Pain, Prejudice and Opioids: Emerging Policy and Integrative Practice

Integrative Healthcare Symposium
February 23, 2016

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Jane Ballantyne, MD
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Objectives: Participants Will Be Able To

- Discuss the level of inclusion of non-pharmacologic approaches in emerging pain policy
- Evaluate the role of interprofessionalism and being at the table on the creation of policy directions
- Discuss the level of risk with non-pharmacologic approaches to pain.
- Explore the necessity for policy and practice changes regarding the role of opioids in the management of chronic pain.

Disclosure: I have no conflicts of interest. I do have multiple alignments of interest, volunteer roles and limited consulting with not-for-profit organizations on pain related issues.
Opioid/Pain Policy

The Awakening to Non-Pharmacologic and Integrative Approaches
Nearly 2 million Americans abused or were dependent on prescription opioids in 2014.
Early Opioid Guidance - 2011

Center with significant CAM research – but no reference to CAM in guideline. Why?

Dan Cherkin, PhD
Is it possible that a characteristic of a reductive mind is that it can’t access common sense?
Relieving Pain in America 2011 - IOM

- IOM Committee on Advancing Pain Research, Education and Care
  - ND, LAc pain expert Marinelli
  - UCLA Integrative pediatrician Zelzer

- “CAM” included in 15 relevant segments
  - Re cost-effective, education, under barriers, self-management, interdisciplinary teams, reimbursement, etc.

- Antecedent to the National Pain Strategy

Pain focus in NCCAM Strategic Plan
Highlighted in Strategic Objective #1

http://theintegratorblog.com/index.php?option=com_content&task=view&id=759&Itemid=93
Effective January 1, 2015, for Ambulatory Care, Critical Access Hospital, Home Care, Hospital, Nursing Care Centers, and Office-Based Surgery Practice Programs

Standard PC.01.02.07: The [organization] assesses and manages the [patient’s] pain.

Revised Rationale for PC.01.02.07 (New for Ambulatory Care and Office-Based Surgery Practice)

The identification and management of pain is an important component of [patient]-centered care. [Patients] can expect that their health care providers will involve them in their assessment and management of pain. Both pharmacologic and nonpharmacologic strategies have a role in the management of pain. The following examples are not exhaustive, but strategies may include the following:

- Nonpharmacologic strategies: physical modalities (for example, acupuncture therapy, chiropractic therapy, osteopathic manipulative treatment, massage therapy, and physical therapy), relaxation therapy, and cognitive behavioral therapy
- Pharmacologic strategies: nonopioid, opioid, and adjuvant analgesics


New Note for EP 4 (Additional Note for Nursing Care Centers)

Note: Treatment strategies for pain may include pharmacologic and nonpharmacologic approaches. Strategies should reflect a [patient]-centered approach and consider the patient’s current presentation, the health care providers’ clinical judgment, and the risks and benefits associated with the strategies, including potential risk of dependency, addiction, and abuse.
CDC’s Opioid Guidance

GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

www.cdc.gov
DRAFT CDC Guideline: Were Integrative Health and CAM Professionals on the Team?

- **Stakeholder Review Group** had no representatives

- **National Center for Injury Prevention and Control’s Board of Scientific Counselors** had no apparent representation
“Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain.

DRAFT: explicitly included as non-pharma:

“… complementary and alternative therapies (e.g., manipulation, massage, and acupuncture) … “

What happened with the draft?
CDC Comment Period

Multiple integrative health organizations respond

Publicized and promoted response
FINAL CDC Description of “Non-Pharmacologic” Methods

“Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain.”

FINAL: Explicit Options for Non-Pharma:
“Exercise, aquatic, aerobic, psychological, cognitive behavioral therapy, and bio-psycho-social interventions”

RECALL DRAFT: Also explicitly included:
“… complementary and alternative therapies (e.g., manipulation, massage, and acupuncture) … “

What happened with the draft?
Integrative Health and Medicine Representatives on Teams?

• Oversight Panel: No experts from IHM/CAM

• 6 Working Groups (80 total members)
  • Working Group on Prevention and Care: None
  • Working Group on Disparities: None
  • Working Group on Service Delivery and Payment: None
  • Working Group on Professional Education and Training: one, Brian Berman, MD
  • Working Group Public Education & Communication: None
Vision Statement: 8th of 14 bullets, under education, at the end of list of prioritized areas: “the role of complementary and integrative medicine.”

Listed among “Collaborators”
- Service Delivery & Payment Objective #1: “Define and evaluate integrated, multimodal and interdisciplinary care ...” urged inclusion of “licensed integrative health practitioners.”
- Same section, Objective #3,: “Tailor payment to promote and incentivize high-quality, coordinated pain care ...” reaches out to “licensed integrative health care providers.”
- Disparities, Objective #1: “Reduce bias (implicit, conscious, and unconscious) and its impact on pain treatment by improving understanding ...” calls out to include “social service providers (including licensed practitioners who provide integrative and complementary health approaches).”
- Prevention and Care, Objective #2: “Develop nationwide pain self-management programs...” invites collaboration with “licensed complementary and integrative health fields.”
Obama and Congressional Opioid Plans (2016)

- Obama strategy: IHM absent
- Congressional plan: IHM absent

The Uneven Entrance of Non-Pharma Approaches as Tools in the Opioid Crisis
Leadership: Get into the Opioid Conversation!

- American Public Health Association resolution
  - Nursing section backed
  - Support from Chiropractic Section and Integrative, Complementary and Traditional Health Practices Section
- Foundation for Chiropractic Progress (F4CP) white paper
- AANP reaches out to AMA as resource
- IHPC Task Force – planning 2017 action

Michele Maiers, DC, PhD
APHA Chiropractic Section

Beth Sommers, PhD, MPH, LAc
APHA Integrative, Complementary and Traditional Medicine Section

Steve Welsh, DC
IHPC Task Force Chair
Leadership: Will States - and Lobbying by State Professional Associations - Take the Lead?

• Oregon Inclusion in Coordinated Care Organizations (Medicaid)
  – “The following integrative treatments are among the recommended therapies: acupuncture, chiropractic manipulation, cognitive behavioral therapy, osteopathic manipulation.”
  – “In addition, yoga, intensive rehabilitation, massage, and/or supervised exercise therapy are recommended to be included in the comprehensive treatment plans.”
  – Naturopathic doctors already allowed to run Coordinated Care Organizations

• Vermont – S. 243, Sec. 15A An act relating to combatting opioid abuse
  – $463,000 for acupuncture pilot

John Singer, Lac
Vermont Acupuncture Association

Laura Ocker, LAc
Oregon Acupuncture Assn.

Kimberly Tippens, ND, MSAOM, MPH
National University of Natural Medicine
NCCIH/Mayo Scientific Guidance for PCPs

Team led by Richard Nahin, PhD

- Acupuncture and yoga for back pain
- Acupuncture and tai chi for osteoarthritis of the knee
- Massage therapy for neck pain with adequate doses and for short term benefit
- Relaxation techniques for severe headaches and migraine

September 2016
New Back Pain Guideline
“Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians”
February 2017

Proposed Standards Revisions Related to Pain Assessment and Management.
"The hospital promotes access to non-pharmacologic pain treatment (this may include alternative modalities, such as chiropractic, relaxation therapy, music therapy)."
February 20, 2017 comment period closed
From “Never Only Opioids” to “Never only (drug name here)”
Thank You!
Managing chronic pain: the age before and after opioids

JANE C BALLANTYNE
UNIVERSITY OF WASHINGTON, SEATTLE
“Make me fully understand that the ills of the body are nothing else than the punishment and the encompassing symbol for the ills of the soul … the greatest sickness is insensibility … Let me feel this pain sharply so that I can make whatever is left of my life a continual penance to wash away the offenses I have committed.”

Blaise Pascal “Priere pour demander a dieu le bon usage des maladies” prayer circa 1659
Pain carried in a line labelled system

- Early reductionist view
- First to describe pain as a perception, existing in the brain
- Distinguished from sensory transduction

L’homme de Rene Descartes. Paris: 1664
“Many investigators seem grimly determined to establish ....that for a given stimulus there must be a given response; that is, for so much stimulation of nerve endings, so much pain will be experienced, and so on.

This fundamental error had led to enormous waste. It is evident ..... that there is no simple relationship between stimulus and subjective response.

It is also made evident that the reason for this is the interposition of conditioning, of the processing component, of the psychic reaction.”

Beecher HK  Increased stress and effectiveness of placebos and “activity” drugs  Science 132;91-2 July 1960
Developed approaches to dealing with pain that were groundbreaking at the time (1960s)

Used behavioral principles to encourage chronic pain patients to become active again and cut back on pain medication

Led the way to the integration of psychological principles and psychologists into the care of chronic pain

Developed the idea of operant conditioning

The idea of multidisciplinary pain management:

- PT to improve conditioning and body awareness
- Learn CBT strategies for managing pain and developing healthy habits
- Learn injury avoidance and unlearn fear avoidance
- Use drugs and interventions as indicated but do not focus on them

Wibert Evans “Bill” Fordyce 1923-2009

Pain doesn’t just produce pain behaviors, attitudes, movements and postures, but is produced by them.
We were in a very good place ...........

And then along came opioids
Primary non-heroin opiates/synthetics admission rates, by State (per 100,000 population aged 12 and over)

1999
(range 1 - 50)

2009
(range 1 – 379)

< 8
15 - 18
45 or more
8 - 14
19 - 44
Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.
Public health impact of opioid pain reliever use

For every opioid overdose death in 2009 there were:

- Abuse treatment admissions: 9
- ED visits for misuse or abuse: 30
- People with abuse/dependence: 118
- Past Year Nonmedical users: 795

Based on 15,597 OPR overdose deaths in 2009.
Treatment admissions are for primary use of opioids from Treatment Exposure Data set for 2009.
Emergency department (ED) visits are from DAWN (Drug Abuse Warning Network) for 2009,
https://dawninfo.samhsa.gov/default.asp
Abuse/dependence and nonmedical use in the past year are from the 2009 National Survey on Drug Use and Health
Mortality by cause, white non-Hispanics ages 45–54

Why did it happen?

1. Palliative care physicians promoted opioids for chronic pain
2. Pharmaceutical industry promoted opioids for chronic pain
3. US healthcare system factors
4. US cultural factors

Ventafridda et al Int J Tiss React 1985
Scholten & Henningfield J Pain Palliat Care Pharmacother 2016
WHO Persisting Pain in Children 2012
Ballantyne et al BMJ 2016
Industry-funded “educational” messages

• Physicians are allowing patients to suffer needlessly because of “opiophobia.”

• Opioid addiction is rare in pain patients.

• Opioids can be easily discontinued.

• Opioids are safe and effective for chronic pain.

• Palliative care principles such as \textit{titration-to-effect} apply equally to chronic pain.

Porter & Jick NEJM 1080
Portenoy & Foley PAIN 1986
Sullivan & Ballantyne Arch Int Med 2012
Ballantyne & Sullivan NEJM 2015
Dollars Spent Marketing OxyContin (1996-2001)

Figure 1: Promotional Spending for Three Opioid Analgesics in First 6 Years of Sales


JCAHO Pain Management Standards 2001
Zgierska et al JAMA 2012
What’s wrong with using opioids long-term and continuously?

1. Misunderstands chronic pain: suffering is related less to intensity than to meaning, disability, role function, attitude and expectation, all of which can be changed.

2. Commandeers the endogenous opioid system: a system that is important for defining who we are and how we react to the world – destroys natural defenses.

3. Causes neuroadaptations: tolerance and dependence are linked adaptations that account for opioid failure.

4. Susceptible individuals will become addicted at a fairly constant rate (between 12 and 20%): the more that is prescribed, the more addiction will occur.

5. Activity and exercise are therapeutic for many pain conditions, especially musculoskeletal pain: opioids are deactivating.
Current theories about the purposes of the endogenous opioid system suggest two important categories:

- to provide stress-related pain relief and pain enhancement (injury-related “physical pain”)
- to facilitate maternal-infant and other attachments

- The pain and opioid systems evolved through evolutionary processes over millions of years
- Giving exogenous opioids overwhelms these natural systems and prevents the protective, defensive mechanisms from taking place
- Central control (top down) contributes as much as nociception to the experience of pain and is a powerful means of controlling pain
- Opioid systems are intimately involved in the group processes, the top down effects
- Isolation, withdrawal, distress, family, job, culture all influence the development of chronic pain and are indicators of derangement in natural (opioid) systems
The overuse of opioids for chronic pain is a distinctly US problem ......

What is the US going to do about it?
Systems map for obesity
• Employing self management programs to improve patient quality of life as an important component of acute and chronic pain prevention and management
• Use of integrated, multimodal and interdisciplinary treatment approaches
• Reducing incentives for treatments with little absolute benefit or a limited benefits relative to risks
• Increasing incentives and reimbursement strategies to promote high-quality coordinated pain care through an integrated biopsychosocial approach
• “Safe use campaign” for opioids
Let us go back to what Beecher and Fordyce recognized a long time ago

- Suffering may be expressed as physical pain, but its roots often lie much deeper

- These roots are created by past experiences and present fears, not found in the body or explained by pathology

- Modern imaging enables us to see most pathological causes of pain

- Thus, we understand that two individuals with the same pathology on an image may experience this condition very differently

- For one person the physical pain becomes the focus for a life of suffering, while for another, the physical pain is sublimated, or even disappears.
Cultural transformation needed is demedicalization of the most common pain conditions.
What’s new?

- Offers different patient selection criteria (1.)
- Discourages use of long-acting opioids (4.)
- Suggests dose limitations (5.)
- Recognizes ‘legacy patients’ as a different category (5.)
- Considers acute use as a pathway to chronic use (6.)
New teaching based on new evidence

- People who have failed all other treatments tend to have a high-risk profile thus opioids are often a bad choice if used for the reason that all other treatments have failed

- Opioids cause problematic use in up to 30%, and addiction in up to 20%

- Risk mitigation strategies have not been shown to reduce adverse outcome, 80% do not get good long-term efficacy

- Copious evidence now links adverse outcomes to high dose

- Long acting opioids are more likely to produce tolerance leading to loss of efficacy and dose escalation without protecting from addiction

Compare with old teaching

- Opioids are a reasonable option if all other treatments have failed

- Opioids rarely cause addiction if used to treat pain (5% incidence)

- Provided cautions are used, most COT is safe and effective

- There is no ceiling dose

- Long acting opioids provide consistent analgesia with less risk of addiction

Sullivan et al Arch Intern Med 2006;166:2087
Vowles et al Pain 2015;156:569
Le Marec et al Psychopharmacology 2011;216:297
Yu et al J Psychiatr Res 2014;59:161
Is the patient a suitable candidate for opioids?

**BENEFIT**

Intractable pain-producing disease

Goal is comfort

**RISK**

Substance abuse Hx, including smoking

Family Hx sub abuse

Childhood sexual abuse

PTSD

Anxiety

Depression

Other MHD

Young age

The 90% of chronic pain for which opioids have not proven helpful

Axial low back pain without a pathoanatomic diagnosis

Fibromyalgia

Headache

Franklin GM. Neurology 2014;83:1277-84.
CONCLUSIONS

• The over-prescribing of opioids in the 1990s and 2000s produced the worst iatrogenic catastrophe ever

• Opioids have a very limited role in the treatment of chronic pain because they carry enormous risk and have not been shown to be beneficial if used continuously long-term

• Use of opioids for chronic pain misunderstands chronic pain

• If we can teach people to live well with chronic pain and provide them with the right tools, that is the best we can do
INTEGRATIVE PAIN MEDICINE

Transformational Care
Heather Tick MA, MD  
Clinical Associate Professor  
of Family Medicine  
and Anesthesia & Pain Medicine  

_UW Medicine_  
DIVISION OF PAIN MEDICINE
• Author of *Holistic Pain Relief*

• [Heathertickmd.com](http://Heathertickmd.com)
Seven Habits of Successful Conventional Physicians

• We are well intentioned
• Rushed
• We are buried in electronic “paperwork”
• We rely on tests
• We focus on getting a diagnosis
• 54% in primary care suffer “burn out”
• We are part of the system that is the third leading cause of death (Makary MD, BMJ 2016;353:i2139)
A lot of trust in...

- Validity of tests
- Their applicability to the unique patient we are treating
- The latest trend: how did we label/treat patients before this trend, how certain were we that it was the right approach.
- Drug solutions-and more drug solutions to the side effects
Less trust in...

• The laying on of hands (Skinner, kangaroo care, nursing literature, increased vagal activity—Early Hum Dev. 2014 Mar;90(3):137-40. doi: 10.1016/j.earlhumdev.2014.01.009. Epub 2014 Jan 27; )


• The ability of the body to heal

Less experience with...

• The offer an intervention whose side effects include better health instead of renal failure
• How good it feels to refocus the conversation on the pursuit of health
• How a focus on health as a positive attribute helps our patients and ourselves.
• With respect to neuroplasticity: Which circuits do we want to reinforce.
Less trust in...

- Marcia Angel, NEJM, *The Truth About Drug Companies*
- Richard Horton *The Lancet*, “much of the scientific literature, perhaps half, may simply be untrue”, blaming, among other things, studies with small sample sizes, researchers’ conflicts of interest and “an obsession” among scientists for pursuing fashionable trends of dubious importance”.
Risk of Standard of Care

• Prescription opioid inadvertent ODs kill more people than heroin and cocaine combined (46/d)

• Escalating drug use and procedures and no improvement in outcomes


• The pressures of modern practice have pushed us to accept simple solutions to complex problems.

• We also have a story telling problem: We are a bit too quick to come up with explanations for things we really don’t have an explanation for. (Malcolm Gladwell)
“Medical care is a public health hazard.”

(Don Berwick IHI)
THE MORAL ERA

• YouTube: Address to the 27th annual meeting of Institute for Healthcare Improvement
  • https://www.youtube.com/watch?v=DKK-yFn7e_0

• Difference between QI, and transformation
• Our health care model is a disease management model
• Personalized, individualized care
• Time, attention
• Silver Bullet model- does not work for chronic conditions
• “healing is always possible”
• Our health care model produces life long customers for many different types of services

• Was this our intention?
WHAT DISTINGUISHES IM/IPM?

• Diagnosis:
  an agreed upon label for a set of symptoms

• Benefits?
  It helps in urgent, acute situations
  Billing, coding
  Entitlements

• Disadvantages?
What distinguishes IM/IPM?

Medicine is like a game of connect the dots

What about the connectors?
PREVENTABLE WITH LIFESTYLE CHANGES

93% DIABETES
81% HEART ATTACKS
50% STROKES
36% CANCERS
EPIC: European Prospective Investigation into Cancer and Nutrition

23,000 people for 7.8 years

– Not smoking
– Exercise 3.5 hr/week
– Healthy diet: veg, fruit, beans, whole grains, nuts, seeds, low meat consumption
– BMI <30

THE KEY TO HEALTH

WOULD YOU TAKE A DRUG THAT PREVENTED THIS PERCENTAGE OF DISEASES?

- Diabetes: 93%
- Heart attacks: 81%
- Strokes: 50%
- Cancers: 36%
• Average US person consumes 150 pounds of sugar per year
• ½ pound each day
Metchnikoff

• Nobel Prize in 1908 for work in immunity
• He discovered macrophages, phagocytosis and cell mediated immunity (co-recipient Paul Erlich established the principles of humeral immunity)
• He also developed the concept of good and bad bacteria in the gut and their association with health and prolonged life.
THE GUT

• 70-80% of the immune system lines the gut
• 80% of serotonin is in the gut
• Enough neurons in the gut for a small mammals brain
• Has a profound effect on inflammation, the immune system and our mood
THE MICROBIOME

- 10x as many cells as human cells
- 200x more DNA
- Affects digestion and nutrient absorption
- Affects weight, inflammatory biomarkers, abdominal pain, intestinal permeability, autoimmunity, mood, temperament, epigenetics, circadian rhythm...
MICROBIOME
Abdominal pain

van den Eisen LW, Poyntz HC et al
"Embracing the Gut Microbiota: The New Frontier for Inflammatory and Infectious Diseases." 6, no. 1, 2017, Vol.6(1).

“As such, beneficial modulation of the gut microbiota is a promising clinical target for many prevalent diseases including inflammatory bowel disease, metabolic abnormalities such as obesity, reduced insulin sensitivity and low-grade inflammation, allergy and protective immunity against infections.
Epigenetic gene regulation comprises the heritable changes in gene expression that occur in the absence of changes to the DNA sequence itself. Acetylation, methylation, phosphorylation, and other modifications play a role. The potential for nutritional and environmental factors to influence fetal, adult, and transgenerational epigenetic gene regulation results in numerous phenotypic consequences.

The agouti mouse model: an epigenetic biosensor for nutritional and environmental alterations on the fetal epigenome

Stress, VAGUS NERVE AND GUT

Prenatal stress causing epigenetic changes in the fetus

HEARTBURN AND GI HEALTH

• Acid stimulates
  – Unfolding of proteins
  – Gastric emptying
  – Pancreatic enzymes
  – Sterilizes food
  – Optimizes microbiome
  – nutrient absorption
  – inflammation
Omega 3: DHA and EPA

• Omega 3’s anti-inflammatory prostaglandin pathways
• >3 gm DHA + EPA/day reduced pain

Maroon et al, Surg Neurol. 2006;65:326-331
Omega 3: side effects

Effective for: Lowering TG

Likely: Reduced risk of dying of heart disease

Possibly: Reduced risk for HT, RA, Dysmenorrhea, ADHD, Raynauds, Stroke, Osteoporosis, IgA nephropathy etc

Essential Fatty Acids: Inflammation


Vitamin D for pain

• Low vit D levels correlated to higher opioid use (2x) and longer duration of use (2x)

• “vitamin D inadequacy may represent an under-recognized source of nociception and impaired neuromuscular functioning among patients with chronic pain”

• Decreased inflammation
• Increased bone density
• Less susceptibility to infections such as flu
• Less diabetes
• Less auto-immune disorders
• Possible role in cardiac and brain health
• Overdose extremely rare (over 150ng/ml)

MAGNESIUM

- Mg inhibits release of Ach from motor end plates - muscle relaxation (FM, MFPS, cramps)
• Recent rat studies on mechanisms NMDA receptors and nerve pain

• Improves constipation and irritable bowel,

• Sleep disorders

• Bone health, Collagen formation
Hypomagnesemia is probably the most underdiagnosed electrolyte deficiency in current medical practice. Hypomagnesemia is not necessarily present in a magnesium-deficient state.

NIH FUNDED CARDIA STUDY

- Prospective study of 4,497 Americans no DM
- Mg favorably affects inflammation, insulin resistance and reduces onset of DM
- Mg intake inversely associated with inflammatory markers (hsCRP, IL6, fibrinogen) and fasting insulin

Kim DJ et al. *Diabetes Care* 2010;33(12):2604-10
REFERENCES-MAGNESIUM

• Jane Higdon, “Magnesium,” Linus Pauling Institute, Oregon State University website, last updated August 2007, http://lpi.oregonstate.edu/infocenter/minerals/magnesium/


VITAMIN B12

• Vitamin B12 in low back pain: a randomised, double-blind, placebo-controlled crossover study daily injections of 1000mcg

• Reduction of pain in both active arms of the crossover

VITAMIN B12

- Powerful methylator (mitochondria and detox)
- Co factor for methionine synthase: lowers homocysteine
- Possibly helpful: Diabetic neuropathy
  - Fatigue
  - Fractures (Mayo Clinic)
TURMERIC

( Curcuma Longa )
107 knee OA patients: 800 mg/d ibuprofen=2g/d curcumin for pain
Laparoscopic cholecystectomy: Less pain and fatigue and analgesic use in curcumin group vs placebo (500mg q6h) DBPC RCT

Neuroprotective- animal models

New neurons in the hippocampus

Studied in Alzheimers prevention and improved function in Alzheimers patients
FASCIA


• Myers, T. Fascia is more of a connector than a tissue demarcation
• Ultrasonographic elastography allowing us to image fascial thickening and decreased movement of the fascial planes in LBP patients vs controls which correlated with pain and functional limitations

• Langevin et al. BMC Musculoskeletal Disorders 2011, 12:203
  http://www.biomedcentral.com/1471-2474/12/203
MYOFASCIAL PAIN

• Travell and Simons, *Myofascial Pain and Dysfunction: The Trigger Point Manual*, vol 1, 2

• C Chan Gunn “The Gunn Approach to the Treatment of Chronic Pain: Intramuscular Stimulation for Myofascial Pain of Radiculopathic Origin”

MYOFASCIAL PAIN
most common cause of pain

• Ten percent of all patients and 30% of pain patients in a general medical clinic met criteria for MFPS.


• David Simons cites a series of studies where between 50-85% of pain patients had evidence of myofasical pain syndromes.


Vagus nerve stimulation inhibits cytokine production and attenuates disease severity in rheumatoid arthritis (Tracey K, *PNAS* 2016 113 (29) 8284-8289., TNFα reduction with vagal stim)
Hypoechoic trigger point indicates a localized stiffer region of the upper trapezius muscle. Focal decrease of color variance in sonoelastography suggests the presence of a muscular trigger point (MTrP).
Uniform echogenecity in uninvolved muscle indicates homogeneous stiffness.

Vibration Sonoelastography of Uninvolved Muscle
MOVEMENT AS PAIN RELIEF

Movement Disorders in Chronic pain


MITOCHONDRIA

• Energy production
• Detoxification
• Susceptible to free radical damage
• Dependent on robust system of antioxidants
• OXPHOS defects reduce mitochondrial ATP production, and “can theoretically give rise to any symptom, in any organ or tissue, at any age, with any mode of inheritance.”

Drugs affecting mitochondrial function:

- NSAIDS, Aspirin, acetaminophen, antidepressants, local anesthetics, anxiolytics, antipsychotics, statins, oral hypoglycemic agents and anticonvulsants
- environmental toxics - 80,000 new chemicals


WHAT IS FIBROMYALGIA?

• microglial activation = central sensitization
• peripheral pain or stress role in central sensitization (S Mense)
• stress induced peripheral sensitization (Khasar, J Neurosci. 2008 May 28; 28(22): 5721–5730.0
• magnesium deficiency
• disturbed microbiome
WHAT IS FIBROMYALGIA?

• small fiber neuropathy more common than we suspected=inefficient circulation A-V shunting in microvasculature


• Inflammatory cytokines=brain fog, mast cells causing bladder irritation (Fabien Marchand et al, NatureReviews: 2005;7)
WHAT IS FIBROMYALGIA?

• Is pursuit of health an option?
• Is polypharmacy part of the solution or part of the problem?
• Is there an endgame for each new drug you start?
• Movement—another side to neuroplasticity?
• When patients don’t get better what to do?
We have not been looking in the right places!
Integrative Pain Medicine

What? Why?

If not now, when? If not you, who?

(Schoomaker and Buckenmaier, Pain Medicine 2/2016)