Pediatric Integrative Medicine

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Disclosures

• Financial disclosures-None
Objectives

- Outline the concept of integrative medicine
- Discuss some integrative approaches available for pediatric patients
- Introduce the concept of frequency specific microcurrent
- Discuss specific diagnoses and current approaches in our center

Integrative medicine

- Combination of mainstream medical therapies and complementary therapies for which there is some high-quality scientific evidence of safety and efficacy
National Trends

Why complementary therapies?

Which one of you was involved in our clinical trial?

Close to home

You gotta be kidding! Your back still hurts?

Early chiropractic
Mission

- Provision of complementary treatments to promote the recovery of medically complex patients and improve quality of life.
- The center is built on a rehab model with solo or interdisciplinary care dependent on the needs of the patient and family.
- Coordination of providers supports reduction of multiple appointments and faster treatment time.
- The goal is to augment existing traditional medical therapies, not to replace existing care or therapies

Current specialties

- Pediatrics
- Pediatric Physical Medicine and Rehabilitation
- Pediatric Pain management
- Psychology
- Nurse practitioner
- PT/OT
Current services

• Integrative consults (MD/DO and PT/OT)
• Frequency specific microcurrent
• Acupuncture/Laser acupuncture/Acupressure
• Dry Needling
• Osteopathic manipulation
• Biofeedback
• Craniosacral therapy
• Myofascial release
• Reiki
• Hypnosis
• Guided imagery/Mindfulness therapy group
• Yoga

Center for Pediatric Integrative Medicine

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• Consult to Pediatric Integrative Medicine in EPIC
Medical Acupuncture

- Method of promoting natural healing, reducing pain, and to improve functioning. This is done by stimulation at precise body points
- Laser, Needle, Acupressure
- Has been in documented use for at least 3000 years

Basics

- Founded on principle of Qi
- Treatments are based on balancing flow of Qi through meridians
- Use of over 360 traditional acupuncture points located throughout the body, plus nontraditional points, ear, scalp, hand points.
- Not a faith based practice
Basic principles

- Different points may be selected during a treatment, dependent on individual complaints, symptoms, and examination at the time of treatment
- Safe and well tolerated by both pediatric and adult patients

Mechanisms of Acupuncture

- Each meridian is connected to a representative area in the cerebral cortex suggesting that the meridian system may overlap with distinct brain regions
- Documented effects on the peripheral nervous system and central nervous system
- Production and release of humoral factors, neurotransmitters, and other chemical mediators
- Effects on immune system
- Effects on the musculoskeletal system
Central Nervous System

• Electrical acupuncture at different frequencies can have different effects on the synthesis and release of neuropeptides
• The sensation of De Qi attenuated the increased neuronal activity in the PAG, thalamus, hypothalamus, somatosensory cortex, and prefrontal cortex
• Electrical acupuncture produces more widespread fMRI signal changes in the anterior insula area, limbic and paralimbic structures

Types of therapies

• Needle/Acupressure/Magnet/Laser
• Cupping
• Gua Sha
• Electroacupuncture
• Moxibustion
• TDP
• Korean Hand Therapy (Koryo)
• Japanese acupuncture
• Scalp Acupuncture
• Auricular acupuncture
### Common Diagnoses

- Stroke
- TBI
- SCI
- Fibromyalgia
- CRPS
- Abdominal pain
- Chronic fatigue
- Spasticity
- Neuropathic pain
- Opiate and tobacco cessation
- Discogenic pain
- MSK injuries
- Headaches
- Bladder dysfunction
- Arthritis
- Allergies

- Treatment initially weekly, and spaced out with progress, similar to therapy sessions
Modern research

- Difficulty of sham-acupuncture trials
- Use of technetium dye studies
- Functional MRI research
- Electrical circuits
- Myofascial planes
- BFA (Battlefield Acupuncture Protocol)

Osteopathic manipulation

- Treatment of somatic dysfunction by manipulation of muscles and joints to restore function and encourage natural healing
- Often utilized for MSK dysfunction, additional expanded uses as well
Osteopathic manipulation

• Soft tissue manipulation
• Myofascial release
• Cranial osteopathy
• Lymphatic technique
• Muscle energy technique
• Thrust technique/HVLA
• Counterstrain method
• Visceral

Biofeedback

• Gaining awareness of physiological functions through specialized monitoring
• Can include brainwaves, muscle tone, skin conductance, heart rate variability, pain perception, temperature etc.
• Can be utilized to improve control of these functions, reducing symptoms.
Likely efficacious

- Alcoholism/Substance Abuse
- Arthritis
- DM
- Pediatric fecal disorders
- Insomnia
- Pediatric headache
- TBI
- Urinary disorders
- Vulvodynia

Efficacious

- ADHD
- Anxiety
- Chronic pain
- Epilepsy
- Constipation
- HTN
- Motion sickness
- Raynaud’s disease
- TMJ
Myofascial release

- Fascia is a 3-dimensional web of connective tissue which runs continuously through the body without interruption
- Support structures by holding tissues together, and separating them, allowing mobility without friction

Myofascial release

- Hands-on technique used to restore structural alignment and relieve musculoskeletal pain, among other symptoms.
- Goal is to relieve restrictions in the soft tissue that wraps around muscles
- Very useful in cerebral palsy, back pain, myofascial pain, headaches, TMJ
Dry needling

- Theory introduced by Dr. Travell, promoted by Dr. Ma
- Mainly focused on myofascial planes as opposed to acupuncture points
- Utilized for soft tissue dysfunction among other treatments

Reiki

- Hands-on Japanese technique utilized for stress reduction and to promote natural healing
- Utilized for psychological disorders, chronic pain, stress relief, digestive disorders
- Not a spiritually based practice
Mindfulness therapy

- Modern movement with Buddhist roots
- Commonly utilized to draw attention to inter-relationships of body structures, breathing techniques, and interdependence of body systems.
- Utilized in pain disorders to reduce pain through encouragement of descending inhibition

Functional Medicine

- A patient centered approach that looks at interactions of genetic, environmental and lifestyle factors which can potentially influence health and chronic disease states

- CCF Center for Functional Medicine
Frequency specific microcurrent

- Non-invasive electrical stimulation targeted at symptom reduction and tissue healing.
- Specific frequencies identified for almost every tissue type
- Utilizes dual frequencies for interferential effect on target tissue

Effects include:
- Boost ATP production up to 500%
- Increased protein synthesis by 70%
- Increased amino acid transport by 40%
- Activates signal transduction
- Increased cAMP in human lymphocytes (in vivo)

Seegers, JC, 2001; Activation of signal transduction mechanisms may underlie the Therapeutic effects of an applied electric field. Med Hypothesis; 57 (2), 224-230
Seegers JC, 2002, A pulsed DC electric field affects P2-purinergic receptor functions by altering the ATP levels in in vitro and in vivo systems. Medical Hypothesis, 58 (2) 171-176
Frequency specific microcurrent

- Being utilized at our facility to enhance rehab goals on inpatients and outpatients

Common diagnoses

- MSK pain
- Concussions
- Arthritis
- Torticollis
- Brachial plexus injuries
- Chronic pain syndromes
- Neuropathic pain/nerve injuries
Conclusions

• Variety of integrative services can be utilized to help with function and quality of life
• Many therapies widely available
• Not a replacement for traditional medical interventions or therapies
• See breakout sessions for additional information