Complementary and Alternative Medicine in Sports

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Objectives

• To learn about some of the commonly used complementary and alternative treatments in sports medicine
• Understand the theories behind how these treatments might work
• Review the scientific evidence
• Learn how to incorporate complementary and alternative treatments into your practice
Complementary and Alternative Medicine (CAM)

- Refers to a wide range of therapies available that can be used to complement traditional medicine or sometimes used as an alternative.
- Becoming more commonly used as a complement to traditional medicine.
- Integrative Medicine = physicians & health centers which specialize in incorporating CAM with traditional medicine.
- Estimate: 30-40% of US public use complementary tx in a given year.
Complementary and Alternative Medicine (CAM)

- Movement therapies can address soft tissue and joint restrictions
- Mind-body CAM treatments may be helpful in addressing psychological and emotional factors that influence pain and recovery
- Used to treat a wide range of conditions including: both MSK and non-MSK sources of pain (headaches, abdominal pain, pelvic pain), psych issues such as anxiety/depression, stress, insomnia, etc
A subdivision of the NIH is the NCCIH (used to be called NCCAM)

“The mission of NCCIH is to define, through rigorous scientific investigation, the usefulness and safety of complementary and integrative health interventions and their roles in improving health and health care.”

The NIH website is a wealth of info, including ongoing research data on CAM therapies: [https://nccih.nih.gov](https://nccih.nih.gov)
The 2012 National Health Interview

10 most common complementary health approaches among adults—2012

- Natural Products*: 17.7%
- Deep Breathing: 10.9%
- Yoga, Tai Chi, or Qi Gong: 10.1%
- Chiropractic or Osteopathic Manipulation: 8.4%
- Meditation: 8.0%
- Massage: 6.9%
- Special Diets: 3.0%
- Homeopathy: 2.2%
- Progressive Relaxation: 2.1%
- Guided Imagery: 1.7%
Complementary and Alternative Medicine

- Acupuncture
- Tai Chi
- Reiki
- Mindfulness
- Meditation
- Hypnosis
- Massage
- Egoscue
- Herbal medicine, supplements
- Biofeedback
- Qui gong
- Rolfing
Additional treatments exist that are specifically used to treat MSK issues in Sports Medicine

Often done by PTs, ATCs, Chiropractors, MDs, or DOs

• ART (Active Release Technique)
• ECSWT (extra-corporeal shock wave tx)
• Cupping
• KT Taping
• Osteopathic manipulation tx (OMT)
• Chiropractic adjustments
• Graston technique
**Acupuncture**

- Form of traditional Chinese medicine that is based on theory that energy, called chi, flows through and around your body along pathways called meridians, and illness results from blockage or unbalance in your chi. Very thin needles are used to open up the energy flow. Occasionally heat, pressure, or mild electrical current might be used.

- Randomized trials so far have shown effectiveness for improvement in pain and function for: back pain, neck pain, tension headaches, fibromyalgia, peripheral joint OA

- Also shown to reduce post-op analgesic use, post-op & chemo nausea

- Becoming more mainstream
Yoga

- Mind-body exercise that can be used for stress reduction, overall fitness, strength, posture, mobility
- Many different types exist
- Studies have shown positive impact in pain and function for: back pain, neck pain, knee OA
- The utility and benefits of yoga are still being investigated, the list of its benefits and uses is growing fairly quickly
Yoga

Arthur Boorman, a disabled veteran overcomes multiple injury related chronic pain with DDP Yoga which was created by WWE wrestler, Diamond Dallas Page.
Tai Chi

• Ancient Chinese tradition of slow controlled flowing movements are done with mental focus to improve energy and blood flow, relaxation, balance, physical strength, posture, physical and mental health
• Has been shown improve pain and function in: OA and Fibromyalgia (improved FIQ scores, Fibromyalgia Impact Questionnaire)
• Basically is a low impact activity that can be helpful in getting sedentary people to move, and may help with mental well being
Mindfulness Based Stress Reduction (MBSR)

- **Mindfulness** is the ability to be consciously aware of the present (of physical experiences as well as one’s thoughts), to be non-judgmental about them, and compassionate to oneself. Being aware of your fears, feelings, thoughts, & physical pain; but not letting them control you nor affect you.

- MBSR is a program that incorporates/teaches mindfulness to help people manage physical and emotional pain and anxiety-related conditions. Developed by Jon Kabat-Zinn in 1970s, has expanded in recent years.
Mindfulness Based Stress Reduction (MBSR)

- MBSR incorporates body awareness, mindful meditation, modified thought, and yoga.
- Many institutions now offer MBSR courses, often an 8wk course.
- Can help reduce pain medication requirement. May help with anxiety, coping, chronic pain management.

**MNFL**

- M ~ moment to moment attention
- I ~ in the here and now
- N ~ non judgemental attitude
- D ~ detach from unhelpful thoughts
- F ~ forgive and be grateful
- U ~ unconditional acceptance
- L ~ learn with childlike mindset

Mind Full, or Mindful?
• Created by P. Michael Leahy (chiropractor and engineer)
• **ART is a patented, state of the art soft tissue system/movement-based massage technique that treats problems with muscles, tendons, ligaments, fascia, and nerves.**
• **The ART provider uses his or her hands to evaluate the texture, tightness and movement of muscles, fascia, tendons, ligaments and nerves. Abnormal tissues are treated by combining precisely directed tension with very specific patient movements.**
• Consider for: muscle strains, peripheral nerve entrapments, plantar fasciitis, back pain, carpal tunnel syndrome, shin splints, pyriformis syndrome, lateral epicondylitis, etc.
• Can be painful. Can complement PT.
**ECSWT = Extra-Corporeal Shock Wave Therapy**

- Similar to lithiotripsy in urology, except instead of breaking apart stones it is used to induce tissue repair and regeneration on a cellular level.
- Shockwave peak pressure is 1000x that of an ultrasound wave.
- Studies show may be superior to placebo in: calcific rotator cuff tendinitis, plantar fasciitis, lateral epicondylitis, patellar tendinopathy.
- Effectiveness may vary depending on different energy levels used.
- Side effects are usually mild but include: local reddening, ecchymosis, mild hematoma, soreness/pain/swelling.
KT Taping = Kinesiotape

- Developed by Kenso Kase (chiropractor) in 1970s, became more widespread after 2008 & 2012 Olympics
- Thin elastic cotton tape that can be stretched 30-40% in the longitudinal direction; when placed on a stretch > its normal length it will "recoil" after being applied, creating a pulling force on the skin
- Theory behind it: By lifting the skin it creates a small space b/t the dermis and muscle layer which takes the pressure off of injured muscles or area of swelling -> allowing for smoother muscle movement, and space for drainage and blood flow. Aka.. attempts to correct muscle/joint alignment, alter forces along a joint or muscle.
KT Taping = Kinesiotape

- Number of studies have shown improvement of short-term pain & ROM for various injuries/conditions (pes anserine tendinitis, whiplash syndrome, shoulder impingement, etc), but results sometimes inconsistent
- One study showed it alters kinematics of scapular motion, another showed improvement in ROM and proprioception in knee OA
- Most other variables and any long-term benefits are unclear
- Overall is promising for short-term benefits, but needs more research
Cupping

• Been around for 3,000 years in many cultures… recent increased visibility d/t Olympics 2016
• Through suction, the skin is drawn into the cup by creating a vacuum. Vacuum is created by heating and subsequent cooling of the air, or via a mechanical pump. Often left in place for 5-15min.
• Used to induce healing, treat MSK pain, release adhesions
• NO clear evidence for its benefits exists. Also there is potential for significant harm: bruising, burns (can be severe), infection, pain
Conclusions

- Complementary treatments may be helpful in complementing traditional care, and particularly in pts whom sufficient trial of 1st line treatments hasn’t resolved the issue

- A few of tx have data supporting effectiveness in various conditions, others may not be better than placebo, most need more research

- KEY is to consider the potential benefits to harm ratio, and cost.

- Important to find a licensed & properly trained provider

- Keep your eye out for more RCT studies over the next several years, use the NIH website as a helpful guide (https://nccih.nih.gov)
Summary

Complementary therapies should be used as a secondary treatment once pt has tried/failed traditional therapies, or can be used to complement traditional therapies in pts who are struggling w/ traditional tx

- Consider Acupuncture for chronic pain, or an injury that is taking longer than typical to resolve
- Consider ART for soft tissue/muscle issues, especially to complement PT or after failed PT trial
- Consider ECSWT for plantar fasciitis, lateral epicondylitis, calcific rotator cuff tendinitis in cases where PT/injections/rest have failed
- Consider Mindfulness for chronic pain patients & pts dealing w/ psychosocial stressors that are affecting their recovery
References


References
