



**The Elephant in the Room:  
Helping Patients to Navigate the "O" Impasse**

Ravi Prasad, PhD

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**Disclosures**

- Advisory Board Member:
  - Bicycle Health
  - Lumina Analytics (Mission LISA)
- Consultant
  - Johnson & Johnson



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**Learning Objectives**

- Review current legislation and guidelines regarding opioid prescribing and opioid tapering in the context of chronic non-cancer pain.
- Review current evidence-based approaches to opioid tapering in chronic non-cancer pain.
- Discuss the benefits of opioid tapering in terms of improvements in pain, function, and mood.
- Explain the role of behavioral interventions in the management of pain and the data supporting their use.
- Describe how to apply a biopsychosocial model to opioid tapering in the context of pain management
- Identify thought processes that can lead to medication escalation
- Differentiate among the terms tolerance, addiction, and dependence as they apply to opioid use



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### Pain in Context

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• IOM Report (2011)

- Chronic pain affects approximately 100 million American adults
- More than those affected by heart disease, cancer, and diabetes *combined*
- Estimated annual cost of \$500-600 billion in medical treatment and lost productivity



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### Does pain serve any function or purpose?

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### Is all pain the same?

- | Acute Pain  | Chronic Pain  |
|---|---|
| <ul style="list-style-type: none"> <li>▪ Hurt = Harm</li> <li>  – Avoidance decreases damage</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Hurt ≠ Harm</li> <li>  – Fear-avoidance cycle</li> </ul>   |
| <ul style="list-style-type: none"> <li>▪ Etiology:</li> <li>  – Clear pathway</li> <li>  – Often single cause</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Etiology:</li> <li>  – Many unknowns</li> <li>  – Multifactorial</li> </ul>  |
| <ul style="list-style-type: none"> <li>▪ Treatment Course</li> <li>  – Fixed end point</li> <li>  – Immobilization often essential for recovery</li> <li>  – Medications</li> </ul> | <ul style="list-style-type: none"> <li>▪ Treatment Course</li> <li>  – No fixed end point</li> <li>  – Immobilization can worsen condition</li> <li>  – Medications: Caution</li> </ul> |



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### Management Approach to Pain

- Similar to other chronic health conditions lacking a cure
- Focus on quality of life & functioning



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### Example: Diabetes

- Regulate diet
- Check blood sugars
- Exercise regularly
- Take insulin/medications
- Monitor wounds



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### Chronic Pain Management

- Medical optimization
  - Physician, NP, PA
- Physical reconditioning
  - Rehabilitation provider (e.g., PT)
- Behavioral/lifestyle modification
  - Pain psychologist




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### Interdisciplinary Management

#### Diabetes

- Regulate diet
- Check blood sugars
- Exercise regularly
- Take insulin/medications
- Monitor wounds

#### Chronic Pain

- Medical optimization
- Physical reconditioning
- Behavioral/lifestyle modification




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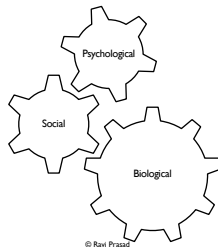
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### Conceptualizing the Patient




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### Conceptualizing Patient Treatment: Interdisciplinary Care

- Treatment should focus on treating the whole person
  - Optimization of medical care
  - Physical rehabilitation
  - Lifestyle factors
  - Psychosocial variables



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### Conceptualizing Patient Treatment: The Lack of Interdisciplinary Care

- Treatment ~~should~~ fails to focus on treating the whole person
  - ~~- Optimization of medical care~~
  - ~~- Physical rehabilitation~~
  - ~~- Lifestyle factors~~
  - ~~- Psychosocial variables~~



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### Conceptualizing the Patient



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### Unimodal Care: The Evolution of a Problem

- Tolerance
- Physical Dependence
- Psychological Dependence
- Addiction



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### Prescription Opioids

- Approximately 3 million Americans meet criteria for opioid abuse or dependence (4x increase since 1999)
- 60% of overdose deaths in the US (2014) were attributed to opioids
- 80% of new heroin users initiated SUD by misusing prescribed medications
- U.S. Department of Health and Human Services (2016). HHS research on pain treatment and opioid misuse and overdose: Translating science into action.
- U.S. Department of Health and Human Services (2015). *The opioid epidemic: By the numbers*. CDC, MMWR, 2015, 64: 1-5.
- U.S. Department of Health and Human Services (2018). HHS opioid initiative: One year later.



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### Prescription Opioids: A Day in the US

- 5,753 individuals misused rx opioids for the first time
- 116 opioid-related fatalities
- \$1.38 billion in economic costs
- U.S. Department of Health and Human Services: <https://www.hhs.gov/opioids/about-the-epidemic/index.html> accessed March 2018.



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### Mission LISA Estimates

- 13.8 million individuals (12 and older) misused prescription opioids and heroin in 2017
- 12.5% increase in drug OD deaths from 2016-2017
- 89% of above increase secondary to opioids
- Highest numbers of individuals affected by opioid misuse (including abuse and death): Pennsylvania, Florida, California, Ohio, Texas

• Lumina Analytics: <https://luminaanalytics.com/misuse/> accessed October 2018.



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### Prescription Opioids

- Opioid crisis declared a public health emergency
- HHS 5-point strategy
  - Better addiction prevention, treatment, and recovery
  - Better data
  - Better pain management (Crisis = opportunity)
  - Better targeting of overdose reversing drugs
  - Better research

• U.S. Department of Health and Human Services: <https://www.hhs.gov/opioids/about-the-epidemic/index.html> accessed March 2018.  
• U.S. Department of Health and Human Services (2017). HHS opioid research portfolio brief: translating science into action.



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### Clarification of Terminology to Help Inform Treatment

- *Tolerance*: needing more of a substance to achieve the same effect
- *Physical Dependence*: onset of physiologic symptoms in the absence of a substance



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**Clarification of Terminology to Help Inform Treatment**

- *Psychological Dependence* (as applied to medication): perception that specific functionality is the direct result of a medication and could not otherwise be achieved
- *Addiction*: disease marked by continued engagement in a specific behavior/aberrant use despite the presence of adverse outcomes including clinically significant impairment in work, school, or home functioning



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**Treatment Pathways**

- Is addiction present?
  - YES → Medication Assisted Treatment (MAT)
    - Combination of pharmacologic and addiction-specific behavioral treatments
  - NO → Interdisciplinary Pain Treatment
    - Biopsychosocial treatment approach to optimize functioning



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**Common Pain Psychology Curriculum Components**

- Overview of pain
- Pacing of activities
- Pain & stress physiology
- Relaxation training
- Sleep hygiene



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### Common Pain Psychology Curriculum Components

- Identifying environmental stressors (work & home)
- Development of stress management techniques (e.g., cognitive restructuring)
- Assertiveness/communication skills development
- Flare contingency planning



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### Deconstructing Pain Psychology

- Relaxation training
- The role of cognitive processes



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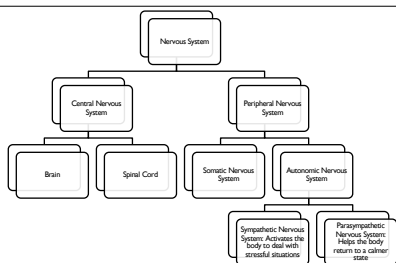
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### Stress, the Nervous System, and Pain



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**Stress, the Nervous System, and Pain**

Sympathetic Activation

- Increased heart rate
- Increased blood pressure
- Increased muscle tension
- Constriction of blood vessels
- Release of stress hormones
- Pupil dilation
- Change in breathing patterns
- Additional systemic changes



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**Stress, the Nervous System, and Pain**

Parasympathetic Activation

- Decreased heart rate
- Decreased blood pressure
- Decreased muscle tension
- Expansion of blood vessels
- Discontinuation of stress hormone release
- Pupil constriction
- Change in breathing patterns
- Additional systemic changes



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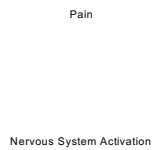
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**Stress, the Nervous System, and Pain**



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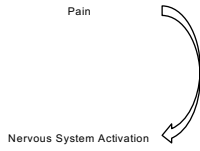
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**Stress, the Nervous System,  
and Pain**

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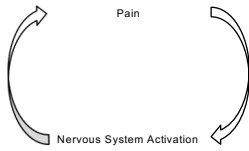
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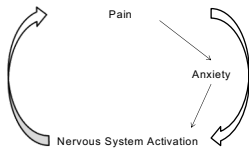
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**Stress, the Nervous System,  
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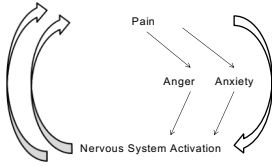
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**Stress, the Nervous System,  
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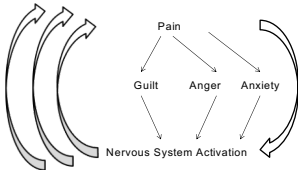
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**Stress, the Nervous System,  
and Pain**

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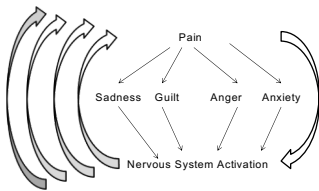
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**Stress, the Nervous System,  
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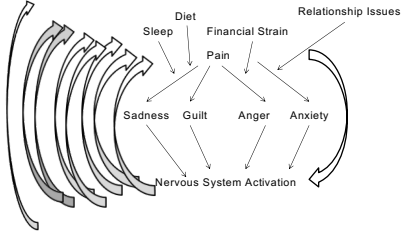
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### Stress, the Nervous System, and Pain



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### Relaxation Training

- Breathing exercises
  - Parasympathetic activity
  - Distraction

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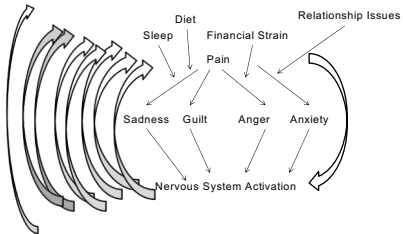
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### Stress, the Nervous System, and Pain



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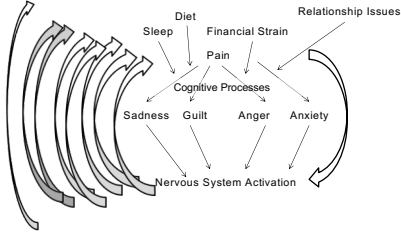
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### Stress, the Nervous System, and Pain



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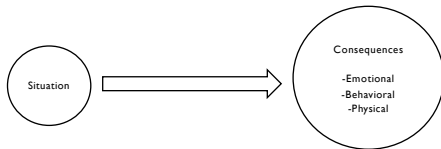
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### The Role of Cognitions



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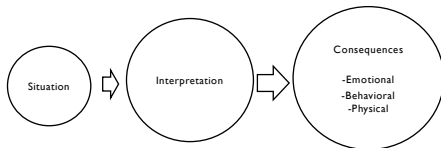
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### The Role of Cognitions



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### The Role of Cognitions

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- Thought processes are often rooted in our core perception of ourselves and our roles in this world
- Usually shaped by early experiences
- Much of our maladaptive behaviors are rooted in dysfunctional thought patterns
- Can take a significant amount of time and work to alter our automatic thought processes



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### Catastrophization

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- Exaggerated perception of a situation being worse than it actually is
  - Magnification
  - Rumination
  - Helplessness



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### Catastrophization

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- Implications
  - Pain expectations → affective distress
  - Somatic hypervigilance/attention → increased pain perception
  - Activity reduction coping strategy → fear-avoidance cycle
  - Persistent symptoms
  - Disability



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### Goal of Cognitive-Behavioral Therapy

- Target maladaptive thought process to achieve healthier outcomes
  - Emotional
  - Behavioral
  - Physiologic



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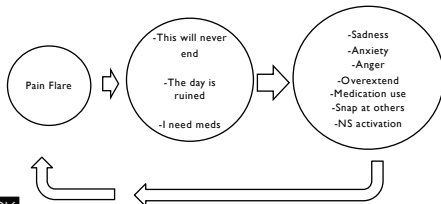
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### Using CBT: Pain Flare Example



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### Cognitive Restructuring

- Is this helpful?
- Is this accurate?



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### Cognitive Restructuring

Thoughts	Analysis
<ul style="list-style-type: none"> <li>• This will never end</li> <li>• The day is ruined</li> <li>• I need meds</li> </ul>	<ul style="list-style-type: none"> <li>• Are these statements helpful?</li> <li>• Are these statements accurate?</li> </ul>

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### Cognitive Restructuring

Previous Thoughts	Modified Thoughts
<ul style="list-style-type: none"> <li>• This will never end</li> <li>• The day is ruined</li> <li>• I need meds</li> </ul>	<ul style="list-style-type: none"> <li>• My pain condition may be chronic but I know that this flare will eventually subside</li> <li>• I don't know what the rest of the day will be like but I will make the most of it by pacing</li> <li>• I can use behavioral self-management tools to influence my pain rather than reaching for more medication</li> </ul>

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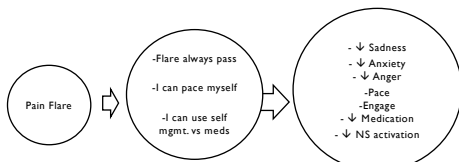
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### Using CBT: Pain Flare Example



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**Empirically Validated Treatment:  
Self-Management Education**

- Lambeek, Van Mechelen, Knol, Loisel, Anema (2010)
- Buchner, Zahlten-Hinguranage, Schiltewolf, Neubauer (2006)
- Linton & Ryberg (2001)
- Flor, Fydrich, Turk (1992)



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**Other Essential Components**

- Consistent practice of breathing/relaxation strategies
- Identification of stressors that lead to aberrant medication use patterns and application of strategies to address them
- Reinforcement of acceptance
- Acknowledgement of chronicity and need for flare-management



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**Multidisciplinary Approaches and  
Opioid Weaning**

- 373 CPRP participants (3 week)
- ~57% on opioids at admission
- Assessments at admission, discharge, and 6-month (70% return rate; pain severity, depression, psychosocial functioning, health status, pain catastrophizing)
- Pain severity and depression higher in opioid users at admission
- Significant improvement on all variables at discharge, 6-month follow-up regardless of opioid status

Tourand, OJ, Kerkhof, A, Buss, BK, Rump, JD, Herten, WM, Luedtke, CA, Hodgson, JE. (2008). A Longitudinal Study of the Efficacy of a Comprehensive Pain Rehabilitation Program With Opioid Withdrawal: Comparison of Treatment Outcomes Based on Opioid Use Status at Admission. *Pain*, 143(1): 177-189.



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### Multidisciplinary Approaches and Opioid Weaning

- 705 (600 completed) outpatient interdisciplinary program participants
- Opioid group tapered with cocktail
- Opioid group improved same as non-opioid group (pain severity, catastrophizing, sleep, treatment satisfaction, pain-related functioning domains)

Murphy, J.L., Clark, M.E., Bynou, E. (2013). Opioid Cessation and Multidimensional Outcomes After Interdisciplinary Chronic Pain Treatment. *Clin J Pain*, 29(2), 158-17.



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### Empirically Validated Treatment

- Linton & Andersson (2000)
  - Randomized control trial (n=213)
  - All patients received regular primary care tx + Minimal Treatment (information pack, pamphlet) or 6-session CBT treatment.
  - Assessments administered at pretest and 12-month follow-up
  - Risk for developing long-term sick absence decreased 9x in CBT group
  - CBT participants had decreased medical utilization compared to increase in other groups




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### Empirically Validated Treatment

- Linton & Nordin (2006)
  - 5-year follow-up of Linton & Andersson (2000) study, also used supplemental records from the National Insurance Authority
  - 97% completed follow-up questionnaire
  - CBT group had significantly less pain, higher activity, better quality of life, and better general health compared to Minimal Treatment Group
  - Risk of long-term sick leave 3x higher in the non-CBT group
  - CBT group had significantly less lost productivity costs




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**Empirically Validated Treatment**

- Gatchel, Polatin, Noe, Gardea, Pulliam, Thompson (2003)
  - Patients deemed HR for development of chronic disability were randomly assigned to an early intervention FR group (n=22) or a non-intervention group (n=48). Low risk non intervention subjects also evaluated (n=54).
  - Patients tracked at 3 month intervals over the course of a year
  - HR patients in the early intervention group had significantly lower rates of healthcare utilization, medication use, and self-report pain variables



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**Empirically Validated Treatment**

- [continued] Gatchel, Polatin, Noe, Gardea, Pulliam, Thompson (2003)
  - HR non-intervention group displayed more symptoms of chronic pain disability compared to low risk subjects
  - Greater cost savings associated with early intervention (\$12,721) vs no intervention group (\$21,843). Cost variables included healthcare visits, medication, lost wages, early intervention program cost.



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**Cochrane Review of Multidisciplinary Programs for Pain**

- 41 studies, 6858 participants
- LBP > 3 months with some prior treatment
- MDP vs unimodal care focused on physical factors, standard care with GP
- Moderate quality evidence for improvements in pain and daily functioning
- Increased likelihood of RTW in 6-12 months



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**Other Evidence-Based Treatments**

- Biofeedback
- Mindfulness-based interventions
- Acceptance and commitment therapy
- Emotional awareness and expression therapy



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**Outpatient Application**

- Participation in behaviorally-based coping skills class
- Concurrent medication reduction
- Consider joint psych-MD appointments



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**Addressing Chronic Pain in the Context of Substance Use Disorders**

- Medication Assisted Treatment (MAT): Combination of pharmacologic treatment AND behavioral interventions
- Employ use of a biopsychosocial formulation of the patient's predicament versus focusing solely on a biomedical model
- Emphasize focus on function versus pain elimination: Set functional goals (resumption of normal activities, RTW) and use activity tracking sheets



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**Addressing Chronic Pain in the Context of Substance Use Disorders**

- Medication reduction can improve functional outcomes
- Interdisciplinary care enhances results and can lead to decreased medical utilization



Lambeek, Van Mechelen, Knol, Loisel, Anema (2010); Flor, Fydrich, Turk (1992)  
Buchner, Zahlen-Hinguranage, Schillenwolf, Neubauer (2006); Linton & Ryberg (2001) © Ravi Prasad

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**Questions?**

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