Clinical Practice Guideline: **Acupuncture for Smoking Cessation**

Date of Implementation: **April 15, 2010**

Product: **Specialty**

GUIDELINES

The literature is insufficient to conclude acupuncture is either clinically effective or ineffective for smoking cessation or that the outcome of acupuncture for smoking cessation is superior to other smoking cessation interventions. Use of acupuncture for smoking cessation to assess effectiveness for individual patients may be appropriate in combination with other treatment strategies after other evidence-based interventions have been deemed unsuccessful or contraindicated.

For more information, see ASH *Techniques and Procedures Not Widely Supported as Evidence Based (CPG 133 – S)* clinical practice guideline.

Patients must be informed verbally and in writing of the nature of any procedure or treatment technique that is considered experimental/investigational or unproven, poses a significant health and safety risk, and/or is scientifically implausible. If the patient decides to receive such services, they must sign a *Member Billing Acknowledgment Form (*for Medicare use *Advance Beneficiary Notice of Non-Coverage form*) indicating they understand they are assuming financial responsibility for any service-related fees. Further, the patient must sign an attestation indicating that they understand what is known and unknown about, and the possible risks associated with such techniques prior to receiving these services. All procedures, including those considered here, must be documented in the medical record. Finally, prior to using experimental/investigational or unproven procedures, those that pose a significant health and safety risk, and/or those considered scientifically implausible, it is incumbent on the practitioner to confirm that their professional liability insurance covers the use of these techniques or procedures in the event of an adverse outcome.

EVIDENCE REVIEW

According to the U.S. Centers for Disease Control and Prevention (CDC), cigarette smoking is the leading cause of preventable disease and death in the United States. Therefore, reviewing the role of acupuncture in tobacco cessation is worthwhile.

White et al. (2014) completed an updated Cochrane Review on acupuncture and related interventions (acupressure, laser therapy and electrostimulation) for smoking cessation. Randomized trials comparing a form of acupuncture, acupressure, laser therapy or electrostimulation compared to either no intervention, sham treatment or other intervention

for smoking cessation were evaluated. Authors assessed abstinence from smoking at the earliest time-point (before 6 weeks) and at the last measurement point between six months and one year. They used the most rigorous definition of abstinence for each trial, and biochemically validated rates if available. Those lost to follow-up were counted as continuing smokers. Where appropriate, meta-analysis, allowing pooled risk ratios, was used. Thirty-eight studies were included. Based on 3 studies, acupuncture was not shown to be more effective than a waiting list control for long-term abstinence compared with sham acupuncture. Bias and heterogeneity were noted in the studies as well. Acupuncture was less effective than nicotine replacement therapy (NRT). There was no evidence that acupuncture is superior to psychological interventions in the short- or long-term. There is limited evidence that acupressure is superior to sham acupressure for short-term outcomes and no trials reported long-term effects. The pooled data for studies testing an intervention that included continuous auricular stimulation suggested a short-term benefit compared to sham stimulation; subgroup analysis showed an effect for continuous acupressure but not acupuncture with indwelling needles. The evidence from 2 trials using laser stimulation was inconsistent and could not be combined. The combined evidence on electrostimulation suggests it is not superior to sham electrostimulation. Authors concluded that although pooled estimates suggest possible short-term effects there is no consistent, bias-free evidence that acupuncture, acupressure, or laser therapy have a sustained benefit on smoking cessation for six months or more. However, lack of evidence and methodological problems mean that no firm conclusions can be drawn. Electrostimulation is not effective for smoking cessation. Well-designed research into acupuncture, acupressure and laser stimulation is justified since these are popular interventions and safe when correctly applied, though these interventions alone are likely to be less effective than evidence-based interventions.

These updated results are consistent with previous Cochrane Reviews described briefly here. White et al. (2011) included 33 reports of studies. Acupuncture was less effective than nicotine replacement therapy (NRT). There was no evidence that acupuncture is superior to waiting list, nor to psychological interventions in short- or long-term. The evidence on acupressure and laser stimulation was insufficient and could not be combined. The evidence suggested that electrostimulation is not superior to sham electrostimulation. Authors concluded that there is not consistent, bias-free evidence for acupuncture or acupuncture-related interventions are effective for smoking cessation. Lack of evidence and methodological problems preclude drawing any firm conclusions and well-designed studies are needed. White et al. (2006) included 24 studies in this Cochrane Review. A sufficient number of studies were found only for the comparison of acupuncture and sham acupuncture for meaningful combination, however given the heterogeneity, bias, and influential outlier data, conclusions could not be drawn. And with exclusion of outlier data, no effect of acupuncture was noted. Authors' conclusions were identical to the 2011 review. For the 2002 and the original 2000 Cochrane Reviews by White et al., authors

concluded that there was no clear evidence that acupuncture, acupressure, laser therapy or electrostimulation were effective for smoking cessation.

Sibbritt et al. (2018) aimed to identify and summarize the evidence of acupuncture interventions for those people with lifestyle risk factors for stroke, including alcohol-dependence, smoking-dependence, hypertension, and obesity. A total of 59 RCTs (5,650 participants) examining the use of acupuncture in treating lifestyle risk factors for stroke met the inclusion criteria. Relative to sham acupuncture, individuals receiving auricular acupressure for smoking-dependence reported lower numbers of consumed cigarettes per day. Overall, only a few trials were considered of low risk of bias for smoking-dependence, and as such none of the significant effects in favor of acupuncture interventions were robust against potential selection, performance, and detection bias. The authors concluded that the review found no convincing evidence for effects of acupuncture interventions for improving lifestyle risk factors for stroke.

Wang et al. (2019) evaluated the effectiveness and safety of transdermal acupuncture by needles for smoking cessation. Twenty-four trials involving 3,984 participants were included. The methodological quality was generally low. Authors concluded that based on the available literature, acupuncture combined with counseling, educational smoking cessation program or moxibustion was more effective than acupuncture as monotherapy with regard to long-term smoking cessation. Further, high quality trials are needed to confirm the result.

Dai and Cao (2021) performed a meta-analysis of 2,706 patients in 23 studies. Study participants received acupuncture treatments including acupuncture, sham acupuncture, auricular acupressure, sham auricular acupressure, acupuncture plus auricular acupressure, and nicotine replacement therapy. There was no significant difference in short-term abstinence rates or the Fagerstrom test for nicotine dependence scores or daily smoking between any of the groups. For long-term abstinence rates, there was a significant difference between sham auricular acupuncture and true auricular acupuncture. The acupuncture plus auricular group showed better overall abstinence rates. Seventeen out of twenty- four studies mentioned adverse events; Two studies reported there were no adverse events. One study noted minor bleeding, hematoma, dizziness, fainting, residual needle sensation, and minor infection. Three studies of auricular and sham auricular therapy listed local ear “maladaptation” and pain. Biases and other issues in evaluating the studies included incorrect or absent blinding methods, small numbers of studies for some therapeutic interventions, variable treatment course lengths and times to follow-up, possible subtle differences between chosen points and manipulation methods.

Allen et al. (2023) concluded that acupuncture for tobacco cessation showed a moderate certainty of benefit. The authors noted from review of White (2014) that, “Acupuncture

compared to sham acupuncture for smoking cessation [had] evidence of [a] short term effect."

Zhan et al. (2024) performed an umbrella review and meta-analysis of acupuncture and smoking cessation. Thirteen systematic reviews and 20 randomized controlled trials (3,552 participants) outside of the systematic reviews were identified and included trials comparing acupuncture therapies with verum and sham acupuncture, behavioral therapy, nicotine patches, and no treatment. The systematic reviews were said to be of low to very low quality. Most of the RCTs were at high risk for performance bias. Low certainty evidence suggested that needle acupuncture and auricular acupressure are safe and resulted in short-term smoking cessation. There was no significant difference between acupuncture and nicotine patches in the RCTs. Intradermal needles were no more effective than counseling. Needle acupuncture was more effective than sham acupuncture. No serious adverse effects were reported in any of the RCTs or systemic reviews. More rigorous studies with longer-term follow-up are needed.

PRACTITIONER SCOPE AND TRAINING

Practitioners should practice only in the areas in which they are competent based on their education, training, and experience. Levels of education, experience, and proficiency may vary among individual practitioners. It is ethically and legally incumbent on a practitioner to determine where they have the knowledge and skills necessary to perform such services and whether the services are within their scope of practice.

It is best practice for the practitioner to appropriately render services to a patient only if they are trained, equally skilled, and adequately competent to deliver a service compared to others trained to perform the same procedure. If the service would be most competently delivered by another health care practitioner who has more skill and training, it would be best practice to refer the patient to the more expert practitioner.

Best practice can be defined as a clinical, scientific, or professional technique, method, or process that is typically evidence-based and consensus driven and is recognized by a majority of professionals in a particular field as more effective at delivering a particular outcome than any other practice (Joint Commission International Accreditation Standards for Hospitals, 2020).

Depending on the practitioner's scope of practice, training, and experience, a member's condition and/or symptoms during examination or the course of treatment may indicate the need for referral to another practitioner or even emergency care. In such cases it is prudent for the practitioner to refer the member for appropriate co-management (e.g., to their primary care physician) or if immediate emergency care is warranted, to contact 911 as appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for information.

References

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