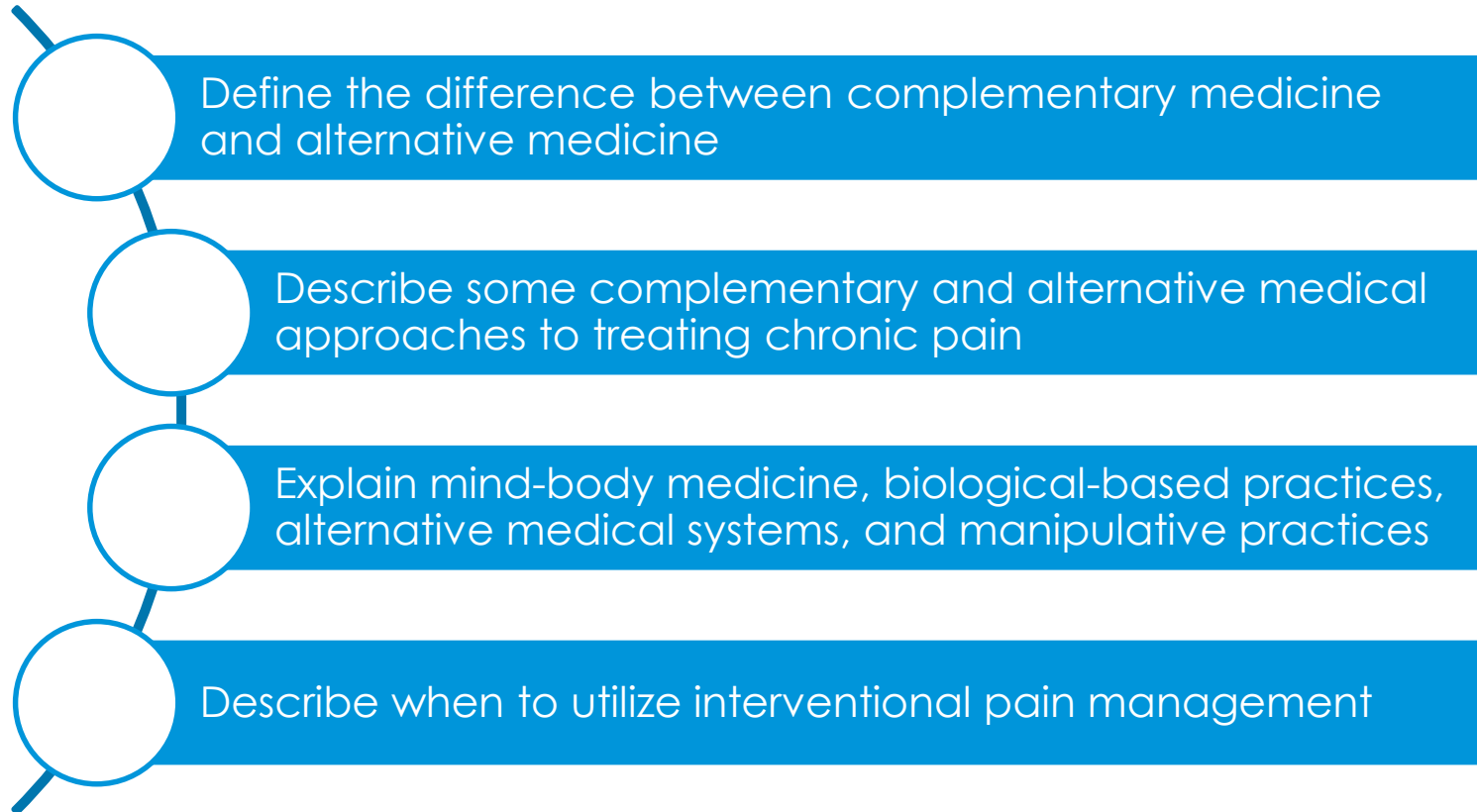


Non- Pharmacological Approaches to Chronic Pain Management

Learning objectives

- 
- Define the difference between complementary medicine and alternative medicine
 - Describe some complementary and alternative medical approaches to treating chronic pain
 - Explain mind-body medicine, biological-based practices, alternative medical systems, and manipulative practices
 - Describe when to utilize interventional pain management



Welcome from Blue Shield of California



Salina Wong, Pharm.D.
Director, Clinical Pharmacy Programs
Pharmacy Services
Blue Shield of California



Blue Shield's Narcotic Safety Initiative (NSI)

Reduce opioid use by 50% among Blue Shield members with non-cancer pain by the end of 2018

Reduce # of members on chronic high doses

Prevent progression from acute to chronic use

Reduce # of prescriptions and refills for those newly starting opioids

Through evidence-based interventions including:

- ✓ Provider awareness
- ✓ NSI case management
- ✓ SafeMed LA collaboration
- ✓ Chronic pain management program
- ✓ Limit high doses and over-prescribing for acute pain and cough/cold
- ✓ Restrict ER opioids
- ✓ Inhibit stockpiling
- ✓ Prevent extended use for acute pain
- ✓ NSI provider education webinar series
- ✓ Increase access to medication assisted therapy (MAT)

Achieved a 42% reduction in 2017



Introducing Dr. Waller



R. Corey Waller M.D., M.S., DFASAM
Principal, Health Management Associates



Non-Pharmacological Approaches to Chronic Pain

R. COREY WALLER M.D., M.S.

PRINCIPAL, HEALTH MANAGEMENT ASSOCIATES

Objectives

The learner will be able to:

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Conventional, Complementary and Alternative Medicine

Conventional Medicine

- Medicine practiced by an MD, DO (APNs and PAs as well) and allied health professionals, such as physical therapists, psychologists and nurses

Complementary Medicine

- Used in conjunction with conventional medicine to enhance outcomes

Alternative Medicine

- Used in place of conventional medicine

Complementary and Alternative Medicine (collectively CAM)

- System of diverse medical systems, practices and products that are not considered to be a part of conventional medicine

National Institute of Health (NIH) Classification

Mind-Body Medicine

- Hypnosis, biofeedback, guided imagery, meditation, spirituality

Biologically-Based Practices

- Herbs, supplements, aromatherapy

Alternative Medical Systems

- Homeopathy, Traditional Chinese Medicine, Ayurveda, Naturopathy

Manipulative or Body-Based Practices

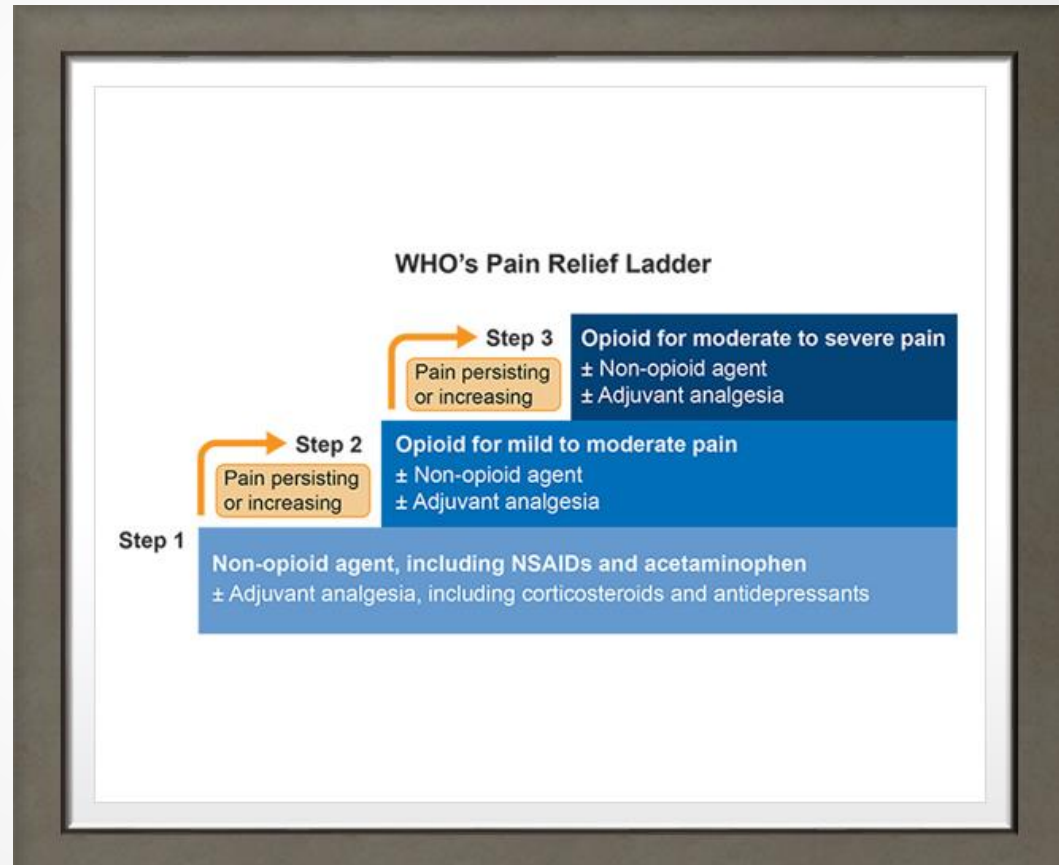
- Massage, Chiropractic, Craniosacral, Yoga
- Energy medicine

Chronic pain

- Pain lasting more than 3 months
- Associated with ongoing nerve damage, inflammation, muscle spasm, etc.
- Can persist after original injury heals
- Could be related to emotional or learned behavior issues
- Central chronification may occur

Proper treatment approach

- Effective treatment may lessen the economic burden and social impact
- Non-drug options are underutilized
- Most common World Health Organization (WHO) pain ladder
- Add physical therapy (PT) if feasible



What we know now



NSAIDs and Acetaminophen are as effective as opioids at 6 months



This means that for moderate to severe chronic pain, opioids aren't that helpful



Opioids may make the pain worse and can increase risk of aberrant behaviors, cause hyperalgesia, and/or introduce addiction

Mind-body medicine

- Hypnosis
- Biofeedback
- Guided imagery
- Meditation
- Relaxation training





Hypnosis

An altered state of awareness within which persons experience heightened suggestibility

- Mental imagery
- Self-hypnosis
- Visualization

Biofeedback (BFB)

Feedback	Tool
Skin Temperature	Digital Thermal Gauge
Heart Rate Respiratory rate	Pulse / Respiratory Monitor
Galvonic Skin Response	GSR meter
sEMG	Electromyography
Heart Rate Variability (HRV)	Finger / Earlobe sensor

Outcomes?

- 28 trials, 1951 participants
- Largest effect sizes for treatment vs. control
 - Distraction (self-reported pain)
 - Hypnosis (self-reported pain, self-reported distress and behavioral measures of distress)
 - Combined cognitive-behavioral interventions (other-reported distress and behavioral measures of distress)
 - <<Cochrane 2006

Outcomes (continued)

Hypnotherapy for the Management of Chronic Pain. Elkins, et al. Int J Clin Exp Hypn. 2007 Jul; 55(3): 275-287

- Meta-analysis of 13 studies, excluding headaches
 - Hypnosis significantly more effective than control
 - Confirmed for wide-variety of conditions (cancer, low-back pain, arthritis pain, sickle cell disease, TMJ pain and disability related pain)

Outcomes (continued)

- Meta-analysis, 25 trials, 1247 participants
- Inclusion:
 - Psychological Rx vs. placebo, active Rx, treatment as usual or waitlist
 - Chronic pain other than cancer
 - Pain, disability or emotional functioning
- Treatment: omnibus cognitive behavioral therapy (CBT), relaxation, biofeedback
- Self-guided vs. therapist-guided
 - *Palermo et al. Pain. March 2010*

Outcomes (continued)

- Large positive effect on pain reduction (post-treatment and follow-up)
- Small/non-significant effects for disability and emotional functioning
- All techniques produced significant effects on pain reduction
- Self-administered versus therapist-administered interventions had similar effects on pain reduction
 - *Palermo et al. Pain. March 2010*

Acupuncture

- Manipulation of specific points on the body
- Meridians: 14 invisible channels of energy flow, forming a network
- Qi (chee) ebbs and flows with changes in a person's mental, physical and spiritual well being
- Practiced in China for thousands of years!



Acupuncture mechanism

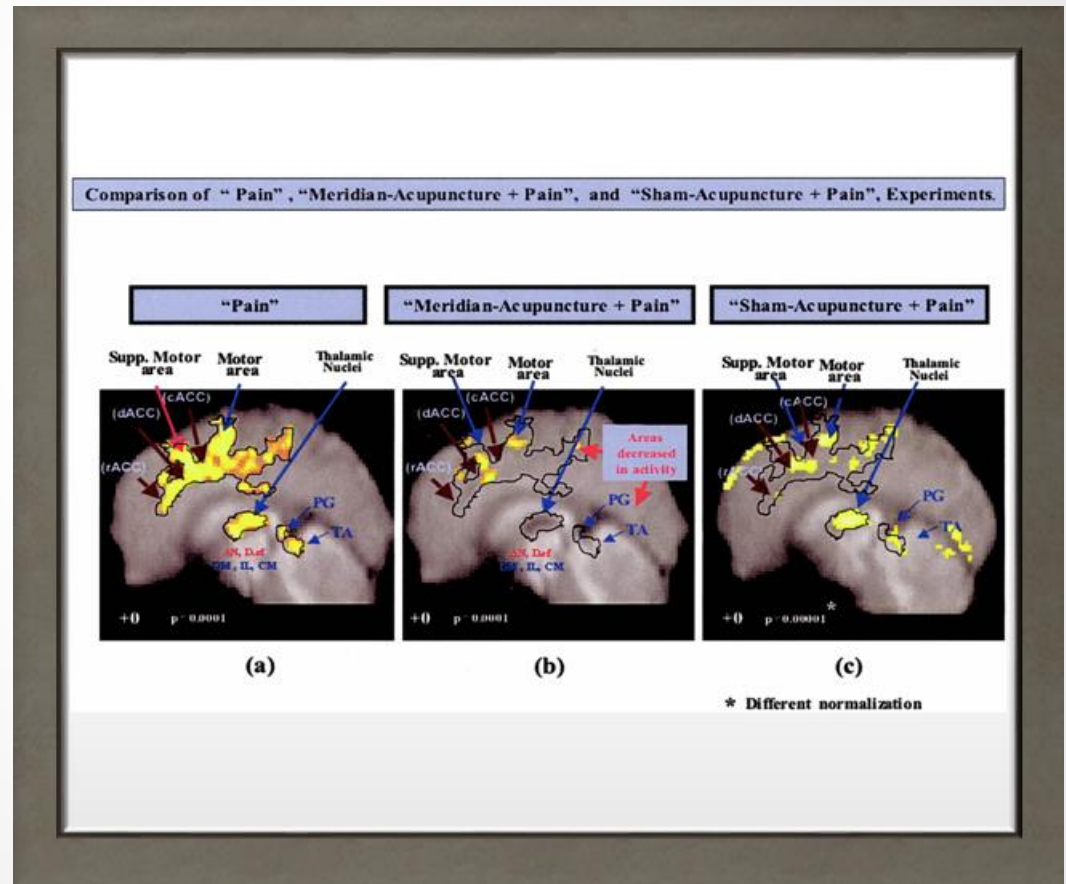
- Cerebrospinal fluid (CSF) analysis following acupuncture treatment shows increased levels of endorphins, enkephalins, monoamines
 - *Eriksson et al. 1977, Pomeranz 1996, Sims 1997*
- Antagonism of electro-acupuncture by naloxone
 - *Mayer et al. 1977 & Pomeranz et al 1989*
- Functional magnetic resonance imaging (fMRI) studies demonstrating effects of stimulating various acupuncture points and effects on central nervous system (CNS)
 - *Cho et al. 2000, Liu et al 2004*
- Polymodal receptors mechanism
 - *Kawakita et al. 2007*

FMRI changes

Functional magnetic resonance imaging demonstrating a correlation between activation of specific areas of the brain and corresponding acupoint stimulation predicted by ancient acupuncture literature

A = anterior nucleus; cADD = caudal anterior cingulate cortex; CM = centromedian nucleus; dACC = dorsal anterior cingulate cortex; DM = dorsomedial nucleus; DsF = dorsal superficial nucleus; IL = intralaminar nuclei; PG = caudal inferior parietal lobule, area 7a; rACC = rostral anterior cingulate cortex; TA = tectal area

From the American Academy of Medical Acupuncture



Acupuncture safety

- Review of 22 randomized controlled trials (RCTs)
 - Sedation 32%
 - Needle discomfort 26%
 - Redness or irritation at puncture site 7%
 - Hematoma 1%
 - Faintness 1%
 - *Jindal et al Pediatr Hematol Oncol 2008*



Acupuncture outcomes

Acupuncture for Chronic Pain: Update of an Individual Patient Data Meta-Analysis; Andrew J. Vickers' et al. The Journal of Pain May 2018, Volume 19, Issue 5, pages 455-474

- 20,827 patients from 39 trials
- Superior to sham and no acupuncture ($p < 0.001$)
- “Acupuncture is effective for the treatment of chronic musculoskeletal, headache, and osteoarthritis pain. Treatment effects of acupuncture persist over time and cannot be explained solely in terms of placebo effects. Referral for a course of acupuncture treatment is a reasonable option for a patient with chronic pain.”

Massage

- 57 patients, presenting to pain clinic
- Prospective clinical trial
- Usual Rx plus massage
- Control ratings before and after a 'no intervention' time period in 25
- Pain, distress, tension, discomfort, and degree of upset mood significantly lower
 - *Santhanam et al, Paediatr Anesth 2008*



Massage

The Effects of Massage Therapy on Pain Management in the Acute Care Setting; Rose Adams et al. Int J Ther Massage Bodywork. 2010; 3(1) 4-11

- 53 participants
- Inpatient cohort, receiving 30-minute massage sessions (mean 1.5 during stay)
- Pain level reduced from 5.18 to 2.33
- Qualitative data showed improvement in pain level, emotional wellbeing, relaxation and ability to sleep

The Impact of Massage Therapy on Function in Pain Populations—A Systematic Review and Meta-Analysis of Randomized Controlled Trials: Part III, Surgical Pain Populations. C. Boyd et al. Pain Medicine, 2016 Sept; 17(9): 1757-1772

- Meta-analysis 16 studies
- Evidence showed improvement in pain, anxiety, stress, mood, sleep and physiological (extremity surgeries)

Yoga

Yoga, Physical Therapy, or Education for Chronic Low Back Pain: A Randomized Noninferiority Trial. Saper RB et al. Ann Intern Med. 2017 July 18;167(2); 85-94

- Single blind randomized non-inferiority trial 320 participants with chronic low back pain (cLBP)
- Manualized yoga program was noninferior to PT, however the PT group had a disproportionate loss to follow up

Yoga treatment for chronic non-specific low back pain. Wieland LS et al. Cochrane Database Syst Rev. 2017 Jan 12;1:CD010671

- Eval for cLBP
- There is low- to moderate-certainty evidence that yoga, compared to non-exercise controls, results in small to moderate improvements in back-related function at 3 and 6 months
- Yoga may also be slightly more effective for pain at 3 and 6 months, however the effect size did not meet predefined levels of minimum clinical importance

Aromatherapy



- Insomnia: lavender, neroli
- Anxiety: sweet orange, sandalwood
- Nausea: spearmint, ginger
- Fatigue: lemon, peppermint
- Pain: rosemary, chamomile
- Topical: lemongrass, black pepper

Interventional Pain Management

- Spinal steroid injections
 - Helpful if identified nerve root compression and radicular pain
 - Epidural steroid injections: update on efficacy, safety, and newer medications for injection.
 - *Kozlov N et al. Minerva Anesthesiol. 2015 Aug 81(8):901-909*
- Spinal stimulators
 - Refractory neuropathic pain of defined level

Conclusions

- Think out of the box
- Make the decision with your patients
- See what can be paid for
- Most importantly, set realistic goals

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