

## Acupuncture

### Disclaimer

*Clinical guidelines are developed and adopted to establish evidence-based clinical criteria for utilization management decisions. Clinical guidelines are applicable according to policy and plan type. The Plan may delegate utilization management decisions of certain services to third parties who may develop and adopt their own clinical criteria.*

*Coverage of services is subject to the terms, conditions, and limitations of a member's policy, as well as applicable state and federal law. Clinical guidelines are also subject to in-force criteria such as the Centers for Medicare & Medicaid Services (CMS) national coverage determination (NCD) or local coverage determination (LCD) for Medicare Advantage plans. Please refer to the member's policy documents (e.g., Certificate/Evidence of Coverage, Schedule of Benefits, Plan Formulary) or contact the Plan to confirm coverage.*

### Summary

Acupuncture has been widely practiced for many years in various parts of the world. It involves the stimulation of specific body areas by penetrating the skin with fine needles. Stimulation can be accomplished electrically or manually.

Acupuncture has been suggested as a viable treatment option for a wide variety of acute and chronic pain conditions in both children and adults. However, determining the clinical utility of acupuncture has been challenging, largely related to the difficulties in designing studies with adequate blinding, controls, size and uniform outcome measures. Furthermore, acupuncture is a passive modality and as such should be used in conjunction with active rehab programs when applicable.

The Plan members may be eligible for acupuncture depending on their plan. Acupuncture is a considered medically necessary service only when used as a substitute for traditional anesthesia and for the treatment of certain conditions. The acupuncture must be provided by a provider practicing within the scope of his or her license, or state licensing requirements for practicing acupuncture. The Plan does not consider acupuncture for all other common indications medically necessary, unless otherwise directed by state regulation.

## Definitions

"Acupuncture" is one technique, within a family of procedures in traditional Chinese medicine, which involves the manual or electrical stimulation of sterilized, single-use needles, used to penetrate the skin on acupuncture points along the meridian lines. This therapy activates the body's own self-repair mechanisms.

"Maintenance Therapy " is the use of acupuncture as therapy in a member whose symptoms or condition is neither worsening nor improving, or is being maintained after treating the acute pain.

### A. Clinical Indications

#### 1. Medical Necessity Criteria for Initial Clinical Review

##### a. General Medical Necessity Criteria

*Continued Care*

#### 2. Medical Necessity Criteria for Subsequent Clinical Review

##### a. Subsequent Medical Necessity Criteria

#### 3. Experimental or Investigational / Not Medically Necessary

### B. Applicable Billing Codes

### C. References

## Medical Necessity Criteria for Initial Clinical Review

### General Medical Necessity Criteria

The Plan considers acupuncture as medically necessary if ALL of the following criteria are met:

1. Acupuncture is prescribed by and will be performed by an appropriately licensed provider practicing within the scope of his or her license; *and*
2. Medical records indicate ALL of the following criteria:
  - a. Diagnosis with date of onset or exacerbation of the disorder; *and*
  - b. Quantitative and objective short-term and long-term goals, which should include a reasonable estimate of when the goals will be reached and the frequency and expected duration of treatment; *and*
3. Medical records indicate that ONE of the following criteria are met:
  - a. Acupuncture is being provided as an alternative to traditional perioperative anesthesia, including but not limited to: normal childbirth, dental procedures, and minor surgical procedures; *or*
  - b. The member has ONE of the following conditions:
    - i. Nausea and vomiting associated with pregnancy and childbirth; *or*
    - ii. Nausea and vomiting associated with chemotherapy or anti-neoplastic therapy; *or*
    - iii. Postoperative nausea and vomiting; *or*
    - iv. Postoperative dental pain; *or*

- v. One of the following chronic pain conditions that has been diagnosed by a licensed medical practitioner (e.g., MD, DO, PA, NP) and lasted a minimum of 12 weeks duration:
  - 1. Headaches (i.e., tension-type or migraines with or without aura) or temporomandibular disorder; *or*
  - 2. Osteoarthritic knee or hip pain; *or*
  - 3. Chronic cervical, thoracic and/or lumbosacral back pain.

#### *Continued Care*

#### Medical Necessity Criteria for Subsequent Clinical Review

##### Subsequent Medical Necessity Criteria

The Plan considers the continuation of services for acupuncture medically necessary if the following criteria are met:

1. After 4 weeks (max two visits per week) of acupuncture therapy, a member must show meaningful and considerable improvement (i.e., pain decreased by  $\geq 50\%$  and/or functional improvement) to continue therapy. Continuation of services without meaningful and considerable improvement is considered *not medically necessary*. Alternative treatments should therefore be evaluated. If all other treatments have been exhausted or are contraindicated, then continuation of services may be considered.
2. After 12 weeks (max two visits per week) of acupuncture therapy, continuation of services may be considered medically necessary if a member is re-evaluated and therapy continues to improve symptoms. If the member's symptoms have plateaued with no further improvements and/or worsened with acupuncture for chronic pain, then continued services are considered NOT medically necessary.

Maintenance care (e.g., wellness care, elective requests) are considered *experimental and investigational*. Acupuncture has only demonstrated efficacy for short-term improvement in symptoms. Acupuncture has not demonstrated efficacy in long-term or maintenance acupuncture therapy.

#### Experimental or Investigational / Not Medically Necessary

Maintenance therapy for any condition is considered experimental and investigational by the Plan.

Acupuncture point injections for any indication are considered experimental and investigational as there is insufficient evidence in the peer-reviewed literature documenting their effectiveness and long-term outcomes relative to established therapies.

The Balance Method (also known as Dr. Tan's Balance Method or the Meridian Balance Method) is considered experimental and investigational for any indication. There is insufficient evidence in peer-reviewed literature documenting its effectiveness and long-term outcomes relative to established therapies.

Acupuncture for any other indication is considered experimental, investigational, or unproven and these indications include, but are not limited to, the following:

- Acute conditions or injuries [including whiplash]
- Acquired brain injury
- Addiction
- Allergies
- Asthma
- Autism spectrum disorders
- Carpal Tunnel Syndrome
- Cervicogenic headache
- Chronic Obstructive Pulmonary Disease (COPD)
- Depression
- Diabetic gastroparesis
- Elbow pain (lateral elbow pain/tennis elbow)
- Erectile dysfunction
- Facial spasms
- Fatigue
- Fibromyalgia
- Hot flashes
- Hypertension
- Infantile colic and diarrhea
- Infertility
- Inflammatory Bowel Disease
- Insomnia
- Irritable Bowel Syndrome
- Mental disorders
- Muscle weakness and/or myalgias
- Neuropathic pain
- Obesity
- Peripheral neuropathy
- Post Traumatic Stress Disorder (PTSD)
- Raynaud's disease
- Smoking cessation
- Spasticity
- Substance Use Disorders
- Tic disorders
- Tinnitus
- Urinary incontinence
- Xerostomia

## Evidence

### *Acute conditions or injuries [including whiplash]*

A 2024 systematic review and meta-analysis by Lee et al., on the efficacy of acupuncture for whiplash injury included 8 RCTs with significant differences in pain scores with moderate certainty. However, high-quality RCTs still need to be conducted to support efficacy of acupuncture in patients with whiplash injury. The 2022 The Academic Consortium Pain Task Force White Paper published an article for acupuncture therapy as an evidence-based strategy for comprehensive acute pain care. It included 22 systematic reviews, 17 with meta-analyses of acupuncture in acute pain settings, and a review for acute pain in the intensive care unit; although the majority of reviews found acupuncture therapy to be efficacious for acute pain, additional multisite trials will be needed to generalize the effectiveness of acupuncture in the ED setting. A systematic review, which included 6 RCTs of acupuncture conducted in the emergency department, assessed acupuncture for acute pain conditions but the level of evidence was low and high risk of bias to support the effectiveness of use compared to sham acupuncture, IV morphine, or conventional ED treatment (Chia et al., 2018). A 2016 Cochrane Database Review by Trinh and colleagues found that although the quality of randomized, controlled trials regarding acupuncture and acute conditions such as whiplash have improved over the past decade, they continue to show only modest short-term improvement in pain.

### *Acquired brain injury (Traumatic Brain Injuries and Non-Traumatic Brain Injuries)*

Overall, evidence supporting the use of acupuncture for acquired brain injuries is insufficient and therefore considered experimental or investigational. A 2018 Cochrane systematic review of acupuncture for acute stroke by Xu and colleagues found the quality of research studies to be low due to confounding bias and imprecision. The review does not recommend acupuncture for these injuries due to the lack of long-term functional outcomes. Furthermore, there was a 2019 Tan et al., systematic review and meta-analysis to assess acupuncture and its role in the recovery of consciousness after TBI, but there was a high risk of bias in all of the included studies and overall poor quality of evidence.

### *Addiction*

As per Hayes, Inc. the Hayes rating was C for use of acupuncture in adult patients for treatment of substance use disorders based on 1 good-quality systematic review/meta-analysis and 2 RCTs. As per Hayes, "acupuncture, whether as monotherapy or adjunctive therapy, does not appear to yield consistent or substantial benefits for patients with SUDs with regard to relapse, frequency of use, quantity of use, health-related quality of life, or treatment dropout."

### *Allergies*

There have been few studies documenting the benefit of acupuncture in the treatment and prevention of allergic conditions. In May 2021, Hayes's report for traditional needle acupuncture (AP) for treatment of allergic rhinitis was rated C. Laser acupuncture for treatment of allergic rhinitis was rated D2. Hayes stated that "true traditional needle AP may offer some benefit relative to placebo AP or no AP, although the clinical significance of treatment benefit is unclear." Allergic rhinitis has been the most well-studied of the allergic conditions with respect to acupuncture, but results remain inconclusive. A 2015 systematic

review and meta-analysis by Feng and colleagues did show a reduction in nasal symptom scores, medication use, and serum IgE levels in the acupuncture group compared to controls. This analysis included 13 studies, but these studies did not have a sham or placebo group, thus limiting the conclusions that can be drawn.

### *Asthma*

In 2019, Jiang and colleagues conducted a systematic review and meta-analysis on conventional treatments plus acupuncture for asthma in adults and adolescents. The results did not show beneficial effects on pulmonary function with conventional treatments plus acupuncture over conventional treatments alone. However, conventional treatments plus acupuncture did show a clinically and statistically significant improvement in the symptom response rate and the IL-6 level when compared with conventional treatments alone. However, more RCTs are required to confirm acupuncture treatment provides benefits in reducing inflammation and symptoms. In 2017, Brinkhaus and colleagues conducted a randomized pragmatic trial consisting of 1,445 patients that were randomized to the acupuncture group with routine care or the control group of routine care of asthma with primary endpoint of asthma quality of life questionnaire. The conclusion was that additional acupuncture treatment to routine care was associated with increased disease-specific and health-related quality of life compared to treatment with routine care alone. This focused on subjective surveys on quality of life and not on the treatment of asthma, reduction in symptoms or exacerbations by acupuncture therapy. In 2015, Pai and colleagues performed a crossover study in patients with mild and moderate asthma for acupuncture and sham acupuncture. This RCT was not effective because both arms of the crossover study saw similar improvements.

### *Autism Spectrum Disorder (ASD)*

A 2023 systematic review and meta-analysis assessed 32 RCTs for acupuncture related to nonpharmacological interventions for autism spectrum disorder by Yu and colleagues. As part of the results, the overall certainty of evidence for the effects of acupuncture was very low. Furthermore, “among the types of acupuncture, the quality of evidence for the effects of scalp acupuncture was very low, that for body acupuncture and modern acupuncture technology was low, and that for acupoint catgut embedding was moderate” (Yu et al., 2023). A 2011 Cochrane Database Systematic Review performed by Cheuk and colleagues evaluated 10 clinical trials that included 390 children. They found no difference between acupuncture and sham or placebo in core autistic features. These studies suffered from small numbers of patients, non-standardized outcome measures, and a short duration of follow-up. There are studies that have found small improvements in specific areas of behavior and function in patients with ASD, but replicating these findings has proven difficult. And when the data are evaluated as a whole, the positive effects of acupuncture on ASD are not evident.

### *Cervicogenic Headaches*

Cervicogenic headaches are unilateral or bilateral headaches associated with the pathology of the cervical spine that result in referred pain from the cervical spinal nerves. As per 2021 Hayes, Inc., Health Technology Assessment for *Local Injection Therapy For Cervicogenic Headache and Occipital Neuralgia*,

the prevalence of cervicogenic headaches is estimated to be 3-4% of the general population. However, there has been no rigorous, large scale epidemiologic studies. As per 2024 UpToDate by Watson, JC, there has been debate regarding cervicogenic headache as a distinct clinical disorder and the underlying pathophysiology. The clinical features of cervicogenic headache overlap with primary headache disorders such as tension-type headache, migraine without aura, and associated neck pain. There is a lack of peer-reviewed studies or RCTs supporting acupuncture efficacy for cervicogenic headaches. Acupuncture is not the standard of practice for this indication.

#### *COPD*

A 2024 systematic and meta-analysis review by Yang et al., assessed the efficacy of acupuncture in acute exacerbation of chronic obstructive pulmonary disease, and 12 studies were included. After review, the meta-analysis suggested acupuncture may be an adjunctive therapy, but the quality of evidence was limited and inconsistent results with lung function, hospitalization duration, exercise performance, and dyspnea. More high-quality RCTs are needed to support the use of acupuncture for COPD.

A 2020 systematic review by Fernández-Jané and colleagues, assessed acupuncture techniques for COPD. 35 various trials were included in the analysis for AcuTENS, moxibustion, acupressure, ear acupuncture, acupressure combined with ear acupuncture, and cupping technique. As per Fernández-Jané and colleagues (2020), "Our results do not show strong evidence for any non-filiform acupuncture techniques, only acupressure seems to improve dyspnea and anxiety, based on low-quality trials. The low number of trials assessing important outcomes, the great heterogeneity, and the small size of most of the studies implies that these results must be interpreted with caution." A 2016 randomized, controlled trial by Feng and colleagues also found that acupuncture improved health-related quality of life compared to sham acupuncture. The evidence for acupuncture in the treatment of COPD has certainly improved in recent years. However, as Coyle and colleagues noted in their review, more high-quality randomized, controlled trials are needed to confirm the evidence that acupuncture is superior to sham in the treatment of COPD.

#### *Depression*

A 2020 meta-analysis by Li and colleagues, assessed 31 meta-analysis studies and 59 RCTs for efficacy and safety of acupuncture for depression. In conclusion, the meta-analyses provided conflicting results and the GRADE evaluation showed that the strength of evidence was low to very low for most outcomes.

#### *Diabetic Gastroparesis*

A 2022 systematic review and meta-analysis by Li and colleagues assessed 59 RCTs for Chinese acupoint massage, acupuncture, and moxibustion for people with diabetic gastroparesis. Although these alternative therapies may provide some advantage compared to conventional care alone, due to the high risk of bias and low quality in the studies, more high-quality RCT studies are still required to support.

#### *Elbow Pain (Lateral Elbow Pain/Tennis Elbow)*

Lateral elbow pain is also known as lateral elbow tendinopathy (LET), tennis elbow, or lateral epicondylalgia (LE), and formerly known as lateral epicondylitis. A 2020 systematic review and meta-analysis by Zhou and colleagues assessed the effectiveness of acupuncture for lateral epicondylitis. Ten RCTs were included, but most had methodological limitations, high risk of bias, and small sample sizes. As per GRADE evaluation, half were considered low-quality and the other half moderate-quality.

Another 2020 systematic review and meta-analysis by Navarro-Santana and colleagues assessed the effects of manual acupuncture and electroacupuncture for LE. Fourteen trials were included and there was low risk of bias, but there was heterogeneity in the trials that lowered the quality by GRADE evaluation. The study concluded that there is low-level evidence that acupuncture, but not electroacupuncture, may be beneficial for short-term treatment of LE.

Additionally, the American College of Occupational and Environmental Medicine's (ACEOM) latest clinical practice guidelines (2013) for elbow disorders recommend acupuncture for the treatment of chronic lateral elbow pain in select patients based on insufficient (I) evidence.

Overall, there is low-quality evidence and a weak recommendation in clinical practice guidelines supporting the use of acupuncture for the treatment of LET. The results of existing studies suggest that acupuncture may provide short-term relief of LET. There is no evidence of sustained benefit. Further, high-quality, randomized studies with moderate or large sample sizes are needed.

#### *Erectile Dysfunction*

A 2016 systematic review by Cui and colleagues found insufficient evidence to support acupuncture in the treatment of erectile dysfunction. Only 3 randomized, controlled trials with 183 patients were included and only 1 of the 3 studies found evidence of benefit. The authors of the review note that the overall quality of the studies reviewed was low. For these reasons they found the evidence insufficient to support the use of acupuncture for erectile dysfunction. Earlier reviews such as one done by Lee and colleagues in 2009 met with similar results.

#### *Facial Spasms*

A 2022 overview of systematic review by Gong and colleagues assess 8 systematic reviews and meta-analyses. With the GRADE system, no high-quality evidence was found and two outcomes provided moderate-quality evidence. There was another rating system with AMSTAR-2 and all 8 systematic reviews were rated low quality. Overall, additional high-quality RCTs and larger sample sizes are needed to recommend acupuncture for facial spasms.

#### *Fatigue*

A 2020 overview of systematic reviews for chronic fatigue syndrome by Yin et al., compared 10 meta-analyses and systematic reviews. The GRADE system assessed 17 outcomes: there were 0 high-quality, 3 moderate-quality, 10 low-quality, and 4 very low-quality evidence. A 2020 systematic review and meta-analysis by Jang et al., compared 9 RCTs with true acupuncture, sham acupuncture, and



usual care for cancer-related fatigue (CRF) with low to moderate risk of bias. Although acupuncture may show some therapeutic potential for CRF, there needs to be more robust high-quality RCT design with 3 arms and recommendations from evidence-based guidelines to show support of effectiveness in the treatment of CRF.

A 2015 randomized, controlled trial by Kim and colleagues evaluated acupuncture in the treatment of chronic fatigue syndrome and idiopathic chronic fatigue. This study did show a difference between total body acupuncture and usual care alone with a modest improvement in fatigue with acupuncture. However, this study suffered from a lack of a sham or placebo group, and further studies are needed.

### *Fibromyalgia*

Acupuncture alone or as an adjunct to standard care for the reduction of pain and improvement in function in patients with fibromyalgia has a Hayes rating of C (last reviewed on August 19, 2022). Furthermore, the 2021 VA/DoD only provides a weak recommendation with offering manual acupuncture for fibromyalgia. A 2013 Cochrane Database Systematic Review by Deare and colleagues found that larger, high-quality studies are needed before acupuncture can be conclusively deemed an effective therapy for fibromyalgia. Compared to control only, acupuncture was superior to controls with regards to pain and stiffness. But when evaluating acupuncture versus sham, neither pain, fatigue, sleep, or global well-being were superior in the acupuncture group. The authors stated that a number of factors, including small sample sizes in the studies, limit clinical application.

### *Hot Flashes*

A 2016 randomized control trial by Ee and colleagues compared acupuncture with sham acupuncture in 327 women with menopausal hot flashes. Ten treatments were administered over eight weeks, and the primary outcome was the hot flash score (a validated measure) at the end of eight weeks. Both the acupuncture and sham acupuncture groups showed an approximately 40 percent reduction in symptoms after treatment. The authors stated that Chinese medicine acupuncture was not superior to non-insertive sham acupuncture for women with moderately severe menopausal hot flashes.

### *Hypertension*

A 2022 systematic review by Zhou and colleagues for acupuncture in the treatment of essential hypertension assessed 11 systematic reviews. GRADE assessment for key outcome indicators were low or very low and ROBIS with a high level of bias. The results from the AMSTAR 2 tool evaluating quality results were very low.

### *Infantile Colic and Diarrhea*

In 2019, Perry and colleagues conducted an overview of systematic review of complementary and alternative medicine (CAM) on infantile colic. Sixteen systematic reviews were included and AMSTAR scale showed low confidence and ROBIS tool showed high or unclear bias.

### *Infertility*

In 2021, Lee and colleagues assessed 21 systematic reviews and meta-analyses for acupuncture and herbal medicine as additional/adjunctive treatment for infertility or assisted reproductive technology. There was conflicting evidence on acupuncture as supportive treatment modality. There was more evidence supporting herbal medicine with standard medication than standard medication alone. However, the AMSTAR 2 rating was low or very low.

In 2021, Wang and colleagues assessed systematic reviews of acupuncture in infertile women undergoing IVF and embryo transfer (IVF-ET). AMSTAR-2 and GRADE systems were used for assessing the systematic reviews and were rated low or severe heterogeneity in results. Additional high-quality RCTs are needed to support the use of acupuncture to improve the clinical pregnancy rate in women undergoing IVF-ET.

A meta-analysis by Jerng and colleagues in 2014 evaluated the effect of acupuncture on semen quality in infertile males. This analysis included four randomized controlled trials and did show improved semen quality overall, although the results were highly variable across the 4 studies. This improvement in semen quality did not translate into any difference in pregnancy rate between acupuncture and control groups. At this time there is insufficient evidence to support the use of acupuncture in the treatment of infertility.

#### *Inflammatory Bowel Disease*

A 2020 systematic review and meta-analysis by Wang and colleagues assessed 13 RCTs comparing the use of acupuncture or acupuncture combined with conventional medicine versus conventional medicine alone for treatment of ulcerative colitis. The result of the GRADE rating was poor, and the included trials had either a high or unclear risk of bias.

A 2014 study of patients with Crohn's disease by Bao and colleagues found that the acupuncture plus moxibustion group and the sham group both demonstrated improvement in symptoms and that the treatment group experienced effects beyond that of the placebo effect. Given the mixed results of recent controlled studies, more high-quality evidence is needed to determine the efficacy of acupuncture in the treatment of inflammatory bowel disease.

#### *Insomnia*

A 2021 meta-analysis by Jing and colleagues assessed 45 studies on the efficacy of intradermal acupuncture for insomnia. The quality of evidence varies from very low to low with risk of bias among included trials.

#### *Irritable Bowel Syndrome (IBS)*

As of 2023, there has not been any systematic review comparing various acupuncture therapy for IBS according to Tian and colleagues; therefore, a protocol has been submitted PROSPERO (CRD42023418846) to conduct a systematic review and meta-analysis.

#### *Mental Disorders*

In a 2020 systematic review, Kwon and colleagues assessed 10 studies on the effectiveness and safety of ear acupuncture for trauma-related mental disorders after large-scale disasters. Limited evidence and number of studies were found, and effectiveness and safety could not be established.

In 2021, a systematic review and meta-analysis by Yang and colleagues assessed twenty RCTs for effectiveness of acupuncture on generalized anxiety disorder (GAD). However, there was high heterogeneity in the studies, all were performed in China and may be subject to language bias, and more high-quality RCTs are needed to support use of acupuncture in GAD.

A 2020 meta-analysis by Li and colleagues assessed 31 meta-analyses and 59 RCTs on the effectiveness and safety of acupuncture on depression. However, AMSTAR-2 showed low or critically low quality and GRADE evaluation was low to very low.

A 2014 Cochrane Database Systematic Review by Shen and colleagues found that better designed studies are needed to evaluate the efficacy of acupuncture in the treatment of schizophrenia. While the adverse effect profile appeared to favor acupuncture compared to antipsychotic medications, the improvement in mental state seen with acupuncture was of only modest effect size. Acupuncture plus a low-dose antipsychotic medication produced favorable relapse rates compared to standard doses of antipsychotics, but this was demonstrated in only one controlled trial and found to offer very low-quality evidence. Overall, the evidence for the use of acupuncture in the treatment of schizophrenia is lacking.

The use of acupuncture in the treatment of depression has been more promising in experiments, but conclusive data are still lacking. Please see above for a full discussion of acupuncture for depression.

The use of acupuncture for mental disorders other than depression and schizophrenia has been much less studied. It was found by Cao and colleagues to be ineffective in the treatment of vascular mild cognitive impairment. There is an ongoing study evaluating its use in attention deficit hyperactivity disorder, but these results are currently unavailable.

#### *Muscle Weakness and/or Myalgias*

Kim and colleagues performed a 2016 systematic review evaluating acupuncture's effect on local blood flow as a potential mechanism to treat myalgias. The authors found insufficient evidence that acupuncture alters microcirculation in the eight randomized, controlled trials they evaluated. There is very limited evidence only in the form of narrative case reports that acupuncture improves muscle weakness, and high quality studies are needed before it can be recommended as a non-experimental treatment. There are also case reports of acupuncture actually causing weakness, in one case as a result of an acute spinal subdural hematoma.

#### *Neuropathic Pain*

Acupuncture has been utilized clinically as an adjunct in the management of numerous neuropathic pain states. The often severe and debilitating nature of neuropathic pain, the difficulty in adequately treating

it and the unfavorable side effect profile of many of the medications routinely used all have led to clinicians and patients alike seeking alternative therapies such as acupuncture. However, there is little evidence to suggest that acupuncture has a meaningful effect in neuropathic pain and even less evidence that this effect exists beyond a placebo effect. Chemotherapy-induced peripheral neuropathy is the most-studied condition with respect to acupuncture, and the results are mixed. A 2013 review by Franconi and colleagues found insufficient evidence to support the use of acupuncture in chemotherapy-induced peripheral neuropathy but highlighted the need for future studies. In a 2016 study by Greenlee and colleagues, acupuncture was not found to be superior to sham acupuncture in the prevention and treatment of taxane-induced peripheral neuropathy in patients with breast cancer.

Similarly, there is insufficient evidence to recommend the non-experimental use of acupuncture in other neuropathic pain states such as diabetic painful neuropathy and spinal cord injury due to a lack of methodologically sound clinical trials.

### *Obesity*

In 2020 Zhong and colleagues conducted a systematic review and meta-analysis and assessed 8 RCTs for acupuncture versus sham acupuncture for simple obesity. However, due to the small number of RCTs and sample size of participants in the groups, additional high-quality RCTs are needed to conclude support of acupuncture for obesity.

### *Peripheral Neuropathy*

A 2017 systematic review and meta-analysis by Dimitrova and colleagues evaluated the use of acupuncture in the treatment of numerous peripheral neuropathies: diabetic peripheral neuropathy, Bell's palsy, HIV-induced peripheral neuropathy and idiopathic peripheral neuropathy. The authors found that acupuncture produced improvement in symptoms compared to usual care in all but idiopathic peripheral neuropathy. However, due to a lack of sham controls in existing clinical trials, definitive evidence is still lacking. These findings were similar to an earlier review by Chen and colleagues in 2013, and these authors highlighted the need for researchers in China to be trained in conducting unbiased trials.

### *Post-Traumatic Stress Disorder (PTSD)*

A 2016 systematic review by Metcalf and colleagues found insufficient evidence to support the use of acupuncture in the treatment of PTSD. The authors did cite moderate quality evidence that acupuncture may improve some symptoms of PTSD but noted that large clinical trials are needed. A 2013 systematic review by Kim and colleagues also found evidence lacking in the use of acupuncture in the treatment of PTSD. Both reviews noted that there does exist some encouraging evidence that acupuncture may play some role in the management of PTSD, but future studies are required.

### *Raynaud's Disease*

A 2023 systematic review and meta-analysis by Zhou and colleagues assessed acupuncture in patients with Raynaud's syndrome. Six trials were included and did not demonstrate significant results for the

effectiveness of any acupuncture treatments as there were low sample sizes, very low quality of evidence, and high risk of bias.

### *Shoulder Pain*

The use of acupuncture for treatment of shoulder pain has a Hayes rating of C (last reviewed on August 18, 2022) , based on no systematic reviews or meta-analyses for this clinical indication. However, 10 out of 14 RCTs found acupuncture yielded a statistically significant reduction in pain intensity compared to control groups.

### *Spasticity*

A 2019 systematic review on non-pharmacological interventions for spasticity by Annals of Physical and Rehabilitation Medicine that “despite the available range of non-pharmacological interventions for spasticity, there is lack of high-quality evidence for many modalities.” A 2015 systematic review and meta-analysis by Lim and colleagues, that “5 randomized RCTs and 268 patients reported that acupuncture or electro-acupuncture decreased spasticity after stroke, but differences in controls, acupoints, and duration resulted in study heterogeneity, requiring further studies to determine whether any observed effects are persistent.”

### *Smoking Cessation*

A 2014 Cochrane Database Systematic Review by White and colleagues found insufficient evidence to support the use of acupuncture for smoking cessation. Acupuncture was found to be inferior compared to nicotine replacement therapy and no more effective than psychological treatment. The authors noted that the 38 studies included suffered from methodologic issues and limit the conclusions that can be drawn. The authors cited the need for large, high-quality randomized controlled trials in the future before acupuncture can be recommended as a therapy for smoking cessation.

### *Substance Use Disorders*

A 2016 systematic review and meta-analysis by Drug Alcohol Dependence concludes that there are no consistent differences between acupuncture and comparators for substance use. The research is limited by low-quality evidence and a Hayes rating of C (last reviewed on August 18, 2020).

### *Tic Disorders*

There are only a few studies and case reports describing the use of acupuncture in the management of tic disorders such as Tourette Syndrome. A 2016 review by Yu and colleagues found seven randomized, controlled trials of varying quality. These trials included 564 patients and found that acupuncture may have similar results to usual care for tic disorders. However, the existing studies are fraught with biases that prevented the authors from recommending acupuncture. They stated the need for future studies if acupuncture is to be used in the usual care for tic disorders.

### *Tinnitus*

A 2016 review including five studies and 322 patients by He and colleagues found that electroacupuncture was not effective in treating tinnitus. The authors were unable to perform a pooled analysis of these trials because the methods and outcomes were so variable. The authors of another 2016 systematic review and meta-analysis, Liu and colleagues, also found evidence lacking. They noted that studies published in English were likely to yield negative results while studies published in Chinese were likely to yield positive results. The authors noted that the Western studies were of higher methodologic quality.

#### *Urinary Incontinence*

A 2013 Cochrane Database Systematic Review by Wang and colleagues was only able to include one study that met review criteria, demonstrating the paucity of trials from which to draw conclusions. This one study included 60 patients but had a high risk of bias due to lack of blinding between the acupuncture and medication groups. Although more women improved in the acupuncture group, there was no difference in cure rates. Due to the small amount of evidence available and the high risk of bias present in this trial, the authors agreed that there is insufficient information to determine if acupuncture is effective in the treatment of urinary incontinence. A 2013 review by Paik and colleagues agreed with that conclusion.

Olivera and colleagues suggested that acupuncture is a reasonable treatment option in a 2016 review. And while there is promise that it may be effective and remains an attractive experimental option given the favorable side effect profile, evidence remains lacking to recommend acupuncture in the usual care of urinary incontinence.

#### *Xerostomia*

A 2017 review and meta-analysis by Mercadante and colleagues found that the medications pilocarpine and cevimeline should be first-line therapy for treatment of xerostomia caused by radiation. Only studies comparing at least one of these medications to placebo were included in the meta-analysis. The authors found no convincing evidence for any other therapy to include in a formal analysis. As part of the systematic review, they found that the evidence for both acupuncture and acupuncture-like transcutaneous electrical nerve stimulation were lacking. A 2011 review by Lee and colleagues also found evidence limited for acupuncture in xerostomia treatment. A 2015 review by Hackett and colleagues found that further studies are also needed prior to recommending acupuncture in the treatment of primary Sjogren's Syndrome.

#### Applicable Billing Codes

Table 1	
CPT/HCPCS codes considered medically necessary if clinical criteria are met:	
<i>Code</i>	<i>Description</i>

97810	Acupuncture, 1 or more needles; without electrical stimulation, initial 15 minutes of personal one-on-one contact with the patient
97811	Acupuncture, 1 or more needles; without electrical stimulation, each additional 15 minutes of personal one-on-one contact with the patient, with insertion of needle(s) (List separately in addition to code for primary procedure)
97813	Acupuncture, 1 or more needles; with electrical stimulation, initial 15 minutes of personal one-on-one contact with the patient with insertion of needle(s) (List separately in addition to code for primary procedure)
97814	Acupuncture, 1 or more needles; with electrical stimulation, each additional 15 minutes of personal one-on-one contact with the patient, with insertion of needle(s) (List separately in addition to code for primary procedure)
S8930	Electrical stimulation of auricular acupuncture points; each 15 minutes of personal one-on-one contact with patient

Table 2

ICD-10 codes considered medically necessary with Table 1 codes if criteria are met:

<i>Code</i>	<i>Description</i>
G43.001 - G43.019	Migraine without aura
G43.101 - G43.119	Migraine with aura
G43.401 - G43.419	Hemiplegic migraine
G43.501 - G43.519	Persistent migraine aura without cerebral infarction
G43.601 - G43.619	Persistent migraine aura with cerebral infarction, intractable
G43.701 - G43.719	Chronic migraine without aura
G43.801 - G43.839	Other migraine
G43.901 - G43.919	Migraine, unspecified
G44.001 - G44.099	Cluster headaches and other trigeminal autonomic cephalgias (TAC)
G44.221 - G44.229	Chronic tension-type headache

G44.321 - G44.329	Chronic post-traumatic headache
G44.51	Hemicrania continua
G44.52	New daily persistent headache (NDPH)
K91.0	Vomiting following gastrointestinal surgery
M16.0 - M16.9	Osteoarthritis of hip
M17.0 - M17.9	Osteoarthritis of knee
M26.601 - M26.69	Temporomandibular joint disorders
M54.2	Cervicalgia
M54.40 - M54.42	Lumbago with sciatica
M54.50 - M54.59	Low back pain
M54.6	Pain in thoracic spine
M54.81 - M54.89	Other dorsalgia
M54.9	Dorsalgia, unspecified
O21.0 - O21.9	Excessive vomiting in pregnancy
R11.2	Nausea with vomiting, unspecified
T45.1x5A - T45.1x5S	Adverse effect of antineoplastic and immunosuppressive drugs

Table 3

ICD-10 codes considered experimental or investigational for acupuncture with Table 1 codes:

<i>Code</i>	<i>Description</i>
B33.0	Epidemic myalgia
E08.43	Diabetes mellitus due to underlying condition with diabetic autonomic (poly)neuropathy
E09.43	Drug or chemical induced diabetes mellitus with neurological complications with diabetic autonomic (poly)neuropathy
E10.43	Type 1 diabetes mellitus with diabetic autonomic (poly)neuropathy
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy
E13.43	Other specified diabetes mellitus with diabetic autonomic (poly)neuropathy



E66.01 - E66.9	Overweight and obesity
F07.81	Postconcussional syndrome
F10.10 - F19.99	Mental and behavioral disorders due to psychoactive substance use
F32.0 - F32.A	Depressive episode
F33.0 - F33.9	Major depressive disorder, recurrent
F34.0 - F34.9	Persistent mood [affective] disorders
F43.10 - F43.12	Post Traumatic Stress Disorder (PTSD)
F84.0 - F84.9	Pervasive developmental disorders
F95.0 - F95.9	Tic disorder
G44.86	Cervicogenic headache
G47.00 - G47.09	Insomnia
G50.0 - G59	Nerve, nerve root and plexus disorders
G60.0 - G60.9	Hereditary and idiopathic neuropathy
G61.0 - G61.1	Inflammatory polyneuropathy
G61.81 - G61.89	Other inflammatory polyneuropathies
G61.9	Inflammatory polyneuropathy, unspecified
G62.0 - G62.2	Other and unspecified polyneuropathies
G62.81- G62.89	Other specified polyneuropathies
G62.9	Polyneuropathy, unspecified
G63	Polyneuropathy in diseases classified elsewhere
G64	Other disorders of peripheral nervous system
G65.0 - G65.2	Sequelae of inflammatory and toxic polyneuropathies
H93.11 - H93.19	Tinnitus
H93.A1 - H93.A9	Pulsatile tinnitus
I10 - I1A.0	Hypertensive diseases
I60.00 - I69.998	Cerebrovascular diseases

I73.00 - I73.01	Raynaud's syndrome
J30.1	Allergic rhinitis due to pollen
J30.2	Other seasonal allergic rhinitis
J30.5	Allergic rhinitis due to food
J30.81	Allergic rhinitis due to animal (cat) (dog) hair and dander
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J44.0 - J44.9	Other chronic obstructive pulmonary disease
J45.20 - J45.998	Asthma
K11.7	Disturbance of salivary secretion
K31.84	Gastroparesis
K50.00 - K52.9	Noninfective enteritis and colitis
K58.0 - K58.9	Irritable Bowel Syndrome
M60.80 - M60.89	Other myositis
M60.9	Myositis, unspecified
M62.81	Muscle weakness (generalized)
M77.10 - M77.12	Lateral epicondylitis
M79.10 - M79.18	Myalgia
M79.7	Fibromyalgia
N39.3	Stress incontinence (female) (male)
N39.41 - N39.49	Other specified urinary incontinence
N39.8	Other specified disorders of urinary system
N39.9	Disorder of urinary system, unspecified
N46.01 - N46.9	Male infertility
N52.01 - N52.9	Male erectile dysfunction
N95.1	Menopausal and female climacteric states

N97.0 - N97.9	Female infertility
O99.210 - O99.215	Obesity complicating pregnancy, childbirth, and the puerperium
R10.83	Colic
R19.7	Diarrhea, unspecified
R53.83	Other fatigue
R56.00 - R56.9	Convulsions, not elsewhere classified
S00.03xA - S00.03xS	Contusion of scalp
S00.83xA - S00.83xS	Contusion of other part of head
S01.00xA - S01.05xS	Open wound of scalp
S01.80xA - S01.85xS	Open wound of other parts of head
S02.0xxA - S02.0xxS	Fracture of vault of skull
S02.101A - S02.109S	Fracture of base of skull
S02.110A - S02.11HS	Fracture of occiput
S02.121A - S02.129S	Fracture of orbital roof
S02.2xxA - S02.2xxS	Fracture of nasal bones
S02.30xA - S02.30xS	Fracture of orbital floor
S02.400A - S02.42xS	Fracture of malar, maxillary and zygoma bones
S02.600A - S02.69xS	Fracture of mandible

S02.80xA - S02.85xS	Fractures of other specified skull and facial bones
S02.91xA - S02.92xS	Fracture of unspecified skull and facial bones
S06.0x0A - S06.9x9S	Intracranial injury
S07.0xxA - S07.9xxS	Crushing injury of head
S09.0xxA - S09.19xS	Other and unspecified injuries of head
S13.4xxA - S13.4xxS	Sprain of ligaments of cervical spine
S14.0xxA - S14.9xxS	Injury of nerves and spinal cord at neck level
T36.0x1A - T50.996S	Poisoning by adverse effects and underdosing of drugs, medicaments and biological substances
T51.0x1A - T51.94xS	Toxic effect of alcohol
T57.0xA - T57.94xS	Toxic effect of inorganic substances
T74.4xxA - T74.4xxS	Shaken infant syndrome
T75.1xxA - T75.1xxS	Unspecified effects of drowning and nonfatal submersion
T78.40xA - T78.49xS	Other and unspecified allergy
Z87.820	Personal history of traumatic brain injury

Table 4	
CPT/HCPCS codes <u>not considered medically necessary</u> for indications listed in this guideline:	
<i>Code</i>	<i>Description</i>
20550	Injection(s); single tendon sheath, or ligament, aponeurosis (eg, plantar "fascia")

20551	Injection(s); single tendon origin/insertion
20552	Injection(s); single or multiple trigger point(s), 1 or 2 muscle(s)
20553	Injection(s); single or multiple trigger point(s), 3 or more muscle(s)

## References

1. Anderson BJ, Jurawanichkul S, Kligler BE, Marantz PR, Evans R. Interdisciplinary Relationship Models for Complementary and Integrative Health: Perspectives of Chinese Medicine Practitioners in the United States. *J Altern Complement Med*. 2019 Mar;25(3):288-295.
2. Bao CH, Zhao JM, Liu HR, Lu Y, Zhu YF, Shi Y, Weng ZJ, Feng H, Guan X, Li J, Chen WF, Wu LY, Jin XM, Dou CZ, Wu HG. Randomized controlled trial: moxibustion and acupuncture for the treatment of Crohn's disease. *World J Gastroenterol*. 2014 Aug 21;20(31):11000-11.
3. Babatunde OO, et al. Effective treatment options for musculoskeletal pain in primary care: A systematic overview of current evidence. *PLoS One*. 2017;12(6):e0178621. Published 2017 Jun 22. doi:10.1371/journal.pone.0178621.
4. Brinkhaus B, Roll S, Jena S, et al. Acupuncture in patients with allergic asthma: a randomized pragmatic trial. *Journal of Alternative and Complementary Medicine*. 2017;23(4):268-277.
5. Chen, Y. J., Chen, C. T., Liu, J. Y., Shimizu Bassi, G., & Yang, Y. Q. (2019). What is the appropriate acupuncture treatment schedule for chronic pain? Review and analysis of randomized controlled trials. *Evidence-Based Complementary and Alternative Medicine*, 2019.
6. Chia, K. L., Lam, R. P. K., Lam, C. K., & Tsui, S. H. (2018). Acupuncture in the emergency department: a systematic review of randomised controlled trials. *Acupuncture in Medicine*, 36(3), 183-192.
7. Cui X, Zhou J, Qin Z, Liu Z. Acupuncture for Erectile Dysfunction: A Systematic Review. *Biomed Res Int*. 2016.
8. Department of Veterans Affairs/Department of Defense. (2021). VA/DoD Clinical Practice Guideline for the Management of Chronic Multisymptom Illness. Retrieved from: <https://www.healthquality.va.gov/guidelines/MR/cmi/VADoDCMICPG508.pdf>
9. Dimitrova A, Murchison C, Oken B. Acupuncture for the Treatment of Peripheral Neuropathy: A Systematic Review and Meta-Analysis. *J Altern Complement Med*. 2017 Jan 23.
10. Ding F, Liu Z, Li Rui, Wang C, Lu Y. Acupuncture plus massage for cervicogenic headache. *Medicine (Baltimore)*. 2022 Jan 28; 101(4): e28736. doi: 10.1097/MD.00000000000028736
11. Ebadi, S., Alishahi, V., Ahadi, T., Raissi, G. R., Khodabandeh, M., Haqiqatshenas, H., & Sajadi, S. (2021). Acupuncture-like versus conventional transcutaneous electrical nerve stimulation in the management of active myofascial trigger points: A randomized controlled trial. *Journal of Bodywork and Movement Therapies*, 28, 483-488.
12. Fan, S., Zhang, Z., & Wang, Q. (2023). Efficacy of acupuncture therapy for stable chronic obstructive pulmonary disease: A systematic review and meta-analysis. *Medicine*, 102(15).

13. Feng J, Wang X, Li X, Zhao D, Xu J. Acupuncture for chronic obstructive pulmonary disease (COPD): A multicenter, randomized, sham-controlled trial. *Medicine (Baltimore)*. 2016 Oct.
14. Feng S, Han M, Fan Y, Yang G, Liao Z, Liao W, Li H. "Acupuncture for the treatment of allergic rhinitis: a systematic review and meta-analysis." *Am J Rhinol Allergy*. 2015 Jan-Feb;29(1):57-62.
15. Feng, J., He, H., Wang, Y., Zhang, X., Zhang, X., Zhang, T., ... & Zhang, Y. (2022). The efficacy and mechanism of acupuncture in the treatment of male infertility: A literature review. *Frontiers in Endocrinology*, 13, 1009537.
16. Fernández-Jané, C., Vilaró, J., Fei, Y., Wang, C., Liu, J., Huang, N., ... & Sitjà-Rabert, M. (2020). Acupuncture techniques for COPD: a systematic review. *BMC complementary medicine and therapies*, 20, 1-18.
17. Gong, Y., Li, X., Zhou, X., Pan, T., Wang, H., Chen, C., ... & Chen, X. (2022). Acupuncture treatment of facial spasm: An overview of systematic reviews. *Medicine*, 101(50), e32182.
18. Greenlee H, Crew KD, Capodice J, Awad D, Buono D, Shi Z, Jeffres A, Wyse S, Whitman W, Trivedi MS, Kalinsky K, Hershman DL. Randomized sham-controlled pilot trial of weekly electro-acupuncture for the prevention of taxane-induced peripheral neuropathy in women with early stage breast cancer. *Breast Cancer Res Treat*. 2016 Apr;156(3):453-64.
19. Grant S, Kandrack R, Motala A, Shanman R, Booth M, Miles J, Sorbero M, Hempel S. Acupuncture for substance use disorders: A systematic review and meta- analysis. *Drug Alcohol Depend*. 2016 Jun 1;163:1-15
20. Huang, J., Shen, M., Qin, X., Guo, W., & Li, H. (2020). Acupuncture for the treatment of tension-type headache: an overview of systematic reviews. *Evidence-Based Complementary and Alternative Medicine*, 2020.
21. Hayes, Inc. Health Technology Assessment. *Acupuncture for the Treatment of Allergic Rhinitis*. Lansdale, PA: Hayes, Inc.; May 2023.
22. Hayes, Inc. Health Technology Assessment. *Acupuncture for Treatment of Fibromyalgia*. Lansdale, PA: Hayes, Inc.; Last reviewed Aug, 2022.
23. Hayes, Inc. Health Technology Assessment. *Acupuncture For The Treatment Of Shoulder Pain Or Chronic Neck Pain: A Review Of Reviews*. Lansdale, PA: Hayes, Inc.; Annual review: Aug 2022.
24. Hayes, Inc. Health Technology Assessment. *Acupuncture For The Prevention Or Treatment Of Nausea And Vomiting: A Review Of Reviews*. Lansdale, PA: Hayes, Inc.; Last reviewed: Sep 2022.
25. Hayes, Inc. Health Technology Assessment. *Acupuncture For Treatment Of Postoperative Pain: A Review Of Reviews*. Lansdale, PA: Hayes, Inc.; Last reviewed: May 2022.
26. Hayes, Inc. Health Technology Assessment. *Acupuncture for the Treatment of Substance Use Disorders: A Review of Reviews*. Lansdale, PA: Hayes, Inc.; Last reviewed: Jun 2022.
27. Hayes, Inc. Health Technology Assessment. *Comparative Effectiveness Review Of Acupuncture For The Treatment Of Knee Osteoarthritis: Review Of Reviews*.
28. Hayes, Inc. Health Technology Assessment. *Comparative Effectiveness Review Of Acupuncture For The Treatment Of Chronic Lower Back Pain: A Review Of Reviews*. Lansdale, PA: Hayes, Inc.; Last reviewed: Jun 10, 2022.

29. Hayes, Inc. Health Technology Assessment. Comparative Effectiveness Review Of Acupuncture For The Treatment Of Episodic And Chronic Tension-Type Headache And Episodic Migraine: A Review Of Reviews. Lansdale, PA: Hayes, Inc.; Last reviewed: Sept 2022.
30. Hayes, Inc. Health Technology Assessment. *Local Injection Therapy for Cervicogenic Headache and Occipital Neuralgia*. Lansdale, PA: Hayes, Inc.; Sept 28, 2017. Annual review: Nov 15, 2021.
31. Hayes, Inc. Health Technology Assessment. Dry Needling for Mechanical Neck and/or Trapezius Muscle Pain in Adults. Lansdale, PA: Hayes, Inc.; Last reviewed: Aug 2023.
- 32.
33. Jiang, C., Jiang, L., & Qin, Q. (2019). Conventional treatments plus acupuncture for asthma in adults and adolescent: a systematic review and meta-analysis. *Evidence-Based Complementary and Alternative Medicine*, 2019.
34. Jing, R., & Feng, K. (2021). Efficacy of intradermal acupuncture for insomnia: a meta-analysis. *Sleep Medicine*, 85, 66-74.
35. Kim, S. A., Lee, S. H., Kim, J. H., Van Den Noort, M., Bosch, P., Won, T., ... & Lim, S. (2021). Efficacy of acupuncture for insomnia: a systematic review and meta-analysis. *The American Journal of Chinese Medicine*, 49(05), 1135-1150.
36. Kim, S. Y., Shin, I. S., & Park, Y. J. (2018). Effect of acupuncture and intervention types on weight loss: a systematic review and meta-analysis. *Obesity reviews*, 19(11), 1585-1596.
37. Kolasinski, S. L., Neogi, T., Hochberg, M. C., Oatis, C., Guyatt, G., Block, J., ... & Reston, J. (2020). 2019 American College of Rheumatology/Arthritis Foundation guideline for the management of osteoarthritis of the hand, hip, and knee. *Arthritis & rheumatology*, 72(2), 220-233.
38. Kwon, C. Y., Lee, B., & Kim, S. H. (2020). Effectiveness and safety of ear acupuncture for trauma-related mental disorders after large-scale disasters: A PRISMA-compliant systematic review. *Medicine*, 99(8), e19342.
39. Lee, J. W., Hyun, M. K., Kim, H. J., & Kim, D. I. (2021). Acupuncture and herbal medicine for female infertility: an overview of systematic reviews. *Integrative medicine research*, 10(3), 100694.
40. Lee, S. H., Park, S. Y., Heo, I., Hwang, E. H., Shin, B. C., & Hwang, M. S. (2024). Efficacy of acupuncture for whiplash injury: a systematic review and meta-analysis. *BMJ open*, 14(1), e077700
41. Lee, S. H., & Lim, S. M. (2016). Acupuncture for insomnia after stroke: a systematic review and meta-analysis. *BMC complementary and alternative medicine*, 16, 1-11.
42. Li, C., Pei, Q., Chen, Y., Luo, X., Yang, N., Li, T. T., ... & Wang, Y. (2020). The response-time relationship and covariate effects of acupuncture for chronic pain: a systematic review and model-based longitudinal meta-analysis. *European Journal of Pain*, 24(9), 1653-1665.
43. Li, X., Li, J. C., Lu, Q. Q., Zhang, F., & Zhang, S. Q. (2023). Research status and prospects of acupuncture for autism spectrum disorders. *Frontiers in Psychiatry*, 14, 942069.
44. Li, M., Niu, J., Yan, P., Yao, L., He, W., Wang, M., ... & Yang, K. (2020). The effectiveness and safety of acupuncture for depression: an overview of meta-analyses. *Complementary therapies in medicine*, 50, 102202.

45. Li, X., Yan, Z., Xia, J., Sun, Y., Gong, P., Fan, Y., ... & Cui, X. (2022). Traditional Chinese acupoint massage, acupuncture, and moxibustion for people with diabetic gastroparesis: A systematic review and meta-analysis. *Medicine*, 101(48), e32058.
46. Lim SM, Yoo J, Lee E, et al. Acupuncture for spasticity after stroke: a systematic review and meta-analysis of randomized controlled trials. *Evid Based Complement Alternat Med*. 2015;2015:870398. doi: 10.1155/2015/870398.
47. Liu, B., Chen, B., Guo, Y., & Tian, L. (2021). Acupuncture—a national heritage of China to the world: international clinical research advances from the past decade. *Acupuncture and Herbal Medicine*, 1(2), 65-73.
48. Liu, C., Xi, H., Wu, W., Wang, X., Qin, S., Zhao, Y., ... & Xu, L. (2020). Placebo effect of acupuncture on insomnia: a systematic review and meta-analysis. *Ann Palliat Med*, 9(1), 19-29.
49. Liu, C., Zhao, Y., Qin, S., Wang, X., Jiang, Y., & Wu, W. (2021). Randomized controlled trial of acupuncture for anxiety and depression in patients with chronic insomnia. *Annals of translational medicine*, 9(18).
50. Jang, A., Brown, C., Lamoury, G., Morgia, M., Boyle, F., Marr, I., ... & Oh, B. (2020). The effects of acupuncture on cancer-related fatigue: updated systematic review and meta-analysis. *Integrative cancer therapies*, 19, 1534735420949679.
51. Jerng UM, Jo JY, Lee S, Lee JM, Kwon O. "The effectiveness and safety of acupuncture for poor semen quality in infertile males: a systematic review and meta-analysis." *Asian J Androl*. 2014 Nov-Dec;16(6):884-91.
52. Jun S, Lee J, Gong HM, Chung YJ, et al. The Effects of Miniscalpel Acupuncture on Cervicogenic Headache: A report of three cases. *Journal of Acupuncture Research*. 2017; 34 (3): 131-138. 2586-288X(pISSN) / 2586-2898(eISSN)
53. Kim JE, Seo BK, Choi JB, Kim HJ, Kim TH, Lee MH, Kang KW, Kim JH, Shin KM, Lee S, Jung SY, Kim AR, Shin MS, Jung HJ, Park HJ, Kim SP, Baek YH, Hong KE, Choi SM. Acupuncture for chronic fatigue syndrome and idiopathic chronic fatigue: a multicenter, nonblinded, randomized controlled trial. *Trials*. 2015 Jul 26;16:314.
54. Kim SY, Min S, Lee H, Cheon S, Zhang X, Park JY, Song TJ, Park HJ. Changes of Local Blood Flow in Response to Acupuncture Stimulation: A Systematic Review. *Evid Based Complement Alternat Med*. 2016.
55. Lee, J. W., Hyun, M. K., Kim, H. J., & Kim, D. I. (2021). Acupuncture and herbal medicine for female infertility: an overview of systematic reviews. *Integrative medicine research*, 10(3), 100694.
56. Linde K, Allais G, Brinkhaus B, Fei Y, Mehring M, Vertosick EA, Vickers A, White AR. Acupuncture for the prevention of episodic migraine. *Cochrane Database Syst Rev*. 2016 Jun 28.
57. Linde K, Allais G, Brinkhaus B, Fei Y, Mehring M, Shin BC, Vickers A, White AR. "Acupuncture for the prevention of tension-type headache." *Cochrane Database Syst Rev*. 2016 Apr 19;4:CD007587.
58. Liu L, Skinner M, McDonough S, Mabire L, Baxter GD. Acupuncture for low back pain: an overview of systematic reviews. *Evid Based Complement Alternat Med*. 2015;2015:328196.



59. Management of Chronic Multisymptom Illness Guideline Working Group. (2021). VA/DoD clinical practice guideline for the management of chronic multisymptom illness. Washington (DC): Department of Veteran Affairs, Department of Defense, 1-117.
60. Moon TW, Posadzki P, Choi TY, Park TY, Kim HJ, Lee MS, Ernst E. Acupuncture for treating whiplash associated disorder: a systematic review of randomised clinical trials. *Evid Based Complement Alternat Med*. 2014.
61. National Institute of Health and Care Excellence. NICE Pathways. Headaches. <https://pathways.nice.org.uk/pathways/headaches>. Last updated Nov 2020.
62. National Center for Complementary and Integrative Health. (Oct 2022). Acupuncture: What You Need To Know. Retrieved from: <https://www.nccih.nih.gov/health/acupuncture-what-you-need-to-know>
63. Navarro-Santana, M. J., Sanchez-Infante, J., Gómez-Chiguano, G. F., Cummings, M., Fernández-de-Las-Peñas, C., & Plaza-Manzano, G. (2021). Effects of manual acupuncture and electroacupuncture for lateral epicondylalgia of musculoskeletal origin: a systematic review and meta-analysis. *Acupuncture in Medicine*, 39(5), 405-422.
64. Nielsen, A., Dusek, J. A., Taylor-Swanson, L., & Tick, H. (2022). Acupuncture therapy as an evidence-based nonpharmacologic strategy for comprehensive acute pain care: the academic consortium pain task force white paper update. *Pain Medicine*, 23(9), 1582-1612.
65. Ormsby, S. M., Smith, C. A., Dahlen, H. G., & Hay, P. J. (2020). The feasibility of acupuncture as an adjunct intervention for antenatal depression: a pragmatic randomised controlled trial. *Journal of Affective Disorders*, 275, 82-93.
66. Pai HJ, Azevedo RS, Braga AL, Martins LC, Saraiva-Romanholo BM4, Martins Mde A5, Lin CA1. "A randomized, controlled, crossover study in patients with mild and moderate asthma undergoing treatment with traditional Chinese acupuncture." *Clinics (Sao Paulo)*. 2015 Oct;70(10):663-9.
67. Perry, R., Leach, V., Penfold, C., & Davies, P. (2019). An overview of systematic reviews of complementary and alternative therapies for infantile colic. *Systematic reviews*, 8, 1-16
68. Smith, C. A., Shewamene, Z., Galbally, M., Schmied, V., & Dahlen, H. (2019). The effect of complementary medicines and therapies on maternal anxiety and depression in pregnancy: a systematic review and meta-analysis. *Journal of affective disorders*, 245, 428-439.
69. Tan, L., Zeng, L., Wang, N., Deng, M., Chen, Y., Ma, T., ... & Xu, Z. (2019). Acupuncture to promote recovery of disorder of consciousness after traumatic brain injury: a systematic review and meta-analysis. *Evidence-based complementary and alternative medicine*, 2019.
70. Tian, J., Li, T., Zhao, J., Li, D., Sun, J., Li, Z., & Shi, R. (2023). Efficacy of different courses of acupuncture for diarrhea irritable bowel syndrome: A protocol for systematic review and meta-analysis. *Plos one*, 18(12), e0295077.
71. Trinh K, Graham N, Irnich D, Cameron ID, Forget M. Acupuncture for neck disorders. *Cochrane Database Syst Rev*. 2016 May 4.
72. Wang, X., Zhao, N. Q., Sun, Y. X., Bai, X., Si, J. T., Liu, J. P., & Liu, Z. L. (2020). Acupuncture for ulcerative colitis: a systematic review and meta-analysis of randomized clinical trials. *BMC Complementary Medicine and Therapies*, 20, 1-10.

73. Watson, JC. Cervicogenic headache. UpToDate.com. Last updated: March 12, 2024. Retrieved from:  
[https://www.uptodate.com/contents/cervicogenic-headache?search=cervicogenic%20headache&source=search\\_result&selectedTitle=1~11&usage\\_type=default&display\\_rank=1](https://www.uptodate.com/contents/cervicogenic-headache?search=cervicogenic%20headache&source=search_result&selectedTitle=1~11&usage_type=default&display_rank=1).
74. Wu, X., Zhou, Y., & Xia, T. (2021). Efficacy of electroacupuncture for the treatment of asthenozoospermia: a protocol for systematic review and meta-analysis. *Medicine*, 100(4).
75. Zhu, J., Arsovska, B., & Kozovska, K. (2018). Acupuncture treatment for fertility. *Open access Macedonian journal of medical sciences*, 6(9), 1685.
76. Zhong, Y. M., Luo, X. C., Chen, Y., Lai, D. L., Lu, W. T., Shang, Y. N., ... & Zhou, H. Y. (2020). Acupuncture versus sham acupuncture for simple obesity: a systematic review and meta-analysis. *Postgraduate medical journal*, 96(1134), 221-227.
77. Zhong, Y. M., Luo, X. C., Chen, Y., Lai, D. L., Lu, W. T., Shang, Y. N., ... & Zhou, H. Y. (2020). Acupuncture versus sham acupuncture for simple obesity: a systematic review and meta-analysis. *Postgraduate medical journal*, 96(1134), 221-227.
78. Zhou, M., Bu, H., Wang, D., Wang, M., Guan, Y., Sun, X., ... & Wang, H. (2022). An Overview of Systematic Reviews: Acupuncture in the Treatment of Essential Hypertension. *International Journal of General Medicine*, 15, 8093.
79. Zhou, Y., Guo, Y., Zhou, R., Wu, P., Liang, F., & Yang, Z. (2020). Effectiveness of acupuncture for lateral epicondylitis: a systematic review and meta-analysis of randomized controlled trials. *Pain Research and Management*, 2020.
80. Zhou, F., Huang, E., Zheng, E., & Deng, J. (2023). The use of acupuncture in patients with Raynaud's syndrome: a systematic review and meta-analysis of randomized controlled trials. *Acupuncture in Medicine*, 41(2), 63-72.
81. Yang, C., Tian, H., Xu, G., Luo, Q., Sun, M., & Liang, F. (2024). Efficacy of Acupuncture in Acute Exacerbation of Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-Analysis. *International Journal of Chronic Obstructive Pulmonary Disease*, 707-720.
82. Yang, X. Y., Yang, N. B., Huang, F. F., Ren, S., & Li, Z. J. (2021). Effectiveness of acupuncture on anxiety disorder: a systematic review and meta-analysis of randomised controlled trials. *Annals of general psychiatry*, 20, 1-14.
83. Yin, Z. H., Wang, L. J., Cheng, Y., Chen, J., Hong, X. J., Zhao, L., & Liang, F. R. (2021). Acupuncture for chronic fatigue syndrome: an overview of systematic reviews. *Chinese journal of integrative medicine*, 27, 940-946.
84. Yuen HK, Cunningham MA. Optimal management of fatigue in patients with systemic lupus erythematosus: a systematic review. *Ther Clin Risk Manag*. 2014 Oct 1;10:775-86.
85. Shen X, Xia J, Adams CE. Acupuncture for schizophrenia. *Cochrane Database Syst Rev*. 2014;10:CD005475.
86. Metcalf O, Varker T, Forbes D, Phelps A, Dell L, DiBattista A, Ralph N, O'Donnell M. Efficacy of Fifteen Emerging Interventions for the Treatment of Posttraumatic Stress Disorder: A Systematic Review. *J Trauma Stress*. 2016 Feb;29(1):88-92.

87. Wang, S., Lu, R., Shi, H., Chen, J., Sun, M., Ding, J., ... & Tang, Z. (2022). Safety and efficacy of acupuncture for varicocele-induced male infertility: a systematic review protocol. *BMJ open*, 12(12), e063381.
88. White AR, Rampes H, Liu JP, Stead LF, Campbell J. "Acupuncture and related interventions for smoking cessation." *Cochrane Database Syst Rev*. 2014 Jan 23;(1):CD000009.
89. Wigley, FM. (Jan 2024). Treatment of Raynaud phenomenon: Initial management. UpToDate.com. Retrieved from <https://www.uptodate.com/contents/treatment-of-raynaud-phenomenon-initial-management>
90. Wylde V, Dennis J, Beswick AD, Bruce J, Eccleston C, Howells N, Peters TJ, Gooberman-Hill R. Systematic review of management of chronic pain after surgery. *Br J Surg*. 2017 Sep;104(10):1293-1306.
91. Yang, Y., Rao, K., Zhan, K., Shen, M., Zheng, H., Qin, S., & Huang, S. (2022). Clinical evidence of acupuncture and moxibustion for irritable bowel syndrome: A systematic review and meta-analysis of randomized controlled trials. *Frontiers in public health*, 10, 1022145.
92. Yu J, Ye Y, Liu J, Wang Y, Peng W, Liu Z. Acupuncture for Tourette Syndrome: A Systematic Review. *Evid Based Complement Alternat Med*. 2016.
93. Yu, Z., Zhang, P., Tao, C., Lu, L., & Tang, C. (2023). Efficacy of nonpharmacological interventions targeting social function in children and adults with autism spectrum disorder: A systematic review and meta-analysis. *Plos one*, 18(9), e0291720.
94. He M, Li X, Liu Y, Zhong J, Jiang L, Liu Y, Chen Q, Xie Y, Zhang Q. Electroacupuncture for Tinnitus: A Systematic Review. *PLoS One*. 2016 Mar 3.
95. Liu F, Han X, Li Y, Yu S. Acupuncture in the treatment of tinnitus: a systematic review and meta-analysis. *Eur Arch Otorhinolaryngol*. 2016 Feb.
96. Olivera CK, Meriwether K, El-Nashar S, Grimes CL, Chen CC, Orejuela F, Antosh D, Gleason J, Kim-Fine S, Wheeler T, McFadden B, Balk EM, Murphy M; Systematic Review Group for the Society of Gynecological Surgeons. Nonantimuscarinic treatment for overactive bladder: a systematic review. *Am J Obstet Gynecol*. 2016 Jul.
97. Mercadante V, Al Hamad A, Lodi G, Porter S, Fedele S. Interventions for the management of radiotherapy-induced xerostomia and hyposalivation: A systematic review and meta-analysis. *Oral Oncol*. 2017 Mar;66:64-74.
98. Hackett KL, Deane KH, Strassheim V, Deary V, Rapley T, Newton JL, Ng WF. A systematic review of non-pharmacological interventions for primary Sjögren's syndrome. *Rheumatology (Oxford)*. 2015 Nov.
99. American Academy of Orthopaedic Surgeons. Management of Carpal Tunnel Syndrome Evidence-Based Clinical Practice Guideline. [www.aaos.org/ctsguideline](http://www.aaos.org/ctsguideline). Published February 29, 2016.
100. Tang H, Fan H, Chen J, et al. Acupuncture for Lateral Epicondylitis: A Systematic Review. *Evid Based Complement Alternat Med*. 2015;2015:861849.
101. Wang, X., Wang, Y., Wei, S., He, B., Cao, Y., Zhang, N., & Li, M. (2021). An overview of systematic reviews of acupuncture for infertile women undergoing in vitro fertilization and embryo transfer. *Frontiers in Public Health*, 9, 651811.

102. Wang, S., Lu, R., Shi, H., Chen, J., Sun, M., Ding, J., ... & Tang, Z. (2022). Safety and efficacy of acupuncture for varicocele-induced male infertility: a systematic review protocol. *BMJ open*, 12(12), e063381.
103. Xu M, Li D, Zhang S. Acupuncture for acute stroke. *Cochrane Database Syst Rev*. 2018 Mar 30;3:CD003317. doi: 10.1002/14651858.CD003317.pub3.
104. Ee C, Xue C, Chondros P, et al. Acupuncture for Menopausal Hot Flashes: A Randomized Trial. *Ann Intern Med*. 2016 Feb 2;164(3):146-54. doi: 10.7326/M15-1380.
105. 3. Li X, Wang R, Xing X, et al. Acupuncture for myofascial pain syndrome: A network meta-analysis of 33 randomized controlled trials. *Pain Physician*. 2017;20(6):E883-E902.
106. MacPherson H, Vertosick EA, Foster NE, et al. The persistence of the effects of acupuncture after a course of treatment: A meta-analysis of patients with chronic pain. *Pain*. 2017;158(5):784-793. doi: 10.1097/j.pain.0000000000000747
107. Xiang, Y., He, J. Y., Tian, H. H., Cao, B. Y., & Li, R. (2020). Evidence of efficacy of acupuncture in the management of low back pain: a systematic review and meta-analysis of randomised placebo-or sham-controlled trials. *Acupuncture in Medicine*, 38(1), 15-24.
108. Zhang, Y., Zeng, J., Wu, D., Li, X., Chen, Y., Dai, S., ... & Lu, J. (2021). Effect and safety of acupuncture for autism spectrum disorders: A protocol for systematic review and meta-analysis. *Medicine*, 100(11).
109. Zhao W, Wang C, Li Z, et al. Efficacy and Safety of Transcutaneous Electrical Acupoint Stimulation to Treat Muscle Spasticity following Brain Injury: A Double-Blinded, Multicenter, Randomized Controlled Trial. *PLoS One*. 2015; 10(2): e0116976. doi: 10.1371/journal.pone.0116976

#### Clinical Guideline Revision / History Information

Original Date: 4/11/2017

Reviewed/Revised: 1/18/2018, 4/13/2018, 4/15/2019, 7/21/2020, 04/21/2021, 12/01/2021, 04/25/2022, 05/2/2023, 04/16/2024, 09/01/2025