



# NADA Protocol

## *Integrative Acupuncture in Addictions*

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### Abstract

National Acupuncture Detoxification Association (NADA) acupuncture is a simple, standardized, 1- to 5-point auricular needling protocol that originated as a grass-roots response to the opiate epidemic of the 1970s. NADA acupuncture is increasingly recognized as a universally useful intervention in the treatment of addictions specifically and in behavior health more generally. It is recognized as a best practice in the treatment of substance use disorders. Integrative programs using the NADA protocol are likely to see improvements in engagement, retention, decreased drug cravings, anxiety, and less physical symptoms.

**Keywords:** Acudetox, addiction, auricular acupuncture, behavioral health, dual diagnosis, ear acupuncture, NADA, National Acupuncture Detoxification Association, substance use disorders

### INTRODUCTION

The National Acupuncture Detoxification Association (NADA) protocol is a unique form of acupuncture. It specifically targets behavioral health, including addictions and co-occurring disorders. The protocol involves the bilateral insertion of 1–5 needles into predetermined points on each ear (auricle). The predetermined points on the ear are sympathetic, Shen Men, kidney, liver, and lung points. These points have been shown to produce neurophysiologic, biochemical, endocrine, emotional, and cognitive effects. The NADA protocol is shown to reduce craving and withdrawal symptoms associated with addictive substance use. It is consistently and reliably associated with improving engagement and retention (Center for Substance Abuse Treatment, 2006; Helms, 1997). This is not a stand-alone treatment. It is to be used in a comprehensive integrated substance abuse treatment program that promotes

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symptom relief and improves treatment retention by relieving acute and chronic distress in persons seeking recovery (Center for Substance Abuse Treatment, 2006). In addition, the NADA protocol is associated with a decrease in positive urine tests, increased program completion, improved patient satisfaction, and cost savings (Santasiero & Neussle, 2005).

The NADA protocol is a nonverbal, nonthreatening intervention that has an immediate calming effect on patients regardless of the specific substance used and regardless of whether a coexisting psychiatric disorder has been diagnosed. Initial participation with the NADA protocol improves involvement in the treatment process. In most programs, patients receive the five bilateral ear points of the NADA protocol. The protocol can be easily and conveniently administered in small or large group settings. This safe, effective, and cost-efficient procedure has gained increasing acceptance from agencies responsible for overseeing addiction treatment over the past 40 years.

More than 500 state addictions programs in the United States use some form of acupuncture (Substance Abuse and Mental Services Administration, 2000). Over 1,500 addictions programs worldwide use some form of acupuncture (Reuben, 2005). NADA protocol acupuncture is increasingly integrated into dual diagnosis settings to help individuals with addiction and co-occurring disorders to better cope with a broad spectrum of behavioral health issues. As a balancing treatment, it is of universal benefit, regardless of substance of abuse, in ameliorating dysphoric states such as depression, anxiety, anger, impaired concentration, decreased energy, and body aches/headaches (Carter, Perlmutter, Norton, & Smith, 2011).

### ORIGINS

Lincoln Hospital, a city-owned facility in the impoverished South Bronx, launched the use of addictions acupuncture to address a public health crisis in the 1970s. Like today, the heroin epidemic of that time overwhelmed the capacity of the existing treatment system. What came to be known as “The Lincoln Model” was inspired by the anecdotal findings of a Hong Kong neurosurgeon (Wen, 1973), who observed that electrical stimulation of the ear lung point (vagus nerve) relieved opiate withdrawal symptoms. The Acupuncture Recovery Center subsequently discovered that simple manual needling produced a more prolonged effect and a reduction in cravings for alcohol as well as heroin (Shakur & Smith, 1979).

Smith (1979) developed the NADA protocol initially guided by acupuncture theory and acupuncture analgesia research.

Empirical observations in a large public health clinic serving 200–300 patients daily led to the identification of the other four ear points in the NADA protocol. Thus, Shen Men, sympathetic, kidney, and liver were added to the original lung point (Bemis, 2013). The functions of each of the five points are as follows: sympathetic is related to disruption in both sympathetic and parasympathetic nervous systems. It has a strong analgesic and relaxant effect on internal organs as it dilates blood vessels. Shen Men regulates excitation and inhibition of the cerebral cortex and can produce sedation. Lung is used for analgesia, sweating, and various respiratory conditions. Liver addresses symptoms associated with poor liver functioning and inflammation. Kidney is a strengthening point for the kidneys and can relieve mental weariness, fatigue, and headaches. Traditional Chinese theory associates the points with physical and psychological states. The lung is associated with the grieving process, the liver is associated with resolving aggression, and the kidney is associated with willpower and coping with fear (Landgren, 2008).

Acupuncture points can be stimulated by various means: touch, movement, heat, and electricity as well as needling. Health-related procedures such as acupressure, shiatsu, reiki, healing touch, and tai chi work on principles similar to acupuncture although no needles are involved. Needling is a convenient and efficient means of stimulating acupuncture points (Smith, Carter, Landgren, & Stuyt, 2011).

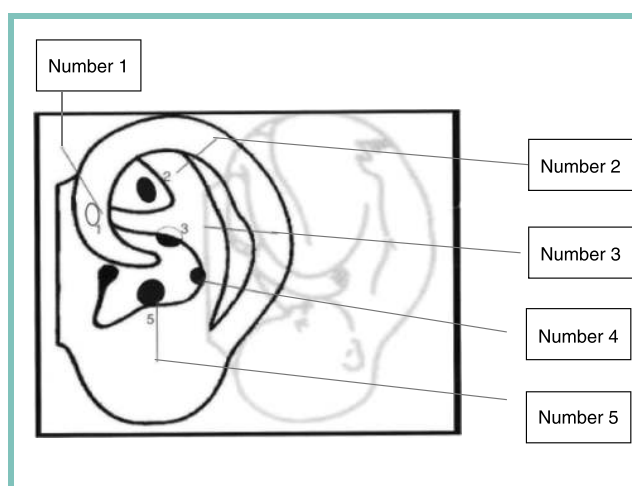
The acupuncture needles are inserted in the outer ear to a depth of about one eighth of an inch and will penetrate cartilage if it is present in that location. Needles are twirled 180 degrees for smoother insertion. Notably, the arrangement of acupuncture points on the ear is similar to the arrangement of neurons in the motor cortex of the brain itself. A representation of the entire body is thus achieved and is understood as a “humunculus” or microsystem that both reflects and affects the body’s state of health and disease. The ear is one such microsystem that is easily accessible. Thus, topographically, the outer ear can be represented artistically as an inverted fetus (Stux & Pomeranz, 2003; see Figure 1).

### NADA Protocol's Five Needle Points

NADA was established in 1985 to provide a more uniform approach to the treatment of patients and the training of practitioners using “The Lincoln Model.” Reflective of this intention, the NADA mission statement is as follows (NADA Acupuncture Detoxification Association, n.d.):

[NADA], a not-for-profit training and advocacy organization, encourages community wellness through the use of a standardized auricular acupuncture protocol for behavioral health, including addictions, mental health, and disaster and emotional trauma. We work to improve access and effectiveness of care through promoting policies and practices which integrate NADA style treatment with (other) western behavioral health modalities.

NADA provides a standardized training through the use of designated NADA registered trainers (RTs). RTs reference the NADA Training Resource Manual (NADA, 2010) to provide



**Figure 1.** NADA ear and description. Number 1—Sympathetic: Related to disruption in both sympathetic and parasympathetic nervous systems. It has a strong analgesic and relaxant effect on internal organs as it dilates blood vessels. Number 2—Shen Men: Regulates excitation and inhibition of the cerebral cortex and can produce sedation. Number 3—Kidney: Strengthening point that can relieve mental weariness, fatigue, and headaches. Number 4—Liver: Addresses symptoms associated with poor liver functioning and inflammation. Number 5—Lung: Associated with analgesia, sweating, and various respiratory conditions.

nationally recognized certification of training completion based on the acquisition of a shared set of core competencies. Upon completion of training, practitioners are certified as acupuncture detoxification specialists (ADSs). The NADA protocol for addictions was developed outside the traditional network of acupuncture colleges and universities; most acupuncture schools do not provide training in the NADA protocol or addictions treatment.

Acupuncture for addictions developed in grass-roots community settings and “in the trenches” of public health addiction treatment programs. The NADA protocol was originally provided by anyone trained and certified as an ADS regardless of professional status, which included ADSs without formal medical, nursing, or full-body acupuncture training.

The NADA protocol is administered efficiently in a group setting; one ADS is able to treat a group of 15–20 persons over the course of a treatment hour. This modality can be integrated into any inpatient or outpatient addiction program at any stage of the recovery process to treat a wide range of troublesome complaints. It is also easily deployed in the aftermath of acute disaster and trauma. It expands access and removes barriers to care in individuals who are otherwise unlikely to receive it. It is important to emphasize that NADA protocol is standardized and uses a specific point combination that does not change. This provides the rationale for why it can be administered by unlicensed practitioners who do not have formal training in medical assessment or diagnosis.

Patients may notice local effects such as warmth and tingling. Distal effects may include sensations of warmth or heaviness although these experiences are more typical of body

acupuncture than ear acupuncture. Patients may feel quite sleepy during treatment. This reaction is part of the acute recovery process and passes readily. A few patients can develop a headache at the end of a treatment session. Shortening the length of the session or reducing the number of needles resolves this problem. Patients may have minimal bleeding after the needle is removed. Patients or staff may press a cotton swab to the site where the minimal bleeding has occurred.

Postural hypotension is a rare needling reaction that may occur when needles are used. If this occurs, the patient will feel dizzy and light-headed and may actually faint. When this occurs, the needles are removed, and the patient is helped to lie on a flat surface. The episode will resolve in a few minutes, and the patient will exhibit the typical relaxed behavior that often accompanies a full duration of treatment. Needling reactions occur more often in persons with a relatively labile autonomic nervous system and in those unaccustomed to a relaxed state. Patients should be told to eat something before coming for treatment to reduce the possibility of a needling reaction.

## RESEARCH REVIEW AND GLOBAL ANECDOTES

Researchers have noted the following specific physiologic effects associated with acupuncture as cited in a comprehensive review of the acupuncture literature (Brewington et al., 1994). It has been reported that acupuncture at traditional points produced effects in electroencephalogram, glomerular filtration rate, blood flow, and respiratory rate, whereas stimulation of control points by acupuncture needles produced little or no appreciable effect. Studies have linked acupuncture to the production of endogenous peptides, such as beta endorphins and met-enkephalins. Acupuncture has also been associated with changes in other neurotransmitters including adrenocorticotrophic hormone, cortisone, serotonin, norepinephrine, and dopamine levels. Neuroanatomically, the ear is an elastic plate of connective tissue supplied by various cranial and spinal nerves (Cheng, 1999). The spinal nerves affect organs and systems locally and distally throughout the body. A biopsychosocial model reasons that acupuncture may influence emotional responses and neurobiology through individual and group processes (Bradham, 2011).

The effect of needling may be blunted in patients taking substantial quantities of methadone, corticosteroids, and benzodiazepines. Exposure to these substances appears to suppress part of the relaxation effect during treatment, and these patients may have a slower response to treatment. Nevertheless, the NADA protocol can be used to treat secondary addiction in high-dose methadone patients and in patients on benzodiazepine taper to minimize withdrawal symptoms (Smith et al., 2010).

Whereas the importance of neurotransmitters in addiction is well established, a complete understanding of NADA protocol neuroscience implications is yet to be established. Most studies evaluating the effectiveness of ear acupuncture have not been placebo controlled. Knowledgeable researchers have interpreted and designed studies that do not use a placebo

control. The placebo control model is most appropriate for pharmaceutical research. It is difficult, if not impossible, to apply placebo control standards to social science research. NADA protocol research is best understood as social science research specifically because it is not used as a stand-alone treatment (Margolin, Avants, & Holford, 2002). There are no points on the ear or on the body that are truly inactive in the sense of the pharmaceutical “sugar pill” placebo.

A naturalistic study design compared recidivism rates in three outpatient and four residential addiction treatment programs (Shwartz, Shaz, Muvey, & Brannigan, 1999). The study found that addicts choosing NADA protocol treatment as outpatients were less likely to relapse in the 6 months after discharge than patients who chose residential programs that did not include NADA protocol treatment.

Two controlled clinical trials provide strong support of the NADA protocol as an adjunctive treatment for alcoholics (Bullock, 1987; Bullock, Culliton, & Olander, 1989). These studies produced significantly better outcomes in the active group who received the NADA protocol on measures of attendance and self-reported need for alcohol. The control group reported more than twice the number of drinking episodes compared with the active group who received NADA acupuncture. In addition, the control group had twice the number of readmissions during the follow-up period.

Available evidence suggests that a substantial cost savings is realized when the NADA protocol is integrated into a comprehensive treatment strategy (Santasiero & Neussle, 2005). Multiple studies published in peer-reviewed journals support the adjunctive use of the NADA protocol for the treatment of heroin, alcohol, and cocaine addiction (Bergdahl, Berman, & Haglund, 2014; Bullock, 1987; Margolin et al., 2002; Santasiero & Neussle, 2005; Shakur & Smith, 1979; Shwartz et al., 1999; Washburn et al., 1993). Treatment of addiction is associated with lower community psychiatric hospital costs (Substance Abuse and Mental Services Administration, 2000). When the NADA protocol is combined with conventional treatment in a Health Maintenance Organization setting, an additional cost saving is realized (Santasiero & Neussle, 2005). Cost savings were derived from higher program completion rates, increased number of negative urine screens, fewer inpatient rehabilitation days, fewer inpatient psychiatric days, and fewer outpatient detoxification episodes over the course of treatment (Santasiero & Neussle, 2005).

Acupuncture may provide additional benefit in the treatment of depression and anxiety disorders associated with a co-occurring addiction disorder. For example, the Department of Veteran Affairs and the Department of Defense evidence-based guidelines reports “the evidence is good” that acupuncture may be helpful in the treatment of patients with posttraumatic stress disorder (retrieved from [www.healthquality.va.gov/guidelines/MH/ptsd/](http://www.healthquality.va.gov/guidelines/MH/ptsd/)).

In his comprehensive literature review, Bemis (2013) discusses published qualitative reports, program evaluations, field reports, and news stories that show the value of the NADA protocol as an adjunctive intervention in disaster relief

A prospective research trial measured the effect of NADA acupuncture in seven common physical and behavioral health symptoms associated with addiction. This was done in a 28-day addiction recovery setting where patients were non-randomized and self-selected. These symptoms were measured on a 10-interval Likert scale and included body aches, headaches, low energy, cravings, anger, depression, anxiety,





and poor concentration (Carter et al., 2011). All patients received usual and customary conventional treatment, which included intake assessment, physician physical examination, nursing and nurse practitioner care, administration of prescription medication, triage to urgent and emergency care when necessary, medical and psychiatric services as needed, educational groups, individual and group counseling, nightly 12-step meetings, dual diagnosis group, aftercare planning, and the option of participating in either NADA protocol or a study hall free time. Patients in the treatment arm received biweekly NADA protocol treatment plus the conventional treatment. Those in the treatment arm had statistically significant symptom reduction across all seven common behavioral health symptom measures. Symptom reduction enhances the ability to benefit from psychosocial aspects of treatment. These results suggest that NADA acupuncture is a simple and inexpensive treatment that may alleviate symptoms that negatively impact recovery in individuals with addiction.

Further work needs to include long-term outpatient follow-up with NADA acupuncture to measure outcomes over months to years in community settings. Additional studies should also evaluate the association of improvement in symptoms with severity of illness, course of illness, and reduction in overall cost of care.

## NADA PROTOCOL AND STATE LAWS (SCOPE OF PRACTICE REGULATIONS)

A patchwork of state laws exist with respect to the practice NADA protocol by NADA-certified ADSs. Some states have no official state guidelines; for example, in Michigan, more than 500 ADSs practice under the auspices of the Department of Consumer and Industry Services. This allows ADSs with varying backgrounds—including counselors, outreach workers, nurses, nurses' aides, social workers, psychologists, physicians, and correctional officers—to provide the NADA protocol within their scope of practice without difficulty or restraint.

NADA policies vary widely from state to state. Some are very restrictive, severely limiting who may provide and supervise NADA protocol services. Where direct supervision is required, an ADS's ability to practice is not, in reality, much better off, because direct supervision requires an (expensive) physician or acupuncturist to be present on site each time a treatment is given.

When supervision is legislated, general supervision is best. General supervision assumes (a) initial review and confirmation of written protocols appropriate for the particular treatment setting, (b) periodic onsite visits sufficient to assure that the established protocols are being followed, and (c) availability by electronic means to address questions or problems that may arise between visits. Program development thrives when supervision is available at low or no additional cost to the treatment program (see Figure 2).

## SUMMARY

Most addiction and other behavioral health programs, because of the nature of the diseases being treated, have meager means

and must conserve all the resources they have. The NADA protocol is an evidence-based best practice. With permissible laws or welcoming community standards, it is an affordable service option even for the least resourced programs. Cost of providing the NADA protocol can be minimal when existing staff is used to administer treatment. Materials (acupuncture needles, cotton balls, cotton swabs, hand sanitizer, sharps container) are inexpensive and easy to obtain. Thus, by adding the NADA protocol to existing programs, patient outcomes can be improved without incurring any substantial increase in expense.

Registered nurses represent the single largest group of licensed healthcare professionals in the United States (American Nurses Association, 2011). Their education and extensive training in healthcare make them ideal candidates to supervise, as well as administer, NADA protocol treatment. Unfortunately, many state laws unreasonably restrict practice and supervision of NADA protocol to physicians and to full-body acupuncturists. This precludes many addictions programs from being able to use NADA protocol for the overwhelming number of patients who would benefit. In many states, governmental statutes and regulations need to be revised to enable and empower nurses to provide and supervise NADA protocol in established addiction treatment programs, behavioral health programs, community settings, integrated medical systems, and settings of disaster and trauma.

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