95% CI -1.22 to 0.005,  $p=0.004$ ,  $I^2 = 77\%$ ). However, the authors determined this finding was not statistically significant. No treatment-related significant adverse events were reported. The authors concluded that foot reflexology is potentially safe and effective to reduce the physical and psychological symptoms associated with multiple sclerosis. Foot reflexology also improves QOL. However, well-designed, larger-scale clinical trials are required to confirm these conclusions. Limitations of the systematic review include the small number of studies, methodological weaknesses in some studies (e.g., risk of bias), heterogeneity in interventions and outcomes, limited geographic diversity, and the lack of long-term follow-up.

Yang et al. (2024) conducted a systematic review and meta-analysis to explore the effects of foot reflexology massage on anxiety, pain, duration of labor, labor satisfaction, blood pressure, pulse rate, and respiratory rate in

pregnant women. The systematic review included 13 RCTs involving 1189 participants. Inclusion criteria included studies of pregnant woman with foot reflexology or foot massage as an intervention, a control of placebo, usual care, or no intervention, and that evaluated the outcomes of interest. Studies were excluded if reflexology massage was not limited to the foot or combined with other interventions, such that the effect of reflexology alone could not be shown. The primary outcomes of interest were pain, anxiety, birth satisfaction, and duration of labor. Secondary outcomes included vital signs. The length of follow-up was not reported. Some studies reported attrition, with three studies having less than 85% follow-up. The meta-analysis found that foot reflexology massage significantly reduced anxiety (SMD: -0.88, 95% CI: -1.41 to -0.34), pain (MD: -1.89, 95% CI: -2.34 to -1.45) and the duration of all three stages of labor and increased birth satisfaction (MD: 36.93, 95% CI: 10.79 to 63.08). Foot reflexology massage also reduced pulse rate (MD: -3.32, 95% CI: -5.26 to -1.37, I<sup>2</sup> = 0%, p=0.0009) and respiration rate (MD: -0.52, 95% CI: -0.86 to -0.19, I<sup>2</sup> = 66%, p=0.002), but there was no significant effect on blood pressure. Adverse events were not reported. The authors concluded that foot reflexology massage is effective for pregnant women to relieve anxiety, reduce pain, shorten labor, and regulate respiration, and pulse rate. Limitations of the systematic review noted by the authors include lack of methodological rigor in most of the included studies and high heterogeneity of most outcomes.

Huang et al. (2021) conducted a systematic review and meta-analysis to summarize and quantify the effects of foot reflexology on improvements in sleep disturbances. Forty-two articles (n=3,928) met the following inclusion criteria: the target population was adults over 18 years old; the type of foot reflexology was individual foot reflexology or foot reflexology with other interventions (e.g., foot bath, acupressure, or acupuncture); the comparison group(s) received routine care, no treatment, prescribed medications, or other activity controls; outcomes were any changes in sleep disturbances after the intervention; the study design was limited to RCTs; and articles were written in the English or Chinese language. Results revealed that foot reflexology resulted in a greater reduction in the sleep quality score compared with the controls (Hedges' g= -1.37; 95% CI -1.81~-0.94). As for the therapeutic effect, participants in the intervention group were less likely to have sleep problems than those in the control group (pooled odds ratio [OR] = 0.25; 95% CI 0.19~0.31). Limitations include: all articles were assessed to have a high risk of bias; heterogeneity in patient populations; lack of detailed descriptions of interventions. The findings suggested that foot reflexology produced improvements in sleep disturbances, but well-designed, large-scale randomized controlled trials are needed to assess long-term effects to confirm findings.

In a systematic review of 23 RCTs, Ernst et al. (2011) concluded that there was insufficient evidence to support reflexology for the treatment of any medical condition. Fourteen studies reported that reflexology was not an effective treatment compared to eight studies that reported positive outcomes. Positive outcomes were reported for the treatment of diabetes, premenstrual syndrome, cancer patients, multiple sclerosis, symptomatic idiopathic detrusor over-activity, and dementia. Overall, the studies were of poor methodological quality and included heterogeneous patient populations, various outcome measures, various treatment regimens, and short-term follow-ups.

**Rolfing®:** Rolfing, sometimes referred to as Rolfing® structural integration, is a manual therapy system that views the human body as a collection of interconnected units whose alignment and relationship to gravity affect overall function. Gravity is considered a contributor to physical dysfunction and Rolfing is intended to promote proper vertical alignment and efficient movement. A standard Rolfing regimen may consist of ten sessions, each lasting approximately 60 to 90 minutes. Treatment begins with superficial massage and progresses to deeper friction techniques aimed at stretching the fascia, relaxing muscles, and promoting lengthening. Sessions are cumulative, with additional treatments often needed to support ongoing structural changes. Traditional deep friction massage used in Rolfing has been associated with pain and bruising, but contemporary approaches tend to be less invasive and more comfortable (Atchison, 2021).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Rolfing.

**Therapeutic Touch:** Therapeutic Touch assumes the human energy field is abundant and flows in balanced patterns in health but is depleted or unbalanced in illness or injury. Practitioners believe they can restore health by sensing and adjusting such fields.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of therapeutic touch.

**Trager® Bodywork:** Trager bodywork is an approach that utilizes gentle, nonintrusive, natural movements to help release deep-seated physical and mental patterns and facilitate deep relaxation, increased physical mobility, and mental clarity. These patterns may have developed in response to accidents, illnesses, or any kind of physical or emotional trauma, including the stress of everyday life.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Trager bodywork.

**Tui Na:** Tui Na, sometimes referred to as Tuina, is a manipulative therapy that uses techniques such as rubbing, pressing, rolling, kneading, brushing, shaking, and tapotement between joints to address acute and chronic musculoskeletal problems. It is purported to treat conditions including headaches, constipation, irritable bowel syndrome, insomnia, psychological disorders, nocturnal enuresis in children, diabetic peripheral neuropathy, vascular compliance, and premenstrual syndrome. Tui Na may also be combined with other traditional Chinese or Western manual therapies (Chen, et al., 2024; Yan, et al., 2024; Atchison, et al., 2021).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Tui Na. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Chen et al. (2024) conducted a systematic review and meta-analysis to explore the efficacy of Tuina in the management of nocturnal enuresis in children. The systematic review included nine RCTs involving 685 participants aged 5 to 18 years. The studies compared Tuina therapy, administered alone or in combination with desmopressin acetate (DDAVP) or behavioral interventions (BI), against standard treatments excluding Tuina. Studies of participants diagnosed with nocturnal enuresis were included, irrespective of demographics, if sufficient data for analysis was available. Studies other than RCTs were excluded. Follow-up duration varied for each study but ranged from 1 to 12 months. Subjects lost to follow-up was not reported. The primary outcome measured was the total effective rate (TER), with secondary assessment of long-term effectiveness. The study results revealed a significantly higher TER in the Tuina treatment group compared to the control group, with an RR of 1.13 (95% CI, 1.05 to 1.22;  $p < 0.0009$ ). There was no statistically significant difference in TER between Tuina alone and the DDAVP group, with an RR of 1.10 (95% CI, 0.97 to 1.24;  $p = 0.15$ ). The combination of Tuina with DDAVP exhibited a higher TER compared to DDAVP alone and reached statistical significance (RR = 1.15; 95% CI, 1.03 to 1.28;  $p = 0.01$ ). Tuina combined with BI against BI alone, revealed an RR of 1.19 (95% CI, 1.03 to 1.36;  $p = 0.05$ ). The RR was 1.13 (95% CI, 1.01 to 1.26;  $p = 0.03$ ) for short-term treatments (less than 45 days) and 1.13 (95% CI, 1.03 to 1.25;  $p = 0.01$ ) for long-term treatments (3 months). The authors concluded that Tuina is a potential adjunct therapy to enhance the sustained clinical efficacy of traditional treatments for nocturnal enuresis in children. However, Tuina cannot completely replace DDAVP or BI. The authors recommended additional, high-quality long-term RCTs to validate these findings. Limitations of the systematic review include the lack of geographic diversity, variability in methodological quality, lack of systematic adverse event reporting, and short duration of follow-up in some studies.

Wang et al. (2024) conducted a systematic review and meta-analysis to evaluate the effects of Tuina on sleep quality, psychological state, and neurotransmitter levels in patients with insomnia. The systematic review included 23 RCTs and involved 1780 participants. The intervention groups received Tuina alone or in combination with drugs or acupuncture, while control groups received oral medicine or acupuncture alone. Inclusion criteria included studies of participants with a clear diagnosis of insomnia based on authoritative diagnostic criteria. Studies missing diagnostic assessment criteria and those with obvious statistical errors were excluded. Outcomes of interest included sleep quality and psychological state indicators. Intervention durations ranged from 2 to 8 weeks. The study results revealed that Tuina was superior to other therapies for the treatment of insomnia in increasing the TER [OR = 4.12, 95%CI (2.80 to 6.06),  $p < 0.00001$ ] and 5-hydroxytryptamine (5-HT) level [MD = 16.03, 95% CI (13.40 to 18.65),  $p < 0.00001$ ], while reducing the Pittsburgh Sleep Quality Index score [MD = -2.34, 95% CI (-2.94 to -1.74),  $p < 0.00001$ ], Athens Insomnia Scale score [MD = -2.10, 95% CI (-2.67 to -1.52),  $p < 0.00001$ ], self-rating anxiety scale score [MD = -6.77, 95% CI (-8.34 to -5.20),  $p < 0.00001$ ] and self-rating depression scale score [MD = -6.60, 95% CI (-8.82 to -4.37),  $p < 0.00001$ ]. A subgroup analysis also revealed Tuina alone or in combination with other therapies was superior to drugs or acupuncture alone in

improving all outcomes ( $p < 0.05$ ). Only two studies reported adverse events, which were classified as mild, e.g., drowsiness, itchy skin, and malaise. No serious adverse reactions were observed. The authors concluded that Tuina had certain therapeutic advantages for insomnia and could safely and significantly improve sleep quality, relieve anxiety-depressive states, and increase 5-HT levels. However, due to the limitations regarding the quality of the included studies, the authors recommended additional robust clinical trials to verify these findings. The authors noted several study limitations including uneven methodological quality, limited reporting of adverse events and follow-up, reliance on subjective indices (other than 5-HT), small number of included studies, and most trials were single-center design.

Yan et al. (2024) conducted a systematic review and meta-analysis to evaluate the effectiveness and safety of Tuina therapy for diabetic peripheral neuropathy. The systematic review included 24 RCTs involving 1989 participants. Inclusion criteria included studies that compared Tuina therapy plus routine care to routine care alone, and that measured outcomes of interest. Studies were excluded if the research type was unclear, data were insufficient or inaccessible, unavailable in full text, lacked an appropriate control group, the treatment group was combined with other non-Tuina therapy, or the sample size less than 20 participants. The experimental group received Tuina therapy in addition to routine treatment and nursing care, while the control group received routine treatment and nursing care alone, which included health education, dietary guidance, blood sugar control, and oral vitamin B or mecobalamin. The primary outcome was total clinical effective rate based on subjective indicators, such as whether clinical symptoms improved or disappeared. Secondary outcomes included nerve conduction velocity (i.e., sensory, motor, or mixed) and Toronto Clinical Scoring System (TCSS) scores. Length of follow-up and loss to follow-up was not reported. The study results revealed that a statistically significant difference was observed between the intervention and control group with regards to clinical efficacy rate (OR = 7.16, 95% CI: 5.27 to 9.72,  $Z=12.61$ ,  $p < 0.05$ ) and TCSS (MD = -1.08, 95% CI [-1.50 to -0.66],  $Z=5.04$ ,  $p < 0.05$ ). Improvements were also observed in the motor and sensory nerve conduction velocities of some nerves, including the common peroneal nerve (MD = 3.35, 95% CI [2.38 to 4.32],  $Z=6.77$ ,  $p < 0.05$ ), sural nerve (MD = 3.77, 95% CI [2.16 to 5.38],  $Z=4.59$ ,  $p < 0.05$ ), and ulnar nerve (MD = 11.20, 95% CI [3.97 to 18.43],  $Z=3.04$ ,  $p < 0.05$ ). However, differences in the motor and sensory nerve conduction velocities of the tibial and median nerves were not observed to be statistically significant. Adverse events were only reported in five trials. The authors concluded that Tuina therapy is a safe and effective treatment option for diabetic peripheral neuropathy. Though, the authors also emphasized the need for larger, higher-quality RCTs. Limitations of the systematic review include language, geographic, and database constraints, insufficient reporting of randomization methods and overall low methodological quality, lack of blinding, allocation concealment, and reporting of follow-up and lost to follow-up, non-standardized primary endpoint (i.e., total clinical effective rate), heterogeneity in Tuina techniques, sites, frequency, and treatment courses, and lack of robust safety outcomes data.

Wei et al. (2017) conducted a systematic review of the literature to assess the evidence on Tui Na for cervical radiculopathy. Five RCTs ( $n=448$ ) investigated Tui Na alone or Tui Na combined with cervical traction. The pooled analysis from three studies indicated that Tui Na alone showed a significant immediate lowering effect on pain scores ( $p=0.002$ ) compared to cervical traction. Meta-analysis from two trials revealed significant immediate pain lowering effects using Tui Na plus cervical traction versus cervical traction alone ( $p < 0.00001$ ). No adverse effects were reported. Limitations of the studies included: small patient populations ( $n=60-120$ ), short treatment duration (14–28 days) and variation in treatment regimens and study methodology. Due to the weak evidence and study limitation, firm conclusions could not be made. Well-designed RCTs with large patient populations and long-term follow-ups are needed to support these findings. Also, the safety of Tui Na could not be determined from the data.

**Visceral Massage:** Visceral massage, or visceral manipulation, is massage of the internal muscular viscera proposed to relieve pain anywhere including back, abdomen, legs, as well as relieve migraine headaches. It is also proposed to improve function by relieving postpartum adhesions and adhesions around the lungs, liver, pancreas, kidneys, and gall bladder.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of visceral massage.

### **Combination Approaches**

**Art Therapy:** Art therapy is a creative process utilizing art as a healing and life-affirming technique. The term typically applies to the use of the visual arts in psychotherapy to improve a feeling of emotional well-being. Art therapy is used in mental health therapy and other settings to help focus on an individual's creative process, and to enhance their use of leisure as a stress reduction activity.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of art therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Mizera et al. (2025) conducted a systematic review of RCTs to evaluate the effectiveness of visual art therapy for reducing anxiety in adults. The systematic review included 14 studies involving 1686 participants. Interventions included visual art therapy modalities, e.g., painting, drawing, and coloring. Controls included waitlist, no-treatment, standard care, or other active comparators, standard care, unstructured drawing, or other tasks. Studies of participants aged 18 to 65 receiving a visual art therapy intervention were included in the systematic review. Studies of participants with severe consciousness disorders or those with experimentally induced anxiety reactions were excluded. Anxiety outcomes were primarily assessed using validated instruments such as the State-Trait Anxiety Inventory, Beck Anxiety Inventory, and Hamilton Anxiety scales. Intervention exposure varied from single 15- to 30-minute sessions to multi-week programs (5 to 12 weeks). Some studies reported outcomes at up to 6 months. Subjects lost to follow-up was not reported. The study results revealed that across all trials, significantly greater anxiety reduction occurred with art therapy groups than compared to controls. Meta-analysis was not performed due to clinical and methodological heterogeneity. No differences in adverse effects were reported. The study authors concluded that visual art therapy is an effective intervention for reducing anxiety symptoms in adults. However, further research should refine approaches, examine active control comparisons, and explore long-term outcomes. Limitations of the systematic review included small sample size in some studies, most studies focused on short- to medium-term outcomes, risk of bias concerns across multiple domains, heterogeneity in interventions and comparators, incomplete reporting of allocation concealment, and missing outcome data in some trials.

Zhou et al. (2025) conducted a systematic review and meta-analysis to determine the effects of art therapy on psychological outcomes among children and adolescents with cancer. The systematic review included three RCTs and five quasi-experimental studies, involving a total of 452 participants. The intervention evaluated was art therapy, which incorporated various visual art modalities such as painting, clay work, collage, and sculpture, compared to usual care, waitlist, or other therapies. Studies meeting the following criteria were included: children and adolescents aged 19 years or younger diagnosed with any form of cancer, and undergoing treatment, with no mental health eligibility criteria. Studies of abstracts, conference papers, books, chapters, reviews, clinical correspondence, case reports, study protocols, or interventions involving other sensory art therapies were excluded. The primary outcomes measured were psychological symptoms including anxiety, depression, stress, and anger, as well as positive emotions and psychological well-being. Most studies assessed outcomes immediately after the intervention, with one study evaluating effects at one-month post-intervention. Five studies reported there was no attrition of participants. One study reported four dropouts, due to aggravation of condition or hospital transfer. Two other studies did not report attrition. The meta-analysis revealed statistically significant improvements in anxiety ( $p < 0.00$ , SMD = -1.06, 95% CI = -1.67 to -0.46) with high heterogeneity ( $I^2 = 86%$ ,  $p < 0.00$ ) and depression ( $p < 0.01$ , SMD = -0.44, 95% CI = -0.78 to -0.10) without heterogeneity ( $I^2 = 0%$ ,  $p = 0.60$ ). Narrative findings also suggested that art therapy could improve the overall psychological symptoms, stress, and anger. Adverse events are not reported. The authors concluded that art therapy positively improved psychological outcomes, particularly anxiety and depression. Additional high-quality RCTs with larger samples are needed to confirm and supplement the current evidence. The systematic review is limited by the small number of studies, small sample size, lack of geographic diversity, methodological weaknesses, heterogeneity of interventions, and inconsistent attrition reporting.

Joschko et al. (2024) conducted a systematic review and meta-analysis of RCTs to assess the association of active visual art therapy (AVAT) with health outcomes across diverse patient groups and comparators. AVAT was defined as any type of artistic activity that included active manipulation of materials with the hands, including drawing, painting, ceramic sculpting, any form of arts and crafts, and sand painting. The systematic review included 69 studies involving 4200 participants and the meta-analyses included 50 studies involving 2766 participants. AVAT interventions involved activities such as drawing, painting, sculpting, and arts and crafts, compared against controls including no intervention, treatment as usual, attention control, or non-AVAT

interventions. Studies of participants receiving AVAT compared to any control not using AVAT were included. Studies on healthy college students or educational classroom settings without a preventive or curative target were excluded. Outcomes of interest included depression, anxiety, self-esteem, social adjustment, and QOL. Length of follow-across studies was not reported, but the systematic review used the first measurement after the intervention had stopped to ensure comparability. Studies with more than 50% attrition were excluded from the analysis. The study results revealed that AVAT was associated with an 18% improvement in outcomes of interest compared to controls. An SMD in change from baseline of 0.38 (95% CI, 0.26 to 0.51) and posttest analysis of 0.19 (95% CI, 0.12 to 0.26) was also observed, indicating an improvement in outcomes associated with AVAT. Adverse events were not reported. The authors concluded that AVAT was associated with therapeutic benefits for some outcomes. However, most studies were of low quality. Additional good-quality studies are required to further elucidate how AVAT may be integrated into routine care. Limitations of the systematic review include the low overall quality of the included studies, heterogeneity of interventions, controls, and outcomes, and lack of follow-up measurement standardization.

Maddox et al. (2024) conducted a systematic review and meta-analysis to evaluate the effectiveness of visual arts therapy for participants who experienced traumatic events. The systematic review included 21 RCTs involving 868 adults and children exposed to diverse trauma types. Interventions included visual image creation (e.g., drawing, painting, sculpture) compared against passive controls (e.g., waitlist, treatment-as-usual, no treatment) or active controls (e.g., cognitive behavioral therapy, cognitive processing therapy, writing, or non-event-focused drawing). Studies of visual arts therapy with a comparator, and sufficient statistical reporting were included in the systematic review. Studies of non-visual creative arts therapies and severe neurological comorbidity or psychotic illness were excluded. Outcomes of interest were grouped a priori into three categories: PTSD-specific (e.g., re-experiencing, avoidance, and arousal), positive non-PTSD-specific (e.g., relaxation, enjoyment, and QOL), and negative non-PTSD-specific (e.g., depression and anxiety). There was no standardized follow-up period across studies. The first measurement point after the intervention served as the analytic follow-up time point for the systematic review. Participant attrition was not reported. Results of the meta-analysis revealed visual art therapy appeared to be effective for positive non-PTSD-specific outcomes ( $k=8$ ,  $g=1.53$ , 95% CI 0.79 to 2.28,  $p<0.001$ ). However, negative non-PTSD outcomes ( $g=0.47$ , 95% CI -0.03 to 0.97,  $p=0.069$ ) and PTSD-specific outcomes ( $g=0.89$ , 95% CI -0.01 to 1.84,  $p=0.052$ ) failed to reach significance. Adverse events were not reported. The authors concluded that the current evidence regarding art therapy is limited by a lack of high-quality RCTs and recommend future research with active comparators, standardized outcome measures, validated protocols, and studies that consider group-based therapy versus individual-based therapy to clarify efficacy and underlying mechanisms. Limitations of the systematic review include small sample sizes for most of the included studies, high heterogeneity across studies, inclusion of PTSD-specific outcomes in samples without confirmed PTSD diagnosis, use of a single post intervention time point, and lack of longer term follow up.

Jiang et al. (2020) conducted a systematic review and meta-analysis of twelve RCTs ( $n=587$ ) to evaluate the effect of art therapy on QOL and physical and psychological symptoms in patients with cancer. The results determined art therapy reduced anxiety symptoms, depression symptoms, and fatigue and improved QOL. Wood et al. (2011) previously conducted a systematic review to assess the available evidence on the effectiveness of art therapy for symptomatic control of patients with cancer. Twelve RCTs and case series ( $n=402$ ) met the inclusion criteria. The studies showed that art therapy is most frequently used by women with breast cancer. Due to the heterogeneity of the studies included in these reviews, variations in the model and content of the interventions, and various outcome measures, no overall effect was determined.

Schouten et al. (2015) conducted a systematic review of the effectiveness of art therapy in trauma treatment for adults. Six controlled, comparative studies ( $n=223$ ) (one RCT) met the inclusion criteria. Subjects had to be traumatized adults (independent of type of trauma or type of trauma population), and the design of the included studies had to be a comparison outcome trial with a control group. Type of trauma included PTSD, sexual assault, and traumatized incarcerated women. Some of the included studies reported a significant decrease in psychological trauma symptoms in the treatment group and one study reported a significant decrease in depression. Outcomes were conflicting, with studies reporting a decrease in symptom severity (some significant and some not) and no significant decrease in symptoms. The most statistically significant decrease in trauma symptom severity was found when art therapy was used with psychotherapy. Author-noted limitations of the studies included: small patient populations; methodological weakness with moderate quality at best; heterogeneity of art therapy interventions (type and duration of the interventions), control conditions, follow-up

assessments, and characteristics of the study population; and patient age primarily less than 22 years old. No firm conclusions can be made for the use of art therapy for this patient population.

Uttley et al. (2015) conducted a systematic review of RCTs investigating art therapy for people with non-psychotic (e.g., depression, anxiety, and phobias) mental health disorders. Eleven RCTs (n=533 patients) met the inclusion criteria. Subjects included children or adolescents with asthma, sickle cell disease, or post-traumatic stress disorder, and adults with Alzheimer's disease, dementia, cancer, or depression, and incarcerated males. Follow-ups occurred from four weeks to 12 months. Control groups included: no treatment/waitlist, attention placebo controls, and psychological therapy comparators. Primary outcomes included treatment effectiveness, response as determined by changes in mental health rating scales and a variety of scales and questionnaires. There was a high risk of bias. Some studies reported significant positive effects compared to controls. Meta-analysis was not possible due to clinical heterogeneity and insufficient comparable data on outcomes. Due to the small patient populations (n=18–111) and the low quality of the studies, a definitive statement regarding the clinical effectiveness of art therapy could not be made for people with non-psychotic disorders.

**Bioenergetics' Analysis:** Bioenergetics' analysis is a somatic psychotherapy that works with both body and mind to help individuals resolve emotional problems and increase their potential for pleasure and joy in living.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Bioenergetics' analysis.

**Dance Movement Therapy:** Dance movement therapy is the psychotherapeutic use of movement and dance to engage a person creatively in a process believing to further their emotional, cognitive, physical, and social integration. It is founded on the principle that movement reflects an individual's patterns of thinking and feeling.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of dance movement therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Karkou and Meekums (2017) conducted a Cochrane systematic review to assess the effects of dance movement therapy on behavioral, social, cognitive, and emotional symptoms of patients with dementia. No studies met the inclusion criteria. Karkou et al (2023) updated the systematic review by Karkou and Meekums (2017) but only identified only one RCT involving 204 adults with mild neurocognitive disorder or dementia. The authors concluded that additional RCTs are needed before drawing firm conclusions about dance movement therapy for dementia.

**Equestrian Therapy (Hippotherapy):** Equestrian therapy (hippotherapy) is a therapeutic intervention that utilizes the multidimensional movement of a horse to influence a patient's posture, balance, and neuromuscular control. Delivered by a trained clinical team, hippotherapy is intended to support individuals with physical and cognitive impairments, including abnormal gait, spasticity, and poor coordination by promoting core stability, sensory integration, and functional mobility. Hippotherapy is also purported to have psychosocial benefits, including improved self-esteem, emotional regulation, and social engagement (Giannou, et al., 2024).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of equestrian therapy (hippotherapy). Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Giannou et al. (2025) conducted a systematic review to evaluate the impact of hippotherapy on the clinical picture and the functioning of participants with multiple sclerosis. The systematic review included five RCTs, involving 147 participants. The intervention group received hippotherapy, administered at a frequency of one to two times per week for periods ranging from three to twelve weeks. The control group received standard treatments such as physiotherapy and/or pharmacotherapy. Studies of participants diagnosed with any type of multiple sclerosis and use of hippotherapy or therapeutic horse riding as an intervention were included in the systematic review. Pilot studies and those using simulated equine therapy or mechanical riding were excluded. Outcomes of interest included balance, fatigue, gait, spasticity, pain, muscle strength, and QOL. Participant attrition was not reported. The study results revealed statistically significant improvements in balance, fatigue,

spasticity, pain, muscle strength, gait, and QOL for participants receiving hippotherapy. Adverse events were not reported. The authors concluded that hippotherapy appeared to have positive effects on the clinical picture and functioning of participants with multiple sclerosis but emphasized the need for further research to validate these findings. Limitations of the systematic review include small sample size, lack of multiple sclerosis subtype differentiation, and lack of data on participant adherence, adverse events, and long-term follow-up.

Stergiou et al. (2025) conducted a systematic review and meta-analysis to evaluate the effects of equine-assisted therapy on balance, motor function, spasticity, posture, gait, and QOL for individuals with neuromotor, developmental, and physical disabilities. The systematic review included 27 studies (n=895 individuals), of which, 15 were RCTs and 12 were non-randomized, but controlled trials. Fifteen studies were determined to provide data suitable for meta-analysis, of which nine were RCTs and six were non-randomized, but controlled trials. Studies published in English, involving children, adults, and elderly adults with motor function impairments, including cerebral palsy, multiple sclerosis, and stroke with quantitative assessments of equine-assisted therapy outcomes were included in the systematic review. Studies of single subjects, those providing only qualitative data, case series, studies using mechanical horses, or those with cointerventions such as medication or surgery were excluded. Equine-assisted therapy was compared to conventional rehabilitation. Outcomes of interest included balance (Berg Balance Scale, Pediatric Balance Scale), motor function (Gross Motor Function Measure, Dimensions A-E), mobility (Time Up and Go), and QOL (Child Health Questionnaire). The length of follow-up varied, with durations ranging from single sessions to up to one year, and some studies reporting follow-up periods of three months or six months. Attrition rates for participants were not reported. The study results revealed that statistically significant improvements were observed in Gross Motor Function Measure, Dimensions A-E (walking, running, jumping) for children with cerebral palsy (MD 2.48, p=0.009) and in Time Up and Go for elderly and participants post-stroke (MD -0.61, p=0.006). Other outcomes, including balance and QOL, showed positive trends, but did not reach statistical significance. Adverse events were not reported. The authors concluded that equine-assisted therapy was beneficial for individuals with neuromotor, developmental, and physical disabilities. However, larger, more robust studies would help elucidate these findings. Limitations of the systematic review include methodological and reporting limitations in some the included studies, lack of attrition and adverse vent reporting, intervention and outcome variability, and limited reporting of long-term outcomes.

Guindos-Sanchez et al. (2020) conducted a systematic review and meta-analysis of ten RCTs (n=452) to analyze the effectiveness of hippotherapy interventions on gross motor function in subjects with cerebral palsy. The studies showed that hippotherapy interventions were effective in improving gross motor function and had positive effects on balance recovery and muscle spasticity reduction in subjects with cerebral palsy. However, due to the small patient populations, short-term follow-up, and heterogeneity of the protocols, additional RCTs with larger sample sizes and specified protocols are needed to support the effectiveness of these interventions.

Bronson et al. (2010) conducted a systematic review of the literature to evaluate the ability of hippotherapy to improve balance in multiple sclerosis patients. Three case series with less than 11 patients each met the inclusion criteria. The patients engaged in a mean 7.75 hours of therapy over a mean 11.2 weeks. There is insufficient evidence to support hippotherapy for this indication.

**Martial Arts Including Chung Moo Doe Therapy:** Martial arts, such as Chung Moo Doe, Taekwondo, and Tai Chi, combine slow, deliberate movements, physical postures, controlled breathing, and meditative focus. While martial arts originated as forms of self-defense, some styles, including Tai Chi, have evolved into practices intended to promote health. Some martial arts have been studied for their potential benefits in managing conditions such as bone health and fall prevention in postmenopausal women, cardiovascular disease, fatigue, and QOL in patients with cancer, fibromyalgia, low back pain, osteoarthritis, Parkinson's disease, rehabilitation post-stroke, and type 2 diabetes. Martial arts has also been purported to support brain function in older adults with mild cognitive impairment (Zhang, et al., 2024a; NCCIH, 2023c; Sur, et al., 2021; Qin, et al., 2019; Li, et al., 2018).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of martial arts including Chung Moo Doe therapy. Existing systematic reviews for glycemic control and related metabolic and inflammatory markers in type 2 diabetes mellitus (Sun, et al., 2025a; Chao, et al., 2018), pain and other health indicators for individuals with osteoarthritis (Zhao, et al., 2025), balance, mobility, and gait for individuals with Parkinson's disease (Lou, et al., 2025), bone health and fall prevention in postmenopausal women (Zhang, et al., 2024a), hypertension (Zhang, et al., 2024b), fatigue and

QOL for individuals with cancer (Sur, et al., 2021), low back pain (Qin, et al., 2019), balance, gait, and rehabilitation post-stroke (Li, et al., 2018; Ding, et al., 2012), psychological well-being (Wang, et al, 2012), and cardiovascular conditions and risk factors (Yeh, et al., 2009) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include small sample sizes, heterogeneity in intervention protocols, control groups, and outcome measures, methodological quality concerns including risk of bias, lack of geographic diversity limiting generalizability, inconsistent reporting of adherence and adverse events, and limited long-term follow-up.

**Music Therapy:** Music therapy includes music sessions for individuals and groups based on client needs. Music therapists assess emotional well-being, physical health, social functioning, communication abilities, and cognitive skills through musical responses, using improvisation, receptive listening, song writing, lyric discussion, imagery, performance and learning through music.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of music therapy. Existing systematic reviews of music therapy for chronic pain (Chen, et al., 2025), dementia (Lu, et al., 2025; van der Steen, et al., 2018; Gómez-Romero, et al., 2017), pain and distress of children undergoing venipuncture (Zhuang, et al., 2025), PTSD (Ma, et al., 2024), tinnitus (Mi, et al., 2024), cardiothoracic surgery recover (Li, et al., 2024), aphasia and cognition of post-stroke (Gong, et al., 2024), anxiety and depression in patients with breast cancer (Xu, et al., 2024), burn injuries (Wu, et al., 2022), anxiety (Lu, et al., 2021), pain after orthopedic surgery (Lin, et al., 2020), substance use disorders (Hohmann, et al., 2017), depression (Aalbers, et al., 2017), schizophrenia and schizophrenia-like disorders (Geretsegger, et al., 2017), acquired brain injury (Magee, et al., 2017), improving psychological and physical outcomes in cancer patients (Bradt, et al., 2016), and pain and analgesic requirements (Cepeda, et al, 2006) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include small sample sizes, heterogeneity in intervention protocols, control groups, and outcome measures, methodological quality issues, including low or moderate certainty of evidence, and limited long-term follow-up.

**Outdoor Youth Programs:** Outdoor youth programs are structured interventions for children and adolescents conducted in natural or out-of-school environments. Typically, small groups participate in physically and psychologically challenging activities, such as hiking, wilderness survival, or adventure-based tasks, under instructor supervision. These programs use experiential learning to encourage participants to step outside their comfort zones and engage in collaborative, hands-on tasks that foster personal growth and social development. Intended outcomes include improvements in self-concept, self-esteem, group cohesion, prosocial behavior, and cognitive autonomy, as well as support for youth with social, emotional, or behavioral challenges through reduced stress, enhanced self-efficacy, increased mindfulness, and improved well-being. Outward Bound® is an example of outdoor youth programs provider (Becker, et al., 2017; Mutz, et al., 2016).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of outdoor youth programs. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Becker et al. (2017) conducted a systematic review of the literature (n=13 studies) to identify the potential benefits of regular compulsory school- and curriculum-based outdoor education programs (OEPs) for children and adolescents. The review concentrated on programs that were embedded within the curriculum and conducted regularly within the school schedule. These programs focused on student-centered classes and interdisciplinary subjects, hands-on learning, possibilities to explore and experience oneself and the environment, and the use of natural and cultural places as a classroom. Thirteen studies met inclusion criteria: nine case series, three quasi-experimental designs, and one cross-sectional design. Inclusion criteria were: all types of study designs; any type of formal school- and curriculum-based outdoor education program involving children and adolescents (age 5–18 years); regular weekly or bi-weekly classes in a natural or cultural environment outside the classroom, with at least four hours of compulsory educational activities per week over a period of at least two months; and at least one reported outcome on a student level. Environmental settings included gardens, local forests, prairies, farmland, and sailing. Eight studies described outcomes in terms of social dimensions, seven studies in learning dimensions, and four studies included physical activity, and health. Sample sizes ranged from 5–230. Eleven studies reported positive results, one study reported positive and negative results, and one study reported negative effects. Tendencies indicated that regular compulsory school-

and curriculum-based outdoor education programs could advance students in the physical, psychological, learning, and social dimensions. However, the wide heterogeneity in the program aims, intervention length (e.g., biweekly for eight weeks versus full weeks for six months), participant groups, age, learning environments, methodology, and reported effects prevented any firm conclusions from being made regarding the effectiveness of these programs. Evidence on the effect of these programs on physical activity and mental health were lacking.

**Pet Therapy:** Pet therapy (PT) or animal-assisted therapy (AAT) involves the use of animals for therapeutic purposes. This therapy is proposed to help people recover from and/or better cope with psychological and/or physical health problems. The intent is that pet therapy aids in the psychological, educational, and physical rehabilitation of patients to improve their general sense of well-being and improve their QOL. Dogs and cats are the most commonly utilized animals. Studies have reported that pet therapy decreases cortisol and catecholamine levels in the blood and increases endorphins, reducing stress, and producing a calming effect. Pet therapy has been studied for dementia, cognitive dysfunction, stroke, mental health disorders (e.g., depression, autism spectrum disorder), stress, pain, fatigue, cardiovascular rehabilitation, cancer support, pregnancy, PTSD, and hospice care. (Zafra-Tanaka, et al., 2019; Fiori, et al., 2018; Ein, et al., 2018; O’Haire, et al., 2013; Moretti, et al., 2011).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of pet therapy for any condition, including systemic sclerosis (Fiori, et al., 2018), autism spectrum disorder (O’Haire, et al., 2013), and depressive symptoms and cognitive function in residents of long-term care facilities with mental illness (Moretti et al., 2011). Existing systematic reviews of pet therapy for the treatment of anxiety, stress, and distress (Sim, et al., 2025; Gaudet, et al., 2022; Ein, et al., 2018), and dementia (Zafra-Tanaka et al., 2019) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include heterogeneity in intervention protocols, control groups, and outcomes, low methodological quality, limited long-term follow-up, and insufficient reporting of adverse events.

**Qigong Longevity:** Qigong longevity exercise, or qigong (alternatively spelled chi gung or chi kung), is a component of traditional Chinese medicine that combines movement, meditation, and regulation of breathing to enhance the flow of Qi (an ancient term given to what is believed to be vital energy) in the body, improve blood circulation, and enhance immune function. Qigong has been proposed for the prevention of disease (e.g., stroke) and for treatment of various symptoms, conditions, and diseases including cancer and chemotherapy related symptoms, cervical spondylosis, cognitive function, chronic nonspecific low back pain, chronic obstructive lung disease, diabetes mellitus, fatigue, frailty, hypertension, infectious diseases, Parkinson disease, and sleep (Liu, et al., 2025a; Sun, et al., 2025b; Yu, et al., 2025; Meng, et al., 2018; Lauche, et al., 2017; Van, et al., 2017; Wang et al., 2012).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Qigong longevity. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Liu et al. (2025a) conducted a systematic review to critically evaluate the impact of Qigong on cervical spondylosis. The review included 10 RCTs involving 656 participants. Interventions primarily included Qigong routines (Ba Duan Jin, Yi Jin Jing, and Wu Qin Xi) compared with active or passive controls such as walking, routine physical therapy, no intervention, acupuncture, massage, medication, or cervical traction, alone or in combination. Studies meeting the following criteria were included in the systematic review: RCTs enrolling individuals diagnosed with cervical spondylosis, using Qigong routines as the intervention, and published in Chinese or English. Studies of participants with undiagnosed neck pain and those combining Qigong with other sport interventions (e.g., resistance training, Pilates, yoga, Tai Chi) were excluded. Outcomes included pain using standardized questionnaires, cervical range of motion, cervical curvature, effectiveness rate, and recurrence rate. Follow-up periods varied among the trials, 2 weeks up to 6 weeks. Attrition was not reported. Across studies, reported findings included mean reductions in VAS pain scores (2.8 to 4.15 points), decreases in Neck Disability Index (6.10 to 1.4), improvements in cervical range of motion (19.78° to 67.4°), decreased prevalence of abnormal cervical curvature (10.97%), effectiveness rates above 90% (with a maximum of 97.14%), and recurrence rates ranging from 0% to 13.33%. Adverse events were not reported. The authors concluded that Qigong not only helped alleviate cervical spondylosis-related pain, and improved cervical dysfunction, but also promoted the restoration of cervical curvature, and enhanced cervical mobility. However,

the authors also noted that the current research has limitations and research gaps. Targeted intervention strategies, standardized outcome evaluation systems, and mechanistic studies were recommended to further validate the clinical efficacy and practical application of Qigong in the management of cervical spondylosis. Limitations of the systematic review included lack of geographic diversity, heterogeneity in cervical spondylosis diagnostic criteria, Qigong intervention methodologies, and follow-up windows, mixed comparators and co-interventions, and short duration of follow-up.

Sun et al. (2025b) conducted a systematic review and meta-analysis to assess the effectiveness of Qigong exercises on frailty status, physical function, psychological well-being, cognitive function, negative emotions, and sleep quality for older adults with frailty or pre-frailty. The systematic review included 18 RCTs involving 1339 participants. Traditional fitness Qigong exercise (including Tai Chi, Baduanjin, Yi Jin Jing, and Wuqinxi) were compared against usual care, routine care, or minimal-contact controls. Studies meeting the following criteria were included in the systematic review: adults aged  $\geq 60$  years with frailty or pre-frailty confirmed using validated tools, publications in English or Chinese, and RCT design. Studies of populations without a transparent frailty definition, with incomplete statistical reporting, non-Qigong primary interventions, mean age  $< 60$  years, or non-eligible designs (e.g., commentary, review, protocol, qualitative research) were excluded. Outcomes assessed included frailty status, physical ability (physical performance, ADLs, balance, walking ability, grip strength), cognitive function, QOL, negative emotions, and sleep quality. Follow-up durations varied by trial, from 2 to 48 weeks. Participant attrition was not reported. The meta-analysis revealed Qigong was associated with reduced frailty scores, improved physical performance, enhanced dynamic and static balance, increased grip strength, faster short-distance gait speed, better cognitive performance, improved sleep quality, improved QOL, and reductions in negative emotions. ADLs did not show a statistically significant pooled effect. Adverse events were not reported. The authors concluded that Qigong significantly improved multiple outcomes for frail or pre-frail older adults. Limitations of the systematic review include methodological limitations of the included studies, heterogeneity in intervention methods and assessment tools, and dominance of individual studies in some pooled estimates.

Yu et al. (2025) conducted a systematic review and meta-analysis to evaluate the effects of Qigong on pain and disability in adults with chronic nonspecific low back pain. The systematic review included 16 RCTs involving 1175 participants. The interventions group received Qigong training (alone or added to conventional care). The control group received no intervention, health education, or active exercise-based comparators. Studies meeting the following criteria were included in the systematic review: RCTs of adults with chronic nonspecific low back pain, Qigong-based interventions, and outcomes for pain and disability using standardized assessment tools. Studies of back pain attributable to other diseases, participants with serious comorbid conditions influencing outcomes, and insufficient outcome data were excluded. The primary outcomes were pain intensity and disability measured with standardized assessment tools. Duration of the included studies ranged from 1 to 12 weeks, with one trial extending to 6 months. Participant attrition was not reported. The results revealed Qigong significantly improved pain more than control (MD = -1.34, 95% CI -1.76 to -0.92,  $p < 0.001$ , Minimal Clinically Important Differences [MCID] = 1.5). Qigong also showed a higher effect size for improvement in the degree of dysfunction compared to control (MD = -5.88, 95% CI -7.98 to -3.78,  $p < 0.001$ , MCID = 5). Adverse events were not reported. The authors concluded that Qigong was effective in improving disability in participants with chronic nonspecific low back pain. However, pain reduction did not reach MCID thresholds, suggesting limited clinical relevance for pain relief. Further well-designed, multicenter studies that recruit participants from varied backgrounds are necessary to assess the effectiveness and safety of different types of Qigong, incorporate standardized and comprehensive outcome measures, and achieve culturally representative samples. Limitations of the systematic review include lack of geographic diversity, heterogeneity in Qigong training methods, controls, and outcomes, low methodological quality of the included studies, and inconsistent and short follow-up durations that limit durability assessment.

**Recreational Therapy:** According to the American Therapeutic Recreation Association (2025), “Recreational Therapy (RT) is a systematic process that utilizes recreation and other activity-based interventions to address the assessed needs of individuals with illnesses, disabling conditions, and/or adverse circumstances to promote psychological and physical health, recovery, and well-being. Recreational Therapy aims to restore, remediate, or rehabilitate the client’s level of functioning and independence in life activities. Recreational Therapists work in a variety of clinical and community settings and utilize their unique expertise to help individuals overcome barriers to well-being and/or participation in meaningful leisure activities.”

There is a lack of evidence investigating the clinical efficacy of recreational therapy.

**Wilderness Therapy:** Wilderness therapy is a multi-faceted treatment program, where the primary therapeutic modality is for the individual to be in the wilderness. Wilderness therapy is also used synonymously with adventure therapy, wilderness experience including adventure therapy, adventure-based counseling, outdoor adventure intervention, therapeutic camping, and outdoor behavioral healthcare. Wilderness programs seek to enhance the restorative qualities of nature combined with structured individual and group-based therapeutic work. Wilderness therapy offers treatment modalities for prevention, early intervention, and ongoing treatment for individuals with behavioral, psychological, psychosocial and/or substance abuse issues (Dobud and Harper, 2018; Fernee, et al., 2017; Bowen, et al., 2016).

Additional studies are needed to define a comprehensive and useful framework that is applicable to the populations targeted by symptoms or peer group and to identify who the ideal candidates are for wilderness therapy for any diagnosis or cohort. There are no current large-scale studies which have been able to show a consistent outcome which occurs from effect of wilderness therapy. As wilderness therapy is not demonstrated, through existing peer-reviewed, evidence-based, scientific literature to be safe and effective for treating or diagnosing any condition it is considered experimental, investigational, and unproven.

There are a wide range of theories regarding this type of treatment. There are numerous formats for activities which include group games, trust activities, residential camps, and wilderness-based expeditions. The programs are typically led by a multi-disciplinary team. While diverse participants of adolescent and adult clients can participate in wilderness therapy, treatment groups usually consist of peers who are close in age and have similar diagnoses. Participants can engage in group living with peers and therapists, engage in individual and group therapy sessions, and learn basic outdoor skills. These activities are meant to foster personal, emotional, and social growth. (Dobud and Harper, 2018; Fernee, et al., 2017; Bowen, et al., 2016).

The wilderness environment is seen as a healing place which can help facilitate change. After having experienced difficulties, turmoil and/or loss in their lives, participants may find peace in the wilderness. The optimal goal would be for a sense of despair to gradually be replaced by self-confidence through reflecting on life and managing the basic tasks and inherent challenges of outdoor life. A proposed advantage of wilderness therapy over conventional therapy is that the stigma of psychological therapy decreases markedly, and so resistance to such therapy is decreased, making individual and group psychotherapy less intimidating and more natural. The duration and context of the wilderness therapy treatment may provide the necessary time and space to address and process emotional upheaval. It may also, however, cause personal issues to surface that have not been revealed in previous treatment settings and this can cause new symptoms to emerge (Dobud and Harper, 2018; Fernee, et al., 2017; Bowen, et al., 2016).

Alexander et al. (2016) discussed safety concerns related to wilderness therapy and the importance of being prepared for traumatic and minor injuries and illness since adverse events can occur in the wilderness. Both physical and emotional safety need to be considered.

Studies investigating the effectiveness of wilderness therapy have primarily been case series with small heterogeneous patient populations, reporting short-term effects and investigating various outcome measures. In general, studies on wilderness therapy have not provided detailed program descriptions or psychotherapeutic goals. The efficacy of wilderness therapy across programs and populations, and how the treatment causes change to occur has not been established (Fernee, et al., 2017).

Dobud and Harper (2018) conducted a systematic review of RCTs to identify the specific activities contributing to adventure therapy outcomes. Fourteen direct comparison studies met inclusion criteria. Studies indicating the presence of qualified practitioners working in clinical settings were included. Studies without a control group or experimental conditions or lacking a therapeutic rationale were excluded. Study groups included the following: adapted outward bound therapy, wilderness survival, therapeutic services with adventure therapy, integrated wilderness therapy, adventure camp, and outdoor behavioral healthcare. Comparators included: traditional probation treatment; wilderness survival without family therapy; treatment as usual; no specific intervention; alternative group therapy; behavior modification; residential programs; inpatient programs; and a second outdoor adventure program. There were also comparisons of adventure therapy plus psychological counseling, psychological counseling alone, and psychological and group counseling. In ten of the thirteen studies, intense

social environments were assumed to contribute to positive outcomes. Three studies reported that problem-solving activities would lead to feelings of success or mastery. Seven studies reported that time in nature and pristine wilderness environments would provide a more effective setting for therapeutic healing to occur and asserted that time in nature was an active ingredient contributing to outcomes. However, the differences were not significant. These studies were limited in number and varied regarding the treatment setting, therapeutic modalities, social setting, and outcome measures. It was noted that there was limited discussion about the experimental groups and that, in some cases, the treatments provided made it difficult to determine whether a control group was designed to be therapeutic. Based on these studies, the authors concluded that the active variables regarded as unique to adventure therapy made little difference in outcomes across the 13 studies, and the unique components of adventure therapy may not have greater influence on outcomes than the factors adventure therapy shared with all other forms of therapeutic interventions.

Ferneer et al. (2017) conducted a systematic review of the literature to investigate the effectiveness of wilderness therapy on adolescents (ages 12 to 18 years) and to identify the descriptions of the programs and their outcomes. Seven studies met inclusion criteria and were case series with small patient populations (n=4–47). The intent of the studies was heterogeneous and included: 1) understanding how adolescents who were involuntarily enrolled in the program responded to parents and therapists (n=13); 2) understanding how backpacking was related to self-reported outcomes for troubled adolescent women (n=9); 3) gaining insight into the effect of a residential wilderness program on self-evaluation of male adolescents and what specific aspects of the program caused the changes (n=13); 4) interviewing participants > age 20 years following involvement in a 10-day wilderness therapy program at age 14–16 years to discover the impact of this treatment on their lives (n=4); 5) investigating wilderness treatment and the outcomes from the intervention (n=4 men); 6) examining wilderness treatment and identifying the key change agents and outcomes (n=12); and 7) evaluating youth well-being 24 months after the conclusion of wilderness treatment (n=47). Reported outcomes of the studies included the following: despair was gradually replaced by self-confidence; the wilderness environment was a healing place and facilitated change; time alone allowed reflection and personal insight; there was avoidance of the stigma attached to mental health treatment; physical demands of the wilderness lifestyle contributed to the changes experienced including competence and sense of accomplishment; there was enhanced self-awareness, self-efficacy; increased socialization skills with therapists and peers. The authors noted that the lack of client characteristics in relation to the therapeutic process and to each participant's specific set of outcomes prevented drawing conclusions regarding who the best candidates are for wilderness therapy, as well as the type of activities and programming that might facilitate individual change. Another limitation of the studies is the inability to generalize effects to a larger population due to the limited number of studies and small patient populations.

**Yoga:** Yoga is an ancient practice rooted in Indian philosophy that began as a spiritual discipline and is now widely used to promote physical and mental well-being. In the United States, yoga typically involves physical postures (asanas), breathing techniques (pranayama), and meditation (dhyana). It is considered a “meditative movement” practice, combining physical and mental elements. Yoga is intended to work by improving flexibility, strength, and relaxation while supporting stress reduction and healthy lifestyle habits (NCCIH, 2023b).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of yoga. Existing systematic reviews of yoga for antihypertensive lifestyle therapy (Wu, et al., 2019), anxiety and stress (Li, et al., 2012), arterial hypertension (Geiger, et al., 2025), asthma (Yang, et al., 2017), brain health (Gothe, et al., 2019), breast cancer (Cramer, et al., 2017; Harder, et al., 2012), body composition and vital signs in children and adolescents with obesity (Caner, et al., 2025), depression (Moosburner, et al., 2024; Brinsley, et al., 2021; Bridges, et al., 2017), epilepsy (Panebianco, et al., 2017), central nervous system disorders (Walia, et al., 2021), headaches (Anheyer, et al., 2020), low back pain (Wieland, et al., 2017), pain and pain-associated disability (Büssing, et al., 2012), Parkinson's Disease (Ban, et al., 2021), pregnancy, including reducing labor duration and perceived pain (Wakjira, et al., 2025; Babbar, et al., 2012), rheumatic diseases (Sieczkowska, et al., 2019), schizophrenia (Broderick, et al., 2017; Vancampfort, et al., 2012), sexual function (Rodrigues, et al., 2024), sleep quality and insomnia (Wang, et al., 2020), stroke (Lawrence, et al., 2017), substance use (Lenoir, et al., 2021; Kuppili, et al., 2019), and type 2 diabetes mellitus (Cui, et al., 2017) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include small sample sizes, risk of bias, heterogeneity in intervention protocols, control groups, and outcome measures, low methodological quality, low to moderate quality of evidence, limited generalizability, limited long-term follow-up, and insufficient reporting of adverse events.

## **Other Approaches**

**Antineoplastons:** Antineoplastons are experimental drugs composed of chemical compounds naturally found in the urine and blood. These drugs are purported to replace a natural biochemical substance that is deficient in individuals with cancer. Antineoplastons have been studied as a treatment for cancer and other conditions, including Parkinson's disease, sickle cell anemia, and thalassemia (NCI, 2019).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the safety and effectiveness of antineoplastons.

**Ayurveda:** Ayurveda, or Ayurvedic medicine, is based on ancient texts and emphasizes a holistic approach to physical and mental well-being. Ayurvedic treatments typically integrate herbal products (primarily plant-based, but sometimes including animal, metal, or mineral components), dietary guidelines, physical activity, and lifestyle practices. Proponents claim Ayurveda can help manage a variety of conditions, including osteoarthritis, type 2 diabetes, and rheumatoid arthritis (NCCIH, 2019).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of Ayurveda.

Hammoud et al. (2025) conducted a systematic review to investigate the efficacy and safety of *Mucuna pruriens*, a plant traditionally used in Ayurvedic medicine, in managing symptoms of Parkinson's disease. The systematic review included four RCTs and one nonrandomized interventional trial, involving a total of 108 participants. The mean age of participants was 60 years with disease duration ranging from 4.2 to 12.4 years. *Mucuna pruriens* preparations were compared to conventional levodopa therapy, with some studies including additional pharmacological agents such as carbidopa, dopamine agonists, monoamine oxidase-B inhibitors, catechol-O-methyltransferase inhibitors, amantadine, or anticholinergics. Studies meeting the following criteria were included in the systematic review: clinical trials involving patients diagnosed with Parkinson's disease treated with either levodopa or *Mucuna pruriens*, RCTs and nonrandomized interventional clinical trials, and publications written in English with full-text access. Studies assessing interventions other than levodopa or *Mucuna pruriens*, and non-peer-reviewed sources were excluded. Outcomes measured included motor and nonmotor responses, QOL, disability, therapy complications, and safety, assessed using standardized scales. The duration of follow-up was not specified but reported as generally short. Participant attrition was not reported systematically. The study results revealed that *Mucuna pruriens* preparations consistently showed improvements in Parkinson's disease symptoms and therapy-related complications. Treatment with *Mucuna pruriens* was also associated with a shorter time to reach the "on" disease stage, prolonged duration of this stage, and fewer adverse events, with no dyskinesia reported. Adverse events associated with *Mucuna pruriens* included nausea, vomiting, insomnia, and excessive daytime somnolence. The authors concluded that *Mucuna pruriens* showed promise in improving motor symptoms and reducing therapy complications in participants with Parkinson's disease. However, the current clinical evidence base is limited. Additional high-quality studies are needed to confirm the efficacy and safety of *Mucuna pruriens* in this population. Limitations of the systematic review include small sample size, heterogeneity in participants, interventions, comparators, and outcome measures, variations in methodological quality, and lack of long-term follow-up.

Ng et al. (2019) conducted a systematic review of *Withania somnifera* (Ashwagandha), a popular herb in Ayurvedic medicine, in managing cognitive dysfunction. Five randomized, placebo-controlled, double-blind studies (n=267) were reviewed, but meta-analysis was unsuitable due to small number of trials and dissimilar study designs and outcome measures. The studies' diverse populations included children with intellectual disabilities, healthy adults, older adults with mild cognitive impairment, and adults with schizophrenia, schizoaffective disorder, or bipolar disorder. *Withania somnifera* was found to improve performance on cognitive tasks and be well tolerated, with good adherence and minimal side effects in almost all the studies. Limitations of the studies included: heterogeneous small patient populations, limited clinical data and lack of follow-up. Additional rigorous clinical trials with large, well-defined patient populations are needed to support meaningful clinical outcome of Ashwagandha.

**Biofield Therapeutics:** Biofield therapeutics, also called energy healing or “laying on of hands” (e.g., healing touch, spiritual touch), is one of the oldest forms of untested healing known to humankind. It involves the transfer of energy from healer to patient and the manipulation of the human body’s energy fields (Jain and Mills, 2010).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of Biofield therapeutics.

**Coley's Toxin:** Coley's toxin, also known as mixed bacterial vaccine and Issel's fever therapy, is a treatment for cancer devised by Dr. William Coley. The toxins are the fluids derived from a bacterial culture of two microorganisms, *Streptococcus pyogenes* and *Serratia marcescens*, and are injected into affected tissue to initiate a high fever, causing necrosis of cancer tissue. A major problem reported with bacterial therapy is their toxicity when used at the dose required for therapeutic efficacy, including the risk of systematic toxicities (Patyar, et al., 2010).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of Coley's toxin.

**Crystal Healing:** Crystal healing is the belief that certain stones and crystals contain special healing energy that can be transferred into people to provide protection against illness and disease and provide spiritual guidance. Multiple types of crystals are proposed for healing of all types of conditions and diseases (e.g., amethysts for headaches and balancing blood sugar and aquamarine for heart and immune system problems).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of crystal healing.

**Gemstone Therapy:** Gemstone therapy is an alternative technique proposed for strengthening the body and resolving issues and patterns. It is based on the theory that gemstones carry vibrational rates, and when placed within a person’s aura, can change the person’s vibrational rates.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of gemstone therapy.

**Homeopathy:** Homeopathy is a medical system developed in Germany over 200 years ago, based on two key principles: “like cures like,” the idea that a substance causing symptoms in a healthy person can treat similar symptoms in a sick person, and the “law of minimum dose,” which holds that lower doses, often so diluted that no molecules of the original substance remain, are more effective. Homeopathic products are derived from plant, mineral, or animal sources and are commonly administered as sugar pellets, drops, creams, or tablets. Treatments are sometimes individualized, meaning individuals with the same condition may receive different remedies. Homeopathy is commonly used to treat colds and musculoskeletal pain, but has been studied for use in a variety of conditions including acute respiratory tract infections in children, allergic rhinitis, musculoskeletal injury, otitis media, and psychiatric conditions (Perry, et al., 2024; NCCIH, 2021; Hawke, et al., 2018; Banerjee, et al., 2017; Vanden Bossche and Vanderstraeten, 2015; Davidson, et al., 2011; Schneider, et al., 2008).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of homeopathy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Perry et al. (2024) conducted a systematic review and meta-analysis to determine whether homeopathy relieves symptoms and reduces antibiotic use in participants with otitis media. The systematic review included nine studies, seven RCTs and two other non-randomized, but controlled trials involving 1293 participants age 2 months to 12 years. Individualized and non-individualized homeopathy (numerous methods) was compared to inactive controls (e.g., placebo) and/or active comparators (e.g., standard care, antibiotics, analgesics). Studies meeting the following criteria were included in the systematic review: clinically diagnosed and symptomatic acute otitis media or otitis media with effusion in individuals of any age, ethnicity, and gender. Studies other than randomized and controlled non-randomized trials were excluded. The primary outcomes were clinical improvement and antibiotic use. Secondary outcomes included antibiotic prescribing, hearing loss, recurrence, health service and medication use, QOL, re-consultation, and adverse events. Follow-up durations across

studies varied from two weeks to twelve months. Participant attrition was reported as minimal and similar between groups. The study results revealed that some RCTs (4/7) reported statistically significant individual outcomes (e.g., symptom score, middle ear effusion, and antibiotic use) that favored homeopathy. However, due to heterogeneity of study designs, homeopathic interventions, and outcome measures, the pooling of data for most outcomes was hindered, except for antibiotic use in studies of non-individualized homeopathy. Add-on non-individualized homeopathy was observed to reduce filled antibiotic prescriptions by 46 % (RR = 0.54 95% CI: 0.28 to 1.06, p=0.07, I<sup>2</sup>=12 %) but did not reach statistical significance. Adverse events were determined to be non-serious and generally fewer in the homeopathy groups. The authors concluded that while some RCTs reported positive effects and with no safety issues, the current evidence is insufficient to determine if homeopathy relieves symptoms and reduces antibiotic use in participants with otitis media. Further research with more robust clinical trials is required to expand the evidence base. Limitations of the systematic review include low methodological quality of some included trials, heterogeneity of study designs, homeopathic interventions, and outcome measures, industry or interest-associated funding among several included trials, language translation risk for at least one study, lack of systematic adverse event reporting, and varied follow-up time points.

Freire de Carvalho et al. (2024) conducted a systematic review to evaluate the use of homeopathy in rheumatic diseases, rheumatoid arthritis, osteoarthritis, fibromyalgia, hyperuricemia, tendinopathy, and ankylosing spondylitis. The systematic review included 15 studies involving 1459 participants. Homeopathy (numerous methods including fixed medicine and individualized homeopathy) was compared to comparators including placebo and nonsteroidal anti-inflammatory drugs. Studies meeting the following criteria were included in the systematic review: human studies of patients with rheumatic diseases who received homeopathy. Studies of in vitro models, animal studies, and review articles were excluded. Outcomes of interest included pain, stiffness, function, global assessments, and patient-reported measures. Follow-up durations across studies ranged from 4 to 48 weeks. Only one study reported participant attrition. The results revealed that most studies (9/15) demonstrated improvements after homeopathy. However, some studies (5/15) did not show any significant difference. One study reported that the homeopathic consultation was therapeutical and beneficial but not related to the homeopathic preparation. Adverse events were not reported systematically but described as mild and comparable to controls. The authors concluded that homeopathy is a promising and safe therapy for the treatment of rheumatic diseases. However, more robust studies with larger samples of more varied rheumatic diseases are required to confirm these conclusions. Limitations of the systematic review include inconsistency in the total sample size reported (abstract notes 811 participants; results note 1459 participants), heterogeneity of interventions, comparators, and outcomes across conditions impedes synthesis, unclear risk of bias at the study level, lack of systematic adverse event reporting, and limited duration may not capture long-term efficacy or safety.

A Cochrane systematic review (Hawke, et al., 2018) of RCTs investigating oral homeopathic medicinal products for the prevention and treatment of acute respiratory tract infections in children (age <16 years) concluded that the evidence did not show any benefit of homeopathic medicinal products compared to placebo. Eight RCTs (n=1562) met inclusion criteria. Limitations of the studies included: methodological inconsistencies, high attrition rates, selective reporting, protocol deviations and unclear or high risk of bias. Methodological inconsistencies and significant clinical and statistical heterogeneity precluded robust quantitative meta-analysis.

Banerjee et al. (2017) conducted a systematic review of RCTs evaluating homeopathy for allergic rhinitis. Eleven studies (n=1654) met inclusion criteria and ten were placebo-controlled trials. Six trials used isopathy (i.e., the causal agent is used for the cure), but they were unsuitable for meta-analysis due to problems of heterogeneity and data extraction. Patient populations ranged from 34–142. Due to the high level of heterogeneity across studies in terms of medical condition and outcome measures and the poor quality of results reported, only three studies could be used for meta-analysis. Meta-analysis of the three studies using *Galphimia glauca* showed that relief of nasal and ocular symptoms favored homeopathy. A homeopathic and a conventional nasal spray produced equivalent improvements in nasal and ocular symptoms. Due to the overall low or uncertain quality of the evidence, firm conclusions could not be drawn about the clinical benefit of homeopathy medicine for the treatment of allergic rhinitis.

Posadzki et al. (2012b) conducted a systematic review of case series and case reports to evaluate adverse effects of homeopathy. Thirty-five case studies (n=1159) met inclusion criteria. Direct adverse events included abdominal pain, acute pancreatitis, severe allergic reactions, and nausea and vomiting. Occasionally

homeopathy was reported to result in serious outcomes (e.g., cancer, cardiac arrest, coma, death). Multiple indirect adverse events (e.g., hypertension, seizures, organ failure) were also reported. The duration of adverse events ranged from 22 hours to seven months, with four reported deaths.

Davidson et al. (2011) conducted a systematic review of randomized placebo-controlled trials (n=25) of homeopathy for psychiatric conditions (i.e., anxiety, depression, sleep problems, ADHD, premenstrual syndrome, mild traumatic brain injury, and somatic spectrum disorders). Efficacy was reported for fibromyalgia and chronic fatigue syndrome, but not for anxiety or stress. Mixed effects were reported for the other disorders. No studies were found for depression. Meta-analysis could not be performed due to the limited number of studies and heterogeneity of the data sets. The authors concluded that firm conclusions about the safety and efficacy of homeopathy for any of these conditions could not be made.

Traumeel (Tr14) injection solution is a homeopathic combination formula consisting of 12 botanical and two mineral substances with proposed anti-inflammatory, anti-edematous, and anti-exudative properties (Vanden Bossche and Vanderstraeten, 2015). Schneider et al. (2008) conducted an observational cohort study of 133 patients with various musculoskeletal injuries, 69 treated with Tr14 injections and 64 conventionally treated. A greater number of patients reported complete resolution of the principal symptom with no adverse events. Physician-assessed tolerability was significantly better in the patients that received Tr14. In addition to the small patient population, the studies were limited by the heterogeneous selection of types of injuries. Additional studies with larger patient populations and long-term evaluations are needed to establish the safety and effectiveness of Tr14.

**Hydrogen Peroxide, intravenous:** Hydrogen peroxide given intravenously is proposed to kill or inhibit bacteria and viruses, precluding the need for antibiotic therapy. It is purported as treatment for acquired immune deficiency syndrome (AIDS), cancer, the common cold, influenza, and sinus infections.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of intravenous hydrogen peroxide.

**Immunoaugmentative Therapy (IAT):** Immunoaugmentative (or Immuno-augmentative) Therapy (IAT) is purported to control all forms of cancer by augmenting the immune system. The therapy involves the daily injection of "tumor complement factor" obtained from the serum of individuals with cancer, as well "deblocking protein factor" and "tumor antibody" obtained from the serum of individuals without cancer. The dosage is determined using a proprietary computer program (Questionable methods of cancer management, 1991).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of IAT.

**Meridian Therapy:** Meridian Therapy, specifically collateral meridian therapy (CMT), is a technique derived from traditional Chinese medicine. CMT involves manipulating two specific points, a control point and a functional point, on healthy "meridians" distal to the disease-affected area. The aim of CMT is to redirect, remove, or strengthen the flow of body energy (referred to as "Qi") to relieve pain and restore balance. CMT has been purported to treat various types of acute and chronic pain, including chronic shoulder pain of myofascial origin, post-regional anesthesia/analgesia backache, post-laparoscopic shoulder-tip pain, dysmenorrhea, and complex regional pain syndrome (Pan, et al., 2016).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of meridian therapy.

**Magnet Therapy:** Magnet therapy involves placing static magnets, sometimes referred to as permanent magnets, on or near the body. The strength of these magnets may be weak, moderate, or strong, but the strength of the magnetic fields do not change. Static magnets are often marketed as jewelry or wearables (e.g., wristbands and wraps) or enclosed in other items (e.g., mats, pillows, bed pads). Magnet therapy has been studied for several types of pain, including diabetic neuropathy, sciatica, fibromyalgia, plantar heel pain, pelvic pain, neck and shoulder pain, and forearm and wrist pain (NCCIH, 2023a).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of magnet therapy.

Arabloo et al. (2017) conducted a technology assessment of systematic reviews of randomized and non-randomized studies that compared magnet therapy with other conventional therapies for the treatment of local pain. Eight studies met inclusion criteria. Magnet therapy was investigated for the treatment of pain in various organs, arthritis, myofascial muscle pain, lower limb muscle cramps, carpal tunnel syndrome, and pelvic pain. Comparators included placebo, weak magnet, sham, chiropractic therapy, and traditional therapies. According to the results, magnet therapy was not an effective treatment for relieving different types of pain.

**Magnetic Resonance Therapy (MRT):** Magnetic resonance therapy (MRT) is a non-invasive outpatient procedure that delivers electromagnetic energy using specialized devices of various physical designs. Treatments sessions may last for 60 minutes and take several consecutive daily treatments. MRT has been studied for the treatment of a variety of conditions including knee osteoarthritis, PTSD, lumbar disc herniation with lumbar radicular syndrome, osteoporosis, rheumatic diseases, and chronic low back pain. MRT is not currently FDA-approved for the treatment of any condition, but devices that use this technology have been studied in clinical investigations, including Molecular Biophysical Stimulation Therapy (MBST®) (MedTec Medizintechnik GmbH) and Magnetic e-Resonance Therapy (MeRT®) (Wave Neuroscience LLC) (Wave Neuroscience, 2025); NICE, 2021; Gökşen, et al., 2016; Taghva, et al., 2015; Salfinger, et al., 2015; Krpan, et al., 2015, Kullich, et al., 2013; Kullich, et al., 2006; MedTec Medizintechnik, n.d.).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of MRT.

Goksen et al. (2016) conducted an RCT (n=97) to evaluate the efficacy of therapeutic MRT for the treatment of mild to moderate knee osteoarthritis. Inclusion criteria included: age 35–75 years, symptomatic osteoarthritis of a single knee, and radiological stage II or III according to Kellgren and Lawrence scale. Patients received ten one-hour daily sessions of MRT on weekdays. Follow-ups occurred at two weeks and 12 weeks. Pain outcomes were measured by VAS, QOL by SF-36, and physical function by Western Ontario and McMaster Universities Arthritis Index (WOMAC). Ultrasound, magnetic resonance imaging, and radiography were also used for knee evaluation. At weeks two and 12 following treatment, significant improvements were reported in both groups regarding pain, stiffness, physical functions, and QOL scores, but there were no significant differences between the groups. There were no significant differences in ultrasonographic measurements and magnetic resonance imaging (MRI) Whole-Organ Magnetic Resonance Imaging Scores (WORMS) or acetaminophen usage between the groups. No adverse events were reported. This study showed that MRT was not superior to placebo in the treatment of knee osteoarthritis. Author-noted limitations included failure to use objective measurements like gait analysis, walking distance, number of steps without pain, and lack of evaluation of pre- and post-range knee joint motions. It was also questioned whether a ten-day course was the correct dosage to assess benefits and harms of MRT.

Salfinger et al. (2015) conducted an RCT to assess the efficacy of therapeutic nuclear magnetic resonance (tNMR) for lumbar radicular syndrome (LRS) in patients (n=94) with lumbar disc herniation. Patients were randomized to the treatment group (n=48) or the control group (n=46). In addition to standard, conservative therapy, the treatment group also received seven sessions of tNMR. Patients were included who presented with lumbar disc herniation within 12 weeks of inclusion, radiation of pain into one or both legs and clinical signs of a radicular lesion. Seven treatments on consecutive days were administered. VAS scores improved significantly in both groups (p<0.000). The intensity of morning and evening pain decreased significantly in both groups (p<0.000) with a statistically significant difference in pain perception in favor to the treatment group in week four. Before and after week four, no statistically significant differences were noted between the groups. There were no significant differences between the groups in the SF-36 physical component and mental component scores or the Roland Morris Disability Questionnaire (RMDQ) scores. There was no statistically significant difference in non-steroidal anti-inflammatory drug (NSAID) intake, but there was a significant decrease in the use of opiates in both groups (p=0.05 in study group; p=0.024 in placebo group). Three months following therapy, patients in the tNMR group reported a statistically significant lower duration of sick leave (p=0.026) compared to the control group. Both groups reported fewer absences, but there was no significant difference between the groups. Fourteen patients dropped out of the study (13%). Overall, tNMR did not result in significant improvements as an adjunctive therapy for this patient population.

Kulich et al. (2006) conducted an RCT to evaluate the effects of adjunctive MBST (n=30) compared to placebo (n=32) for the treatment of chronic low back pain. Patients had been admitted for three-weeks of inpatient rehabilitation therapy. Treatment was given for one hour on five consecutive days. Both groups reported a significant improvement in reduction in the VAS starting at week one following treatment. The MBST group maintained the improvement in pain under stress at the three-month follow-up, but the placebo group did not. Neither group maintained significant improvement in pain at rest three months after therapy. The MBST group showed a significant improvement ( $p<0.001$ ) in the total Oswestry score at three months compared to the placebo group. The placebo group showed a significant improvement at week one ( $p<0.05$ ), but the improvement was not maintained. Both groups showed comparable improvement in the walking and sleeping sections of the Oswestry at the three-month follow-up. No adverse events were reported. Limitations of the study include the small patient population, short-term follow-up, and patients were part of an inpatient rehabilitation program with multiple other therapies.

**Millimeter Wave Therapy:** Millimeter wave therapy uses low-power millimeter wave irradiation and is purported to treat a variety of conditions ranging from skin diseases and wound healing to several types of cancer, gastrointestinal and cardiovascular diseases, and psychiatric illnesses.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of millimeter wave therapy.

**Moxibustion Therapy:** Moxibustion is a therapeutic technique often used in conjunction with acupuncture. The technique involves burning moxa, the dried leaves of the mugwort plant (*Artemisia vulgaris*), on or above the skin at specific acupuncture points. Scarring moxibustion involves burning moxa directly on the skin until a blister and scar form. Nonscarring moxibustion removes the moxa before blistering occurs, avoiding permanent skin damage. The heat generated from burning moxa is intended to warm the Qi and blood within the body's channels, promoting health, and treating disease. Moxibustion is thought to exert its effects through thermal stimulation of both superficial and deep tissues, as well as through possible radiation and pharmacologic actions from moxa combustion products. Moxibustion is purported to treat conditions linked to Yin, cold, and deficiency syndromes; chronic illnesses and Yang Qi deficiency, including diarrhea, dysentery, malaria, phlegm, water retention, edema, asthma cold-type, impotence, enuresis, Bi syndrome, abdominal pain, stomach ache, and metrorrhagia due to Qi deficiency; frequent urination due to Yang deficiency, wind stroke, profuse sweating, dying Yang syndrome, and collapse of Qi in older adults; and emergency treatment of Yang collapse (Chen et al., 2021). Moxibustion has been studied for a variety of medical conditions including cancer, chronic fatigue syndrome, heart failure, hypertension, insomnia, knee osteoarthritis, polycystic ovary syndrome, stroke, and ulcerative colitis (Liang, et al., 2019; Kwon, et al., 2018; Yang, et al., 2018; Wang, et al., 2017; Li, et al., 2016; Song, et al., 2016; Sun, et al., 2016; Kim, et al., 2010; Lee, et al., 2010c; Lee, et al., 2010a).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of moxibustion. Existing systematic reviews of moxibustion for the treatment of hyperlipidemia (Jareebi, et al., 2025), heart failure (Chen, et al., 2025b; Liang, et al., 2019), polycystic ovary syndrome (Kwon, et al., 2018), stroke (Meng, et al., 2025; Yang, et al., 2018; Lee, et al., 2010b), chronic fatigue syndrome (Wang, et al., 2017), knee osteoarthritis (Chen, et al., 2025a; Li, et al., 2016; Song, et al., 2016; Choi, et al., 2012), insomnia (Sun, et al., 2016), hypertension (Kim, et al., 2010), cancer (Bae, et al., 2024; Lee, et al., 2010c), and ulcerative colitis (Lee, et al., 2010a) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include heterogeneity in intervention protocols, control groups, and outcomes, low methodological quality, limited long-term follow-up, and insufficient reporting of adverse events.

**MTH-68:** MTH-68, sometimes referred to as Hungarian strain MTH (More Than Hope)-68, is a modified strain of Newcastle Disease Virus (NDV) purported to have oncolytic properties. Various strains of NDV have been studied to induce direct tumor cell lysis and stimulate immune responses. Methods of administration include subcutaneous, intradermal, intravenous, intramuscular, or intertumoral injection, inhalation, and direct injection into the colon (via colostomy) (NCI, 2018b).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of MTH-68.

**Naprapathy:** According to the American Naprapathic Association (n.d.), “Naprapathic Medicine is an advanced healthcare system that integrates Physical (Manual) Medicine, Nutritional Counseling, and Therapeutic Modalities. It specifically targets pain arising from Connective Tissue Disorders, emphasizing a holistic approach to health. Naprapaths are skilled specialists in connective tissue, crucial for supporting and containing all vital structures of the body, including tissues around the spinal column, spinal cord, muscles, organs, and joints. This comprehensive care aims to enhance overall well-being and mobility by addressing the root causes of pain.”

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of naprapathy.

**Naturopathy:** Naturopathy, also known as naturopathic medicine, is a system of care that focuses on identifying and addressing the root causes of illness rather than merely alleviating symptoms, which are viewed as indicators of underlying health imbalances. It emphasizes a holistic approach to health, incorporating lifestyle-based interventions such as nutrition, physical activity, stress reduction, and natural therapies. Naturopathic practitioners may employ a variety of treatments, including herbal supplements, homeopathy, hands-on therapies, and detoxification strategies (NCCIH, 2025).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of naturopathy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Mondal et al. (2024) conducted a systematic review and meta-analysis to evaluate the effects of naturopathic interventions on perceived pain among individuals with arthritis. The systematic review included 15 RCTs and non-RCTs involving 894 participants. Interventions included naturopathic modalities such as exercise, mud packs or baths, sand bathing, hydrotherapy, and spa therapy, typically as adjuncts to routine care. Comparators included sham or mineral-depleted mud, hot packs, routine or exercise-only care, or rest. Studies meeting the following criteria were included in the systematic review: clinical trials (randomized or non-randomized) evaluating naturopathic treatments for arthritis applied to upper and/or lower limbs. Studies of non-English language, insufficient methodological rigor, or lacking complete data for meta-analysis were excluded. Outcomes of interest included perceived pain using VAS. Treatment durations ranged from 10 minutes to two months, but follow-up beyond the immediate end of therapy was not reported across studies. Participant attrition was not reported. The meta-analysis indicated significant reductions in perceived pain immediately after the naturopathic intervention when compared with controls. Though the authors noted considerable heterogeneity across studies. Adverse events were not reported. The authors concluded that the systematic review suggested a potential adjunctive role for naturopathy in the management of pain related to arthritis. However, more robust clinical trials are needed to support this conclusion. Limitations of this systematic review include lack of geographic diversity, no risk of bias assessment, database search limitations and screening scope, heterogeneity in interventions, comparators, and outcomes, lack of long-term outcomes, funding source may introduce perception of sponsorship bias, and adverse events not reported across included studies limiting safety assessment.

Cochrane systematic reviews of randomized or quasi-RCTs have reported on the effects of Chinese herbal medicine (CHM) for various conditions including the treatment of subfertile women with polycystic ovarian syndrome (Zhou, et al., 2016). Analysis of five studies (n=414) revealed that there is insufficient evidence to support the use of CHM for women with this syndrome and subfertility. No data were available on live births, and there was no consistent evidence to indicate that CHM influenced fertility outcomes. In an update to this systematic review (Zhou, et al., 2021) included three additional RCTs and 195 women (n=609). The authors concluded that the current evidence was still insufficient to support the use of CHM as a treatment for subfertility in women with polycystic ovarian syndrome. No studies have reported on live birth outcomes, and there is no consistent evidence that CHM improved fertility. Limited data suggested that combining CHM with clomiphene may enhance pregnancy rates, but this finding is based on low-certainty evidence. There is an insufficiency of evidence regarding the adverse effects and safety of CHM. Well-designed, RCTs that focus on live birth rates and safety outcomes are needed to support the use of CHM in this population.

The effectiveness of CHM for relief of menopausal symptoms in women over 18 years of age was reviewed by Zhu et al. (2016) in a Cochrane review. Twenty-two RCTs (n=2902) met inclusion criteria. CHM was compared to placebo, hormone therapy, pharmaceutical drugs, acupuncture, or another CHM formula. There was insufficient

evidence that CHMs were any more or less effective than placebo or hormone therapy for the relief of vasomotor symptoms. Effects on safety were inconclusive. The quality of the evidence ranged from very low to moderate.

Chen et al. (2016) assessed the efficacy and possible adverse effects of the addition of CHM to treatment with radiotherapy or chemotherapy for esophageal cancer. Nine RCTs (n=490) were included in this Cochrane review, and the authors found no evidence to determine whether traditional Chinese medicine was an effective treatment for esophageal cancer. The effect of traditional Chinese medicine on short-term therapeutic effects was uncertain.

Flower, et al. (2012) reviewed the effectiveness and safety of CHM in alleviating endometriosis-related pain and infertility. The systematic review included two RCTs involving 158 women. Based on the study results, the authors concluded post-surgical CHM may offer comparable benefits to gestrinone, but with fewer side effects. Oral CHM may be more effective than danazol, especially in relieving dysmenorrhea and reducing adnexal masses when combined with CHM enemas. However, more robust research is needed to confirm the role of CHM for endometriosis.

Li et al. (2012) investigated the effects of CHM for the treatment of threatened abortion. A total of 44 trials (n=5100) met inclusion criteria. There was insufficient evidence to assess the effectiveness of CHM alone for this indication. In an update to this systematic review, Li et al. (2016) reported that analysis of nine RCTs (n=861) showed limited evidence to assess the effectiveness of CHM for unexplained recurrent miscarriage. No data were available to assess the safety of the intervention for the mother or her baby. There were no data relating to any of the secondary outcomes including obstetrical and other complications for the mother, infant death, perinatal complications, and congenital malformations.

**Neural Therapy:** According to the North American Academy of Neural Therapy (2021), “Neural Therapy is a medical system that identifies and treats the disturbances in the body’s neurological control mechanisms that underlie all pain and illness. These disturbances, called ‘interference fields’, can be found almost anywhere in the body, are subtle, but easily and safely treated by injections of dilute procaine or other local anaesthetics.”

Currently, there is insufficient high-quality evidence in the published, peer-reviewed scientific literature to support the clinical utility of neural therapy.

**Ozone Therapy:** Ozone therapy utilizes ozone (O<sub>3</sub>), a molecule composed of three oxygen atoms, which is purported to enhance tissue oxygenation, modulate immune responses, and exert therapeutic effects through antioxidant and anti-inflammatory mechanisms. Ozone therapy has been studied for the treatment of numerous medical conditions including chronic wounds, diabetic foot ulcers, knee osteoarthritis, low back pain secondary to disc herniation, lumbar disc disease, musculoskeletal conditions, and temporomandibular disorders using a variety of administration methods (Machado, et al., 2025; Kumar, et al., 2024; Sconza, et al., 2021; Fitzpatrick, et al., 2018; Li, et al., 2018; Li, et al., 2015; Magalhaes, et al., 2012).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of ozone therapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

Machado et al. (2025) conducted a systematic review to evaluate whether ozone therapy reduces symptoms associated with temporomandibular disorders. The systematic review included seven RCTs involving 289 participants. Ozone therapy was delivered intra-articularly, intramuscularly, by high-frequency bio-oxidative transdermal application, or as topical ozonized oil. Comparators included medications (NSAIDs and muscle relaxants), ultrasonic massage therapy, low-level laser, acupuncture, sham ozone, sham laser, and occlusal splints. Studies meeting the following criteria were included in the systematic review: clinical trials of ozone therapy for temporomandibular disorders published in Portuguese, English, or Spanish with no year restrictions. Studies of animal models, retrospective designs, case reports, review papers, meta-analyses, and ozone applications outside the orofacial region were excluded. Outcomes of interest included pain intensity, pain sensitivity by palpation and pressure pain thresholds, and mandibular movements. Follow-up durations varied across studies, including immediately after treatment and up to 6 months. Participant attrition was not reported. The study results revealed that ozone therapy applied to articular and muscular temporomandibular disorders reduced pain intensity, palpatory pain, and improved pressure pain thresholds and mandibular range of motion.

Adverse events were not reported in four studies, limiting an assessment of safety. The authors concluded that ozone therapy is emerging as a potential therapy for reducing temporomandibular disorder-related symptoms. However, the current evidence base is insufficient and more robust RCTs are needed to support these findings. Limitations of this systematic review include the small number and low-quality of available studies, geographic concentration, heterogeneity in diagnosis, methods, and outcomes, and inconsistent adverse event reporting.

Kumar et al. (2024) conducted a systematic review and meta-analysis of prospective studies to evaluate the effectiveness and safety of intradiscal ozone therapy for lumbar disc disease. The systematic review included eight prospective studies, four RCTs and four prospective non-randomized comparative studies, encompassing a total of 413 participants. Intradiscal ozone therapy was compared to percutaneous radiofrequency ablation, microdiscectomy, adjunctive betamethasone, and differing ozone doses. Studies meeting the following criteria were included in the systematic review: prospective design (with or without randomization) that used isolated intradiscal ozone therapy and reported pain and function outcomes. Studies of single case reports, intramuscular ozone, retrospective or observational designs, reviews, commentaries, editorials, conference presentations, operative techniques, or without available full text were excluded. Outcomes of interest included pain and function measured with standardized instruments. Follow-up was at least 12 months in all but one study. Participant attrition was less than 5% across studies. The results of the meta-analysis found mean improvements of 4.25 (95% CI 2.93 to 5.58,  $p < 0.05$ ) on VAS pain scores and 20.57 (95% CI 18.47 to 22.68,  $p < 0.05$ ) on Oswestry Disability Index. Meta-regression did not demonstrate associations with age, sex, or disc level. Adverse events were not reported across studies. The authors concluded that intradiscal ozone therapy was effective for low back pain associated with herniated disc after failed conservative care. However, additional meta-analyses with high quality RCTs was recommended to strengthen the evidence base. Limitations of the systematic review include heterogeneity, including study designs, interventions, and comparators, study quality concerns, including risk of bias, outcome scope limited to VAS and Oswestry Disability Index, and adverse events not elaborated within included studies.

Llombart-Blanco et al. (2024) conducted a systematic review and meta-analysis to evaluate the efficacy of ozone therapy compared with conventional medical management for improving patient-reported outcomes in adults with low back pain. The systematic review included eight RCTs and one comparative study involving 1711 participants. The intervention group received ozone therapy delivery via intradiscal, paravertebral, or caudal epidural routes. Comparators included steroid injections, placebo injections, or surgery. Studies meeting the following criteria were included in the systematic review: adults aged 18 years or older with chronic or recurrent low back pain, ozone therapy administration versus a comparator, and reporting of patient-reported outcomes. Studies of duplicates, case reports and series, letters, non-comparative designs, pediatric populations, trial protocols, or with incomplete/non-comparable data were excluded. Primary patient-reported outcomes included Oswestry Disability Index, VAS for back pain, and MacNab criteria for clinical outcome. Follow-up durations varied across studies and ranged from 1 to 12 months. Participant attrition was not reported. The study results revealed that overall ODI favored ozone (SMD -0.28, 95% CI -0.51 to -0.06). Though, subgroup analysis by follow-up time revealed significant differences at 1 month, but not at 2 weeks or 6 months. VAS also favored ozone overall (SMD -0.12, 95% CI -0.24 to -0.01). No time-specific VAS differences were observed. There were no differences in MacNab "excellent" (OR 0.95, 95% CI 0.54 to 1.67) or "poor" outcomes (OR 1.25, 95% CI 0.66 to 2.37). The majority of studies did not identify serious adverse events associated with ozone infiltration. The authors concluded that ozone therapy showed limited and inconsistent benefits compared with usual care, with no consistent improvements in pain or clinical outcomes. Limitations of the systematic review include small sample size, short follow-up for some studies, control and comparator group heterogeneity, and lack of systematic adverse events reporting.

Sconza et al. (2021) conducted a systematic review of RCTs for the application of oxygen-ozone therapy in the treatment of lower back pain. Fifteen studies ( $n=2,597$ ) met the inclusion criteria of RCTs published in the last 20 years dealing with oxygen-ozone therapy in patients with lower back pain and herniated disc, comparing the results with those of other treatments. Patients in the control groups received different treatments including corticosteroids, analgesic therapy, placebo, microdiscectomy, laser-therapy, TENS and postural rehabilitation, percutaneous radiofrequency intradiscal thermocoagulation, and psoas compartmental block. The primary outcome of the present review was the analysis of patient's reported subjective scores and pain at six months' follow-up. Looking at the quality of the literature, none of the studies included reached "good quality" standard. Comparison of oxygen-ozone therapy results with other approaches showed that, in the majority of studies, oxygen-ozone therapy was superior to the control treatment, and also when compared to microdiscectomy,

ozone showed non inferiority in terms of clinical outcomes. No major complications or serious adverse events were reported in any of the trials included. Limitations of the studies include heterogeneity of the treatment regimen, heterogeneity of the assessment methods, lack of comparison with sham or consistent comparator, and unclear or high risk of bias in most categories. Although oxygen-ozone therapy appears to be a safe treatment with beneficial effects, the quality of the evidence is poor.

Fitzpatrick et al. (2018) conducted a systematic review and meta-analysis of RCTs to evaluate the safety and efficacy of ozone therapy for the treatment of chronic wounds. Nine studies (n=453) met inclusion criteria and investigated the use of ozone therapy in the topical treatment of chronic wounds (e.g., war wounds, burns, and non-healing diabetic, venous, or arterial ulcers). Primary outcomes included: the number of ulcers completely healed, change in wound size, presence, or absence of biomarkers in favor of healing, and for diabetic foot ulcers the general appearance of the wound, as assessed by Wagner's ulcer classification scale. Secondary outcomes included the complications of pain, toxicity, amputation, infection, and developed pathologies. Meta-analysis revealed a significant ( $p<0.05$ ) improvement in wound closure (wound healing and percent wound closure). However, there was no conclusive evidence that ozone therapy was superior to standard treatments. No adverse events from the ozone therapy were reported. Limitations of the studies include heterogeneous small patient populations; heterogeneity of the treatment regimen (e.g., ozone concentration, treatment duration, frequency of treatment) and type of wounds; and moderate to high risk of bias in the majority of studies. Due to the heterogeneity of the studies, firm conclusions could not be made regarding the effectiveness of ozone therapy for the treatment of chronic wounds.

Li et al. (2018) conducted a systematic review and meta-analysis to investigate the safety and efficacy of intra-articular hyaluronic acid and oxygen-ozone for the treatment of knee osteoarthritis. Four RCTs met the following criteria: age 18 years or older; diagnosis of end-staged knee osteoarthritis; intervention groups received intra-articular hyaluronic acid for pain management; control groups received intra-articular oxygen-ozone therapy; outcomes were pain, stiffness, and function using the VAS and WOMAC; and adverse effects. There was no significant difference between the groups regarding VAS at three months follow-up ( $p=0.202$ ). There was significant heterogeneity of the studies ( $p<0.0001$ ). Four studies showed no significant difference in VAS between the groups at six months ( $p=0.255$ ). There was no significant difference in WOMAC pain scores at six months ( $p=0.380$ ). Based on four RCTs the outcome of WOMAC for stiffness at six months was significantly improved in favor of hyaluronic acid ( $p=0.013$ ), but there were no significant differences in WOMAC function ( $p=0.037$ ) and adverse events ( $p=0.837$ ). Limitations of the analysis include: the limited number of studies, small patient populations; heterogeneity of the studies (e.g., doses of medication, patient characteristics) and short-term follow-ups. This meta-analysis does not support ozone therapy for the treatment of knee osteoarthritis.

Liu et al. (2015) conducted a Cochrane systematic review to assess the effectiveness of ozone therapy for the treatment of foot ulcers in diabetics. Three (n=212) RCTs "with unclear methodology" met inclusion criteria. Ozone treatment was compared to antibiotics, and usual care versus usual care plus ozone therapy. The use of ozone did not appear to affect the number of ulcers healed or make a difference in the reduction of the ulcer area.

Magalhaes et al. (2012) conducted a systematic review and meta-analysis to evaluate the effectiveness of percutaneous injections of ozone for the treatment of low back pain secondary to disc herniation. Four RCTs (n=306) and eight observations studies (n=6699) met inclusion criteria. From the randomized studies, intervention was found to be superior to the control (e.g., sham, steroid, or steroid with local anesthetic) ( $p<0.00001$ ). Overall, the observational studies revealed positive results for short- and long-term relief of pain. Complications were rarely documented. The indicated level of evidence for long-term pain relief ( $\geq 6$  months) was II-3 (evidence from diagnostic studies of uncertainty) for ozone therapy applied intradisally, II-1 (evidence from at least one properly conducted diagnostic accuracy study of adequate size) for ozone therapy applied paravertebrally; 1C (strong recommendation, low-quality or very low quality evidence) for intradiscal ozone therapy; and 1B (strong recommendation, moderate quality evidence) for paravertebral ozone therapy. Limitations of the studies included a lack of precise diagnosis, use of mixed therapeutic agents, and short-term follow-up.

**Polarity Therapy:** According to the American Polarity Therapy Association (2025), "Polarity Therapy is a truly holistic practice that works for anyone, in any state of health. It meets you where you are and inspires positive changes that are just right for you. Polarity Therapy is a system of treatment used in alternative medicine,

intended to restore a balanced distribution of the body's energy by combining touch, exercise, nutrition and self-awareness.”

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of polarity therapy.

**Reiki:** Reiki is a complementary health approach in which practitioners place their hands lightly on or just above a person, aiming to direct energy to support the body's natural healing response. It is rooted in Eastern beliefs about an energy field that underlies physical and emotional health. Reiki has been studied for a variety of conditions, including pain, anxiety, depression, and QOL (Liu, et al., 2025b; NCCIH, 2018).

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Reiki. Existing systematic reviews regarding anxiety (Guo, et al. 2024), pain (Demir, 2018; VanderVaart, et al., 2009), and QOL (Liu, et al., 2025b) are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions. Limitations of the available studies include heterogeneity in intervention protocols, control groups, and outcomes, low methodological quality, and limited long-term follow-up.

**Revici's Guided Chemotherapy:** Revici's guided chemotherapy, also known as biologically guided chemotherapy, Revici's cancer control, lipid therapy, or Revici's method, is a chemical therapy given by mouth or injection. It is promoted as an alternative cancer treatment, as well as treatment for heart disease, arthritis, AIDS, chronic pain, drug addiction, injury from radiation, and schizophrenia. The therapy varies for every patient but can include a chemical formulation consisting of lipid alcohols, caffeine, zinc, and iron, or a formulation consisting of fatty acids, selenium, magnesium, and sulfur.

Currently, there is insufficient high-quality evidence in the published, peer-reviewed, scientific literature to support the clinical utility of Revici's guided chemotherapy. Existing systematic reviews are constrained by the limitations of the available studies, which substantially weaken the strength of the conclusions.

**Trichuris Suis Ova Therapy:** Trichuris suis ova therapy is a form of helminthic treatment involving the oral administration of pig whipworm eggs (*Trichuris suis*). Helminth-derived factors are intended to increase bacterial diversity, decrease inflammation, and promote gastrointestinal barrier integrity. Trichuris suis ova therapy is purported as treatment for a variety of medical conditions, including some autoimmune and inflammatory disorders (Babu and Nutman, 2023).

According to published peer-reviewed, high-quality scientific literature and authoritative medical textbooks, Trichuris suis ova therapy has demonstrated minimal or no therapeutic benefit in patients with Crohn's disease, ulcerative colitis, and multiple sclerosis. Additionally, no significant clinical efficacy has been demonstrated for Trichuris suis ova therapy in the treatment of allergic rhinitis, inflammatory bowel disease, plaque psoriasis, or rheumatoid arthritis (Prosberg, et al., 2024; Babu and Nutman, 2023; Huang, et al., 2018; Schölmerich, et al., 2017; Bager, et al., 2010; Summers, et al., 2005).

Prosberg et al. (2024) conducted a randomized, double-blinded, placebo-controlled clinical trial to assess the efficacy and safety of Trichuris suis ova therapy at reducing intestinal inflammation in participants with moderate ulcerative colitis. The study included 119 participants who were randomized to 7500 Trichuris suis ova every 2 weeks for 24 weeks (n=60) or placebo (n=59). Inclusion criteria required an established diagnosis of moderately active ulcerative colitis (Mayo score 6 to 10), fecal calprotectin  $\geq 250$   $\mu\text{g/g}$ , and stable monotherapy. Participants recently treated with anti-cancer drugs or immunosuppressants were excluded. The primary outcome measure was clinical remission (Mayo score  $\leq 2$  at Week 24). Secondary outcomes included other predefined measures of clinical response. No participants were lost to follow-up. The study results revealed clinical remission was achieved in 30% of Trichuris suis ova-treated participants versus 34% of placebo-treated participants at Week 24 (RR = 0.89; 95% CI: 0.52 to 1.50; p=0.80, intention to treat). Other predefined measures of clinical response were not observed to differ significantly between the two groups. However, a temporary effect of Trichuris suis ova was observed in the analysis of symptomatic remission at Week 12 (p=0.01) and the partial Mayo score at Week 14 and Week 18 (p<0.05 and p=0.02, respectively) for participants who did not require corticosteroid treatment. Of 23 serious adverse events, 12 occurred in the active treatment group, but none were determined to be related to Trichuris suis ova. The authors concluded that Trichuris suis ova administration was not superior to

placebo in achieving active ulcerative colitis clinical remission at Week 24. However, some temporary symptomatic remission effects from *Trichuris suis ova* were observed. The study is limited by the single-center design. Additionally, the authors noted that corticosteroid use by some participants may have contributed to the high placebo response or had a negative impact on the efficacy of the *Trichuris suis ova*.

Huang et al. (2018) conducted a systematic review and meta-analysis of RCTs to assess the effectiveness of *Trichuris suis ova* for the treatment of inflammatory bowel disease. Six RCTs that compared *Trichuris suis ova* therapy with placebo were included. Three of the included studies were registered clinical trials. Outcomes included efficacy and safety. There was no significant difference ( $p > 0.26$ ) in remission and response rates for the treatment of ulcerative colitis (3 RCTs;  $n = 74$ ). Nine patients in each group experienced one adverse event. Three studies ( $n = 538$ ) investigated *Trichuris suis ova* for the treatment of Crohn's disease study. There was no significant difference in remission and response rates between the two groups. Studies were limited by the small patient populations and short-term follow-up of 12 weeks, and sparse data were lacking on adverse events (e.g., gastrointestinal signs and symptoms). Meta-analysis could not draw a conclusion regarding *Trichuris suis ova* dosage due to the limited data. There was no statistically significant clinical benefit using *Trichuris suis ova* for the treatment of inflammatory bowel disease.

Bager et al. (2010) conducted an RCT to determine the efficacy of *Trichuris suis ova* for the treatment of allergic rhinitis ( $n = 100$ ). No therapeutic effect was reported and significant gastrointestinal adverse events ( $p = 0.007$ ) (e.g., diarrhea and abdominal pain) occurred in 76% of the *Trichuris suis ova* group compared to 49% in the placebo group. Summers et al. (2005) ( $n = 54$ ) reported at 12-weeks follow-up that a significant improvement ( $p = 0.4$ ) was seen with ova therapy compared to placebo in patients with active ulcerative colitis. The placebo group showed significant improvement in stool frequency ( $p = 0.0488$ ) compared to baseline. Limitations of the study include the small patient population and the short-term follow-up.

### **Multi-Therapy Systematic Reviews**

Several systematic reviews have evaluated multiple CAM therapies for the treatment of various conditions including abdominal pain, asthma, anxiety and/or sleep disorders, cancer, depression, fibromyalgia, heart failure, irritable bowel syndrome, otitis media, pain management, emesis-related symptoms during pregnancy, psoriasis, and rheumatic diseases. Although some studies reported clinical improvement with some modalities, overall, the authors agreed that there is insufficient evidence to support CAM for the treatment of these conditions. Studies are limited by small patient populations, minimal and short-term follow-ups, variability in dosage and unknown quality of oral supplements, few evaluations of side effects, inconsistent and inconclusive outcomes, and no controls or comparisons to traditional Western medical therapies.

**Abdominal Pain:** Abbott et al. (2017) conducted a Cochrane systematic review that included 18 RCTs to assess the effectiveness of four types of psychosocial therapy (cognitive behavioral therapy, hypnotherapy including guided imagery, yoga, and written self-disclosure) for the treatment of recurrent abdominal pain in school-aged children. Regarding four studies on hypnotherapy ( $n = 143$ ), greater treatment success was reported post-intervention ( $p = 0.0003$ ). Reduced pain intensity ( $p < 0.00001$ ) and frequency ( $p < 0.00001$ ) were achieved with hypnotherapy compared to controls. Studies were considered low-quality with short term follow-up and small patient populations. One study reported long-term benefit of hypnotherapy at five years (68%) compared to control (20%) ( $p = 0.005$ ). For yoga therapy compared to control, there was no evidence of effectiveness on reduction of pain intensity post-intervention ( $p = 0.09$ ). The three yoga studies included 122 children and were low-quality evidence.

**Asthma:** Kohn and Paudyal (2017) conducted a systematic review and meta-analysis of 23 RCTs to evaluate the safety and efficacy of CAM for the treatment of asthma in adults. CAM therapies included the following: curcumin; New Zealand green-lipped mussel; *Solanum xanthocarpum* and *Solanum trilobatum*; coenzyme Q10; selenium; auranofin; vitamins B6, C, D, or E; aqueous extract of propolis; AKL1# (*Picrorrhiza kurroa*, *Zingiber officinale*, *Ginkgo biloba* and *apocynin*); lactose powder; TJ-96; Pingchuan Yiqi Granule, magnesium, n-3 polyunsaturated fatty acids; and anti-asthma herbal medicine intervention (ASHMI; a Chinese herbal formula containing *Ku-Shen* [*Sophora flavescens*], *Gan-Cao* [*Glycyrrhiza uralensis*] and *Ling-Zhi* [*Ganoderma lucidum*]). Controls included standard asthma treatment, placebo, and pharmacotherapy. The results of meta-analysis on magnesium, vitamin C, and vitamin D indicated that these supplements were not beneficial in improving the lung function of asthma patients. Eight single trials showed improvement in lung function and symptom control but

there was no overall trend in one outcome measure across trials. In addition, many of the trials had a poor methodological quality, restricting the reliability and applicability of these results. The analysis did not provide sufficient evidence to recommend any of the included CAM compounds for the treatment of asthma. Limitations of the studies included: short-term duration of treatment (range one day to 36 weeks), small patient populations (n=14–232), poor methodological quality; heterogeneity of treatment regimens, and an unclear or high risk of bias in the majority of studies.

A systematic review by Passalacqua et al. (2006) on CAM for the treatment of rhinitis and asthma included RCTs (n=57) involving acupuncture, herbal medicines, homeopathy, breathing techniques, yoga, and chiropractic-spinal manipulation. The authors concluded that from a scientific viewpoint, there was no “definitive or convincing proof of efficacy” for the use of CAM in rhinitis or asthma, and there was an absence of quantitative measures in the studies. Therefore, it was not possible to provide evidence-based recommendations for the use of these modalities.

**Cancer:** Duong et al. (2017) conducted a systematic review and meta-analysis of RCTs that compared non-physical mind and body practices with control interventions for the management of fatigue in cancer and hematopoietic stem cell transplant (HSCT) recipients. A total of 55 trials (n=4975) met the inclusion criteria. Interventions included acupuncture or acupressure (n=12 studies), mindfulness meditation (n=11 study), relaxation techniques (n=10 studies), massage (n=6 studies), energy therapy (n=5 studies), energizing yogic breathing (n=3 studies), and others (n=8 studies). Mindfulness and relaxation were effective at reducing fatigue severity, but the authors noted that how to translate these findings into clinical practice had yet to be determined. Acupuncture, acupressure, massage, energy therapy, and yogic breathing were not effective. Limitations of the studies included: limited number of studies for some modalities; short-term treatment durations; variation in the definition of fatigue; and heterogeneity of treatment regimens, comparators (e.g., usual care, wait list, sham, education), types of cancers, and timing of interventions (before, during, and/or after treatment).

In a Cochrane systematic review investigating massage therapy with or without aromatherapy for symptom relief in patients with cancer, Shin et al. (2016) reported that there was a lack of evidence on the clinical effectiveness of massage therapy for this subpopulation. Nineteen studies (n=1274) met inclusion criteria and were considered “very low-quality evidence”. Thirteen studies (n= 596 participants) compared massage with no massage. Six studies (n=561) compared aromatherapy massage with no massage. Two studies (n=117) compared massage with aromatherapy and massage without aromatherapy. Overall, the patient populations were too small to be reliable and key outcomes (pain and psychological symptoms) were not reported. From the limited evidence available, the authors stated that they were unable to assess the effect of adding aromatherapy to massage on the relief of pain, psychological symptoms, including anxiety and depression, physical symptom distress, or QOL.

Leggett et al. (2015) conducted a systematic review of the literature to evaluate the effectiveness of oral CAM substances for women with breast cancer. Studies of women receiving or who had completed conventional treatments for breast cancer and reported using oral CAM products (e.g., tablets, capsules, powders, liquids) for the alleviation of cancer-related symptoms were included. Outcomes of the studies included treatment side effects, improvement of QOL, physical and emotional wellbeing, survival, and mortality. Twenty-two randomized and non-RCTs met inclusion criteria. The CAM substances included: black cohosh, a range of Chinese medicinal herbal mixtures, estrogen botanical supplements, essiac, Ganoderma lucidum, ginseng, glutamine, grape seed proanthocyanidin extract, guarana, herbal remedies, and soy isoflavones. No more than four studies were found for each modality. Although there was some weak evidence for support for relief of various symptoms by various substances, the authors advised that the results should be viewed with caution due to the poor methodological quality of the studies. The overall strength and quality rating of the body of evidence was considered to be limited. In conclusion, there was little evidence to make definitive recommendations regarding the effectiveness for individual CAM therapies in women receiving conventional treatments for breast cancer.

Rada et al. (2010) conducted a systematic review of the literature to assess the efficacy of non-hormonal therapies for the treatment of hot flushes in women with a history of breast cancer. Sixteen RCTs met inclusion criteria and included relaxation therapy (n=2 studies), homeopathy (n=2 studies), and vitamin E (n=1 study). The vitamin E study reported no beneficial effects and one study on relaxation therapy showed significant beneficial effects. Homeopathy did not lead to any differences in number and severity of the hot flushes. Data on continuous outcomes were inconsistent.

Another systematic review evaluated the use of Chinese herbs (e.g., shenmai, pishentang) for the treatment of chemotherapy side effects in women with breast cancer (n=542 patients) (Zhang, et al., 2007). Bardia et al. (2006) included acupuncture, support groups, hypnosis, relaxation/imagery, herbal supplements, music therapy, healing touch, and massage therapy (N=1499 patients) for the relief of cancer pain. Ernst et al. (2006) also reviewed CAM for the treatment of breast cancer pain (n=15 studies) including “psychosocial support, herbal medicine, thymus extract, transfer factor, melatonin, and factor AF2 (xenogenic peptides)”. Due to the poor quality of the trials (e.g., small patient population without sample size justification, short-term follow-up, lack of statistical comparison, poor definition of outcomes, and lack of control group), none of these therapies could be recommended for pain relief in cancer patients.

**Depression, Anxiety and/or Sleep Disorders:** Asher et al. (2017) conducted a systematic review and meta-analysis to compare the effectiveness of exercise and CAM therapies for the treatment of major depressive disorder. A total of 22 RCTs were included for direct comparisons and 127 trials were used for network meta-analyses. CAM studies included acupuncture (three studies), omega-3 fatty acids (three trials), S-adenosyl methionine (one trial), and St. John’s wort (12 trials; n=1806). Two studies comparing aerobic exercise monotherapy with selective serotonin reuptake inhibitors (SSRIs) were also included. The primary outcome measure was response to treatment on the Hamilton Depression Rating Scale, which was defined as a 50% improvement of scores from baseline. Overall, there was no significant difference in outcomes with the use of a CAM therapy and the risk of harms of CAM therapy was not adequately assessed. The studies were limited by the unclear randomization methods, high loss to follow up, small patient populations, inadequate dosing for the SSRIs, and medium to high risk of bias. The overall quality of the studies was poor. The authors did caution that SSRIs may lead to more adverse events and treatment cessation when compared with acupuncture or St. John’s wort.

Lakhan and Vieira (2010) conducted a systematic review to evaluate the effectiveness of herbs and dietary supplements for the treatment of anxiety and related symptoms. Twenty-one RCTs and three open-label, uncontrolled observational studies (n=2619) met the inclusion criteria. A total of 1786 patients had a diagnosis of depression or anxiety disorder and 877 were healthy volunteers with anxiety related to acute conditions/situations. The authors concluded that nutritional and herbal supplements were an effective method for the treatment of anxiety but also stated that the positive effects could be due to a placebo effect. Extracts of passionflower or kava and combinations of L-lysine and L-arginine may be treatment options for anxiety symptoms and disorders, but additional studies are needed to evaluate magnesium-containing and other herbal combinations. There was insufficient evidence to support St. John’s wort for the treatment of anxiety. Due to the heterogeneity of the studies and the small patient populations, meta-analysis was not possible.

In a systematic review of RCTs, Morgan and Jorm (2008) investigated multiple CAM therapies for the treatment of depression including: herbal remedies or dietary supplements (i.e., borage, carnitine/acetyl-L-carnitine, chromium, Ginkgo biloba, Korean ginseng, Panax ginseng, lavender, lecithin, melatonin, omega 3 fatty acids, fish oil, S-Adenosylmethionine, saffron/cocus sativus L, selenium, St. John’s wort), vitamins (i.e., B1, B12, C, D, and multivitamins), folate, caffeine, autogenic training, bibliotherapy, computerized interventions, distraction, meditation, relaxation training, humor, Qigong, Tai Chi, yoga, aromatherapy, hydrotherapy, light therapy, music, and negative air ionization. There was limited to no evidence on these therapies, as well as inconsistent reporting of active ingredients and mechanisms, ideal dosages, side effects and safety issues for herbs and dietary supplements. Some therapies resulted in immediate but not sustained benefit, and tools for measuring outcomes were inconsistent and/or not well defined. Other limitations included small patient populations, short duration, and minimal or no follow-up.

Additional systematic reviews of randomized and non-RCTs have investigated CAM for the treatment of depression, anxiety, and/or sleep disturbances. Therapies included yoga, meditation, relaxation, music, various herbs and vitamin supplements, Tai Chi, and Qigong (n=33 RCTs) (Meeks, et al., 2007), St. John’s wort, homeopathy, relaxation training, music therapy, aromatherapy massage, and yoga (n=19 studies) (Thachil, et al., 2007). Although some studies reported a therapeutic effect following a CAM intervention (e.g., Tai Chi, relaxation techniques, and music for sleep disturbances and acupressure for sleep and anxiety), the studies had methodological limitations (e.g., small patient populations, lack of use of systematic psychiatric diagnoses, loss to follow-up, inadequate controls, and lack of inclusion/exclusion criteria and assessment and reporting of CAM side effects). There is insufficient evidence to support the safety and effectiveness of CAM for the treatment of depression.

**Fibromyalgia:** Zech et al. (2017) conducted a systematic review of nine RCTs (n=457) to evaluate the efficacy, acceptability, and safety of guided imagery/hypnosis (GI/H) in the treatment of fibromyalgia. Primary outcomes included:  $\geq 50\%$  pain relief;  $\geq 20\%$  improvement of health-related QOL; psychological distress; disability, acceptability, and safety at end of therapy; and three-month follow-up. Controls included GI/H placebo (e.g., education, emotional support, pure relaxation), usual treatment, waiting list and active pharmacological or nonpharmacological interventions. There was a significant benefit of GI/H compared to controls on  $\geq 50\%$  pain relief and psychological distress at the end of therapy. Acceptability was not significantly different compared to the control. No study reported on safety. Overall, the quality of evidence was rated as low. Limitations of the studies included the small patient populations (n=16–100); short-term follow-ups (one week to six months); heterogeneity of therapies (e.g., home alone therapy, individual therapy, group therapy, non-pain related suggestions, pain-relation suggestions, number of sessions), and outcome measures. The authors noted that it was unclear if patients with anxiety and/or depressive disorder, which are frequently associated with fibromyalgia, were included in most studies. There is insufficient data to support GI/H for the treatment of fibromyalgia.

**Heart Failure:** Gok Metin et al. (2018) conducted a systematic review including 24 RCTs (n=1314) to evaluate the effectiveness of mind-body interventions for the treatment of high functioning individuals with heart failure. The analysis included: seven Tai Chi studies; four studies on yoga and relaxation; two studies each on meditation, acupuncture, and biofeedback; and one study each on stress management, Pilates, and reflexology. Studies ranged from 4 minutes to 26 weeks in duration. Patient populations ranged from 8–65 per study group. Small-to-moderate improvements were reported for QOL (14/14 studies), exercise capacity (8/9 studies), depression (5/5 studies), anxiety and fatigue (4/4 studies), blood pressure (3/5 studies), heart rate (5/6 studies), heart rate variability (7/9 studies), and B-type natriuretic peptide (3/4 studies). Due to the limited number of studies, small patient populations, short duration of the studies, and poor description of the randomization procedures, conclusions could not be drawn regarding the clinical effectiveness of these interventions for the treatment of heart failure.

**Inflammatory Bowel Disease:** Langhorst et al. (2015) conducted a systematic review of the literature to evaluate the safety and effectiveness of CAM for the treatment of inflammatory bowel disease. A total of 36 RCTs and three controlled trials met inclusion criteria. CAM interventions included: herbal medicine (e.g., aloe-vera gel, *Andrographis paniculata*, *Artemisia absinthium*, barley foodstuff, *Boswellia serrata*, cannabis, curcumin, evening primrose oil, Myrrhinil intest<sup>®</sup>, *Plantago ovata*, silymarin, sophora, tormentil, wheatgrass-juice, wormwood); *Trichuris suis ovata*; mind/body interventions (e.g., lifestyle modification, hypnotherapy, relaxation training, mindfulness); and acupuncture. Studies were eligible if they assessed at least one of the following outcomes: induction or maintenance of remission, disease activity, or symptom severity, QOL, or psychological variables. Overall, the studies included small patient populations and short-term follow-ups. Due to the low number of trials for each modality and the heterogeneity of the methodology of the studies, firm conclusions could not be made. Author-noted limitations of the studies included: high risk of bias, data on compliance was not reported in almost half of the studies, lack of blinding, trials of traditional Chinese medicine were not considered; and due to the small number of trials, meta-analysis could not be performed. Because most trials evaluated interventions for ulcerative colitis, conclusions were mainly limited to patients with this condition.

**Otitis Media:** Marom et al. (2016) conducted a systematic review of CAM therapies for the treatment of otitis media in children. The CAM therapies considered included: acupuncture, homeopathy, herbal medicine/phytotherapy, osteopathy, chiropractic, xylitol, ear candling, vitamin D supplement, and systemic and topical probiotics. Overall, limitations of the studies included: small patient populations, short-term follow-ups, high dropout rates, lack of a control group, and conflicting outcomes. Following review of the data for each CAM intervention, it was concluded that CAM is not considered a treatment option of otitis media due to the limited and inconsistent evidence.

**Pain Management:** A systematic review of data from ten RCTs (n=1055) compared manual healing methods (i.e., massage, warm packs, other thermal manual methods, and music) to standard care, no treatment, other non-pharmacological forms of pain management in labor or placebo. Massage provided a greater reduction in pain intensity (measured using self-reported pain scales) than usual care during the first stage of labor (six trials, n=362) and second and third stage of labor (two trials). Other studies showed no clear benefit of massage over usual care for the length of labor and pharmacological pain relief. One trial reported less anxiety during the first

stage of labor for women receiving massage. One trial found an increased sense of control from massage and two studies reported higher satisfaction with the childbirth experience with the use of massage. All evidence was considered low to very low in quality. Very low-quality evidence showed reduced pain and shortened labor with the use of warm packs and other thermal methods. One trial that compared manual methods with music found very low-quality evidence of reduced pain intensity during labor in the music group, with no evidence of benefit for reduced use of pharmacological pain relief. Further research is needed to support the clinical benefit of these modalities during labor (Smith, et al., 2018).

Smith et al. (2006) conducted a systematic review and meta-analysis of 14 RCTs (n=1537) that compared complementary and alternative medicine (i.e., three acupuncture trials, one audio-analgesia trial, two acupressure trials, one aromatherapy trial, one massage trial, one relaxation trial, and five hypnosis trials) to placebo, no treatment, or pharmacotherapy for pain management in labor. Acupuncture and self-hypnosis decreased the need for pain relief and requirements for pharmacotherapy, respectively. There was insufficient evidence to support the effectiveness of the other therapies. With the exception of the acupuncture and hypnosis trials, the authors noted that the number of women studied was small, and few complementary therapies had “been subjected to proper scientific study.”

**Emesis-Related Symptoms During Pregnancy:** In a Cochrane systematic review, Matthews et al. (2015) evaluated the safety and effectiveness of interventions for nausea, vomiting and retching in early pregnancy (up to 20 weeks’ gestation). A total of 41 trials (n=5449) met inclusion criteria. Interventions included: acupressure, acustimulation, acupuncture, ginger, chamomile, lemon oil, mint oil, vitamin B6, and several antiemetic drugs. Acupressure and acustimulation of P6 showed no significant benefit to this subgroup. The evidence for ginger was limited and not consistent. Meta-analysis was not possible due to the heterogeneity of the patient populations, interventions, comparison groups, and outcomes measures. Selection bias risk was unclear for many studies and almost half of the studies did not fully or clearly report all pre-specified outcomes. There is a lack of high-quality evidence to support any one intervention.

**Psoriasis:** Smith et al. (2009) conducted a systematic review of RCTs to identify the evidence-based information about CAM for the treatment of psoriasis. The studies were categorized as either vitamins/herbs/minerals; fish oil, climatotherapy, acupuncture/Chinese medicine, or mind/body. The vitamins, herbs, and minerals category included studies on vitamin D, inositol, zinc, selenium, neem, Aloe vera, vitamin B12 with avocado oil, Mahonia aquifolium (i.e., bayberry or Oregon grape), and Oleum horwathiensis. The authors concluded that due to the low quality of the studies and conflicting results, additional studies are needed to establish the safety and efficacy of these modalities before recommendations for CAM for the treatment of psoriasis can be made. There is also the potential risk of side effects from Aloe vera, Chinese medicine, and climatotherapy, such as allergic contact dermatitis, hepatotoxicity, and increased risk for skin cancer, respectively.

**Rheumatic Diseases:** Phang et al. (2018) conducted a systematic review of RCTs to evaluate the safety and efficacy of CAM therapies for the treatment of rheumatic diseases, including rheumatoid arthritis, osteoarthritis, fibromyalgia, gout, vasculitis, systemic sclerosis, systemic lupus erythematosus, ankylosing spondylitis, and psoriatic arthritis. A total of 60 studies met the inclusion criteria and included the following CAM therapies: acupuncture (n=9 studies); Ayurvedic treatment (n=3 studies); homeopathic treatment (n=3 studies); electricity (n=2 studies); natural products, nonvitamin, and nonmineral (e.g., Dehydroepiandrosterone, traditional Chinese medicine, Chuanhu) (n=31 studies); megavitamin therapies (n=8 studies); chiropractic or osteopathic manipulation (n=3 studies); and energy healing therapy (n=1 study). Most studies investigated these therapies for the treatment of rheumatoid arthritis or osteoarthritis. Minor or no adverse events were reported. Due to the poor quality of the evidence the clinical benefit of these therapies could not be established. Limitations of the studies included: small patient populations; short-term follow-ups; and heterogeneity in the study designs, treatment regimens, outcome measures, disease entities, interventions, and statistical analysis.

## **Professional Societies/Organizations**

**American Academy of Allergy, Asthma & Immunology/American College of Allergy, Asthma and Immunology (AAAI/ACAAI):** AAAI/ACAAI published a joint updated practice parameter (Bernstein, et al., 2008) regarding allergy diagnostic testing that states: “Summary Statement 154. Procedures for which there is no evidence of diagnostic validity include cytotoxic tests, provocation-neutralization, electrodermal testing, applied

kinesiology, iridology, hair analysis, or food specific IgG, IgG4, and IgG/IgG4 antibody tests.” (Strength of Recommendation: Directly based on category II evidence or extrapolated from category I evidence)

**American Academy of Neurology (AAN):** AAN (2014; Reaffirmed 2023) published evidence-based guidelines regarding complementary and alternative medicine in multiple sclerosis that concludes:

- CAM therapies with insufficient evidence to support specific practice recommendations include music therapy, glucosamine sulfate, mindfulness-based training, hypnosis, linoleic acid, acetyl-L-carnitine, glucosamine sulfate, hippotherapy, yoga, massage, neural therapy, and naturopathic medicine.
- CAM therapies with sufficient evidence to support practice recommendations include ginkgo biloba for fatigue (possibly effective) or cognitive function (established as ineffective), reflexology for paresthesia (possibly effective), magnetic therapy for fatigue (probably effective) or depression (probably ineffective), and low-fat diet with omega-3 supplementation for relapses, disability, MRI lesions, fatigue, and QOL (probably ineffective).

**American Academy of Orthopaedic Surgeons (AAOS):** AAOS (2024) published an evidence-based clinical practice guideline regarding the management of carpal tunnel syndrome that states: “Evidence suggests that the following non-operative treatments do not demonstrate superiority over control or placebo: acupressure, insulin injection, heat therapy, magnet therapy, nutritional supplementation, oral diuretic, oral NSAID, oral anticonvulsant, phonophoresis.” (Quality of Evidence: High) (Strength of Option: Limited)

**American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS):** AAO-HNS evidence-based clinical practice guidelines (Schwartz, et al., 2017) for earwax (cerumen impaction) statement 5B notes ear candling is a contraindicated intervention: “Clinicians should recommend against ear candling/coning for treating or preventing cerumen impaction. Recommendation against based on RCTs and observational studies with a preponderance of benefit over harm.”

**American Academy of Pediatrics (AAP):** AAP published a clinical report (Hyman, et al., 2020) regarding the identification, evaluation, and management of children with autism spectrum disorder. The purpose of the report was to provide primary care providers with a summary of current information in a single report as a guide for providing a medical home for the patient with ASD. The report states:

- “In the past decade, an increasing number of interventions based on theories of causation of ASD that are, as yet, unproven have been examined in clinical trials. Appropriately designed trials have provided evidence to support some interventions, such as the dietary supplement melatonin, and have disproven others, such as secretin. Many interventions, although still widely used, remain unproven.”
- “Complementary, alternative, and integrative therapies used for ASD can be grouped into 3 general areas: (1) natural products (including herbs, vitamins and minerals, and probiotics), (2) mind and body practices (including yoga, chiropractic, massage, acupuncture, progressive relaxation, and guided imagery), and (3) other therapies (including traditional medicine and naturopathy).”
- “The literature to date is controversial with respect to vitamin supplementation as a treatment of symptoms of ASD, and at this time, no conclusive evidence exists that people with ASD require different nutrient intake than that recommended in the [Institute of Medicine] Dietary Reference Intakes. The long-term risks of high-dose supplementation have not been studied.”
- “Of dietary supplements in common use, melatonin has been demonstrated to be a safe and effective intervention for sleep in children with ASD.”
- “There has been conflicting evidence regarding the effect of music therapy, yoga, massage, and equine-assisted therapy on the symptoms of ASD in children, but evidence does not support these therapies for treatment of the core deficits of ASD at this time.”
- “Existing studies are insufficient at this time to support dance therapy, drama therapy, and chiropractic therapy.”
- “As with any intervention, families electing a novel therapy should work with their therapeutic team to identify target symptoms they hope to address and develop a monitoring system to track change. Interventions should be implemented in a stepwise fashion so that proper attribution of effect is possible and confounding factors can be identified. It is important that the medical home provider and family collaborate to select and monitor safe and effective interventions.”

**American College of Cardiology/American Heart Association (ACC/AHA):** Recommendations for the prevention, detection, evaluation, and management of high blood pressure in adults, developed by the ACC/AHA (Jones, et al., 2025), state: “In adults with or without hypertension, other forms of stress management, such as breathing control techniques or yoga, may be reasonable to prevent or treat elevated BP and hypertension, as an adjunct to lifestyle or medication interventions.” Class (Strength) of Recommendation: 2b (Weak)/Level (Quality of Evidence: B-R (Moderate quality evidence from one or more RCTs. Meta-analyses of moderate quality RCTs)

**American College of Chest Physicians (ACCP):** ACCP guidelines (Deng et al, 2013) for complementary therapies and integrative medicine in lung cancer state:

- “2.1.1.1. It is suggested that all lung cancer patients should be asked about their interest in and usage of complementary therapies. Counseling on the benefits and risks of those therapies should be provided (Grade 2C).” (Weak recommendation, low-quality evidence)
- “2.2.7.1. In lung cancer patients experiencing the symptoms, mind-body modalities [including meditation/mindfulness-based stress reduction, yoga tai chi, qigong, and psychosocial, hypnosis, and mind-body relaxation techniques] are suggested as part of a multidisciplinary approach to reduce anxiety, mood disturbance, sleep disturbance, and improve quality of life (QOL) (Grade 2B).” (Weak recommendation, moderate-quality evidence)
- “2.2.7.2. In lung cancer patients experiencing the symptoms, mind-body modalities are suggested as part of a multidisciplinary approach to reduce acute or chronic pain (Grade 2B).”
- “2.2.7.3. In lung cancer patients experiencing the symptoms, mind-body modalities are suggested as part of a multidisciplinary approach to reduce anticipatory chemotherapy-induced nausea and vomiting (Grade 2B).”
- “2.2.7.4. In lung cancer patients experiencing the symptoms, yoga, a movement-based mind-body modality is suggested as part of a multidisciplinary approach to reduce fatigue and sleep disturbance while improving mood and QOL (Grade 2B).”
- “2.3.1.1. In lung cancer patients whose anxiety or pain is not adequately controlled by usual care, addition of massage therapy performed by trained professionals is suggested as part of a multi-modality cancer supportive care program (Grade 2B).”
- “2.6.3.4. In patients with lung cancer who have sarcopenia, oral nutritional supplementation with n-3 fatty acids is suggested in order to improve the nutritional status (Grade 2C). (Weak recommendation, low-quality evidence)”

**American College of Physicians (ACP):** ACP guidelines (Qaseem, et al., 2023) for nonpharmacologic and pharmacologic treatments of adults in the acute phase of major depressive disorder state:

- “We did not make recommendations on third-wave CBT [cognitive behavioral therapy], integrative therapy, psychodynamic therapy, St. John’s wort, or the combination of an SGA [second-generation antidepressant] with acupuncture because of concerns about feasibility, standardization, and availability in the United States. St. John’s wort is not currently regulated by the U.S. Food and Drug Administration (FDA); thus, safety and efficacy have not been established and there are no current standards in place regarding the contents and potency of this supplement. Evidence was insufficient or inconclusive to recommend for or against many alternative interventions as initial monotherapy options (such as acupuncture, omega-3 fatty acids, S-adenosyl-L-methionine, and exercise) (Appendix Tables 1a and 1b of Supplement 2) or as part of initial combination therapy with an SGA (integrative therapy, third-wave CBT, omega-3 fatty acids, or exercise) (Appendix Tables 1a and 1b of Supplement 2). Importantly, many of the CAM trials used fixed-dose SGAs and did not fully implement the FDA-approved dosing ranges (26).”
- “No studies were identified that assessed behavior therapy, behavior modification, humanistic therapies, yoga, or meditation for initial treatment of adults with MDD [major depressive disorder] or for any second-line treatment strategies that involved CAM or exercise.”
- “No evidence was available to determine differences in comparative effectiveness and risk for harms of psychological treatments, CAM, or exercise according to different demographic characteristics, such as age, sex, race, or ethnicity.”

**American College of Rheumatology (ACR):** ACR guidelines (England, et al., 2022) for exercise, rehabilitation, diet, and additional integrative interventions for rheumatoid arthritis state:

- “We conditionally recommend consistent engagement in mind–body exercise [including yoga, Tai Chi, and Qigong] over no exercise.” (Certainty of evidence: very low to low)
- “We conditionally recommend following established dietary recommendations without use of dietary supplements over adding dietary supplements.” (Certainty of evidence: very low to low)
- “We conditionally recommend use of cognitive behavioral therapy and/or mind-body approaches over no cognitive behavioral therapy and/or mind-body approaches [including meditation and guided imagery].” (Certainty of evidence: very low to low)
- “We conditionally recommend use of massage therapy over no massage therapy.” (Certainty of evidence: very low)

**American Diabetes Association (ADA):** ADA (2025) standards of care in diabetes for facilitating positive health behaviors and well-being to improve health outcomes state:

- “5.16 Health care professionals should inquire about intake of dietary supplements and counsel as necessary. Supplementation with micronutrients (e.g., vitamins and minerals, such as magnesium or chromium) or herbs or spices (e.g., cinnamon and aloe vera) for glycemic benefits is not recommended.” (Level of Evidence: C)
- “5.37 Recommend flexibility training and balance training 2–3 times/week for older adults with diabetes. Yoga and tai chi may be included based on individual preferences to increase flexibility, muscular strength, and balance.” (Level of Evidence: C)
- “5.38 For all people with diabetes, evaluate baseline physical activity and time spent in sedentary behavior (i.e., quiet sitting, lying, and leaning). For people who do not meet activity guidelines, encourage an increase in physical activities (e.g., walking, yoga, housework, gardening, swimming, and dancing) above baseline. B Counsel that prolonged sitting should be interrupted at least every 30 min for blood glucose benefits.” (Level of Evidence: C)

**American Heart Association (AHA):** AHA conducted a systematic review of the literature to review the data on the potential benefits of meditation on cardiovascular risk. Some studies suggested that meditation could have long-standing effects on the brain which provides some biological plausibility for beneficial consequences on cardiovascular risk. Studies of the effects of meditation on cardiovascular risk included stress reduction, smoking cessation, blood pressure reduction, insulin resistance and metabolic syndrome, endothelial function, inducible myocardial ischemia, and primary and secondary prevention of cardiovascular disease. Overall, the studies suggested a possible though not definitively established benefit of meditation on cardiovascular risk reduction. The overall quality and, in some cases, quantity of study data were modest. AHA stated that given the low costs and low risks of this intervention, meditation may be considered as an adjunct to guideline-directed cardiovascular risk reduction by those interested in this lifestyle modification, with the understanding that the benefits of such intervention need to be better established. Further research on meditation and cardiovascular risk in the form of RCTs, adequately powered to meet the primary study outcome, striving to achieve low drop-out rates, and including long-term follow-up are warranted (Levine, et al., 2017).

**American Society of Clinical Oncology/Society for Integrative Oncology (ASCO/SIO):** ASCO/SIO (Bower, et al., 2024) conducted a systematic literature review of RCTs and published a guideline update for the management of fatigue in adult survivors of cancer. The summary of recommendations during active cancer treatment states:

- “1.2. Clinicians should recommend cognitive behavioral therapy (CBT) with or without hypnosis to reduce the severity of cancer-related fatigue in adults undergoing cancer treatment” (Evidence Quality: Moderate; Strength of Recommendation: Strong)
- “1.4. Clinicians should recommend tai chi or qigong, practiced at a low to moderate intensity, to reduce the severity of cancer-related fatigue in adults undergoing cancer treatment” (Evidence Quality: Moderate; Strength of Recommendation: Strong)
- “No recommendation. There is insufficient evidence to make recommendations for or against acupressure, coenzyme Q10, guarana, brain wave vibration meditation, minocycline, music or music therapy, progressive muscle relaxation, reflexology, solution-focused therapy, or yoga to reduce the

severity of cancer-related fatigue in adults undergoing cancer treatment” (Evidence Quality: Insufficient; Strength of Recommendation: No Recommendation for or against).

ASCO/SIO (Bower, et al., 2024) also states that after active cancer treatment:

- “2.4. Clinicians may recommend yoga to reduce the severity of cancer-related fatigue in adults who have completed cancer treatment, especially in women with breast cancer” (Evidence Quality: Low; Strength of Recommendation: Conditional)
- “2.5. Clinicians may recommend acupuncture to manage symptoms of cancer-related fatigue in adults who have completed cancer treatment” (Evidence Quality: Low; Strength of Recommendation: Conditional)
- “2.6. Clinicians may recommend moxibustion to manage symptoms of cancer-related fatigue in adults who have completed cancer treatment” (Evidence Quality: Low; Strength of Recommendation: Conditional)
- “No recommendation. There is insufficient or inconclusive evidence to make recommendations for or against acceptance and commitment (ACT)–based or attention-based interventions, acupuncture, bright light therapy, ginseng, massage, mistletoe, or omega fatty acids, psychoeducational interventions, self-management health app, tai chi or qigong to reduce the severity of cancer-related fatigue in adults who have completed cancer treatment” (Evidence Quality: Insufficient; Strength of Recommendation: No Recommendation for or against)

ASCO/SIO (Bower, et al., 2024) notes several limitations of the articles used to update the guideline, including heterogeneity that precluded meta-analysis, small sample sizes, high attrition rates, and failure to use intention-to-treat analyses in some studies, and limited demographic diversity (Bower, et al., 2024).

**European Society for Paediatric Gastroenterology Hepatology and Nutrition/ North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN/NASPGHAN):** ESPGHAN/NASPGHAN guidelines (Groen et al., 2025) for the treatment of irritable bowel syndrome and functional abdominal pain-not otherwise specified in children aged 4 to 18 years includes the following recommendations for abdominal pain-related disorders of gut–brain interaction:

- “Hypnotherapy is recommended as a treatment option (Strong recommendation, Moderate certainty evidence)”
- “Yoga is NOT suggested as a treatment option (Conditional recommendation, Low certainty evidence)”

**National Comprehensive Cancer Network® (NCCN®):** NCCN (2025a) guidelines regarding adult cancer pain state the following recommendations and interventions are appropriate:

- Nonpharmacologic and Integrative Interventions (PAIN-D): Imagery, hypnosis, massage, and acupuncture. (Category 2A: Based on lower-level evidence and a panel consensus)
- Specialty Consultations for Improved Pain Management (PAIN-L): Massage, acupuncture, imagery, hypnosis, music therapy, and yoga/medication. (Category 2A)

NCCN (2025b) guidelines regarding antiemesis state the following recommendations and interventions are appropriate regarding Anticipatory Emesis Prevention/Treatment (AE-13): Hypnosis, relaxation exercises, including guided imagery, music therapy, and yoga (if approved by a physician). (Category 2A)

NCCN (2025c) guidelines regarding cancer-related fatigue state the following recommendations and interventions are appropriate:

- Interventions for Patients on Active Treatment (FT-6): Yoga and massage therapy. (Category 1: Based on high-level evidence and a panel consensus)
- Interventions for patients Post-Treatment (FT-7): Yoga. (Category 1)

NCCN (2025c) also notes, “Complimentary therapies such as muscle relaxation, music therapy, hypnosis, art therapy, and stress reduction based on mindfulness have been evaluated in combination with CBT approaches,

although some of these therapies have been evaluated on their own. The data suggest that these therapies may be effective in reducing fatigue in patients with cancer.” “However, larger studies are needed.”

NCCN (2025d) guidelines regarding distress management, the ability to effectively cope with cancer, state the following recommendations and interventions are appropriate:

- Management of Expected Distress Symptoms (DIS-4): “Mind-body practices (eg, relaxation, mindfulness, meditation, yoga) and/or creative therapies (eg, art, dance, music)” (Category 2A)
- Chaplaincy Care (DIS-24): “Meditation and/or prayer” (Category 2A)

NCCN (2025e) guidelines regarding palliative care for patients with cancer state the following recommendations and interventions are appropriate:

- Shared Decision-Making Considerations About The Benefits/Burdens of Cancer Therapy (PAL-8): “Consider nonpharmacologic and/or integrative interventions (eg, massage, cognitive behavioral, massage, art, or music therapy)” (Category 2A)
- Pain (PAL-10): “Consider nonpharmacologic and/or integrative interventions (eg, massage, art or music therapy, acupuncture, relaxation, mindfulness, guided imagery)” (Category 2A)
- Social Support/Resource Management (PAL-26): “Art and music therapy, if available” (Category 2A)

NCCN (2025f) guidelines regarding survivorship, for those individuals living with cancer or with a history of cancer, state the following recommendations and interventions are appropriate:

- Guidance for Resistance Training Recommendations (SPA-A): “For survivors who wish to start resistant training [including yoga] refer to trained personal or exercise specialist if available.” (Category 2A)
- Considerations for Specific Populations (SPA-C): “Consider alternative aerobic exercise (stationary bike, water aerobics, yoga) rather than walking if neuropathy affects stability” (Category 2A)
- Anxiety, Depression, Trauma, and Distress: Management and Treatment (SANXDE-8): “Consider referral for integrative therapies (ie, mindfulness meditation, imagery/hypnosis, yoga)” (Category 2A)
- Cancer-Associated Cognitive Dysfunction Interventions (SCF-3): “Consider meditation, yoga, mindfulness-based stress reduction, and cognitive training (ie, brain games)” (Category 2A)
- Interventions for Cancer Survivors (Fatigue) (SFAT-5): “Make use of local resources to help patients increase exercise (eg aerobics, strength training, yoga)” (Category 2A) Other interventions include massage therapy (Category 1)
- General Principles of Pain Management (SPAIN-1): “Non-pharmacologic interventions can be used as the sole treatment for pain, or as adjuncts to pharmacologic therapy. Physical modalities (heat, cold, massage, acupuncture, physical therapy, or occupational therapy) are useful and should be considered for some pain syndromes. Hypnosis, meditation, acupuncture, cognitive restructuring, and behavioral activation can be considered to control pain and maximize function.” (Category 2A)
- Neuropathic pain (SPAIN-4): Non-pharmacologic measures, including massage, are recommended as general measures for neuropathic pain. (Category 2A)
- Chronic pain syndrome (SPAIN-5): Soft tissue massage is recommended for post-radical neck dissection syndrome. (Category 2A)
- Myalgias and arthralgias (SPAIN-6): Massage and yoga are recommended. (Category 2A)
- Myofascial pain (SPAIN-8): Soft tissue/myofascial release massage is recommended. (Category 2A)
- Vasomotor symptoms (ie hot flashes/night sweats) disruptive to QOL in cisgender females (Hormone-Related Symptoms) (SHRS-4): “Integrative therapies including CBT, yoga, and hypnosis” (Category 2A)
- Cognitive Behavioral Therapy for Insomnia (CBT-I): “Techniques include progressive muscular relaxation, deep breathing, medication, yoga, and biofeedback” (Category 2A)

**National Institute for Health and Care Excellence (NICE):** NICE (2007; Updated 2025a) published an evidence-based clinical guideline regarding the diagnosis and management atopic eczema in children under age 12. Recommendations for identifying and managing trigger factors and complementary therapies include:

- “1.4.1.5 Reassure children with mild atopic eczema and their parents or carers that most children with mild atopic eczema do not need to have tests for allergies. [2007]”

- “1.4.1.6 Advise children with atopic eczema and their parents or carers not to use high street [local retail] or internet allergy tests, because there is no evidence of their value in managing atopic eczema. [2007]”
- “1.5.1.45 Explain to children with atopic eczema and their parents or carers that:
  - the effectiveness and safety of homeopathy, herbal medicine, massage and food supplements have not yet adequately been assessed in clinical trials and
  - there is no evidence of any benefit in taking fewer baths or showers, or in using ion exchange water softeners or silk clothing. [2007, amended 2025]”
- “1.5.1.46 Explain to children with atopic eczema and their parents or carers that:
  - they should be cautious about using herbal medicines in children, particularly for products that are not labelled in English or that do not come with information about safe usage (see the MHRA’s [Medicines and Healthcare products Regulatory Agency] using herbal medicines: advice to consumers)
  - topical corticosteroids are deliberately added to some herbal products intended for use in children with atopic eczema
  - liver toxicity has been associated with the use of some Chinese herbal medicines intended to treat atopic eczema. [2007]”
- “1.5.1.47 Ask children with atopic eczema and their parents or carers to tell their healthcare professionals if they are using or intend to use complementary therapies. [2007]”
- “1.5.1.48 Explain to children with atopic eczema and their parents or carers that if they plan to use complementary therapies, they should keep using emollients as well. [2007]”
- “1.5.1.49 Advise children with atopic eczema and their parents or carers that using regular massage along with emollients may improve the atopic eczema. [2007]”

NICE (2021; Updated 2025b) published a guideline regarding caesarean birth that recommends: “1.4.19 Offer women having a caesarean birth anti-emetics (either pharmacological or acupuncture) to reduce nausea and vomiting during caesarean birth. [2004]”.

NICE (2023; Updated 2025c) published a guideline regarding intrapartum care that recommends for non-pharmacological pain-relieving strategies:

- “1.6.3 Advise women that breathing exercises, having a shower or bath, and massage may reduce pain during the latent first stage of labour. [2014, amended 2023]”
- “1.6.4 Do not offer or advise aromatherapy, yoga or acupuncture for pain relief during the latent first stage of labour. If a woman wants to use any of these techniques, support her choice. [2014, amended 2023]”
- “1.6.6 If a woman chooses to use massage techniques in labour that have been taught to birth companions, support her choice. [2007]”
- “1.6.8 Do not offer acupuncture, acupuncture or hypnosis during labour. If a woman wants to use any of these techniques, support her choice. [2007, amended 2023]”
- “1.9.14 Consider massage of the perineum with a water-soluble lubricant in the second stage of labour, if perineal massage is acceptable to the woman and she prefers this to a warm compress. [2023]”

NICE (2021) published an interventional procedures guidance regarding magnetic resonance therapy for knee osteoarthritis that states:

- “1.1 Evidence on the safety of magnetic resonance therapy for knee osteoarthritis shows no major safety concerns. Evidence on efficacy is inadequate in quality and quantity and shows no benefit over placebo. Therefore, this procedure should not be used unless it is part of a research study.”
- “1.2 Further research should be in the form of appropriately powered randomised controlled trials comparing the procedure with placebo. It should report patient selection and treatment protocols, including the number of sessions and magnetic.”

**Society for Integrative Oncology (SIO) / American Society of Clinical Oncology (ASCO):** SIO/ASCO (Carlson et al., 2023) conducted a literature review of systematic reviews, meta-analyses, and RCTs and published a guideline regarding integrative approaches to managing anxiety and depression symptoms in adults living with cancer. The recommendations for anxiety during active cancer treatment include:

- “Recommendation 1.2. Yoga may be offered to people with breast cancer to improve anxiety symptoms during active treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Moderate). Qualifying statement: For people with cancer types other than breast, the quality of evidence is low, and the strength of recommendation is weak.”
- “Recommendation 1.3. Hypnosis may be offered to people with cancer to improve anxiety symptoms during cancer related diagnostic and treatment procedures (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Moderate).”
- “Recommendation 1.5. Music therapy or music-based interventions may be offered to people with cancer to improve anxiety symptoms during active treatment (Type: Evidence based; Quality of evidence: Low; benefits outweigh harms; Strength of recommendation: Moderate).”
- “Recommendation 1.6. Reflexology may be offered to people with cancer to improve anxiety symptoms during active treatment (Type: Evidence based; Quality of evidence: Low; benefits outweigh harms; Strength of recommendation: Weak).”

SIO/ASCO (Carlson et al., 2023) recommendations for anxiety post treatment include:

- “Recommendation 2.2. Yoga may be offered to people with breast cancer to improve anxiety symptoms post treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Moderate). Qualifying statement: For people with cancers types other than breast the quality of evidence is low, and the strength of recommendation is weak.”
- “Recommendation 2.4. Tai chi and/or qigong may be offered to women with breast cancer to improve anxiety symptoms post treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Weak).”
- “Recommendation 2.5. Reflexology may be offered to people with cancer to improve anxiety symptoms post treatment (Type: Evidence based; Quality of evidence: Low; benefits outweigh harms; Strength of recommendation: Weak).
- “Inconclusive. There is inconclusive evidence to make recommendations for or against music therapy and music-based interventions to improve anxiety symptoms in people with cancer who are post treatment. There is also inconclusive evidence for nutritional interventions, light therapy, psilocybin, massage, dance/movement therapy, laughter therapy, healing touch, expressive writing, acupuncture, biofeedback, autogenic training, energy healing, melatonin, or other natural products and supplements to improve anxiety symptoms in people with cancer, regardless of when in the course of care the intervention is provided.”

SIO/ASCO (Carlson et al., 2023) recommendations for depression during active cancer treatment include:

- “Recommendation 3.2. Yoga may be offered to people with breast cancer to improve depression symptoms during active treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Moderate). Qualifying statement: For people with other cancers the quality of evidence is low, and the strength of recommendation is weak.”
- “Recommendation 3.3. Music therapy or music-based interventions may be offered to people with cancer to improve depression symptoms during active treatment (Type: Evidence based; Quality of evidence: Low; benefits outweigh harms; Strength of recommendation: Moderate).”
- “Recommendation 3.5. Reflexology may be offered to people with cancer to improve depression symptoms during active treatment (Type: Evidence based; Quality of evidence: Low; benefits outweigh harms; Strength of recommendation: Weak).”

SIO/ASCO (Carlson et al., 2023) recommendations for depression post treatment include:

- “Recommendation 4.2. Yoga may be offered to people with breast cancer to improve depression symptoms post treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Moderate). Qualifying statement: For people with other cancers the quality of evidence is low, and the strength of recommendation is weak.
- “Recommendation 4.3. Tai chi and/or qigong may be offered to people with breast cancer to improve depression symptoms post treatment (Type: Evidence based; Quality of evidence: Intermediate; benefits outweigh harms; Strength of recommendation: Weak).”

- “Inconclusive. There is inconclusive evidence to make recommendations for or against reflexology to improve depression symptoms in people with cancer who are post treatment. There is also inconclusive evidence for nutritional interventions, light therapy, psilocybin, massage therapy, biofeedback, autogenic training, energy healing, melatonin, and other natural products and supplements to improve depression symptoms in people with cancer, regardless of when in the course of care these therapies are provided.”

SIO/ASCO (Carlson et al., 2023) notes several limitations of the articles used to update the guideline, including risk of bias, inconsistent methodological and individual study quality, lack of intervention standardization, and limited demographic diversity (Carlson et al., 2023).

SIO/ASCO (Mao, et al., 2022) conducted a systematic literature review of systematic reviews, meta-analyses, and RCTs and published a guideline regarding integrative medicine for pain management in oncology. The recommendations for aromatase inhibitor (AI) -related joint pain include: “Recommendation 1.2. Yoga may be offered to patients experiencing AI-related joint pain in breast cancer (Type: Evidence based, benefits outweigh harms; Evidence quality: Low; Strength of recommendation: Weak).”

SIO/ASCO (Mao, et al., 2022) recommendations for general cancer pain or musculoskeletal pain include:

- “Recommendation 1.4. Reflexology or acupressure may be offered to patients experiencing pain during systemic therapy for cancer treatment (Type: Evidence based, benefits outweigh harms; Evidence quality: Intermediate; Strength of recommendation: Moderate).”
- “Recommendation 1.5. Massage may be offered to patients experiencing chronic pain following breast cancer treatment (Type: 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 (Type: Evidence based, benefits outweigh harms; Evidence quality: Low; Strength of recommendation: Weak).”
- “Recommendation 1.7. Guided imagery with progressive muscle relaxation may be offered to patients experiencing general pain from cancer treatment (Type: Evidence based, benefits and harms not assessable; Evidence quality: Low; Strength of recommendation: Weak).”

SIO/ASCO (Mao, et al., 2022) recommendations for chemotherapy-induced peripheral neuropathy include: “Recommendation 1.9. Reflexology or acupressure may be offered to patients experiencing chemotherapy-induced peripheral neuropathy from cancer treatment (Type: Evidence based, benefits outweigh harms; Evidence quality: Low; Strength of recommendation: Weak).”

SIO/ASCO recommendations for procedural or surgical pain include:

- “Recommendation 1.10. Hypnosis may be offered to patients experiencing procedural pain in cancer treatment or diagnostic workups (Type: 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 (Type: Evidence based-informal consensus, benefits outweigh harms; Evidence quality of: Low; Strength of recommendation: Weak).”
- “Recommendation 1.12. Music therapy may be offered to patients experiencing surgical pain from cancer surgery (Type: Evidence based, benefits outweigh harms; Evidence quality of: Low; Strength of recommendation: Weak).”

SIO/ASCO (Mao, et al., 2022) recommendations for pain during palliative care include: “Recommendation 1.13. Massage may be offered to patients experiencing pain during palliative and hospice care (Type: Evidence based; benefits outweigh harms; Evidence quality: Intermediate; Strength of recommendation: Moderate).”

SIO/ASCO (Mao, et al., 2022) also provides a list of interventions with insufficient or inconclusive evidence to inform an actionable recommendation:

- “There is insufficient evidence to recommend for or against use of omega-3 fatty acids, Yi Shen Jian Gu granules, or topical pure emu oil to manage AI-related pain.”
- “There is insufficient evidence to recommend for or against the use of music therapy for patients experiencing general cancer pain.”
- “There is insufficient evidence to recommend for or against the use of Xiao Zheng Zhitong paste, Jinlongshe granule, Shuangbai San paste, or Xiao-Ai-Tong decoction for general cancer pain.”
- “There is insufficient evidence to recommend for or against the use of omega-3 fatty acids, and glutamine to patients experiencing CIPN from cancer treatment.”
- “There is inconclusive evidence to recommend for or against the use of meditation-based interventions to patients with breast cancer experiencing procedural pain.”
- “There is inconclusive evidence to recommend for or against the use of music therapy to patients experiencing procedural pain.”
- “There is insufficient evidence to recommend for or against the use of reflexology for pain associated with surgery or procedure.”
- “There is inconclusive evidence to recommend for or against the use of hypnosis in treating surgical pain in patients with cancer.”
- “There is inconclusive evidence to recommend for or against the use of massage for peri-postoperative pain from major surgical procedures in breast and gynecologic cancer.”
- “There is inconclusive evidence to recommend for or against the use of meditation-based interventions to patients experiencing pain after treatment or survivorship for breast cancers.”
- “There is inconclusive evidence to recommend for or against the use of hypnosis in treating pain in cancer survivors (active treatment and post-treatment survivors).”
- “There is insufficient evidence to recommend for or against the use of music therapy in treating palliative or chronic pain in patients with cancer.”
- “There is insufficient evidence to recommend for or against the use of virtual reality imagery and relaxation in treating palliative or chronic pain in patients with cancer.”
- “There is inconclusive evidence to recommend for or against the use of hypnosis in treating radiotherapy-induced pain in patients with cancer.”
- “There is insufficient evidence to recommend for or against the clinical use of chamomile, propolis, glutamine, curcumin, teas, mouthwashes, and other herbal combinations.”

SIO/ASCO (Mao, et al., 2022) notes several limitations of the articles used to update the guideline, including risk of bias, inconsistent methodologic and individual study quality, heterogeneity that precluded meta-analysis, lack of intervention standardization, and limited demographic diversity (Mao, et al., 2022).

**Veterans Administration/Department of Defense (VA/DoD):** VA/DoD (2025) evidence-based clinical practice guidelines regarding the management of chronic insomnia disorder and obstructive sleep apnea state:

- “For treatment of chronic insomnia disorder, we suggest against the use of:
  - Chamomile
  - Melatonin
  - Passionflower
  - Saffron
  - Valerian” (Weak against)
- “For treatment of chronic insomnia disorder, there is insufficient evidence to recommend for or against the use of magnesium.” (Neither for nor against)
- “For treatment of chronic insomnia disorder, there is insufficient evidence to recommend for or against:
  - Aerobic exercise
  - Mindfulness meditation
  - Qigong
  - Resistive exercise
  - Tai chi
  - Yoga”

VA/DoD (2024a) evidence-based clinical practice guidelines regarding the management of stroke rehabilitation recommend: “We suggest offering mind-body exercise (e.g., tai chi, yoga, qigong) as adjunctive treatment for post-stroke depression or anxiety symptoms.” (Weak for)

VA/DoD (2024b) evidence-based clinical practice guidelines regarding tinnitus state:

- “There is insufficient evidence to recommend for or against sound therapy with altered music (e.g., notched music therapy, spectrally altered music) to reduce the impact of tinnitus.”
- “We suggest against the use of ginkgo biloba, dietary or herbal supplements, or nutraceuticals for tinnitus management.” (Weak against)

VA/DoD (2023) evidence-based clinical practice guidelines regarding the management of PTSD and acute stress disorder state:

- “There is insufficient evidence to recommend for or against the following mind-body interventions for the treatment of PTSD: acupuncture, Cognitively Based Compassion Training Veteran version, creative arts therapies (e.g., music, art, dance), guided imagery, hypnosis or self-hypnosis, Loving Kindness Meditation, Mantram Repetition, Program, Mindfulness-Based Cognitive Therapy, other mindfulness trainings (e.g., integrative exercise, Mindfulness-Based Exposure Therapy, brief mindfulness training), relaxation training, somatic experiencing, tai chi or qigong, Transcendental Meditation®, and yoga.” (Strength: Neither for nor against)
- “There is insufficient evidence to recommend for or against the following interventions for the treatment of PTSD: recreational therapy, aerobic or non-aerobic exercise, animal-assisted therapy (e.g., canine, equine), and nature experiences (e.g., fishing, sailing).” (Strength: Neither for nor against)

VA/DoD (2022) evidence-based clinical practice guidelines regarding the management of MDD state:

- “For patients with MDD, we suggest exercise (e.g., yoga, tai chi, qi gong, resistance, aerobics) as an adjunct.” (Strength: Weak for)
- “For patients with mild MDD who are not pregnant or breastfeeding and who prefer herbal treatments to first-line psychotherapy or pharmacotherapy, we suggest standardized extract of St. John’s wort as monotherapy.” (Strength: Weak for)
- “For patients with MDD, there is insufficient evidence for or against the use of meditation as an adjunct.” (Strength: Neither for nor against)  
 “We suggest against using omega-3 fatty acids or vitamin D for treatment of MDD.” (Strength: Weak against)

## Health Equity Considerations

Health equity is the highest level of health for all people; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which people are born, grow, live, work, and age.

Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include safe housing, transportation, and neighborhoods; racism, discrimination and violence; education, job opportunities and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

## Medicare Coverage Determinations

	Contractor	Policy Name/Number	Revision Effective Date
NCD	National	Hair Analysis (190.6)	8/1/1978
NCD	National	Transcendental Meditation (30.5)	11/11/1995

	<b>Contractor</b>	<b>Policy Name/Number</b>	<b>Revision Effective Date</b>
LCD	CGS Administrators, LLC	Outpatient Physical and Occupational Therapy Services (L34049)	5/29/2025
LCD	CGS Administrators, LLC	Outpatient Psychiatry and Psychology Services (L34353)	5/29/2025
LCD	CGS Administrators, LLC	Psychiatric Partial Hospitalization Programs (L34196)	4/3/2025
LCD	First Coast Service Options, Inc.	Psychiatric Inpatient Hospitalization (L33975)	1/1/2021
LCD	First Coast Service Options, Inc.	Psychiatric Inpatient Hospitalization (L34183)	4/3/2025
LCD	First Coast Service Options, Inc.	Allergy Testing (L33261)	7/11/2021
LCD	First Coast Service Options, Inc.	Psychiatric Diagnostic Evaluation and Psychotherapy Services (L33252)	7/01/2020
LCD	National Government Services, Inc.	Outpatient Physical and Occupational Therapy Services (L33631)	1/01/2020
LCD	National Government Services, Inc.	Psychiatric Inpatient Hospitalization (L33624)	11/14/2019
LCD	National Government Services, Inc.	Psychiatric Partial Hospitalization Programs (L33626)	1/1/2024
LCD	National Government Services, Inc.	Psychiatry and Psychology Services (L33632)	1/01/2024
LCD	Novitas Solutions, Inc.	Allergy Testing (L36241)	7/11/2021
LCD	Novitas Solutions, Inc.	Assays for Vitamins and Metabolic Function (L34914)	7/01/2020
LCD	Novitas Solutions, Inc.	Psychiatric Codes (L35101)	1/02/2024
LCD	Palmetto GBA	Health and Behavior Assessment/Intervention (L37638)	1/1/2024
LCD	Palmetto GBA	Home Health Occupational Therapy (L34560)	6/9/2022
LCD	Palmetto GBA	Outpatient Occupational Therapy (L34427)	4/03/2023
LCD	Palmetto GBA	Outpatient Psychotherapy (L39853)	10/20/2024
LCD	Palmetto GBA	Partial Hospitalization Programs (L37633)	8/6/2020
LCD	Palmetto GBA	Psychiatric Inpatient Hospitalization (L34570)	4/17/2025
LCD	Wisconsin Physicians Service Insurance Corporation	Allergy Testing (L36402)	9/26/2024
LCD	Wisconsin Physicians Service Insurance Corporation	Psychiatry and Psychology Services (L34616)	10/31/2024

Note: Please review the current Medicare Policy for the most up-to-date information.  
(NCD = National Coverage Determination; LCD = Local Coverage Determination)

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## Revision Details

Type of Revision	Summary of Changes	Date
Annual Review	<ul style="list-style-type: none"> <li>No clinical policy statement changes.</li> </ul>	2/15/2026
Annual Review	<ul style="list-style-type: none"> <li>Removed policy statement examples for: salivary hormone panels; cellular therapy; Laetrile; colonic irrigation, colonic lavage and colonic cleansing.</li> </ul>	2/15/2025
Focused Review	<ul style="list-style-type: none"> <li>No clinical policy statement changes.</li> </ul>	11/15/2024
Annual Review	<ul style="list-style-type: none"> <li>No policy statement changes.</li> </ul>	2/15/2024

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