Acupuncture: The New Ancient
Origins of Acupuncture

• Over 4000 years ago
• Stone needles
• 3000 year old hieroglyphics on bones and tortoise shells
• Bronze age—castings of bronze needles found
Iron Age

- About 200 B.C. Iron Age began
- During the feudal age acupuncture grew by leaps and bounds
- Nine kinds of metal needles found
- 1968—Tomb of Western Han Dynasty excavated—4 golden needles 5 silver needles
Growth

Acupuncture continued to grow steadily

By the second century B.C. principles were well formed, including moxibustion herbal therapy, massage and surgery

Many writings associated the human condition with the natural environment
• Writings were not well systemized until about 260 A.D.
• The Canons of Acupuncture, 12 volumes, addresses 349 acupuncture points
• Acupuncture grew during 265-580 A.D. because there were so many wars
• Acupuncture was a convenient and portable therapy
600-900 A.D. much clarification and systemization
Many writings that clarified old mistakes.
Many charts and color coded illustrations
862 A.D.—Earliest block-printed manual, Acupuncture for Emergencies
Tang Dynasty—Imperial Medical Bureau was responsible for medical education
The acupuncture branch included 1 professor, 1 asst. professor, 10 instructors, 20 technicians, and 20 students.
Ming Dynasty
1368A.D.—1644A.D.

Acupuncture study reached a climax with much deeper study
Many famous practitioners
Extensive collections and revisions
Studies done on the manipulation of needles
Development of moxastick and moxa cone
Qing Dynasty
1644A.D.—1840A.D.

Acupuncture and moxibustion fell out of favor

More emphasis on herbal treatment

1822 acup/moxi were abolished from the Imperial Medical College because these treatments were not suitable for the Emperor
End of the Opium War
1840

Colonial society beginnings
Introduction of Western medicine
promoted Christianity, which
promoted selling goods
TCM was defamed as torture
“the deadly needle”
By 1914 TCM was banned
Folk Medicine

• Great need for medical care in rural China
• Acupuncture became strong among folk populations
• Folk doctors took great care to preserve traditional medicine
• Many published books and launched comprehensive teaching
Cultural Revolution

- Little change until 1944
- Doctors trained in the Communist Party revived acupuncture
- TCM use spread through the organized hospitals, especially the army bases
- 1945 International Peace Hospital built
- It had its own acupuncture clinic
- First comprehensive merger of TCM and advanced science
- Government ok’d publishing and began acupuncture education again
1950’s

- Acupuncture was unprecedentedly promoted by the government
- Strong efforts to unite Western medicine and Western trained practitioners with TCM
- Teaching and research groups were built in each Chinese medical school
- Many city hospitals have their own departments of acupuncture
- On the curriculum of many Western medical schools and seen as a specific research item
1970’s

- Since the 1970’s more work has been done on anesthesia
- 1972—Nixon’s trip to China
- USA has become more aware
The Art of TCM

- TCM takes the whole person into account as an entity, rather than treating a disease.
The Three Treasures of Life

Essence - The concentrated substance of life. Genetic material and neurotransmitters.

Qi - The mobilizing force of life. Channels for life flow, neurotransmission between the cells, matter and energy.

Spirit - Coordinated activities of qi and essence.
Neither white nor black is a semicircle, because there is never absolute balance between yin and yang.

Small circle: each exists within the other.

Complementary forces.

Different but equal.

Both are necessary for balance.
Yang - Yin

**YANG**

- Strong, active, rational and orderly
- Activated by physical exercise, athletics, martial arts

**YIN**

- Serene, restful, nurturing
- Enhanced by meditation, mantra, tai chi, yoga
Basic Concepts of Traditional Chinese Medicine (TCM)

**YANG**
- Sun
- Masculine
- Upward-seeking
- Positive
- Fire and Air

**YIN**
- Dark
- Feminine
- Downward-seeking
- Negative
- Water and Earth
Homeostasis
Homeostasis

Homeostasis
Claude Bernard wrote, "La fixité du milieu intérieur est la condition d'une vie libre et indépendante." ("Constance of the internal environment is the condition for a free and independent life.")
Branches of Traditional Chinese Medicine
Herbal Medicine

- Most ingredients from plants
- Some from animal or minerals
- Used to balance mind, body, and spirit
- Need good supervision
Qi Gong

- Chinese art of exercise and meditation
- Dynamic movements and still postures combined with mental, spiritual concentration to influence the flow of qi
- Powerful preventive therapy
Qi Gong Healing

Excellent for healing, emotional conditions: anxiety, depression, stress

With Qi Gong meditation, qi is directed to the frontal lobe, where emotional control is located.

Emotions become more balanced resulting in calmness and a relaxed state.

Qi Gong practice strengthens internal energy. With regular practice enough qi is gained to promote healing.
Massage

• Originally used during the Warring State to treat injuries and pain
• Through repeated practice, found that massage reduced illness, stopped pain, and invigorated spirit
• Treatment became more and more popular as theories around the energy channels were firmed up
• Harmless
• Easy
Acupuncture and Moxibustion

• Insertion of fine needles along 12 meridians that control the flow of qi
• May augment efficacy with electrical stimulation, laser, ultrasound or heat
• Moxibustion is burning of herb, mugwort, over the points to stimulate the point and promote smooth flow of essence
Neuroanatomical Acupuncture

• Needle placement is determined by dermatome, myotome or sclerotome

• This manipulation stimulates the nerve or muscle in a way that changes the interaction between peripheral and central nervous systems

• The body “relearns” the pain response
Mechanics

• More than 670 acupuncture points
• 32 gauge needles
• Electrical stimulation
  – Low freq 2-6 Hz (stim alpha-delta fibers)
  – High freq >100 Hz
• Manual rotation
  – thrusting/lifting motion 4-5 cps
How It’s Done

• “Acupuncture”
  – Moxibustion, cupping, heat, pressure, electrical stimulation, lasers

• Needles: thin, solid, metallic, sterile (single use)
  – FDA moved needles from “experimental medical devices” to regular medical devices
  – Pliable, fine diameter (0.007-0.020” 0.18-0.51 mm)
Auricular Acupuncture
AC: Adverse Events

- Infection, local bleeding, forgotten needles
- Dizziness and syncope
- Pneumothorax
- Paralysis
  - GB-20 (Wind Pond) enter spinal canal
- Death
  - Sternal anomaly – pericardial tamponade

Note: Only 9 complaints of medical complications in the US over a 20 yr period
How Does It Work?

- Endorphins
- Alteration of brain metabolism
- Local neural reflexes
- Neurotransmitters
- Nonspecific needle effect
- Suggestion
- Studies show that about 80-90% respond, usually within 3-5 sessions
Biologic Response

• Opioid peptides are released during AC
• Naloxone reverses the analgesic effects of AC
• Activation occurs in the hypothalamus, amygdala and cingulate cortex
  – PET, fMRI, EEG and MEG
• Substance P
• Histamine-like substances
• Bradykinin
• Serotonin
Biologic Effects of Acupuncture

• Therapeutic AC modulates activity of antinociceptive limbic networks, higher cognitive and affective control centers
  – Primary somatosensory cortex
  – Anterior cingulate cortex
  – PAG and raphe nuclei
  – Thalamus and hypothalamus
Mechanism of Action

• Animal and human studies:
  – Endorphin production in the PAG
  – Hypophysectomy or blockage of opiate receptors with naloxone abolishes the analgesic effect of acupuncture
  – Mice congenitally devoid of endorphin receptors do not respond to acupuncture
  – Equine “twitch” leads to rise in serum endorphins; acupressure
fMRI and PET

• Activation of the hypothalamus
  – key player in maintenance of homeostasis
A. CTS, hyperactivation of innocuous third finger stim in primary Somatosensory cortex changed post AC. B. close somatos rep
CNS Mediation of AC Analgesia

- Infusion of CSF from rabbits post AC induces elevation of pain thresholds in AC-naïve recipient rabbits.
- Opioid peptides released during AC.
- Animals developing tolerance to electro-AC analgesia also become tolerant to morphine.
Challenges in Clinical AC Trials

• The dilemma of the “control”
  – Sham acupuncture
    • Is not inert
    • Causes a biologic response
    • Points on the same meridian – same response
    • Superficial needling without “deQi”

• Treating the patient, not the disease
  – Rigorous methodologies preclude adjustments according to response.
Challenges

• Placebo arms
  – Inactive points
  – Superficial needling
  – Blunt needles or acupressure/mock TNS

• Placebos produce clinically relevant effects, limiting comparability of studies
Who Uses Acupuncture?

• 10 million treatments a year
• More female than male
• Often desperate patients
• Boomers—early adopters
• Social conscious
• Self care
• Over 65 crowd
Which Conditions Respond?
## WHO Acupuncture Indications

<table>
<thead>
<tr>
<th>Flatulence, abdominal distension</th>
<th>Muscle spasms</th>
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<tbody>
<tr>
<td>Acute and chronic pain</td>
<td>Hiccups</td>
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<td>Allergic sinusitis</td>
<td>Phantom pain</td>
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<td>Anorexia, Anxiety</td>
<td>Premenstrual syn</td>
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<td>Arthritis, Atypical chest pain</td>
<td>Seventh N Palsy</td>
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<td>Nausea/vomiting, IBS</td>
<td>Sleep Disorders</td>
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<td>Cervical and lumbar spine syndromes</td>
<td>TMJ</td>
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<td>Drug detoxification</td>
<td>Urinary incont.</td>
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<td>Frozen shoulder</td>
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<td>Headache</td>
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Anecdotes

- Migraine
- Sport Injuries
- Infertility
- Neurogenic bladder
- Chemotherapy side effects
- Trigeminal Neuralgia
- Recent JAMA article
“The data to support acupuncture are as strong as those for many other accepted medical treatments. There is sufficient evidence of acupuncture’s value to expand its use into conventional medicine and to encourage further studies of its physiological and clinical value”
NIH Consensus

• What is the place of AC in comparison or in combination with other interventions (including no intervention)?
  – Adverse events: advantage
    • Conventional Rx for musculoskeletal conditions (FM, epicondylitis, myofascial pain) have potential for deleterious side effects (NSAIDs, steroid inj)
    • “The evidence supporting these therapies is no better than that for acupuncture.”
NIH Consensus Development Program: Acupuncture


Acupuncture107html.htm

“Promising Results”

Postop and chemotherapy

nausea and vomiting

Postop dental pain

“Useful as adjunct or acceptable alternative treatment”

Addiction, stroke rehab, headache, tennis elbow, fibromyalgia, myofascial pain, LBP, CTS, asthma
NIH Consensus Statement

- Pain: postoperative, myofascial and low back pain
  - “Ample clinical experience, supported by some research data…”

- Nausea/vomiting
  - Excellent endpoint: vomit or not
How Many?

• Growing yearly
• Approx 20,000 in USA
• Over 3,000 physician acupuncturists
• 10-15 practicing in Kentucky
“Disease is like an onion,
each layer must be slowly peeled away"
Dr. Jennings

“You don’t need to believe, just be open. Rejection uses too much energy that could be used more beneficially.”
Collective belief creates a collective unconsciousness that is a source of healthy energy.
Move and the Way will open
Thank You!
Designed by Drew Jennings