



# Non-Opioid Pain Management

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# Topic Summary

- Overview
- The Pain Puzzle
- What does successful pain treatment look like?
- Treatment Approaches

# Overview

- Pain Management Best Practices Inter-Agency Task Force U.S. Department of Health and Human Services (2019, May).
  - Acute & Chronic Pain Crisis in obtaining adequate care.
  - Resulting in profound physical, emotional and societal costs.

## According to the CDC

- Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults – U.S. 2016
  - 50 million adults have chronic daily pain.
  - 19.6 million adults experiencing high-impact chronic pain that interferes with ADLs.
  - U.S. cost of pain \$560 - \$635 billion yearly.
  - Opioid crisis resulted in high overdose deaths.

# Pain Puzzle



- Chronic pain is:
- Rarely purely physical or solely psychological
- Pain is always a personal experience
- Responded to differently depending on the person's biological, psychological, social, educational and cultural factors (life experiences)
- Not measurable by any objective test

## Revised IASP Definition of Pain (2020)

- OLD (1979): An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
- NEW (2020): An unpleasant sensory and emotional experience associated with, **or resembling that associated with**, actual or potential tissue damage.

# What Does Successful Pain Treatment Look Like?

- Individualized patient-centered care
- Treatment based on outcomes
- Multimodal and multidisciplinary
- Establishing a therapeutic alliance
- Goal = Educated, self-directed patient (locus of control patient centered)
- Manageable pain; return to function
- Return to daily life and work activities

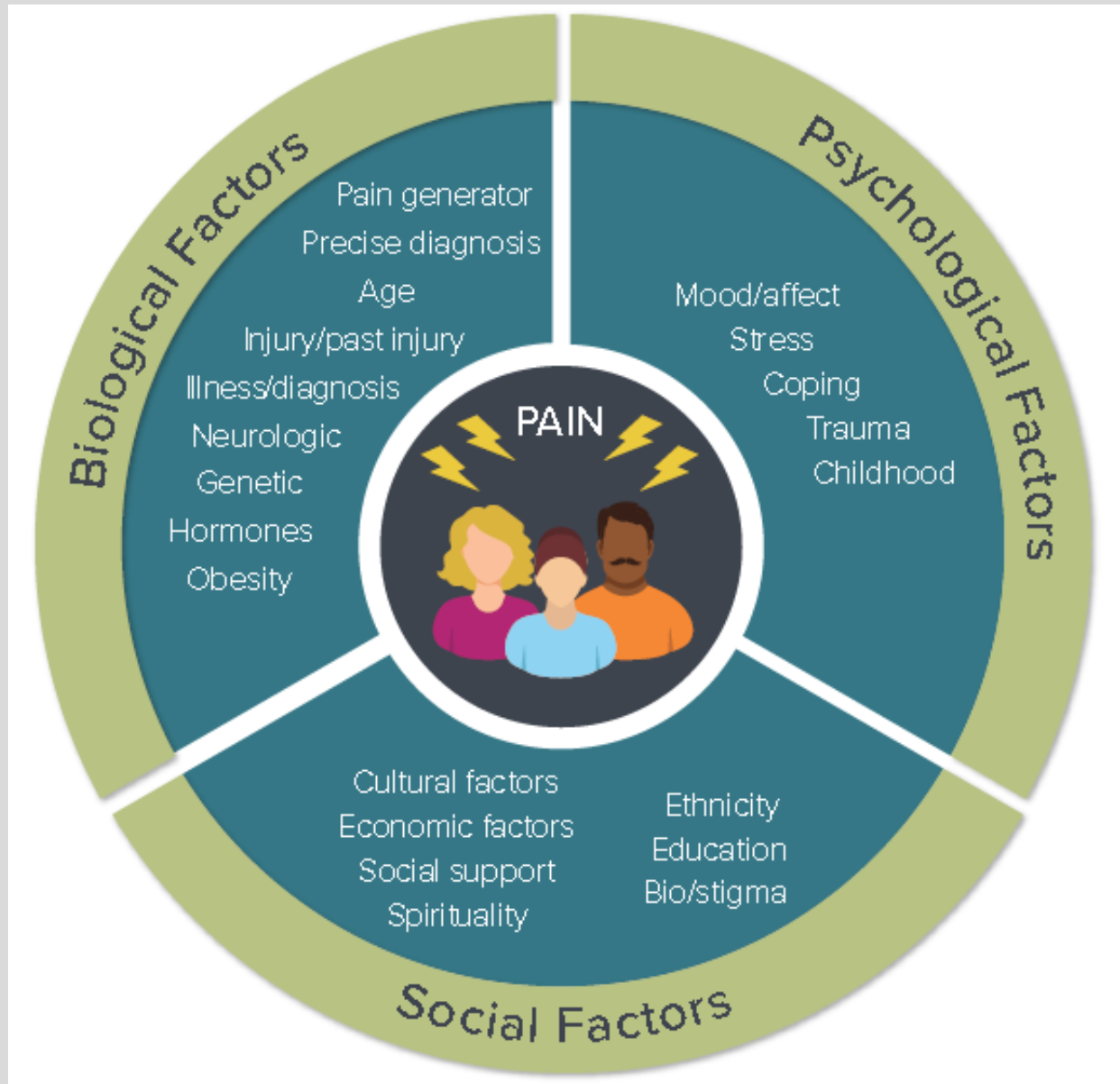


# Evidence-based strategies for Non-opioid Pain Care

- Opioids are of questionable benefit in acute and chronic pain management.<sup>2, 6</sup>



- Consensus: Time for pain medicine to shift away from reliance on opioids, ineffective procedures and surgeries toward comprehensive pain management.<sup>2</sup>



# Biopsychosocial Model of Pain Management

***Psychosocial & Delayed Recovery Factors*** are the  
***“Elephant in the Room”***



Psychosocial Factors of Disability

# Psychosocial & Delayed Recovery Factors

- IW ignorance of WC system, false beliefs and unrealistic expectations of medical care
- Fear of return to work after injury
- Fear Avoidance behavior
- Inability to cope & catastrophic thinking
- Low recovery motivation
- Financial: distressed due to loss of income
- Residual effects of childhood abuse (ACE)
- Psychiatric comorbidity

# Pain Management Toolbox

Acute and Chronic Pain Management:  
Individualized, Multimodal, Multidisciplinary

Medication

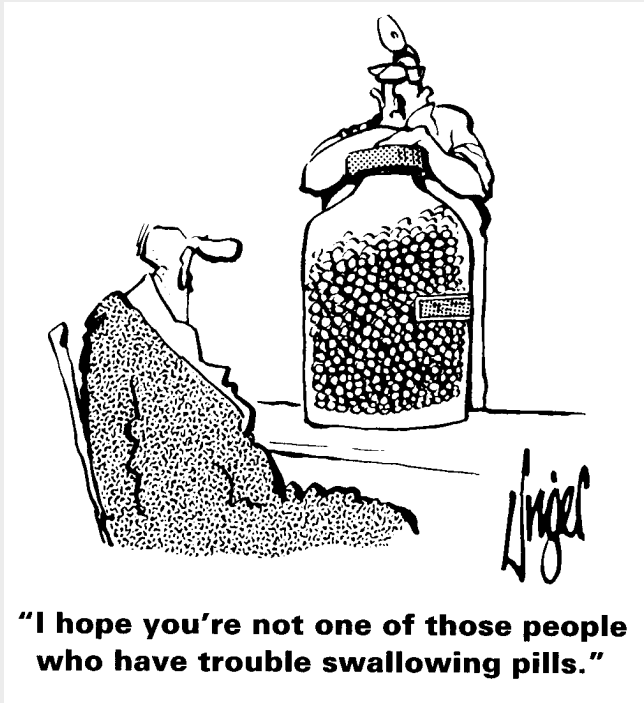
Restorative  
Therapies

Interventional  
Procedures

Behavioral  
Health  
Approaches

Complementary  
& Integrative  
Health

# Medications



- (Opioids)
- Non-opioid analgesics
  - acetaminophen & NSAIDs
- Antidepressants
- Sedatives & tranquilizers
- Anticonvulsants

# Opioid Analgesics

- When is an opioid appropriate?
  - Acute, catastrophic injury/trauma
  - Post-surgery
  - When non-opioid analgesics unsafe
  - When there is efficacy
    - Increased function
    - Reduced pain
    - Manageable/No untoward effects

# Example: Failed Back Surgery Syndrome

- John Smith
  - 75-year-old retired injured worker
  - Status post 4 remote low back surgeries with residual arachnoiditis and chronic pain
  - Negative history for delayed recovery factors.
  - Tends to his small farm
  - Oxycodone 15 mg qid (90 MED)
  - UR denial
  - Dysfunction and depression



# Medications: General Comments

- Patient specific individualized care
- Past medication history is critical
  - Including Rx, OTC & herbals
  - Don't assume prior drug "fail" means a non-useful drug
- When to use a drug?
  - Risk v. Benefit



ily

- Start Low & Go Slow
- Watch out for prescribing drug cascade
- Know when to reduce or discontinue

# Non-Opioid Analgesics

- acetaminophen & NSAIDs (including ASA)
  - Effective but not benign
  - Available OTC & >1000 combination drug Rx

# Acetaminophen

- Effective in mild-moderate pain
- Risks:
  - Dose dependent liver toxicity
  - In many prescribed and OTC drugs
- Mitigating risks:
  - Avoid in certain patients
  - Use lowest effective dose; DC appropriately
  - Laboratory screening for liver function
  - Patient education
  - Consider alternatives

# NSAIDs

- Effective in mild-moderate pain especially for inflammatory pain conditions.
- Risks:
  - Can be associated with gastritis, gastric ulcers, and GI bleeding (without symptomatic warning, renal insufficiency, hypertension and cardiac-related events.
  - In many prescribed and OTC drugs.
- Mitigating risks:
  - Avoid in certain patients
  - Use lowest effective dose; DC when appropriate
  - Laboratory screening for renal function
  - Patient education
  - Consider alternatives

# Anticonvulsants

**Carbamazepine (Tegretol®)**

**Gabapentin (Neurontin®)**

**Pregabalin (Lyrica®)**

**Topiramate (Topamax®)**

- Commonly used to treat pain syndromes including postherpetic neuralgia, peripheral neuropathy, migraine and neuropathic pain.
- Also used for perioperative pain.
- Risks:
  - Sedation
  - Misuse
  - Taper to discontinue

# Antidepressants

- Tricyclic antidepressants (TCAs)
  - (i.e., amitriptyline)
- Serotonin norepinephrine reuptake inhibitors (SNRIs)
  - (i.e., duloxetine)
- Selective serotonin reuptake inhibitors (SSRIs)
  - (i.e., fluoxetine, sertraline, citalopram, and paroxetine)

# Musculoskeletal Agents

- Muscle Relaxants
  - baclofen (Lioresal)
  - tizanidine (Zanaflex)
  - cyclobenzaprine (Flexeril)
  - Carisoprodol (Soma) - not recommended
- Risks:
  - Sedation
  - Baclofen should not be withdrawn abruptly

# Anti-Anxiety Medications

- Anxiety related to acute or fluctuating pain
- Comorbid anxiety disorders
- Benzodiazepines
  - May be useful short term in acute setting
  - Avoid for regular or long-term use
- SSRIs and SNRIs may also help manage the anxiety associated with co-morbid depression



# Topical & Transdermal Treatments

- Topical agents work locally and must be applied directly over the painful area.
  - diclofenac and lidocaine.
- Transdermal drugs have effects throughout the body and work when applied away from the area of pain.
  - fentanyl, buprenorphine, and clonidine

# Other Treatments

- NMDA Inhibitors (Including Ketamine)
- Low-Dose Naltrexone (LDN)
- Alpha Adrenergic Antagonists
  - Clonidine (Catapres<sup>®</sup>, Catapres-TTS<sup>®</sup> patch)

# Restorative Therapies

Individualized, Multimodal,  
Multidisciplinary Pain Management

Medications  
(Opioid and  
Non-opioid)

Restorative  
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# Acute to Subacute Physical Pain Treatment Approaches

- Passive approaches
  - Modalities
    - Heat (thermotherapy)
      - Hot packs
      - Ultrasound
      - Paraffin (wax)
    - Cold (cryotherapy)
  - Traction
  - Acupuncture
  - Manipulation
  - Massage
  - Myofascial release
  - Electrical stimulation
  - TENS

# Acute to Subacute to Chronic Physical Pain Treatment Approaches

- Active & Functional
  - Body part specific treatment
  - Therapeutic exercise
    - Movement better than rest
  - Improved body mechanics
  - Spine stabilization, stretching & strengthening
  - Work conditioning
  - Self-directed HEP (home exercise program)

# Interventional

## Individualized, Multimodal, Multidisciplinary Pain Management

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# Interventional: Acute to Chronic

- Trigger point injections
- Intra-articular steroid joint injections
- Peripheral nerve injections
- Viscosupplementation for joint pain
- Biologic therapies for tendon and muscle injury
  - Plasma rich protein (PRP)
  - Stem cell therapies

# Interventional: Chronic

- Nerve blocks & epidurals
- Facet blocks & radiofrequency ablation
- Implantable devices
  - Neuromodulation
    - Peripheral nerve stimulation (PNS)
    - Spinal cord stimulation (SCS)
    - Dorsal root stimulation (DRG)
  - Implanted drug delivery system
- Surgery



# Behavioral Health Approaches

## Individualized, Multimodal, Multidisciplinary Pain Management

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# Psychological Chronic Pain Treatment Approaches

- Cognitive behavioral therapy (CBT)
- Anger management
- Anxiety and depression reduction
- Coping strategies
- Resilience training
- Biofeedback
- Relaxation training
- Teaching stress reduction skills
- Mindfulness meditation
- Exposure to feared activities
- Hypnosis

Williams ACC, Fisher E, Hearn L, Eccleston C. [Psychological therapies for the management of chronic pain \(excluding headache\) in adults](#). Cochrane Database Syst Rev. 2020 Aug 12;8(8):CD007407. doi: 10.1002/14651858.CD007407.pub4. PMID: 32794606; PMCID: PMC7437545.

# Complementary and Integrative Health

## Individualized, Multimodal, Multidisciplinary Pain Management

Medications  
(Opioid and  
Non-opioid)

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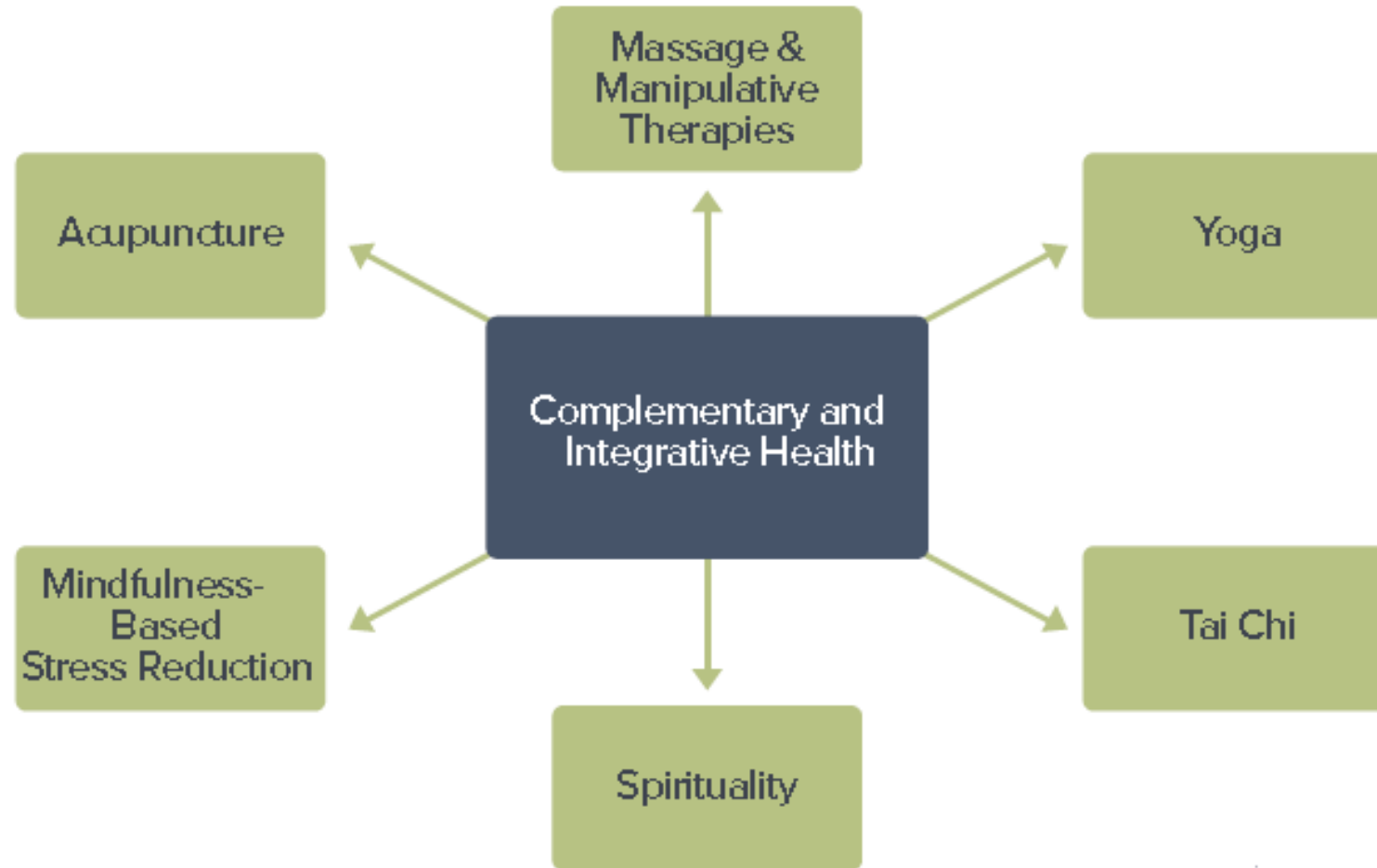
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# Complementary and Integrative Health Approaches

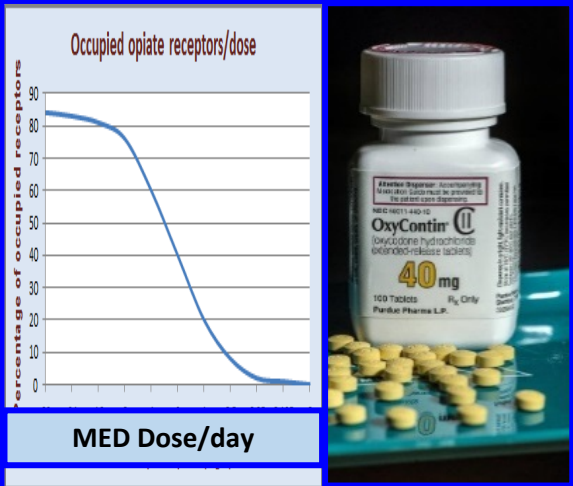
- Complementary approaches
- Alternative approaches
- Integrative healthcare

# Complementary and Integrative Health Approaches



This list is not exhaustive

# Functional Restoration Approaches



**Medication/opioid Optimization**



**Cognitive Behavioral Therapy (CBT)**



**Physical Restorative Therapies**



**Education and Psychosocial Focus**

## Example

- Joan Nichols is a 39-year-old RN
- Work-related CRPS of her dominant RUE
- Spends most of her day in a recliner
- ADL dependent
- QME describes her as 100% disabled
- Opts to participate in FRP

# Example

- Tom Jackson is a 35-year-old police officer
- Work-related low back injury
- MRI: minor DJD
- Meds: opioid; benzodiazepine, gabapentin
- Listless, depressed, denies restorative sleep
- Opts to participate in FRP



# ACOEM Chronic Pain Guideline

## Summary of Recommendations

<b>Laboratory Tests for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Needle EMG and Nerve Conduction Study to Diagnose</b>	<b>Recommended</b>
<b>FCEs For Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Aerobic Exercise for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Strengthening Exercise for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Aquatic Therapy for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Yoga for Other Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Oral NSAIDs for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Acetaminophen for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Gabapentin and Pregabalin for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Duloxetine (Cymbalta) for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Muscle Relaxants for Acute Exacerbations of Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Topical NSAIDs for CPP When Target Tissue Superficial</b>	<b>Recommended</b>
<b>Lidocaine Patches for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Acupuncture for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Psychological Evaluation for Chronic Persistent Pain</b>	<b>Recommended</b>
<b>Biofeedback</b>	<b>Recommended</b>
<b>Cognitive Behavioral Therapy</b>	<b>Recommended</b>

# Pearls

- First, do no harm (primum non nocere)
- Chronic pain
  - Rarely purely physical or solely psychological
  - Identify risk factors for delayed recovery
- Medications
  - Start low and go slow
  - Weigh risk benefit ratio
  - Taper and discontinue
  - Avoid opioids but don't ignore
- The patient
  - Form a therapeutic alliance
  - Treat the whole person
  - Locus of control within patient
  - Treatment based on function/outcomes

## Resources

ACPA-Stanford Resource Guide to Chronic Pain Management - An Integrated Guide to Medical, Interventional, Behavioral, Pharmacologic and Rehabilitation Therapies

It is available for free at

<https://www.theacpa.org/wp-content/uploads/2020/03/ACPA-Resource-Guide-2020-2-26-2020.pdf>

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Questions?

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