

Acupuncture

Linda Chun
Clinical Assistant Professor
Internal Medicine – Pediatrics
OSU Center for Integrative Medicine
The Ohio State University Wexner Medical Center

WHAT IS ACUPUNCTURE?

- **Acu = Greek for needle**
- **Acupuncture = Puncture with needles**
- **Insertion of very fine needles into the skin at specific points**
- **Sometimes**
 - **Combined with electric pulse**
 - **Used with moxibustion (herbal heat source)**



Image provided courtesy of Welcome Images

WHAT IS ACUPUNCTURE?

Can influence health by:

- Promoting health and well-being
- Preventing illness
- Treating various symptoms and medical conditions



Image provided courtesy of Welcome Images

ACUPUNCTURE

- Key component of Traditional Chinese Medicine
- Practiced for 1000's of years
- To analyze and categorize symptoms and disease, TCM utilizes concepts of:
 - Cold/heat
 - Interior/exterior
 - Excess/deficiency
 - Yin/yang



Image from Wikipedia

QI

- Qi is vital energy or life force
- Circulates in the body through meridians
- Health involves maintaining balance and harmony of Qi circulation
- Flow can be blocked, deficient, excessive, imbalanced
- Influence Qi at acupuncture points
- Insertion of fine, metallic needles



Image provided courtesy of Welcome Images

Human body meridians

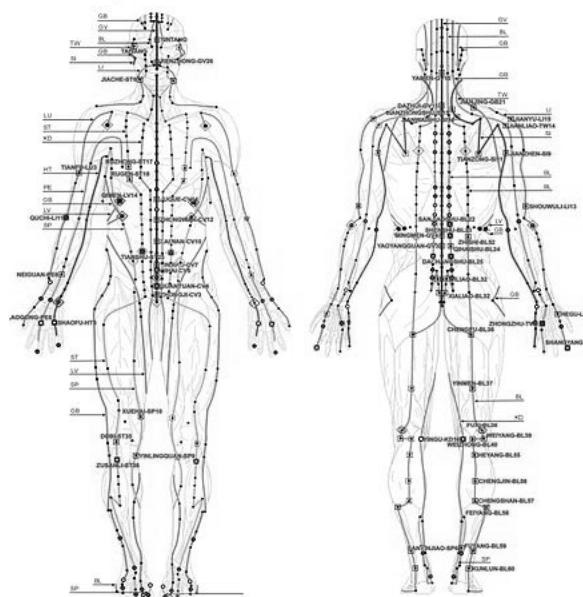


Image from Wikipedia

ACUPUNCTURE TECHNIQUES

- **Moxibustion – therapeutic application of heat to acupuncture points by burning herb (*Artemesia vulgaris*)**
- **Cupping – applying suction to skin with small glass jars**
- **Acupressure – manual pressure applied to acupressure points and meridians**
- **Electroacupuncture – electric current applied to needle**

ACUPUNCTURE IN THE U.S.

- **2007 National Health Interview Survey**
- **Comprehensive survey of CAM use by Americans**
- **3.1 million adults and 150,000 children had used acupuncture in previous year**
- **Between 2002 and 2007 NHIS, use by adults increased by 1 million people**

MEDICAL ACUPUNCTURE

- **Combination of Western medicine and TCM concepts**
- **Utilized by physicians**
- **Treats wide scope of conditions including prevention**
- **Looks at both medical paradigms**
- **American Board of Medical Acupuncture**

COMMUNITY ACUPUNCTURE

- **Community Acupuncture Network**
- **Treatments in community setting**
- **Sliding scale fee typically**
- **No insurance plans**
- **More affordable and accessible**
- **Acupuncture often more effective when done more frequently**



Image from Wikipedia

ACUPUNCTURE IN OHIO

- **Education and training requirements for licensure vary from state to state**
- **In Ohio, acupuncture considered an extension of branch of medicine**
- **Medical license or licensed acupuncturist (following training at accredited school)**
- **Chinese herbal medicine excluded from scope of practice of acupuncture in Ohio**

HOW DOES ACUPUNCTURE WORK?

RESEARCH DEMONSTRATES THAT ACUPUNCTURE:

- **Stimulates**
 - Bone regrowth
 - Clotting factor
- **Regulates**
 - Blood pressure
 - Serotonin
- **Stimulates production of**
 - Cortisol
 - Dynorphin
 - Endorphin
 - Enkephalin (pain modulators)



Image provided courtesy of
Welcome Images

The Body Electric by Robert Becker, MD
The Vital Meridian by Alan Bensoussian

THEORIES

- **Autonomic nervous system theory**

Acupuncture stimulates the release of norepinephrine, acetylcholine and several types of opioids, affecting changes in turnover rate, normalizing the autonomic nervous system, and reducing pain
- **Vascular-interstitial theory**

Acupuncture manipulates the electrical system of the body by creating or enhancing closed-circuit transport in tissues. This facilitates healing by allowing the transfer of material and electrical energy between normal and injured tissues.

THEORIES

- **Blood chemistry theory**

Acupuncture affects concentrations of triglycerides, cholesterol, and phospholipids, suggesting that acupuncture can both raise and diminish peripheral blood components, thereby regulating the body toward homeostasis.

- **Gate-control theory**

Acupuncture activates non-nociceptive receptors that inhibit the transmission of nociceptive signals in the dorsal horn, “gating out” painful stimuli.

THEORIES

- **Neurotransmitter theory**

Acupuncture affects higher brain areas, stimulating the secretion of beta-endorphins and enkephalins in the brain and spinal cord. This influences the immune system and the antinociceptive system.



Image from Wikipedia

WHAT CAN ACUPUNCTURE HELP?

- **World Health Organization (WHO) recognizes the use of acupuncture in the treatment of a wide range of illnesses**
- **Based on clinical experience, not necessarily on controlled clinical research**

WHAT CAN ACUPUNCTURE HELP?

- | | | |
|--------------------------|----------------------------|-------------------------------------|
| • Addictions | • Facial palsy/tics | • PMS |
| • Anxiety | • Fatigue | • Pneumonia |
| • Arthritis | • Fertility | • Reproductive problems |
| • Asthma | • Fibromyalgia | • Rhinitis |
| • Carpal tunnel syndrome | • Gingivitis | • Sciatica |
| • Chronic fatigue | • Headache | • Seasonal affective disorder (SAD) |
| • Colitis | • Hiccup | • Shoulder pain |
| • Common cold | • Incontinence | • Sinusitis |
| • Constipation | • Indigestion | • Sleep disturbances |
| • Dental pain | • Irritable bowel syndrome | • Smoking cessation |
| • Depression | • Low back pain | • Sore throat |
| • Diarrhea | • Menopause | • Stress |
| • Digestive trouble | • Menstrual irregularities | • Tennis elbow |
| • Dizziness | • Migraine | • Tonsillitis |
| • Dysentery | • Morning sickness | • Trigeminal neuralgia |
| • Emotional problems | • Nausea | • Urinary tract infections |
| • Eye problems | • Osteoarthritis | • Vomiting |
| | • Pain | |

FREQUENTLY TREATED SYMPTOMS

- **Chemotherapy-induced nausea and vomiting**
- **Post-op pain**
- **Neck and Lower back pain**
- **Myofascial pain**
- **Osteoarthritis**
- **Headaches/Migraines**
- **Menstrual problems**
- **Shoulder and arm pain**
- **Digestive problems**
- **Addictions**
- **Asthma**
- **Fertility concerns**



Image provided courtesy of Wellcome Images

SAFETY OF ACUPUNCTURE

- **FDA regulates acupuncture needles for use by license practitioners**
- **Needles manufactured and labeled according to certain standards**
- **Sterile, non-toxic, single use**
- **Practitioners use new set of disposable needles**
- **Swab sites with alcohol before insertion**

RESEARCH

ACUPUNCTURE AND CHRONIC PAIN

- **Recent NCCAM-funded study published Sept 2012 Archives of Internal Medicine**
- **Individual patient data meta-analyses**
- **29 high quality randomized controlled trials**
- **17,922 people**
- **Back and neck pain, OA, shoulder pain, headaches**

Vickers AJ, Cronin AM, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. Archives of Internal Medicine. September 10, 2012

ACUPUNCTURE AND CHRONIC PAIN

- Statistically significant differences between acupuncture and simulated acupuncture (modest)
- Statistically significant differences between acupuncture and no-acupuncture control (larger)
- Similar across all pain conditions
- Noted by authors as most robust evidence to date that acupuncture more than just placebo

Vickers AJ, Cronin AM, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. *Archives of Internal Medicine*. September 10, 2012

ACUPUNCTURE AND KNEE OSTEOARTHRITIS

- Randomized placebo-controlled trial
- 570 patients
- Compared 24 acupuncture sessions over 26 weeks with sham acupuncture or educational approach
- WOMAC pain and function scores at 4, 8, 14, 26 weeks
- **PAIN:** By week 14, pain significantly decreased more in true acupuncture group (40% decrease) compared to sham
- Significant differences remained at week 26



Image provided courtesy of Wellcome Images

Berman BM, Lixing L, et al. Effectiveness of Acupuncture as Adjunctive Therapy in Osteoarthritis of the Knee: A Randomized Controlled Trial. *Annals of Internal Medicine*. 2004;141:901-910

ACUPUNCTURE AND KNEE OSTEOARTHRITIS

- **FUNCTION:** At weeks 8, 14, 26 true acupuncture group with significantly greater improvement compared to sham
- Acupuncture appears to be safe and effective for reducing pain and improving function
- High attrition rate, particularly educational group (52%!) – greatest weakness of this study.



Image provided courtesy of Wellcome Images

Berman BM, Lixing L, et al. Effectiveness of Acupuncture as Adjunctive Therapy in Osteoarthritis of the Knee: A Randomized Controlled Trial. *Annals of Internal Medicine*. 2004;141:901-910

ACUPUNCTURE AND HEADACHES

- 48 patients with chronic migraine and muscle tension headaches
- Compared prophylactic course of acupuncture and medical treatment
- 24 out of 41 improved on acupuncture; very marked in 9
- 9 out of 36 improved on med treatment; very marked in 3



Image provided courtesy of Wellcome Images

Loh, L., Nathan, P., et. al., Acupuncture versus medical treatment for migraine and muscle tension headaches, *Journal of Neurology, Neurosurgery, and Psychiatry*, (47): 333-337

ACUPUNCTURE AND HEADACHES

- Larger proportion preferred acupuncture (did not switch)
- Acupuncture more likely beneficial if +tender points
- Length of time patient had headache – no difference
- Depressive features did not preclude satisfactory treatment



Image provided courtesy of Wellcome Images

Loh, L., Nathan, P., et. al., Acupuncture versus medical treatment for migraine and muscle tension headaches, *Journal of Neurology, Neurosurgery, and Psychiatry*, (47): 333-337

ACUPUNCTURE AND NAUSEA/VOMITING

- 2006 Cochrane systematic review assessing P6 stimulation
- Post-operatively
 - 26 trials (>3000 patients) showed superiority of real P6 stimulation over sham for both nausea and vomiting
 - P6 stimulation superior to anti-emetic for nausea, equivalent for vomiting



Image provided courtesy of Wellcome Images

J Altern Complement Med. 2006 Jun;12(5):489-95

ACUPUNCTURE AND NAUSEA/VOMITING

- **Chemotherapy induced**
 - 11 trials (>1200 patients) showed electroacupuncture, not manual, effective for first-day vomiting
 - Acupressure effective for first-day nausea, not vomiting
- **Pregnancy induced**
 - 6 trials (1150 patients) with mixed results



Image provided courtesy of Wellcome Images

J Altern Complement Med. 2006 Jun;12(5):489-95

ACUPUNCTURE AND PTSD

- **Pilot study with 73 people**
- **Received either acupuncture or group cognitive-behavioral therapy over 12 weeks**
- **Wait-list control group**
- **Primary outcome measure was self-reported PTSD symptoms (depression, anxiety, impairment)**



Image from Wikipedia

J Nerv Ment Dis. 2007 Jun;195(6):504-13.

ACUPUNCTURE AND PTSD

- Acupuncture effects similar to group CBT
- Both interventions superior to control group
- Treatment effects maintained for 3 months for both
- Larger trials warranted



Image from Wikipedia

J Nerv Ment Dis. 2007 Jun;195(6):504-13.

ACUPUNCTURE AS PART OF INTEGRATIVE APPROACH

- Safe and effective modality
- No side effects
- Drug-free
- Affordable options exist
- Wide variety of conditions
- Desired by patients

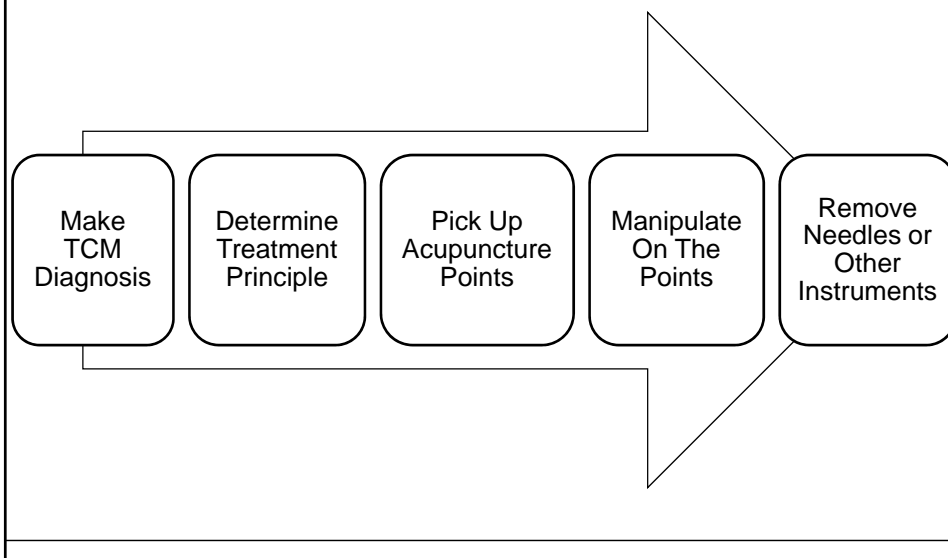


Image provided courtesy of Wellcome Images

Clinical Practice of Acupuncture

David Wang, RAC
OSU Center for Integrative Medicine
Department of Family Medicine
The Ohio State University Wexner Medical Center

General Clinical Procedure of Acupuncture Treatment



Make TCM Diagnosis

Step
one



•Collection of clinical data

Step
two



•Differentiation of Syndrome

Collection of Clinical Data

☐

Inquiring

☐

Observation

☐

Listening and Smelling

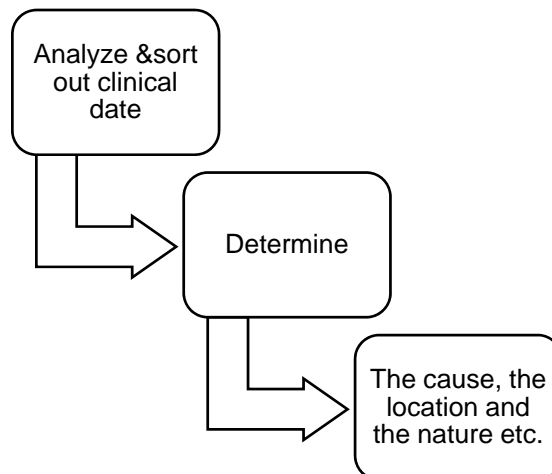
☐

Pulse-feeling and Palpation

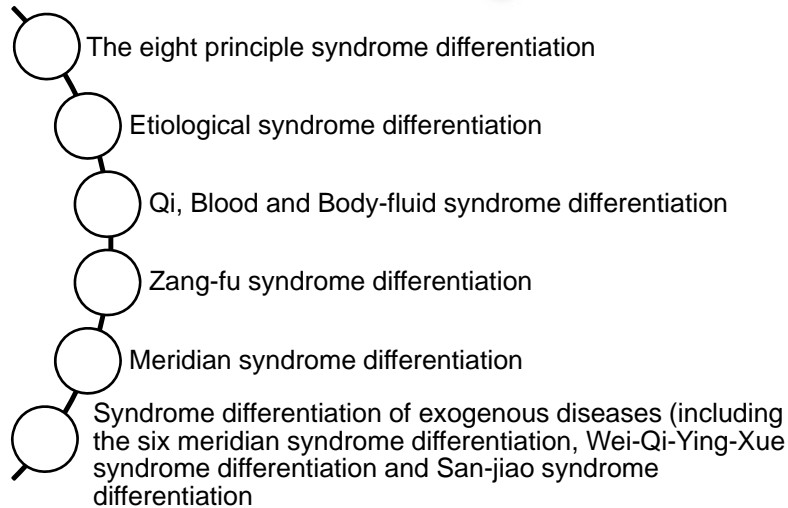
Tongue Diagnosis

Pulse Diagnosis

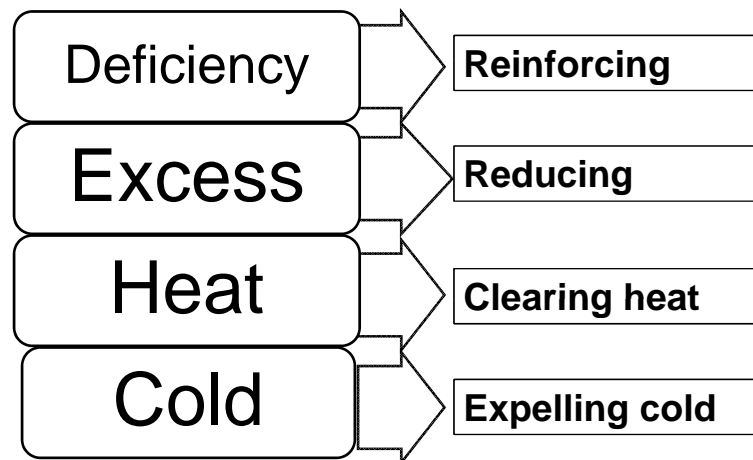
Differentiation of Syndrome



Techniques of Differentiation Syndromes



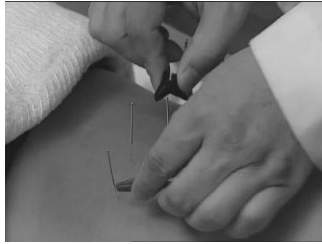
Determine Treatment Principle



Pick Up Acupuncture Points

Body Acupuncture System

Micro-Acupuncture Systems



Auricular Acupuncture

Scalp Acupuncture

Facial and Nasal Acupuncture

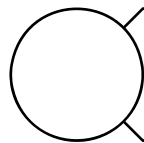
Ocular Acupuncture

Wrist & Ankle Acupuncture

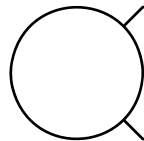
Hand & Foot Acupuncture

Acupuncture on the Radial Aspect of the
2nd Metacarpal bone

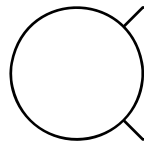
The Basic Principles of Selecting Points



Based on TCM theories



Based on the
practitioner's experiences



Based on modern
science research

Manipulate on the Acupuncture Points

Needling
with specific
techniques
(reinforcing,
reducing,
even
methods)

Moxibustion

Vaccarie
Seeds

Point
Injection

Electro-
acupuncture

Magnetic

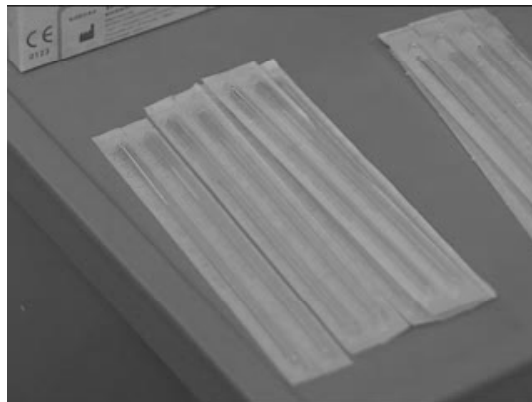
Laser

Cupping

Acupressure

Scrubbing

Acupuncture Tools



Acupuncture Needles

Filiform Needles

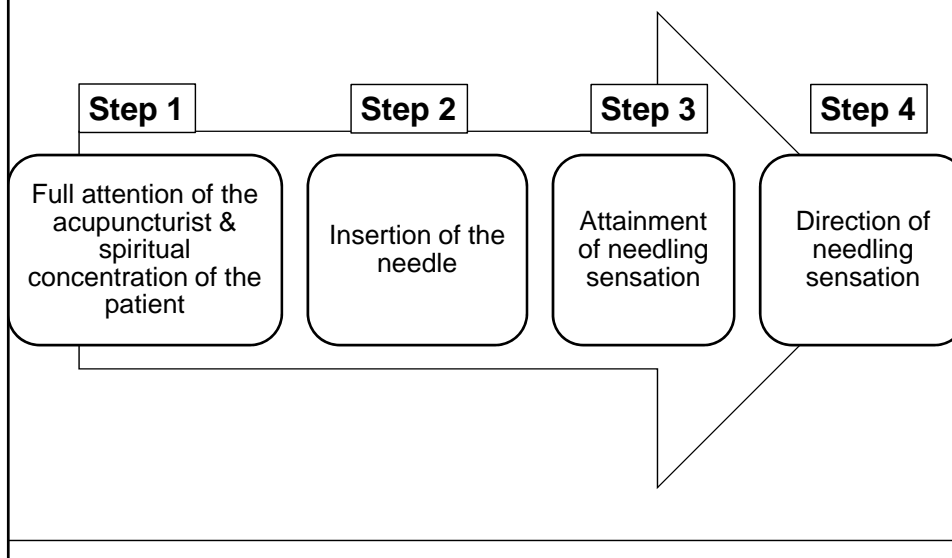
Other Needles

Intradermal Needles

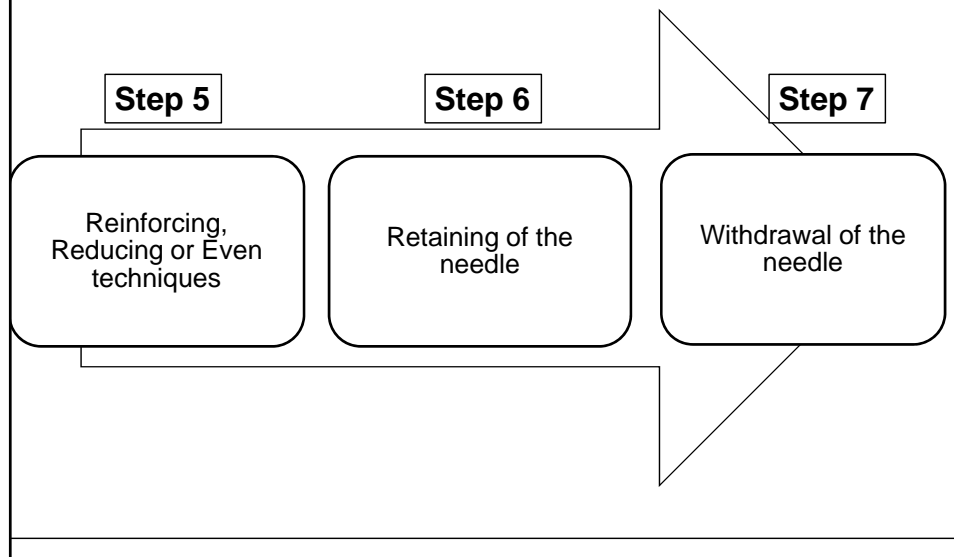
Cutaneous Needles

Three-Edged Needles

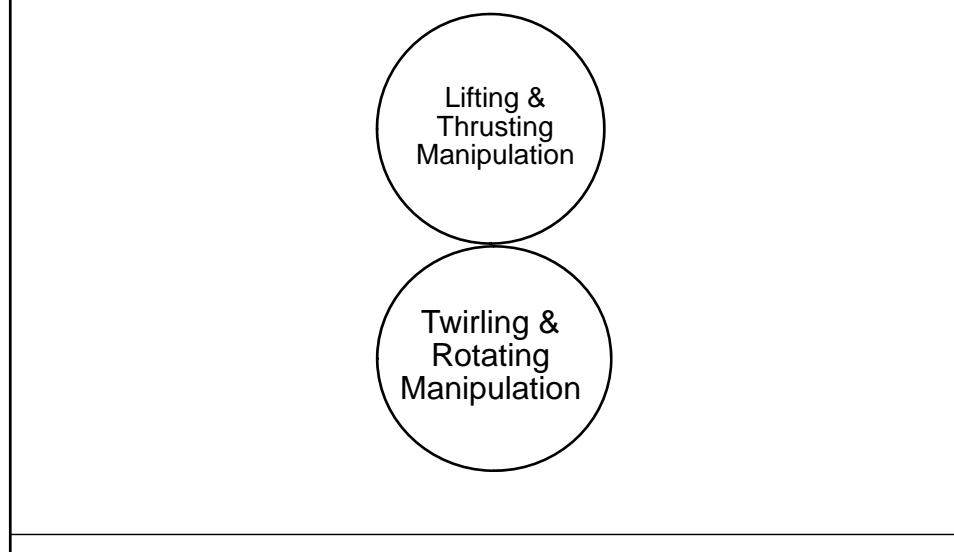
Procedure of Acupuncture with filiform needles



Procedure of Acupuncture with filiform needles



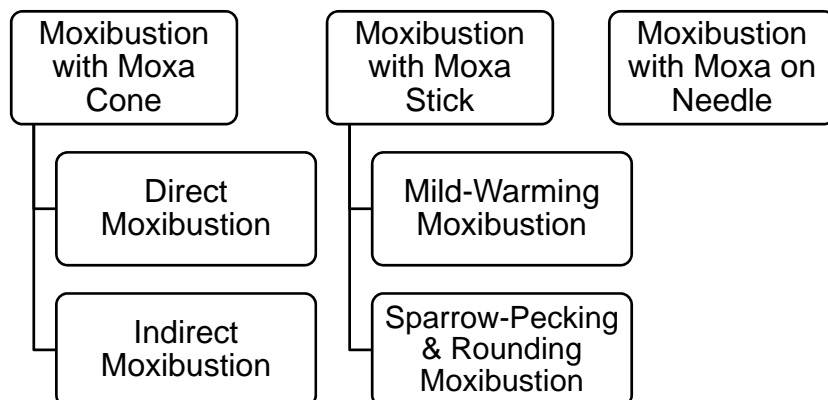
Methods of Manipulating the Needle



Reinforcing and Reducing Manipulations

| | | | | | |
|--------------------------|---|--------------------------|--|--------------------------|--|
| <input type="checkbox"/> | By lifting and thrusting the needle | <input type="checkbox"/> | By twirling and rotating the needle | <input type="checkbox"/> | By rapid and slow insertion and withdrawal of the needle |
| <input type="checkbox"/> | By puncturing along and against the direction of the meridian | <input type="checkbox"/> | By manipulating the needle in cooperation with the patient's respiration | <input type="checkbox"/> | By keeping the needling hole open or close |
| <input type="checkbox"/> | Heat-inducing needling | <input type="checkbox"/> | Cool-inducing needling | <input type="checkbox"/> | Yin occluding in Yang |
| <input type="checkbox"/> | Yang occluding in Yin | <input type="checkbox"/> | Dragon-Tiger fighting | <input type="checkbox"/> | Midnight-Noon lifting and thrusting of the needle |

Moxibustion



Acupuncture Procedures



Functions of Moxibustion

Warming and Dispersing the cold

**Warming and Dredging the
Meridians, promoting Blood
Circulation**

**Recuperating the Depleted Yang
and Rescuing Collapsed Patient**

Relieving Stagnation

**Preventing Diseases and
Promoting Health**

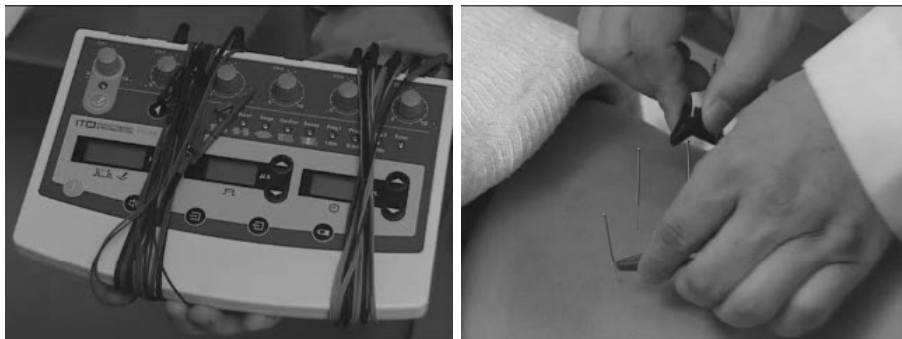
Contraindication for Moxibustion

Excess Syndrome, Heat Syndrome

The abdominal region and lumbosacral region of the pregnant woman are not allowed to use moxibustion

Direct moxibustion should not be applied to the face and head, the area where the main vessels lie.

Electro-Acupuncture



- **Pregnancy**
(the first trimester or close to the uterus at any stage of pregnancy)
- **Cancer**
(over the tumors or cancerous tissue)
- **Broken Skin**
- **Disoriented Patients**
- **Metal**
(near the metal or over areas of the body with metal staples, implants or pins)

- **Heart**
(peripheral to the heart, patient with pacemaker, defibrillator)
- **Laryngeal Musculature**
- **Carotid Sinus**
- **Infections**

Cupping



Indications of Cupping

Bi syndrome (Pain of the low back, shoulders, legs etc.)

Gastrointestinal disorders (Stomachache, Vomiting, Diarrhea)

Lung disease (Cough and Asthma)

Contraindications of Cupping

Over ulcers

Edema

On an area overlying large blood vessels

High fever and convulsion

Hypersensitivity

Bleeding

Low abdomen or low back of pregnant women

- **Pregnant women:**

Points on the lower abdomen and lumbosacral region under three months, points on the upper abdomen and lumbosacral region after three months, LI4, SP6, UB60, UB67, GB21, ST12

- **Infants:**

Points on the vertex when the fontanel is not closed, in addition, no retaining of needles

- **Blood vessels:**

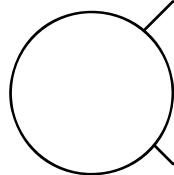
ST30, LV14, ST9, LU8, ST42

- **Internal organs:**

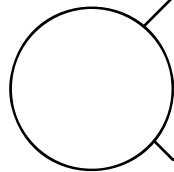
Points of the chest and back should be carefully needed

- **Patients who are:**
extremely weak, over fatigue, too huger, very drunk, very angry
- **Lymph edema (no needles in direct area)**
- **Platelets <50,000**
- **ANC<500**
- **WBC<1500**
- **Acute irregular heartbeat or failure**
- **Caution with anticoagulant use, bleeding tendency**

Acupuncture is Extremely Safe

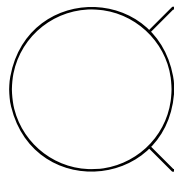


Treated billions of people over thousands of years



Out of 55,291 acupuncture treatments (5 years)

- 64 = minor adverse events
- 99.8% without significant adverse events*

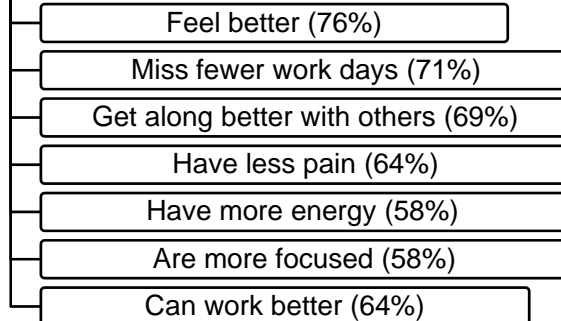


Serious adverse events in acupuncture treatment are uncommon in the practice of adequately trained acupuncturists*

*JAMA, Yamahita, H., Tskayama, Dr. H., et. al.

Acupuncture is Extremely Safe

Beneficial side effects:



Patients reported that most of the time they:

Claire Cassidy, "Health Visions 2000"

What is an Acupuncture treatment like?

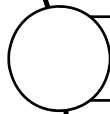
Once the needles are placed there may be a slight tingling, numbness or heaviness in the area while the practitioner is stimulating the point.

These are positive signs that the needles are affecting the acupuncture point.

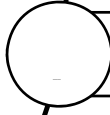
How long do treatments take?



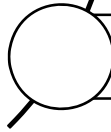
An office visit---30 minutes to 1 hour.



The needles remained ----15 to 45 minutes, average: 30 minutes



The technique and desired result will determine the duration.



Usually the patient will be lying on a comfortable padded table or in an easy chair. Often patients will become very relaxed and fall into a light sleep during the session.

How many treatments and how often?

Although some people will respond well to only one treatment, more are often necessary.

The frequency of treatment and number of treatments needed is related to the patient's condition.

Generally, the longer you have had the condition, the longer the course of treatment will be before showing substantial and lasting results.

Acupuncture can be scheduled as often as five times a week or as little as once a month

Typically, in China patients are treated two to five times a week

Although some patients respond favorably after only one or two treatments, others may not respond until the ninth visit

As symptoms improve fewer visits are required

Acupuncture Is:

- ☒ **Safe**
- ☒ **Effective**
- ☒ **Cost effective**
- ☒ **Desired by the public**

**A Rapidly Growing
Profession For Tomorrow's
Health Care World**