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# Behavioral Health & Chronic Pain

Project Echo / Intermountain Healthcare /  
Pain Medicine Lecture Series 7.20.2021

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# Disclosure

The content of this presentation does not relate to any product of a commercial entity; therefore, I have no relationships to report.

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# Objectives

At the conclusion of this activity, participants should be able to successfully:

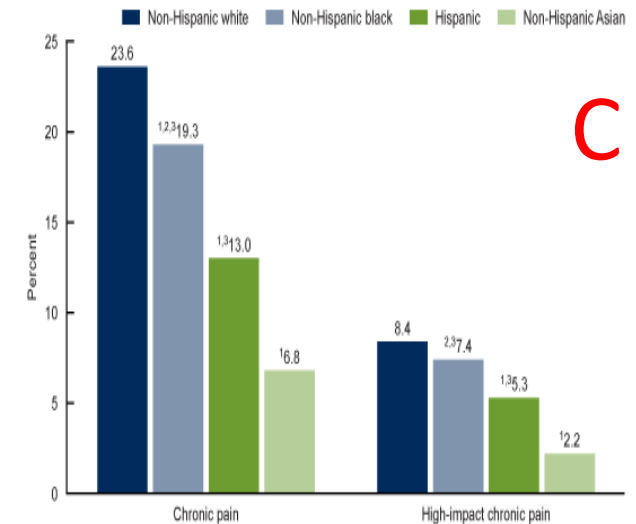
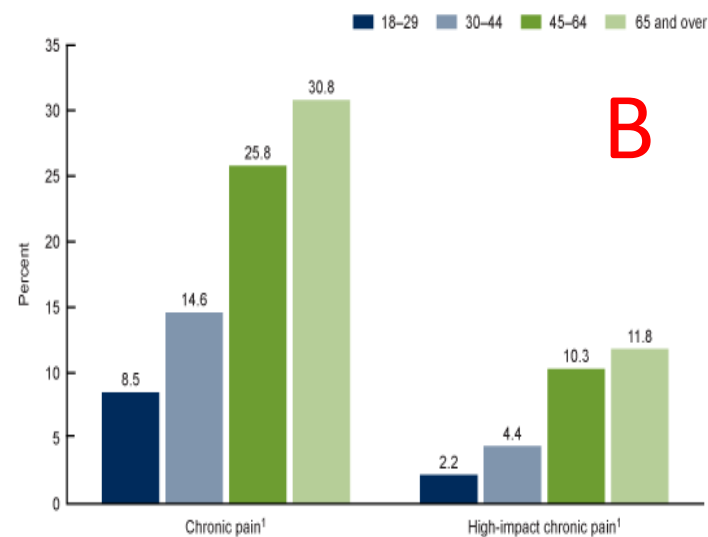
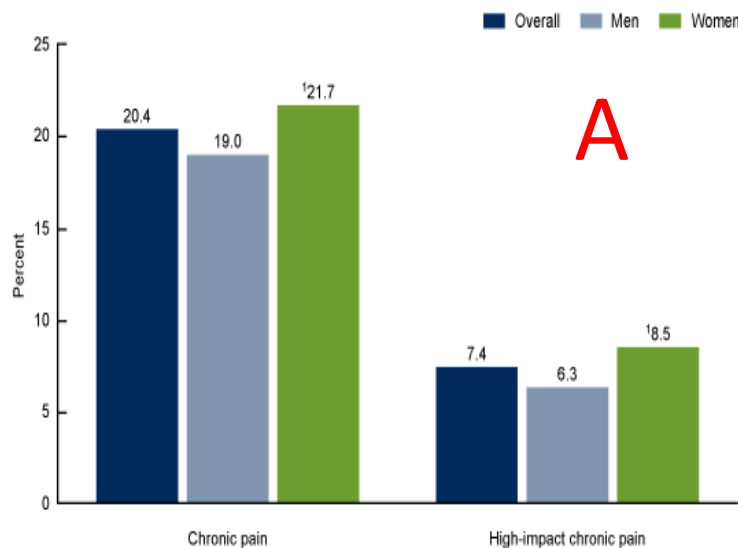
1. Predict the incidence and prevalence of common mood disorders with chronic pain
2. Evaluate screening for mood disorders and opioid/substance use disorder in a primary care setting
3. Review cognitive behavioral therapy and mindfulness and justify why is it important for mood and pain disorders

# The Chicken, The Egg, or Scrambled



# Chronic Pain Epidemiology

- 20.4% of U.S. adults (50.0 million) with chronic pain
- 8.0% of U.S. adults (19.6 million) with severe high-impact chronic pain.
- 30% will experience chronic pain at some point in their lifetime
- 80-90% will have a spinal pain related issue



# Pathophysiology: Overlapping Neurochemicals

Pain

Mood



Norepinephrine



Serotonin



Glutamate



GABA



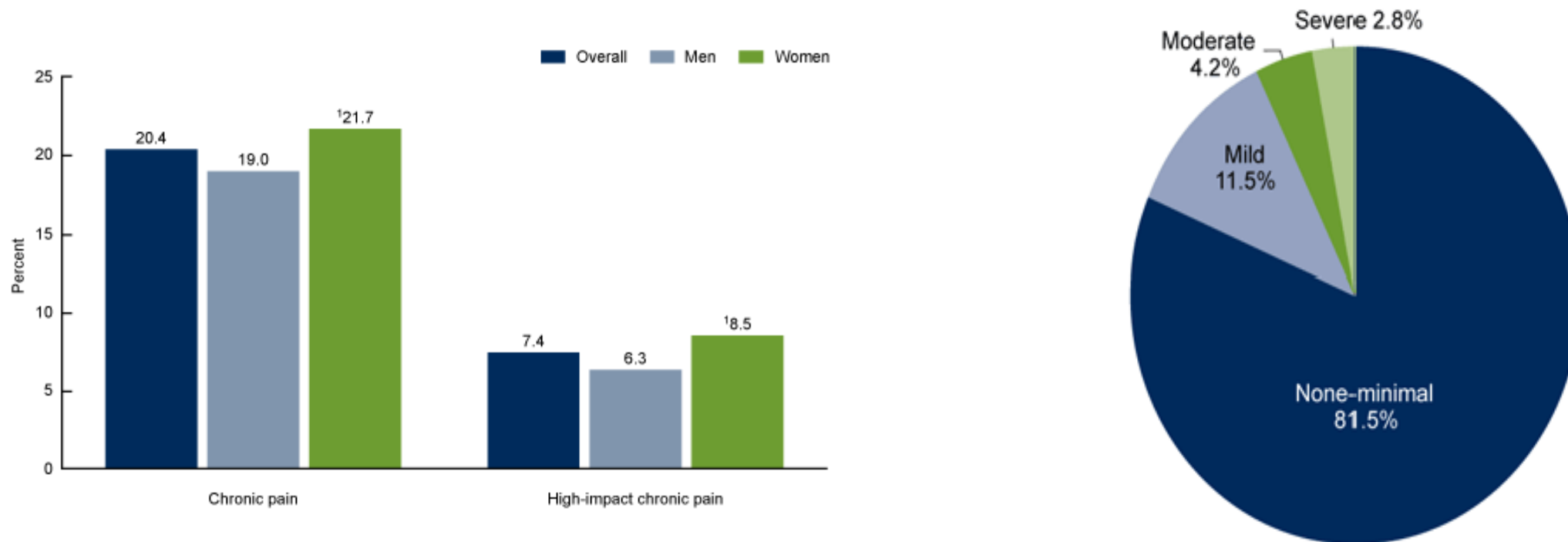


## Question 1:

Which neurochemicals are associated with both chronic pain and mood disorders?

- A. Norepinephrine
- B. Serotonin
- C. Glutamate
- D. GABA
- E. All of the Above

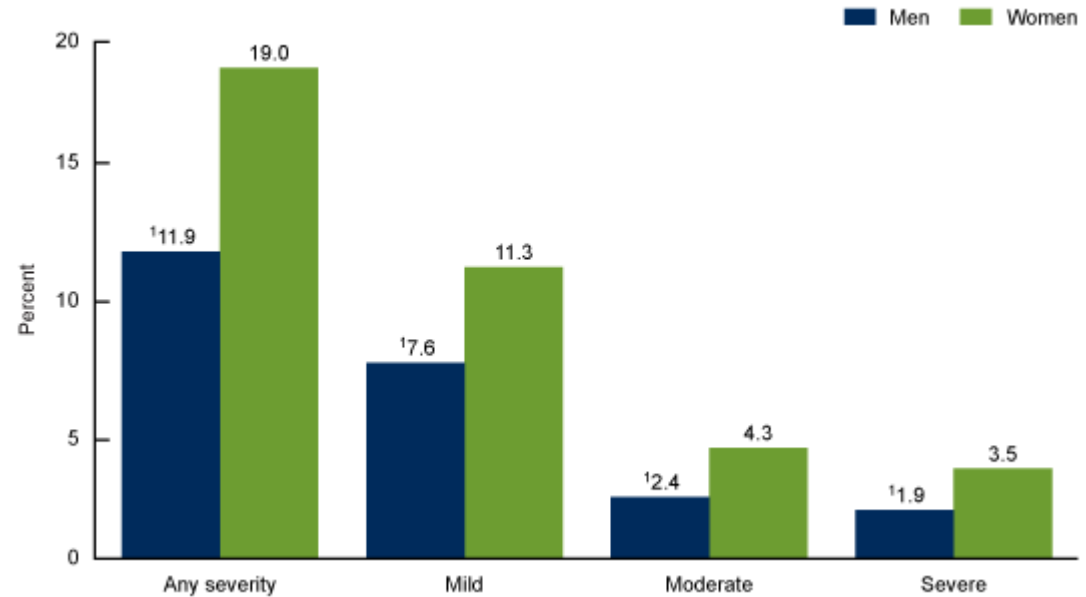
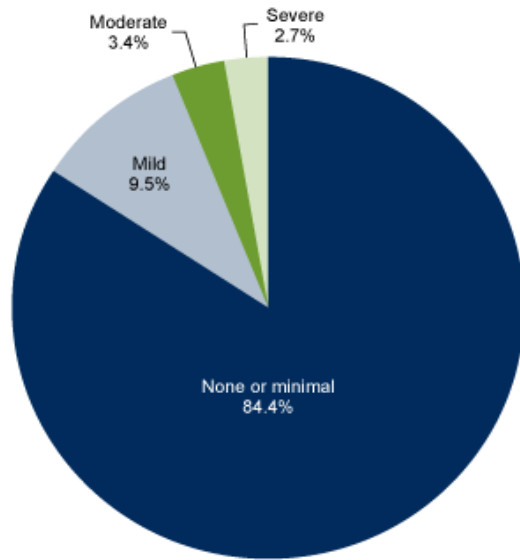
# Chronic Pain & Major Depression Disorder



- 60% of individuals suffering from depression will develop low back pain<sup>1</sup>
- 20% of episodic migraine sufferers experience depression with increased rates in depression correlated with increased rates of headache frequency per month<sup>2</sup>

1. Symptoms of depression as a prognostic factor for low back pain: a systematic review. *Pinheiro MB, Ferreira ML, Refshauge K, Maher CG, Ordoñana JR, Andrade TB, Tsathas A, Ferreira PHSpine J. 2016 Jan 1; 16(1):105-16*  
2. American Migraine Foundation. @ [www.americanmigraine.org](http://www.americanmigraine.org)  
3. Graphs: Center of Disease and Control @ [cdc.gov](http://cdc.gov)

# Chronic Pain & Generalized Anxiety Disorder



- 20% of people with episodic migraine have anxiety<sup>1</sup>
- 30% and 50% of people with anxiety<sup>1</sup>
- Abnormal level of anxiety found in 55 % patients respectively<sup>1</sup>

1. Sagheer et al. Association between chronic low back pain, anxiety and depression in patients at a tertiary care centre. 2013 Jun;63(6):688-90.

2. Graphs taken from CDC @ cdc.gov

## Question 2:

Individuals who have depression have a higher rate of experiencing low back pain during their lifetime?

- A. True
- B. False

## Question 3:

Patients with episodic or chronic migraines experience higher levels of depression and anxiety than the general population. Both of which can increase with more frequent or more intense migraines?

- A. True
- B. False

# Chronic Pain & Post-Traumatic Stress Disorder

- **General:** 7-8% of the population will experience PTSD at some point in their lives.<sup>1</sup>
- **Women:** 10% of women develop PTSD sometime in their lives (Men 40%)<sup>1</sup>
- **Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF):** 11-20%<sup>2</sup> who served in OIF or OEF have PTSD in a given year.
- **Gulf War (Desert Storm):** 12% have PTSD in a given year.<sup>2</sup>
- **Vietnam War:** 15% were currently diagnosed with PTSD at the time of the most recent study in the late 1980s. Some estimate as high as 30%<sup>2</sup>
- PTSD has the strongest associate with chronic pain ranked as moderate to severe in those veterans.<sup>3</sup>
- The prevalence of PTSD and chronic pain is 14-25%.

# Chronic Pain & Substance Abuse

☐ 42% Smoking

☐ 19%  
Cannabis

☐ 7.4% Alcohol  
& PCP

☐ 6% opioids,  
stimulant,  
sedative,  
hypnotics,  
cocaine

Table 1. Prevalence Rates & Diagnoses Associated with Each Class of Substance

Use (12 months) <sup>1</sup>	Substance	Intoxication <sup>1</sup>	Withdrawal <sup>1</sup>	Other substance/medication-induced mental disorders <sup>2</sup>						Chronic Pain <sup>1a</sup>
				Cognitive	Psychotic	Mood	Anxiety	Sexual Dysfunction	Sleep	
8.5% among adults	Alcohol	Likely in lifetime	50% of middle-class, highly functional individuals	I/W/P	I/W	I/W	I/W	I	I/W	Current 4.3% <sup>13</sup> to 9.7%; <sup>14</sup> 7.4% in remission
7% of individuals	Caffeine	Beyond average intake of 280 mg/day	70% of individuals when stopping				I		I	Chronic back pain 2x more likely <sup>15</sup>
1.5% among adults	Cannabis	Likely similar to % of users	New to DSM-5	I	I		I			19.7% moderate pain; 18.2% severe pain
0.1% among adults	Hallucinogens	Estimated to be equal to phencyclidine use	N/A	I	I	I	I			7.4% moderate; 5.9% severe
2.5% of the population	Phencyclidine	Estimated to be equal to hallucinogen use	N/A	I	I	I	I			7.4% moderate; 5.9% severe
only 0.02% of adults	Inhalants	Likely similar to % of users	N/A	I/P	I	I	I			1.7% moderate; 2.0% severe
0.37% among adults	Opioids	Unclear	60% of individuals who had used heroin at least once	I	I	I		I	I/W	6.6% moderate; 5.8% severe/ (heroin) 0.6% moderate; 0.5% severe
0.2% among adults	Sedatives, hypnotics, and anxiolytics	Likely similar to % of non-medical users	Unclear	I/W/P	I/W	I/W	W	I	I/W	6.2% moderate; 4.8% severe
0.2% among adults	Stimulants, amphetamines	N/A	N/A	I	I	I/W	I	I	I/W	6.4% moderate; 5.4% severe/ (cocaine) 7.3% moderate; 6.4% severe
0.3% among adults	Cocaine	N/A	N/A	I	I	I/W	I/W	I	I/W	6.4% moderate; 5.4% severe/ (cocaine) 7.3% moderate; 6.4% severe
13% among adults; new to DSM-5	Tobacco	Unclear	50% of users who quit for 2+ days							42% in the past year; 35% in lifetime; and 30% among chronic neck or back pain <sup>16</sup>
Likely lower than other classes	Other	Unknown	Unknown	I/W/P	I/W	I/W	I/W	I	I/W	0.5% moderate; 0.3% severe

Source: References 1,2; 13-16.

I indicates that the specifier "with onset during intoxication" may be noted for the category.

W indicates that the specifier "with onset during withdrawal" may be noted for the category.

P indicates that the disorder is persisting.

## Question 4:

Smoking is the most commonly abused substance amongst those with chronic spinal pain?

- A. True
- B. False



# Chronic Pain & Suicide Rates



Fibromyalgia 4.4 % vs 1.4% general population<sup>1</sup>

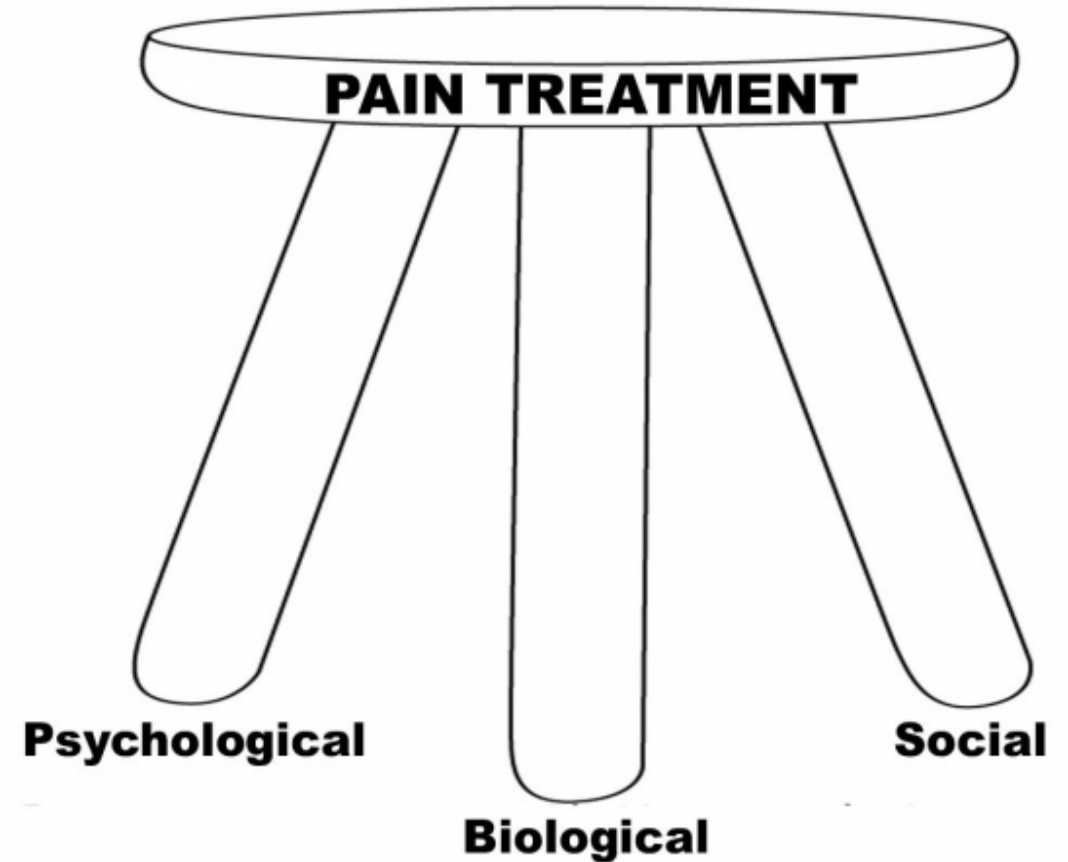
Migraines/Head Pain – most associated with suicidal ideation in US Veterans<sup>1</sup>

Low Back Pain specifically associated with suicide attempt in US veterans<sup>2</sup>

1. CDC Fast Facts

2. Pergolizzi et al. *The Risk of Suicide in Chronic Pain*. Nursing and Palliative Care. Open Access Article ISSN: 2397-9623

# Biopsychosocial Model



## Question 5:

The biopsychosocial Model of Pain care improves overall pain, opioid use, and return to work compared to conventional care models?

- A. True**
- B. False**

# Biopsychosocial Model: Outcomes Data

## HOW THE BIOPSYCHOSOCIAL MODEL CAN PLAY OUT IN PAIN CARE

### INCREASE IN ACTIVITY

- 65% IMPROVEMENT WITH COMPREHENSIVE PAIN TREATMENT (IE, BIOPSYCHOSOCIAL APPROACHES)
- 35% WITH CONVENTIONAL MEDICAL TREATMENT

### RETURN TO WORK

- 66% IMPROVEMENT WITH COMPREHENSIVE PAIN TREATMENT
- 27% WITH CONVENTIONAL MEDICAL TREATMENT

### PAIN REDUCTION

- 20-40% IMPROVEMENT WITH COMPREHENSIVE PAIN TREATMENT
- 30% WITH CONVENTIONAL MEDICAL TREATMENT (WITH OPIOIDS)

### MEDICAL COST SAVINGS

- 68% IMPROVEMENT WITH COMPREHENSIVE PAIN TREATMENT
- NA

BASED ON DATA FROM: GATCHEL RJ, OKIFUJI A. EVIDENCE-BASED SCIENTIFIC DATA DOCUMENTING THE TREATMENT AND COST-EFFECTIVENESS OF COMPREHENSIVE PAIN PROGRAMS FOR CHRONIC NONMALIGNANT PAIN. *J PAIN*. 2006;7(11):779-793.

# Interdisciplinary Pain Medicine: True North - Best Practice Treatment in Pain Medicine

Interdisciplinary pain management involves treatment by a team of people, including physicians, behavioral medicine specialists, physical therapists, nurses, and care coordinators. The team works together to provide a variety of interventions and strategies to manage pain and to improve quality of

Decrease in Pain Intensity

Decrease in Pain Catastrophizing

Improves Return to work including fewer sick days

Decreased ER and Primary Care visits

Decrease opioid use

Less Expensive than conventional care models

1. Gatchel et al. Interdisciplinary Chronic Pain Management: Past, Present, Future. American Psychological Association Vol. 69, No. 2, 119–130

2. Murphy J. et al. The Resurrection of Interdisciplinary Pain Rehabilitation: Outcomes Across a Veterans Affairs Collaborative. 2021 Feb 23;22(2):430-443

## Case Presentation:

38-year-old female patient with chronic pain, left upper and lower extremity neuropathic pain from multiple sclerosis, low back pain with radicular symptoms from L4/5 and L5/S1 disc herniations, left knee moderate-severe osteoarthritis, major depressive disorder, anxiety, and prior history of passive suicidal ideation but no attempts. She takes Buspar, Lyrica, Ambien, Valium, Oxycodone, Morphine Sulfate Extended Release who is on a total of 135-150 milligram morphine equivalents who presents to an interdisciplinary pain clinic with who uses a biopsychosocial model for pain management.

# Initial Evaluations:

1. Medical Evaluation & Consultation
2. Psychological Evaluation for MDD, GAD, suicidal ideation, and opioid risk stratification
3. Physical Therapy Evaluation
4. Pharmacologic Evaluation\*

# Initial Recommendation:

Medical Evaluation & Consultation: Recommend transition to Buprenorphine, PT & Psychology consultation, genicular nerve blocks and discussion at interdisciplinary team meeting

Psychological Evaluation: MDD, GAD, suicidal ideation, and opioid risk stratification: Recommend patient for 2-4 week follow-ups x 6 months, and Psychiatry evaluation

Physical Therapy Evaluation: Recommend functional restoration and consideration for lumbar epidural



# The Interdisciplinary Team Conference

## Interdisciplinary Team Conference Includes:

- 4 physicians:
  - 3 pain BC (2 interventional & 1 non-interventional)
  - 1 psychiatrist/addiction BC
- 4 Psychologist
- 7 Advance Practice Providers
- 2 Physical Therapists
- 1-2 Office Staff to expedite scheduling appts/procedures

Highlight: Both interventionalists agree with procedures, Psychiatrist approves consult, and all agree with transition to Buprenorphine

## Follow-up Appts: 6 months out

1. Stopped MSER & Oxycodone → Buprenorphine; reduced MME and risk of opioid SE
2. Transitioned off valium and buspirone → Lamictal leading to decreased thoughts of suicide, increased quality of life, decreased MDD and GAD
3. PT and HEP improved low back pain → no ESI needed
4. Left knee Genicular blocks and RFA completed → allowing for HEP and aquatic therapy participation
5. Patient able to return to work & now travel with family

# Bibliography/References

1. Pinheiro et al. Symptoms of depression as a prognostic factor for low back pain: a systematic review J. 2016 Jan 1; 16(1):105-16
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3. [cdc.gov](http://cdc.gov) *Fast Facts*
4. [VA.gov](http://VA.gov). *Pain Medicine*
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7. Gatchel RJ, Okifuji A. Evidence-based scientific data documenting the treatment and cost-effectiveness of comprehensive pain programs for chronic nonmalignant pain. 2006 Nov;7(11):779-93
8. Gatchel et al. Interdisciplinary Chronic Pain Management: Past, Present, Future. *American Psychological Association* Vol. 69, No. 2, 119–130
9. Murphy J. et al. The Resurrection of Interdisciplinary Pain Rehabilitation: Outcomes Across a Veterans Affairs Collaborative. 2021 Feb 23;22(2):430-443