Evidence Based Treatments to Improve Functional Outcomes for Patients with Chronic Pain

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March 2016 National Pain Strategy outlines actions for improving pain care in America to reduce the burden and prevalence of pain and to improve the treatment of pain (Courtesy of Dr. Sean MacKey)

Evidence Based Reports Supporting Multidisciplinary Treatment for Chronic Pain

3/16 CDC urged health care providers to turn to non-drug and non-opioid painkillers before considering opioids

11/16 Agency for Healthcare Research and Quality - 800 page review on chronic LBP - nonpharmacological therapies appear to be effective for improving pain or function including exercise, yoga, tai chi, psychological therapies, multidisciplinary rehabilitation, acupuncture, spinal manipulation,

2/17 American College of Physicians advised doctors and patients to try non-drug therapies such as exercise, acupuncture, tai chi, chiropractor and avoid prescription drugs or surgical options when possible. If non-drug therapies fail, recommend nonsteroidal anti-inflammatory drugs as first line therapy, or tramadol or duloxetine as second line therapy.

11/17 Institute for Clinical and Economic Review Final Report – recommends enhanced coverage of certain non-drug management options for low back pain including acupuncture, CBT, MBSR, and yoga

6/18 Agency for Healthcare Research and Quality – Non-invasive non-pharmacological treatment for Chronic Pain - A Systematic Review
Biopsychosocial model of pain
Championed by Butler and Moseley and others. 2000

Biopsychosocial Model! Because Pain is Complex!

- Anxiety
- Depression
- PTSD
- Catastrophizing
- Fear of Movement
- Trauma history

Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan
Despite representing only 16% of the adult population, adults with mental health disorders receive more than half of all opioid prescriptions distributed each year in the US (Davis, M. 2017. U of Michigan and the Geisel School of Medicine at Dartmouth).

Tools We Could Use More Often for Screening

- Body Map
- Brief Pain Inventory (BPI)
- PHQ-9 (depression)
- PHQ-4 (depression and anxiety)
- Pain Anxiety Symptom Scale (PASS)
- Pain Catastrophizing Scale (PCS)
- PTSD screen for primary care (PC-PTSD-5)
- Adverse Childhood Experiences 5 (trauma history)
- STOP-BANG (sleep apnea)
- STarT Back Tool (screen for biopsychosocial issues)
- PEG (pain, enjoyment in life, general activity)
Central sensitization = A wind-up of the nervous system which becomes regulated in a persistent state of high reactivity and is associated with the development and maintenance of chronic pain.
Acute Phase (< 2 weeks)
symptom relief, maintain activity, provide support
high proportion return to activity and work

Sub-acute (2-12 weeks)
develop plan for RTW/activity, healthcare and workplace accommodation, identify psychosocial obstacles, cease ineffective healthcare
optimal time to prevent the development of long term consequences including work loss

Chronic (> 12 weeks)
multidisciplinary approach, cognitive behavioral techniques, consider shifting goals, max RTW/activities
requires more resources and more difficult to achieve.

Time Since Injury Programs for Injured Workers

<table>
<thead>
<tr>
<th>Time Since Injury</th>
<th>Programs for Injured Workers</th>
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<tbody>
<tr>
<td>0-14 Days</td>
<td>Stay at Work Program &amp; Early Return to Work Program</td>
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<tr>
<td>2 weeks</td>
<td>Progressive Goal Attainment Program (P-GAP) Activity Coaching</td>
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<tr>
<td>As early as 1 month</td>
<td>Work Hardening Work Conditioning</td>
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<tr>
<td>3-6 Months</td>
<td>Structured Intensive Multidisciplinary Program (SIMP)</td>
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Stages in the Development of Disability

<table>
<thead>
<tr>
<th>Stages</th>
<th>Precipitated Stage</th>
<th>Description</th>
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<tbody>
<tr>
<td>Stage 1</td>
<td>The accident</td>
<td>Relationship among the nature of the accident, the severity of the injury &amp; the claimed disability to work at that week.</td>
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<tr>
<td>Stage 2</td>
<td>Medical intervention</td>
<td>Culminating illness, difficulties in return, increased social &amp; role strain &amp; productivity. Repeated medical interventions may lead to escalating disability evaluation &amp; escalating dependency.</td>
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<tr>
<td>Stage 3</td>
<td>Identification of disability</td>
<td>Disabilities - anger, fatigue, dependency, distress, economic pressurization &amp; difficulty, desire for compensation for partial disability.</td>
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<td>Stage 4</td>
<td>Legal intervention</td>
<td>Lack of systematic evaluation &amp; support of disability - an adversary system with legal attitudes of disability management.</td>
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<tr>
<td>Stage 5</td>
<td>Learned helplessness</td>
<td>A sick culture, role of role for health recovery, generalized incompetent coping, frequently irreversible.</td>
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2 Predictors of Persistent Disabling LBP

Fear Avoidance
kinesiophobia
(ex. avoiding movement/activities)

Catastrophizing
excess negative thoughts
(ex. "This is terrible. This is never going to get better")

Chou, R., & Shekelle, P. Will This Patient Develop Persistent Disabling Low Back Pain? JAMA. April 7, 2010; Vol 303, No. 13, 1295-1302

Sleep
Pain and anxiety make it hard to sleep. Lack of sleep makes it hard to be active and lowers energy.

Energy
Chronic pain drains energy. Lack of energy makes it hard to be active and stay in shape.

Activity
Pain and lack of energy make it hard to be active. Lack of exercise worsens pain.

Mood
Chronic pain and the limits it puts on your life can lead to depression, anger, and anxiety. These feelings make coping with pain harder.
Our goal is to help people get their life back...

Neuroplasticity

The ability of the brain to form and reorganize synaptic connections, especially in response to learning or experience or following injury.

Remember:
"The nerves that fire together wire together."

Expectation (75%) vs Reality (30%)
Redirect conversations away from eliminating pain and move towards managing pain with a focus on:

- Function
- Quality of life
- Living a meaningful life

Required Pain Management Education

www.oregonpainmodule.org

Prioritizing Care: Key Domains

- Key Concepts
- Strategies
- Resources
- Connecting with your patient

Knowledge of pain

Sleep

Mood

Nutrition

Activity
Key domains: Knowledge of pain

Knowledge of pain
Sleep
Nutrition
Mood
Activity

Shared Decision Making:
- Helps determine where to begin
- Encourages active participation
- Identifies motivation
- Requires permission

Rethinking Pain

Key domains: Knowledge of pain
Negative thoughts about pain can lead to maladaptive coping and increased suffering and disability

**Thought:** “I have DDD.” “My back is crumbling”

**Emotion:** fear

**Behavior:** seek additional medical treatment

**Idea:** change wording from “DDD” to “normal age related changes.”

**Knowledge of Pain: Key Domain**

- Change language to decrease unintentional threat
  - “Sore but safe”
  - “Pain does not equal harm”
  - “There is a lot that you can do to change your pain”

- Teach about pain including pain processing and neuroplasticity/reversibility

Using written material and videos

Pain knowledge assessment tools: click here, or see addendum or OPMC website.
Sleep – Key Domain

- Sleep – wake cycle often disrupted
- Fatigue makes pain worse
- Rest is essential to rejuvenate and repair tissues
- Learning to calm the nervous system can promote rest
- Teach sleep hygiene
- Address sleep apnea
- Sleep log could be helpful to see patterns
- Refer for Cognitive Behavioral Therapy for Insomnia (CBT-i)
Mood – Key Domain

- Depression, anxiety, PTSD, history of trauma, grief, isolation and stress can impact pain
- The brain interprets chronic pain as a chronic stressor and activates the body’s stress response
- The release of cortisol and pro-inflammatory cytokines can affect tissue regeneration, immune function and metabolic controls which can increase pain
- Decreasing pleasurable activities increases the focus on pain
- Treatment:
  - Engage in pleasurable and social activities
  - Learn relaxation, meditation, mindfulness tools to calm the nervous system
  - Refer for CBT, ACT, MBSR

What is CBT for Chronic Pain?

- Widely researched and shown to be effective with many mental and behavioral issues
- Time-limited psychotherapeutic approach
- Encourages active, problem solving approach, self-management
- Focuses on the relationship between cognitions (thoughts), emotions (feelings) and behaviors
- Improves function and quality of life

Anxiety & PTSD

**Thought:** “I feel overwhelmed.” “I feel out of control” “nobody understands or believes me.”

**Emotion:** fear, anxiety

**Behavior:** shut down
Catastrophizing = magnifying the negative and anticipating the worse case scenario

**Thought:** “my pain will never stop” or “nothing can be done to improve my pain.” “If this pain continues I will end up in a wheelchair like my mother”

**Emotion:** feel helpless and overwhelmed, anxiety

**Behavior:** stop all activity

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Depression or negative affect

**Thought:** “I can’t do anything that I enjoy” “Last time I went to the park with my kids I had a flare up” “I feel guilty I can’t take care of my kids, spouse, contribute to the family like I want to.”

**Emotion:** depression, sadness

**Behavior:** withdrawal from activity

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Loss of self, identity, independence

**Thought:** “I’ve always worked so hard to be the best ______. Who am I now?” “I have lost my independence.”

**Emotion:** shame, sadness, grief

**Behavior:** stop activity, socializing, getting dressed, doing things that you enjoy
Black and white thinking

**Thought:** “If I can’t _____ like I did before, I am not going to do anything at all.”

**Emotion:** anger, sadness

**Behavior:** stop all fun activity

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Should...

**Thought:** “I should be able to dance all night long, go to the mall all day with my friends, mow the lawn, fish with my buddies provide for my family like I use to.”

**Emotion:** shame, guilt, sadness

**Behavior:** retreat into self. Stop socializing and going out

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Role of the family & others?

Help them understand pain
Set boundaries
Get rid of toxic relationships
Improve communication skills
“People don't hurt if they have something better to do.”

W. Fordyce, Ph.D.

Acceptance & Commitment Therapy (ACT)

Steven Hayes, 1994

ACT is a form of psychotherapy commonly described as a form of cognitive behavioral therapy. It is an empirically based psychological intervention that uses acceptance, mindfulness strategies, commitment and behavior-change strategies, to increase psychological flexibility.

Goal of ACT is to help you live a rich, full, and meaningful life while effectively handling the pain that inevitably comes your way.

Calming the Nervous System from Pain the Ongoing Stressor

• Diaphragmatic breathing
• Mindfulness training
• Progressive muscle relaxation
• Visualization
• Self-hypnosis
• Biofeedback
• Sleep
• Movement
• Calm.com, Headspace.com, Insighttimer.com
Key Domains: Activity and Pacing

Hurt vs Harm & Fear of Movement (kinesiophobia)

**Thought:** “pain means I am hurting myself.”

**Emotion:** fear (of pain)

**Behavior:** stop all activity, guard, protect, hold breath

Activity – Key Domain

- Gradual return to activity to improve conditioning
- Activity improves sleep
- Encourage patients that they are safe to move
- Pain does not = harm for chronic pain
- Doing more is more important than exercising
- Expect flare ups and learn to manage them with pacing
- Gentle movement, tai chi, therapeutic yoga, aquatic exercise, PT, OT
Expect Flare Ups and teach flare up management strategies to build self-efficacy and increase sense of control.
Nutrition – Key Domain

• What we eat can throw fuel on the pain, affect energy level and make us feel worse
• Explore knowledge of healthy eating and cooking
• Understand barriers to eating healthier
• Dietary log can be helpful
Take Away Points

Pain treatment should be approached from a biopsychosocial perspective

Refer early to multidisciplinary treatment to prevent iatrogenic complications

Take the new Oregon Pain Module to learn more
www.oregonpainmodule.org

63 y/o female with fibromyalgia 20 years

Medical Hx:
- FM, GERD, IBS, insomnia, obesity, OA, pre-diabetic, Hep C

Surgical Hx:
- partial thyroidectomy, THA R, ankle surgery, gastric bypass

Mental health Hx:
- anxiety, depression, bipolar, ADD, PTSD
  Suicide attempt 8 y ago, trauma history

Medication:
- Opioids 110 MED, ambien for sleep

Function/ Activity:
- Spends most of time on couch, now hurts to walk 10'
  Husband does chores, Use to go to gym 3 years ago with trainer

63 y/o female with fibromyalgia

Social:
- Living with husband of 36 yrs, supportive relationship
- Retired real estate broker 20 yrs ago when got "sick"
- Volunteers at church and belongs to bible group

Sleep:
- 5-6 hours/ night of fitful sleep

Nutrition:
- Gained 40’ over last year, in weight watchers. "emotional eater".

Substances:
- Smoked age 16-20. Hx of alcohol abuse 21 years ago
- Substance use history in family

Medication: Opioids 110 MED, ambien for sleep
Questions for the group:

• What are some of the possible contributors to this person’s pain experience?

• What are some things that could be addressed to change her experience?

Screening Tools

• Body map
• BDI-II or PHQ-9
• Pain Anxiety Symptom Scale
• Pain Catastrophizing Scale
• PEG – pain, function, QOL
• STOP-BANG (sleep apnea)
• Opioid Risk Tool

Medications for Pain and Mood

• Opioids 110 MED to start → tapering off
• Naloxone due to > 50 MED
• Duloxetine 60 mg
• Ambien 20 years → tapering off
• Med for ADD → tapering off
• Prazocin – nightmares (keep)
Use Shared Decision Making to Develop Goals

**PATIENT’S GOALS**
- Anxious about tapering opiates & BZDs
- Start exercising by going to pool program and walking
- Eat healthier to lose weight and prevent diabetes
- Travel, have fun, bike and be more active so can do things with grandkids

**CLINICIAN’S GOALS**
- Improve function
- Improve quality of life
- Improve understanding of pain to improve positive neuroplasticity
- Decrease suffering

Multidisciplinary Treatment Team & Plan

- NP in our clinic specializing in fibromyalgia provides pain education
- MD – trigger point injections
- Physical Therapist – decrease fear of movement, develop home exercise program
- Pain psychologist – CBT & ACT to decrease catastrophizing, pacing, teach relaxation skills
- Refer to pain psychology with provider who specializes in addictions and tapering - slow opiate & benzodiazepine taper in the future
- Supplementation
- Chiropractor – dietary consult
- Massage Therapist
- Refer to sleep clinic – for sleep issue
- Refer to OHSU pre-diabetes class to decrease A1C
- Provided flyer on free mindfulness class
- Acupuncture
- Chiropractor – dietary consult
- Continue volunteering at Western Plaza to address PTSD & trauma history
- Changing From the Inside Out, Providence class to explore emotional eating
- Fibromyalgia support group to decrease isolation

Outcome over 7 months

- **Mood**: Feels like she is “breaking down the wall” that kept her stuck
- **Function**: Showering, dressing, putting on make up, and brushing teeth, cleaned the house, takes care of grandkids few hours week
- **Quality of life**: Planting flowers in garden, wants to return to doing art
- **Getting puppy now that she feels she can take care of it**
- **Exercise**: Pool class and walking new dog
- **Relaxation**: Using Headspace App for meditation
- **Social**: Returned to church
- **Volunteering**: 10 hours a week
- **Sleep**: Sleep improved – up to 7 hours
- **Medications**: Tapering opiates, ambien, and ADD (stimulant)
Resources Follow

The Oregon Pain Website:  www.oregonpainguidance.org

Oregon Opioid Initiative: Strategies (OHA 2017)

- Non-opioid therapies for chronic pain
- Best practices for acute, cancer, end of life pain
- Ensure availability of treatment for opioid use disorder
- Increase access to naloxone and MAT
- Decrease the amount of opioids prescribed
- Use data to target and evaluate interventions
The Oregon Opioid Initiative

Aim: Reduce deaths, non-fatal overdoses, and harms to Oregonians from prescription opioids, while expanding use of non-opioid pain care.

1. Reduce risks to patients by making pain treatment safer and more effective, emphasizing non-opioid and non-pharmacological treatment.
2. Reduce harms for people taking opioids and support recovery from substance use disorders by making naloxone rescue and medication-assisted treatment (MAT) more accessible and affordable.
3. Protect the community by reducing the number of pills in circulation through implementation of safe prescribing, storage, and disposal practices.
4. Optimize outcomes by making state and local data available for informing, monitoring, and evaluating policies and targeted interventions.

Lorimer Mosely – Chronic Pain Tame the Beast 5’ uthube
https://www.youtube.com/watch?v=XwBYkw-iZdQ

"Understanding Pain and What to do About It in less than 5 Minutes" uthube
Understanding pain and what to do about it in less than 5 minutes - Joint Pain Education Project video from the Department of Defense and Veterans Health Administration to learn more about chronic pain management.
https://www.youtube.com/watch?v=cLWntMDgFcS
Oregon Pain Management Commission:


- 17 voting members, 2 legislative members

- MDs
- Physician Assistant
- Nurses
- Nurse Practitioner
- Naturopathic Physician
- Chiropractic Physician
- Acupuncturist
- Pharmacist
- Psychologist
- Dentist
- Addiction Counseling
- Physical Therapist
- Occupational Therapist
- Health Care Consumers
- Patient Advocates
- Public Representative
- Legislative Members
  - Senate
  - House

New resources for clinicians

Providenceoregon.org/pain toolkit

Classes on Living Well with Chronic Pain
www.healthoregon.org/livingwell

This 2015 book is designed to help manage pain so people with chronic pain can get on with living a satisfying, fulfilling life, and includes the Moving Easy Program CD. This book and CD are the companion resources to the Chronic Pain Self-Management workshop.
Sleep Hygiene

1. Maintain a regular bed and wake time schedule, including weekends
2. Establish a regular, relaxing bedtime routine
3. Workout regularly (stop exercise 3 hours before bed)
4. No electronics in bedroom - TV, phones
5. No exposure to TV or computers 2 hours prior to bedtime
6. Use bedroom only for sleep and partner time
7. Finish eating at least 2-3 hours before bed
8. Refrain from taking naps (not more than 20’)
9. Avoid caffeine afternoon
10. Avoid alcohol close to bedtime

Resource: CBT-I Coach

Healthy Sleep Resources From Kimberly Hutchison, MD, FAASM

Books
1. The Insomnia Answer: A Personalized Program for Identifying and Overcoming the Three Types of Insomnia, by Paul Govinksy and Art Spielman.
2. Say Goodnight to Insomnia, by Gregg Jacobs.

Apps, Podcasts, or Online Resources
1. Insight Timer (free)
2. Noisli.com (various sounds)
3. Smiling Minds
4. Simple Habit
5. Relax and Sleep Well by Glenn Harrold (free)
6. Calm
7. Headspace
8. Sleep with Me Podcast
9. Jeff Bridges Sleeping Tapes

Alternative Therapies for Adults
1. Essential Oil Sprays (lavender is a popular scent)
2. Worry Stone (also known as palm stones or thumb stones) are smooth, polished stones with a thumb-sized indentation in the center. They are used by holding between the index finger and thumb and rubbing gently for relaxation or anxiety relief.
3. Acupuncture
4. Massage Therapy

Cognitive Behavioral Therapy (CBT) Resources
• CBT Manual for Chronic Pain
• Beverly Thorn has a low literacy manual for chronic pain
Acceptance & Commitment Therapy (ACT) resources

Steven Hayes, 1994

https://contextualscience.org/act
https://www.actmindfully.com.au
Portland Psychotherapy Clinic
http://portlandpsychotherapyclinic.com/resources/acceptance_and_commitment_therapy_exercises_and_audiofiles/
Kevin Vowels ACT manual

Neuroplasticity Resources

Mindfulness and Relaxation Resources
Motivational Interviewing resources  
(Miller and Rollnick, 2009)

The Efficacy of Motivational Interviewing in Adults with Chronic Pain: A Meta-Analysis and Systematic Review
"MI significantly increased adherence to chronic pain treatment in the short term…"

Free Video Training on Difficult Conversations  
https://www.scopeofpain.com/  
• SCOPE of Pain is a series of continuing medical education/continuing nursing education activities designed to help you safely and effectively manage patients with chronic pain, when appropriate, with opioid analgesics.
• Trainer’s toolkit - 7 videos:
  • Initiating opioid therapy, discussing safety and benefit
  • Assessing and managing aberrant opioid taking behavior
  • Discussing discontinuation of opioids due to lack of benefit and excessive risk
  • Modifying treatment plan of inherited patient on high doses
  • Assessing and managing illicit drug use in patient with chronic opioid therapy
  • Assessing and managing POMP/questionable activity in established patient and in a new patient

Resources for Understanding the Issues Related to the Opioid Epidemic & to Help Patients

Chasing Heroin  
(Frontline & PBS)  
http://www.pbs.org/wgbh/frontline/ 
http://www.pbs.org/wgbh/frontline/chasing-heroin/
Free Pain CME

www.coperems.org

www.scopeofpain.com

www.pcso.org

www.pcssmat.org