



PROCEDURE, RESEARCH, RISKS, ALTERNATIVES for ACUPUNCTURE, CUPPING, MOXA, GUA SHA, E-STIM, and INFRARED

ACUPUNCTURE

Procedure

Medical acupuncture uses *very fine single-use, sterile needles* at precise points in the body to promote natural healing and improve functioning. The needles *go through the skin*, sometimes through the muscle and sometimes almost to the bone. Acupuncture needles *unblock obstructions and restore balance* in meridian pathways in the body through which energy/communication flows. They can *feel dull, pokey, sharp, or have no sensation*. Research demonstrates that acupuncture stimulates the release of *endorphins* that can *help manage pain and reduce inflammation*,¹ and *serotonin* which can enhance mood.² The effectiveness of using acupuncture for the treatment of chronic pain is well-established.³⁻²⁰ Acupuncture has been found to be particularly effective for treating chronic low back pain,³⁻¹¹ knee osteoarthritis,^{3,5,8,11-13} headaches,^{3,5,8,15-17} neck pain,^{3,5,19} and post-operative dental pain.^{3,5,8,20} The American College of Physicians recommends acupuncture as a first-line therapy for pain management.²¹ Research has shown acupuncture to increase *mast cell* activity,²² which are cells involved with immune response. Acupuncture has been shown to increase blood flow to tissues.²³ Research has shown that acupuncture *stimulates the vagus nerve* and the body's "*rest and digest*" *parasympathetic nervous system response*,²⁴ *slowing the heart rate*,²⁵ *lowering blood pressure*,²⁶ and *dropping cortisol levels*²⁷ to increase *fibroblast* activity, the cells responsible for synthesizing extracellular matrix and collagen,²⁸ and to measurably change *connective tissue composition and construction*.²⁹

Alternatives

There are alternatives to acupuncture such as acupressure, massage therapy, cupping, gua sha, physical therapy, and naturopathy.

Risk

The risks associated with acupuncture are low, but can include *feeling tired, bruising, bleeding, discomfort, soreness, dizziness, fainting, and organ injury*. *Risk of infection is minimal* due to single-use, sterile needles. <Pneumothorax, a puncture of the lung, is a risk, but is extremely rare. It is important not to adjust acupuncture needles yourself, but to ask your provider to help if you feel uncomfortable or need adjustment.>

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CUPPING

Procedure

Cupping is a *form of therapy using glass (or silicone) cups* placed on your skin to create suction. Some cups use a *manual pump*, while others use *fire to remove oxygen from the cup* before it's placed on the skin. Cups can be *stationary or moving*. Cupping pulls tissue into the cups, and usually leaves round reddish-purple marks on the area of application that last several days to over a week. Cupping can help with *chronic pain*,¹⁻⁴ *range of motion*,^{4,5} *inflammation*,^{2,6} *blood flow*,⁷ *immunity*,⁸ and *cleanse toxins from the blood*.⁹ Research has found it to be effective for chronic neck and shoulder pain,¹ chronic back pain,³ chronic neck pain,⁴ and hip and knee range of motion.^{4,5} Cupping can upregulate vascular and lymphatic endothelial markers that promote new lymph vessel formation⁸ and wet cupping can significantly reduce heavy metals (Al, Zn, and Cd) in the blood.⁹ I use glass fire cups of various sizes and pump cups at certain practice locations.

Alternatives

There are alternatives if you would prefer not to get cupping, such as acupuncture, acupressure, massage, shiatsu or tuina massage, acupuncture, physical therapy, or chiropractic.

Risks

Bruises (this is the most visible effect), *soreness/discomfort*, *burns* (rarely but potentially caused by hot edges of glass fire cups), *skin infections*; all glassware is cleaned with disinfectant prior to use on the next patient.

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MOXA

Procedure

Moxa is a *warming technique* involving *burning the dried mugwort herb, *Artemisia vulgaris** (called *Ai Ye* in Chinese pinyin) that has *demonstrated safety and effectiveness*.¹ It can be used *directly on the skin* with the use of a protective salve (rice grain moxa), on the *end of a needle* (warming needle), or as *pole moxa* to warm larger areas of the body by moving the moxa pole over but not on the affected/intended area of skin. Moxa can treat *low back pain with symptoms of cold and damp*² and *pain due to chronic headache*.³ Moxa plus western medicine treats *rheumatoid arthritis pain* more effectively than western medicine alone.⁴ Moxa contains anti-inflammatory and antioxidant constituents,⁵ infrared heat properties,⁶ and both *upregulates anti-inflammatory cytokines and downregulates proinflammatory cytokines* in rats with rheumatoid arthritis.⁷ It has also been shown to be as effective as western medicine for *relief of menstrual pain*.⁸ I use the purest grade moxa for direct and warming needle procedures.

Alternatives

There are various forms of moxa to choose. There are also alternatives to moxa such as massage therapy, cupping, gua sha, and acupuncture.

Risks

Risks associated with moxa are *very low*, but can include *allergies, burns, infection, coughing, nausea, vomiting, fetal distress, premature birth, basal cell carcinoma (BCC), and hyperpigmentation*.

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GUA SHA

Procedure

Gua sha is a *form of therapy* often used in traditional East Asian medicine that *involves using a tool to apply pressure and scrape the skin to relieve muscle pain and,¹ break up adhesions and scar tissue,² reduce inflammation,³ benefit the immune system,⁴ and protect against oxidative stress* via upregulation of heme oxygenase-1 (HO-1) gene expression.⁵ Gua sha has also been found effective for relieving perimenopausal symptoms and increasing hormone levels associated with menstrual cycles.⁶ It is traditionally popular for respiratory infections, musculoskeletal pain, headaches, fevers, and digestive disorders.⁷ I use a hammered copper tool crafted by AcuArtistry, and your choice of high-quality organic oils when offering gua sha.

Alternatives

There are alternatives if you would prefer not to get gua sha, such as cupping, massage, shiatsu, tuina, acupuncture, physical therapy, or chiropractic.

Risks

Gua sha *causes tiny blood vessels near the surface of the skin called capillaries to burst. This creates distinctive red or purple bruises, known as “sha.” The bruises usually take a few days or a week to heal and can be tender while healing. Spread of infections via unsterilized tools is a risk, and why my tools are cleaned and sterilized after each use.*

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ELECTRICAL-STIMULATION (E-STIM)

Procedure

Electrical-stimulation (e-stim) involves the use of a mild electrical current that runs from the e-stim machine through clips attached to acupuncture needles. This mild current is used to stimulate body tissues for a variety of treatment effects. It is particularly effective to rehabilitate neurological conditions such as early post-stroke impairment and late post-stroke motor function.^{1,2}

Alternatives

Manual needle stimulation or no stimulation at all are alternatives.

Risks

Low-risk procedure.

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INFRARED HEAT: TDP Lamp and Heated Mat

Procedure

Far Infrared is known to be a safe, healing light wave for the whole-body.¹ TDP heat lamps use infrared light to warm body tissues, such as the feet, hands or abdomen. Heat lamps have been shown to reduce oxidative stress and improve lipid profiles.² Heated stone (jade, amethyst, tourmaline, obsidian) mats use far infrared radiation (FIR), pulse electromagnetic field (PEMF) technology, negative ions, and warmth to reduce body pain and inflammation.^{1,3,4,5,6,7}

FIR (or radiant heat) “is the emission of energy as electromagnetic waves in the portion of the spectrum just beyond the limit of the visible spectrum”.³ FIR is considered a “safe, effective, and widely used source for healing.”³ The 8-14 um range is understood to be “most optimal for improving overall health because of [its] thermal properties.”³ FIR resonates with body frequencies, “causing [body tissues] to vibrate, heat up, and expand,” ... “resulting in the body feeling “fully charged and energized” and “causing a net increase in metabolism” and therefore body healing.¹ FIR “cause[s] the molecules of the body to vibrate at the same frequency used for therapeutic purposes.”³ Biomat’s infrared heat is tuned to 6.5 micron wavelength frequency, the same as a mother’s hands. This wavelength “resonates with the body, much like a mother’s soothing touch,” and is therefore “compatible with the human body” for easy absorption.³ Scientific studies have shown FIR to be effective in treating allergic rhinitis, arteriovenous fistula, and enhancing lactation via increased blood flow; assisting in the management and healing of conditions such as cardiovascular disease, diabetes, chronic kidney disease, primary dysmenorrhea, back pain, cancer, and wound healing; suppressing vascular inflammation and disease; improving motor function and nerve regeneration; and reducing small wrinkles, skin tones, brown spots; and improving skin elasticity and tensile strength.³ Salm et al. (2019) found that aquatic exercise in association with far-infrared treatments in fibromyalgia patients produced greater beneficial effects such as “decreased pain, body temperature, improved quality of life and reduced serum levels of IL-6,” an inflammatory cytokine, than aquatic exercise alone. Researchers concluded that these results may indicate that far-infrared therapy increases the benefits of aquatic exercise therapy.⁴

According to the National Pancreatic Cancer Foundation, PEMF therapy also “slows or stops the release of pain and inflammatory mediators, increases blood flow of the cells, and re-establishes normal cell interaction” for reduced inflammation and pain and faster tissue healing.⁵ Chronic disease and loss of well-being are understood to be related to low cellular electrical charge (below -15mV); healthy cells operate around -20 to -25 millivolts.⁵ According to this article, PEMF can optimize stress management and emotional health, relaxation and sleep, performance/recovery, circulation, brain function and focus, immune support, bone and joint health, and energy level and metabolism.⁵ Paolucci and colleagues (2020) conducted a meta-analysis on the use of electromagnetic field therapy for musculoskeletal pain within rehabilitation fields.⁶ The studies demonstrated the effective, well-tolerated use of pulsed magnetic fields at low intensity and frequency (1 – 100 Hz) with no negative side effects.⁶

Ho and colleagues (2020) reported that “negative ion treatment belongs to one of the critical categories defined by the National Center for CAM, ... capable of air purification and ameliorating emotional disorders (e.g., depression and seasonal affective disorder).”⁷ According to Biomat, negative ions help remove metabolic waste from the body by stimulating cell membranes’ ion channels.¹ Ho and colleagues (2020) evaluated the physiological effects of

negative ion patches of different intensities during pre-exercise, post-exercise, and recovery on exercise-induced muscle damage.⁷ The results indicated that high-intensity negative ion patches significantly reduced inflammatory cytokine levels (TNF- α , CK, LDH) and improved fatigue due to muscular overload, muscle tone, and muscle stiffness. Researchers concluded that negative ion treatment “effectively improve[d] physiological adaption and muscular fatigue recovery.”⁷

Summary

Heated infrared stone mats warm body tissues and reduce pain and inflammation through the use of far infrared rays, pulse electromagnetic field technology, negative ions, and heat. They contain a computerized control panel that converts electricity into Far Infrared Rays (FIR) and contain stones such as amethyst quartz, jade, tourmaline, obsidian, and crystal that naturally produce far infrared. Far infrared rays decrease pain and inflammation, and increase metabolism for increased tissue healing. Pulse electromagnetic field (PEMF) technology, which decreases pain and inflammation, and increases blood flow for faster tissue healing. Negative ions (found abundantly in natural settings such as forests) purify air, remove metabolic waste, and can help to alleviate emotional conditions. The combination of these therapies within one wonderful mat combine to create an energizing, deeply relaxing experience that penetrates deep into body tissues.

Alternatives

The alternatives to a heat lamp include the heated infrared stone mat, and vice versa, although the effects are not exactly the same. For warmth, blankets can also be used instead of a heat lamp.

Risks

With the heat lamp, there are risks of burning the skin, especially in patients with peripheral neuropathy.

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