

Improving Pain Management with Integrative Healthcare Approaches

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November 4, 2018

APA Disclaimer Statement

Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards.

What is Pain?

- "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." -International Association for the Study of Pain (IASP), 1979, 1999
- "Whatever the experiencing person says it is, existing whenever he (or she) says it does." -McCaffrey & Pasero, 1999

Course of Pain

One of the most important distinctions in understanding and treating pain is between acute and chronic pain.

Acute Pain	Chronic Pain
Less than 3 months	Greater than 3 months
A symptom	A condition
Identified cause; body's response to injury	May develop after incident; may have no known etiology
Diminishes with healing and responds to treatment	Persists beyond expected healing time and/or despite treatment

Prevalence of Chronic Pain

In the US alone, about 100 million adults are affected by chronic pain (Medical Expenditure Panel Survey, 2008). That number includes:

- Low back pain (31 million at any given time!)
- Arthritis (at least 20 million)
- Migraines (18% of all women, 6% of all men)
- Fibromyalgia (5 million)
- Lupus (1.5 million)
- And so many more!

The Economic Cost of Chronic Pain

The 2010 estimated cost associated with persistent pain range from \$560 to \$635 billion annually (Gaskin & Richard, 2012).

- Those figures include:
- \$261 to \$300 billion for health care due to pain
 - Lost productivity is based on three estimates:
 - days of work missed (ranging from \$11.6 to \$12.7 billion)
 - hours of work lost (from \$95.2 to \$96.5 billion)
 - lower wages (from \$190.6 to \$226.3 billion)





The Psychological Cost of Chronic Pain

- **Suicidality:**
 - Risk reported to be at least doubled
 - Lifetime prevalence of attempts 5-14%
 - Prevalence of ideation 20%
- **Psychiatric Co-morbidity (approximately 50%):**
 - Depression (23-78%)
 - Anxiety (10.6-62.5%)
 - PTSD (15-35%)
 - Substance Abuse (29-60%)

Prevalence of Opioids in the United States

Since 1999, the amount of opioids prescribed per person in MMEs has tripled in the U.S., but prescription rates peaked between 2010-2012 and have been declining since



There were a billion opioid prescriptions in 2013, which would have been enough for every American adult to have their own bottle of pills. Nationally, the rate has decreased to 66.5 prescriptions per 100 people in 2016; however, the opioid prescription rate still exceed the number of persons in AL, AR, TN, & MS.

Follow this link to see how your state is doing:
<https://www.cdc.gov/drugoverdose/maps/rxstate2016.html>

Opiate Use and Mortality

From 1999 to 2016 opioid overdose deaths have quintupled.



According to the CDC, unintentional overdose deaths are now the leading cause of injury deaths among 25-65 year olds in the United States (U.S.), and Opioids were involved in 42,249 deaths in 2016.

Do Opioids Really Help for Chronic Pain?

A retrospective cohort design study evaluated the association between opioid therapy and health-related quality of life (HRQoL) in participants with chronic, noncancer pain (CNCPP) and found:

- Physical Component Scores (PCS12) were not significantly different between chronic opioid, nonchronic opioid, nonopioid user groups
- Mental Component Scores (MCS12) were not significantly different between chronic opioid, nonchronic opioid, and nonopioid user groups.

Conclusion: In CNCPP opioid use is not correlated with better HRQoL.

Hayes, CL, U, X, Li, C, Shah, A, Kalhe, N, Bhandari, NR, & Poyachart, N. (2018). Health-Related Quality of Life among Chronic Opioid Users, Nonchronic Opioid Users, and Nonopioid Users with Chronic Noncancer Pain. *Health Services Research*, 2018. Oct. 33(3):3329-3348. doi: 10.1111/1475-6773.12836. Epub 2018 Feb 25.

Do Opioids Really Help for Chronic Pain?

12 month RCT of 240 Veteran with moderate to severe chronic back, hip, or knee OA pain assigned to opioid and non-opioid medication treatment groups found:

- No significant difference pain-related function
- Pain intensity was significantly better in the nonopioid group
- Adverse medication-related symptoms were significantly more common in the opioid group

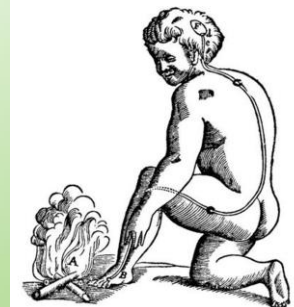
Conclusion: "Results do not support initiation of opioid therapy for moderate to severe chronic back pain, hip, or knee osteoarthritis pain."

Krebs, EE, Givoley, A, Nugent, S, Jensen, AC, DeRonne, B, Goldsmith, ES, Koverke, K, Bak, MJ, & Noublooch, S. (2018). Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain: The SPACE Randomized Clinical Trial. *JAMA*, 2018;319(9):972-982. doi:10.1001/jama.2018.0889

Pain Treatment Models

Specificity Theory of Pain

- Proposed by von Frey (1894)
- Physical pathology and pain experience have a one-to-one relationship (Pain Intensity = Degree of Physical Pathology)
- It can be an appealingly straightforward theory, but it does not capture the complex presentation of the chronic pain experience





Pain Treatment Models

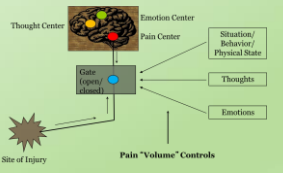
Biomedical Approach

- Focuses on purely biological factors in illness/disease
- Predominant model of medicine
- Health = Freedom from:
 - Disease
 - Pain
 - Defect
- Treatment = Traditional Medicine:
 - Surgery
 - Medication
 - Physical Therapy

Pain Treatment Models

Gate Control Theory of Pain (Melzack & Wall, 1965)

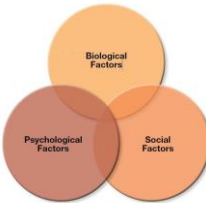
- Highlights the role of psychosocial variables in pain perception
- Suggests pain is a subjective experience influenced by many factors, including thoughts, feelings, and behaviors, and can be minimized or exacerbated by attending to particular stimuli




Pain Treatment Models

Biopsychosocial Approach

- Proposed by George Engel (1977)
- The current most widely accepted model
- Acknowledges each individual experiences pain in a unique way that is affected by:
 - Physiological
 - Psychological
 - Social factors



Pain Treatment Models




Neuromatrix Model of Pain (Melzack, 1999)

- Integrates principles from the Gate Control Theory, Selye's models of stress (1950, 1976) and concepts of neuroplasticity
- Pain is a multidimensional experience related to an initial pattern of nerve impulses, or neuromatrix, that is then impacted by factors such as sensory experiences and learning.
- Chronic pain disrupts the system and becomes a chronic stressor, triggering an unproductive cycle.
- Changes occurring in the brain may alter sensitization and modulation of pain
- Emphasizes important relationship between pain and stress, and the need to decrease tension with tools such as relaxation to combat pain intensity and disrupt the pain-stress cycle

Why integrative pain management?

- *Integrative pain management is a person-centered model of pain care based on the principles and practices of integrative medicine, including a focus on the restoration of function, health, and wellness.*
- Treat both physiological and psychosocial components of pain
- Improving function, quality of life, and self-care on individual and population level
- Cost-Benefit:
 - For patients receiving IM therapies, pain was reduced by an average of 2.05 points and this pain reduction was associated with a cost savings of \$898 per hospital admission.



Why Patients seek Complementary Treatments

- Symptom relief
- Mood
- Resistance to conventional treatments
- Non-invasive
- Avoid adverse effects, addictive potential
- Prevention
- Cost-effectiveness
- Patient Satisfaction
 - Lifestyle change
 - Improvement beyond pain

Who is using complementary treatments?

- Total US out-of-pocket expenditures in 2014 for CIM were \$34 billion—11% of all US out-of-pocket healthcare expenditures
- Female
- Higher education level
- Higher income
- Complement, not substitute, conventional care
- <40% of those using CAM do not communicate this to their medical provider!
- Chronic and degenerative conditions
 - 2012 National Health Interview Survey (NHIS), back pain, neck pain, joint pain, arthritis, gout, and fibromyalgia were among the top conditions for which integrative approaches were used.
 - In adults specifically with a musculoskeletal pain disorder, more than 40% had used an integrative approach as compared with 24% of those without pain.



Which CAMs are being used for Pain?

TABLE 2. Age-Adjusted Percentages of Use for Selected Complementary Health Approaches by US Adults, 2002-2012

Complementary health approach	2002 ⁷	2007 ⁸	2012 ⁹
Acupuncture	1.1%	1.4%	1.5%
Manipulation	7.5%	8.6%	8.4%
Massage therapy	5.0%	8.3%	6.9%
Meditation	7.6%	9.4%	8.0%
Natural product supplements	18.9%	17.7%	17.7%
Yoga, tai chi, and qigong	5.8%	6.7%	10.1%

Nahri R, Boisseau R, Khalsa PS, Sussman BJ, Weber WJ. Evidence-Based Evaluation of Complementary Health Approaches for Pain Management in the United States. *Mayo Clin Proc.* 2016 Sep;91(9):1292-306.

CIM: Improving more than Pain

Study: prospective, non-randomized, observational evaluation over six months, at nine clinical sites. Participants received a non-standardized, personalized, multimodal approach to chronic pain.

Sample: 48.6 years, Female, chronic pain for 8.6 years

Measures: validated instruments for pain (severity and interference levels), quality of life, mood, stress, sleep, fatigue, sense of control, overall well-being, and work productivity were completed at baseline and at six, 12, and 24 weeks.

Abrams DL, Dolor R, Roberts R, et al. The BaseMed prospective observational study on integrative medicine treatment approaches for pain. *BMC Complement Altern Med* 2013;13:146.

CIM: Improving more than Pain

Results

- An integrative approach to treating chronic pain (> 8 years) had a significant impact on pain and associated symptoms and quality of life.
- Pain Scores (Brief Pain Inventory -BPI)
 - Pain Severity: decreased by 23% (moderate – mild range)
 - Pain Interference: decreased 28% (average rating of 4.7 – 3.3)
- Depression, Stress, Quality of Life
 - Reduced rates of depression
 - Improved Quality of Life (still lower than average)
 - Decreased Stress
 - Decreased Fatigue
- Work Productivity: improvement in all parameters on the WPAI survey over 24 weeks

Abrams DL, Dolor R, Roberts R, et al. The BaseMed prospective observational study on integrative medicine treatment approaches for pain. *BMC Complement Altern Med* 2013;13:146.

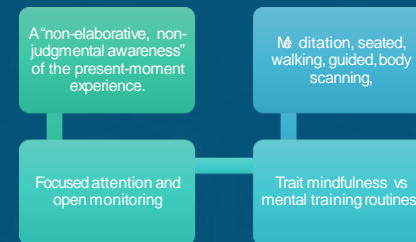
CIM: Improving more than Pain

Table 3. Quality-of-life scores by study visit *

Measure	Baseline	6-week study visit	12-week study visit	24-week study visit	Mean 24-week change from baseline	P value ^b
CEQ-D (0-60)	17.9 (10.49)	16.1 (10.93)	15.9 (11.83)	13.8 (11.02)	-4.0 ^c	<.001
PSQ-4 (0-10)	6.2 (3.14)	5.2 (3.21)	5.9 (3.52)	6.1 (3.64)	-1.1 ^c	<.001
SF-12v2 mental (0-100)	43.5 (10.44)	45.4 (10.34)	45.6 (10.67)	46.5 (10.97)	3.1 ^d	<.001
SF-12v2 physical (0-100)	37.7 (10.24)	39.4 (10.61)	40.7 (10.72)	41.5 (11.56)	3.7 ^d	<.001
Quality of sleep (0-10)	4.7 (2.91)	5.0 (2.95)	5.1 (2.82)	5.3 (2.80)	0.7 ^d	<.001
Fatigue scale (0-10)	5.8 (2.19)	5.4 (2.32)	5.2 (2.36)	4.9 (2.53)	-0.8 ^d	<.001
Sense of control (0-10)	4.8 (2.47)	5.7 (2.28)	5.8 (2.37)	6.1 (2.43)	1.3 ^d	<.001

Abrams DL, Dolor R, Roberts R, et al. The BaseMed prospective observational study on integrative medicine treatment approaches for pain. *BMC Complement Altern Med* 2013;13:146.

Mindfulness for Pain Management



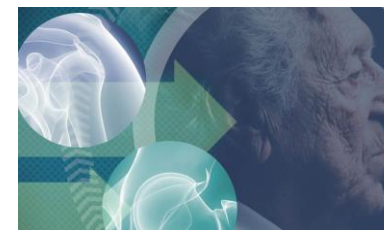
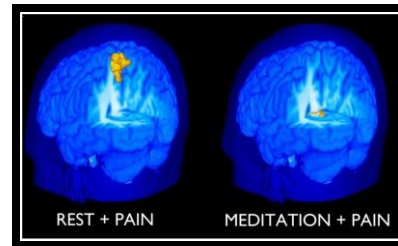
Brief History of Mindfulness

- Ancient Buddhist text: a meditation practitioners experience the sensory aspect of pain (first arrow) but "let go" of the evaluation (second arrow) of pain.
- In 1980, Nepalese porters had significantly higher pain thresholds compared to controls.
- Kabat-Zinn et al showed sustained improvements in pain and quality of life in those with chronic pain with the mindfulness-based stress reduction (MBSR) program
 - An "uncoupling" of the sensory dimension of the pain experience from the affective/evaluative alarm reaction and reduce the experience of suffering via cognitive reappraisal



What the science says about Mindfulness

- 75 right-handed, pain-free, male and female participants (mean age 27.8 years)
- Mindfulness training, Control, or Sham
- Right leg on the thermal probe (alternated neutral and heat)
- Greater pain relief
- Unique neural mechanisms
 - higher-order brain regions, including the orbitofrontal and cingulate cortices.
 - deactivates the thalamus and periaqueductal gray matter



Evidence Base for Mindfulness & Pain

- Low Back Pain
 - Older Adults (NE Morone et al., 2009):
 - "The pain is still with me; however, it just doesn't feel as intense as it was. I feel results of the study and the practice is having a positive effect."
 - "When I finished the meditation I felt like a new person."
 - Improvement in functional limitations and back pain for both CBR and Mindfulness vs usual care at 26 and 52 weeks
 - Older Adults with CLBP
- Headache (mixed/inconclusive)
 - Reduced tension headache frequency (not intensity or duration)
 - Mixed migraine/tension improved pain and quality of life for 8week MBSR vs control
- Fibromyalgia (mixed)
 - RCT of 120 patients, 8 weeks of MBSR, health education, or wait-listed control
 - No change in pain ratings, but improvement in quality of life
 - 8 week group meditation/awareness training associated with improvements in pain, sleep, psychological distress, civic engagement
 - More effective for those with depression



Evidence Base for Mindfulness & Pain

- Immediate effect: shifts in executive attention consistent with neuroimaging
 - "Close the gate" Analgesic effect
- Long-term effects: impacts the subjective experience of pain not pain intensity ratings
 - Greater activation of somatosensory regions but deactivation of regions related to appraisal
- Pain unpleasantness vs pain intensity
- Teach patients how to self-regulate their experience of pain
- Overall, mindfulness-related health benefits are related to enhancements in mechanisms supporting cognitive control, emotion regulation, positive mood, and acceptance.

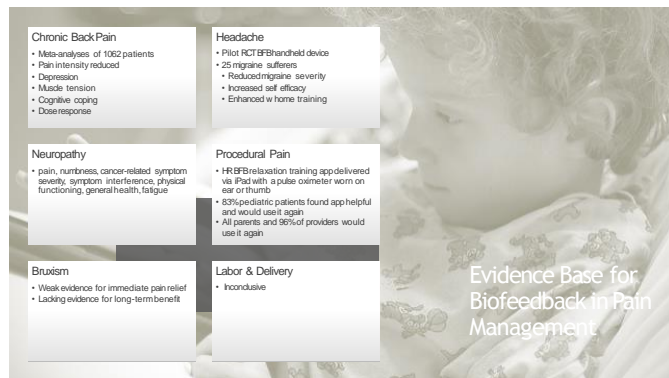
Clinical Considerations for Mindfulness

- Low risk
- Psychological comorbidity
 - Low psychological distress
 - Referrals
- Medical comorbidity
- Accessible
- Patient expectations
 - Education
 - Timeline
- Format
 - Community resources
 - Phone and Computer Apps
 - Group
 - Tailored
 - Referrals



Biofeedback for Pain Management

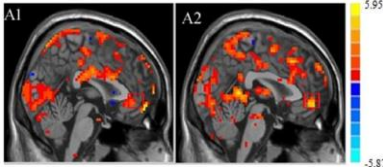
- A process that enables an individual to learn how to change physiological activity for the purposes of improving health and performance.
- Instruments provide "feedback" on physiological activity such as brainwaves, heart function, breathing, muscle activity, and skin temperature.
- This information in conjunction with changes in thinking, emotions, and behavior supports desired physiological changes.
- Goal: changes persist without continued use of an instrument.
 - AAPP, BCIA, ISNR
- Evidence-based support for chronic pain conditions including migraines, tension headaches, temporomandibular joint pain, non-cardiac chest pain, arthritic conditions, irritable bowel syndrome, Raynaud's disease



Chronic Back Pain <ul style="list-style-type: none"> • Meta-analyses of 1062 patients • Pain intensity reduced • Depression • Muscle tension • Cognitive coping • Dose response 	Headache <ul style="list-style-type: none"> • Pilot RCT of handheld device • 25 migraine sufferers • Reduced migraine severity • Increased self-efficacy • Enhanced w/ home training
Neuropathy <ul style="list-style-type: none"> • pain, numbness, cancer-related symptom severity, symptom interference, physical functioning, general health, fatigue 	Procedural Pain <ul style="list-style-type: none"> • HRFB relaxation training app delivered via iPad with a pulse oximeter worn on ear or thumb • 83% pediatric patients found app helpful and would use it again • All parents and 96% of providers would use it again
Bruxism <ul style="list-style-type: none"> • Weak evidence for immediate pain relief • Lacking evidence for long-term benefit 	Labor & Delivery <ul style="list-style-type: none"> • Inconclusive

Evidence Base for Biofeedback in Pain Management

Neurofeedback




- Neurofeedback while simultaneously collecting functional MRI (fMRI) data
- Downregulation of blood oxygen level-dependent fMRI signals in most subjects.
- Patients with PHN could learn to voluntarily control over activation (BOLD fMRI signal) in rACC through rtfMRI neurofeedback and alter their pain perception level
 - Guan, Ma, Liet al., 2015



Clinical Considerations for Biofeedback for Pain Management

- "The purpose of therapy is to work on changing maladaptive beliefs, maladaptive behaviors (to include interpersonal interactions and relationships) and this may involve processing or coping with painful emotions."
- The use of touch
- Choice of instrument and measure
- Booster Sessions
- Combination with home training



Hypnosis

What is it?

- A process by which "one person (the subject) is guided by another (the hypnotist) to respond to suggestions for changes in subjective experience, alterations in perception, sensation, emotion, thought or behavior" (Green, Barabasz, Barrett, & Montgomery, 2005, p. 89) – The Society of Psychological Hypnosis
- "Hypnosis makes it easier for people to experience suggestions, but it does not force them to have these experiences." – Division 30 of the American Psychological Association
- Typically in session hypnotic induction includes a focus of attention and relaxation, as well as at least 20 minutes of hypnotic suggestions (e.g., relaxation, comfort, mental imagery for dissociation, filtering out the hurt, imagining competing sensations, visualizing improved mobility, affirming an improved sense of control over pain, etc.)
- Addition of active self-hypnosis can increase more likelihood of benefit and create longer lasting gains
- Course of treatment can planned as brief hypnosis treatment (4 -7 sessions), versus traditional hypnotherapy (≥ 8 sessions)

Hypnosis: Evidence

<p>Low Back Pain (some evidence)</p> <ul style="list-style-type: none"> • Reduced pain • Improved pain coping/adjustment <p>Osteoarthritis (some evidence)</p> <ul style="list-style-type: none"> • Decreased pain intensity <p>Sickle Cell Disease (some evidence)</p> <ul style="list-style-type: none"> • Decreased % of days for SCD and non-SCD pain • Decreased % of days medication taken for non-SCD pain • Decreased % of "bad sleep nights" on non-SCD pain days 	<p>Cancer (good evidence)</p> <ul style="list-style-type: none"> • Decreased pain and suffering • Less increase in pain with cancer progression <p>Temporomandibular Pain (good evidence)</p> <ul style="list-style-type: none"> • Decreased pain intensity, frequency, and duration • Increased daily functioning <p>Fibromyalgia (good evidence)</p> <ul style="list-style-type: none"> • Decreased muscle pain • Decreased fatigue • Decreased sleep disturbance • Decreased distress 	
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Hypnosis: Safety and Risk Considerations

Safety of Hypnosis
Hypnosis that's conducted by a trained therapist or health care professional is considered a safe, complementary and alternative medical treatment. However, hypnosis may not be appropriate in people with severe mental illness. Adverse reactions to hypnosis are rare, but may include:

- Headache
- Drowsiness or dizziness
- Anxiety or distress
- Creation of false memories

Training, Licensing, and Certification
Several organizations offer certification including: the American Society for Clinical Hypnosis (ASCH), National Guild of Hypnotists (NGH), American College of Hypnotherapy (ACH), American Hypnosis Association (AHA), and more. Typically certification requires:

- Education and License to practice in a field that treats mental and/or physical health conditions
- Additional training in history, theories, application, and ethics of clinical hypnosis
- Proof of knowledge and competence (e.g. written paper, letters of recommendation, written and/or oral examination)

Tai Chi & Qi Gong

What Are Tai Chi and Qi Gong?

- Tai chi and qi gong are centuries-old, related mind and body practices. They involve certain postures and gentle movements with mental focus, breathing, and relaxation. The movements can be adapted or practiced while walking, standing, or sitting. These practices are sometimes referred to as moving meditation.
- Qi Gong an ancient Chinese discipline
 - Forms very gentle and often related to calming activities and themes of nature
- Tai Chi is an ancient Chinese martial art
 - Forms may be practiced quickly for use as self-defense or combat



Tai Chi & Qi Gong: Evidence Base

Knee Osteoarthritis (some evidence)

- Reduced pain
- Improved function

Chronic Neck Pain (some evidence)

- Decreased pain

Back Pain (some evidence)

- Reduced pain
- Improved functioning

Fibromyalgia (good evidence)

- Improved pain coping
- Increased functioning
- Better sleep
- Decreased fatigue,
- Decreased depression

Tai Chi & Qi Gong: Risk & Safety Considerations

Training, Licensing, and Certification

- Tai chi instructors don't have to be licensed, and the practice isn't regulated by the federal government or individual states. There's no national standard for qi gong certification.
- Various tai chi and qi gong organizations offer training and certification programs—with differing criteria and levels of certification for instructors.

Safety of Tai Chi and Qi Gong

- Generally considered safe practices, and serious injury is unlikely
- It may be associated with minor aches and pains
- Women who are pregnant should talk with their health care providers before beginning tai chi, qi gong, or any other exercise program



Yoga

- Developed about 5,000 years ago in India as a comprehensive system for wellbeing on all levels: physical, mental, emotional and spiritual.
- Full form combines physical postures, breathing exercises, meditation, and a distinct philosophy.
- There are a wide variety of approaches and individual experiences of yoga will likely vary with practice style and personal preferences.
- One of the fastest growing areas of CH, with millions of people using it help raise their quality of life in areas such as fitness, stress relief, wellness, vitality, mental clarity, healing, peace of mind, and spiritual growth.



Yoga: Evidence Base

Back Pain (strong evidence):

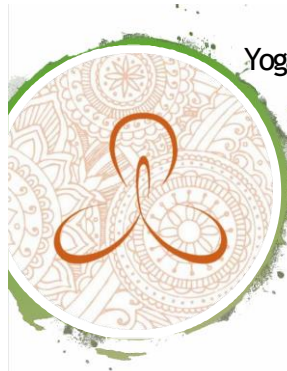
- Decreased Pain
- Decreased Disability
- Recommended by American College of Physicians & American Pain Society

Other Chronic Pain & Disability (some evidence):

- Improved pain and functioning for musculoskeletal pain
- Lowered pain and Roland Morris Disability scores for arthritis
- Increased gray matter volume in the mid-insular cortex (correlated with higher pain tolerance)

Mental Health (good evidence):

- Beneficial for treatment of depression
- Beneficial for reducing symptoms of anxiety
- Increases GABA (27 percent)
- Decrease PTSD symptoms



Yoga: Risk & Safety Considerations

Safety and Risk Considerations

- Patients should consult with their health provider, but it's generally low-impact and safe for healthy people when practiced appropriately under the guidance of a well-trained instructor.
- Some poses may need to be avoided or modified for individual with certain conditions (e.g., pregnancy, high blood pressure, glaucoma, and scoliosis).

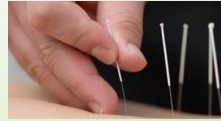
Training, Licensing, and Certification

- Yoga instructors are not licensed or regulated by the federal government or individual states, but several organizations (e.g., Yoga Alliance and International Association of Yoga Therapists) register yoga teachers and training programs that have complied with curriculum and educational standards
 - Yoga Teachers training programs vary widely (a few days a couple of years, can depend on style or "school of yoga"). RYT's & CYS typically require a minimum of 200 hours training from an approved yoga teacher school with specific competency-based standards
 - Yoga Therapists training programs involve 500 to 800 hours with competency-based standards



Acupuncture

- Traditional Chinese Medicine that is over 2000 years old
- A family of procedures involving the stimulation of points on the body using a variety of techniques.
- Insertion of fine needles into the skin and "acupoints" along energy pathways (meridians) to influence life-force energy, qi
- Needles may be manipulated by the hands or by electrical stimulation.
- Releases endorphins, natural pain-killers, and serotonin (mood regulation)



- Arthritis (some evidence):**
- Electroacupuncture decreased RA knee pain
 - Slight improvements in OA pain and physical functioning
- Headaches (some evidence):**
- Slightly better outcomes and fewer AEs than prophylactic Rofor migraine headaches
 - Decreased frequency of tension headaches

- Fibromyalgia (moderately strong evidence):**
- Helpful as an adjunctive treatment
 - Reduced pain and stiffness
 - Improved well-being, sleep, and fatigue
 - Electroacupuncture probably better than manual
 - Enhanced the effect of Rx and exercise on pain

- Back Pain (some evidence):**
- Decreased Pain (especially short-term)
 - Recommended by American College of Physicians & American Pain Society
 - Improved Outcomes when added to conventional treatments

- Neck Pain (some evidence):**
- Decreased Pain
 - Decreased disability
 - Improved outcomes when combined with TAU

Acupuncture: Evidence Base

Acupuncture: Risk & Safety Considerations

- Safety and Risk Considerations**
- Relatively few complications from using acupuncture have been reported, but complications have resulted from use of nonsterile needles and improper delivery of treatments.
 - If not delivered properly, it can cause serious adverse effects, including infections, punctured organs, collapsed lungs, and injury to the central nervous system.

- Training, Licensing, and Certification**
- Most states require a license, certification, or registration to practice acupuncture such as a diploma from the National Certification Commission for Acupuncture and Oriental Medicine. However, education/training standards and requirements vary from state to state.
 - The FDA regulates acupuncture needles as medical devices for use by licensed practitioners and requires that needles be manufactured and labeled according to certain standards. Specifically, it is required that needles be sterile, nontoxic, and labeled for single use by qualified practitioners only.



What works for whom?

TABLE 3. Summary of Evidence for Selected Complementary Health Approaches by Type of Pain (Cham or Placebo and/or Attention Controls)^{1,2}

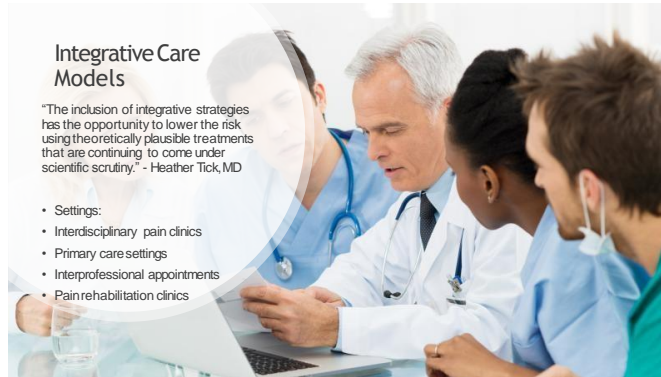
Approach	Back pain	Fibromyalgia	OA of knee	Neck pain	Severe headache/migraine
Acupuncture	1 Positive trial, 2 negative	1 Positive trial, 3 negative trials	1 Positive trial, 3 negative	NA	NA
Chondroitin	NA	NA	1 Negative trial	NA	NA
Glucosamine	NA	NA	2 Positive trials, 3 negative trials	NA	NA
Chondroitin and glucosamine	NA	NA	1 Positive trial, 2 negative trials	NA	NA
Massage therapy	1 Positive trial	NA	NA	2 Positive trials	1 Positive trial
HRGT	NA	NA	1 Positive trial	NA	NA
Omega-3 fatty acids	NA	NA	NA	1 Negative trial	NA
Relaxation approaches	NA	1 Positive trial, 2 negative	NA	NA	3 Positive trials
SAFte	NA	NA	NA	NA	NA
Spinal manipulation	6 Positive trials, 3 negative	NA	NA	1 Negative trial	1 Positive trial
Osteopathic manipulation	1 Positive trial, 1 negative	NA	NA	NA	NA
Tai chi	NA	2 Positive trials	3 Positive trials	NA	NA
Yoga	1 Positive trial	NA	1 Positive trial	NA	NA

HRGT = methylsulfonylmethane; OA = osteoarthritis; NA = no US randomized controlled trial; identified SAFte = 3-adenosynmethionine.
Positive trials are those in which the complementary approach provided statistically significant improvements in pain severity or pain-related disability or function compared with the control group. Negative trials are those in which no difference was seen between groups.

Integrative Care Models

"The inclusion of integrative strategies has the opportunity to lower the risk using the theoretically plausible treatments that are continuing to come under scientific scrutiny." - Heather Tick, MD

- Settings:
- Interdisciplinary pain clinics
- Primary care settings
- Interprofessional appointments
- Pain rehabilitation clinics



Teamwork Makes the Dream Work

Like other chronic health conditions without a cure (e.g., diabetes), focus on changes that can be made to positively impact quality of life and functioning


- MD/DO/PAN/P focuses on medical optimization
- PT/OT/KT focuses on physical reconditioning
- Mental Health Providers focus on lifestyle changes that include critical behavioral and cognitive modifications.



Evaluation

Assess psychosocial and functional factors related to pain experience

- Mood (anxiety, depression, PTSD)
- Sleep
- Diet
- Self-efficacy
- Social Support
- Activity Levels
- Coping Style & Functional Impairment



It is more important to know what kind of person has a disease than what kind of disease a person has.
-Hippocrates

Treatment Planning

Goal Setting

- 2-3 treatment modalities at a time
- SMART Goals
- Consider: Time, energy, and financial commitment
- Collaborate with providers

Assess Progress

- Impact of pain on daily life
- Physical and emotional
- Increase coping skills and self-efficacy
- Reduce pain intensity



Case Study

• Demographics: 40 year old, race unknown, married, male veteran

• One school-aged son, stay-at-home dad,

• Pain Onset:

- History of LBP/migraine headaches,
- Lost two jobs due to anger outbursts
- Developmental: adopted, VNL
- Observations: angry and using inappropriate language, physically aggressive
- Previous Treatments: TENS, Acupuncture (helpful), PT, topical pain ointment
- Current treatments: sumatriptan, oxycodone, sleep medication (prazosin, trazodone, venlafaxine, amitriptyline, topiramate)

• Mood: PTSD, sleep difficulties, nightmares, pain increases irritability, socially withdrawn, avoids crowds

• Social/Rec Activities: drives remote control cars, participates in Wounded Warrior activities, Shoe aficionado, one close friend, spends time with son,

• Goal: reduce pain level, avoid medications and need for back surgery

• Additional questions?


• Treatment recommendations: would you consider?

• How would you assess effectiveness of treatment?

Case Study

Outcomes

- Improved relationship with pain management team
- Transitioned off of opioid medication and engaged in more active coping
- Completed individual therapy and biofeedback training
- Self-report measure indicated
 - Weekly Pain Rating Average decreased from 7 to 3 on 0-10 scale
 - Anxiety decreased from severe range to mild
 - Reported reduction in frequency of migraine headaches, and agreed to referral to neurology headache clinic for further treatment



Shifting Focus

Healthy lifestyle promotion should be a centerpiece to efforts for improving health, quality of life, and pain management because health risk behaviors are as strongly associated as risk biomarkers with the onset of chronic disease

In fact, It has been suggested that eliminating health risk behaviors would prevent 80% of heart disease, stroke, and type 2 diabetes, as well as 40% of cancers

Moreover, WHO estimates that about 60% of overall health related quality of life is dependent on individual health behavior habits

Additionally, there appears to be a synergistic relationship between complementary and bundled health behaviors

So isn't it time we start focusing on caring for the whole health of our patients, instead of disease and symptom management

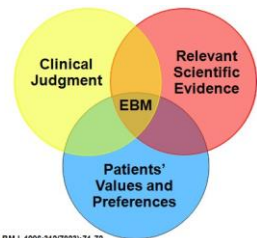
The Power of Self-Care



Prevention, Medical, and Wellness Care

- Improved outcomes
- Increased self-efficacy
- Decreased healthcare costs
- Higher satisfaction
- Hope and Empowerment

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Beckett DL, et al. BMA. 1998;312(7023):71-72.

Concluding Thoughts & Discussion

- How do we bridge the practice & research gap between CH and Western Medicine approaches?
- Patient Perspective
 - Communication with patients
 - Informed consent
 - Healthcare Policy
 - Evidence (RCT, well-designed)
 - Safety, effectiveness, and cost-effectiveness
 - Collaborate!
 - Communication
 - Professional Competency

Questions

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