

# Pain and Addiction: The Clinician's Role in Treating this Complex Co-occurring Disorder

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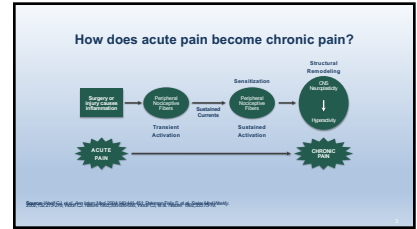
## Acute Pain

- Functional (alarm)
- Time-limited
- Related to tissue damage
- Hardware
- Surgical scar, infection, or fracture

## Chronic Pain

- Not functional (irritating)
- Unending
- Related to nervous system
- Software
- Fibromyalgia, headaches, back pain, IBS, or CRPS

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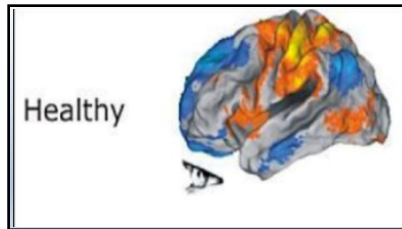


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Chronic pain is associated with decreased prefrontal and thalamic gray matter density.

Reference: Pahlplatz et al. Neurology, July 2015; 85(13):1215-1222. Neuroimaging studies of chronic pain: A review of the literature. Pahlplatz et al. Neurology, July 2015; 85(13):1215-1222.

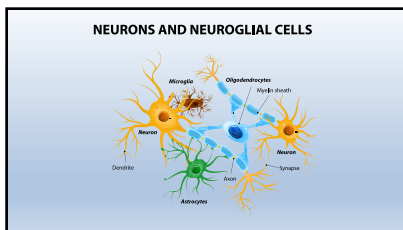
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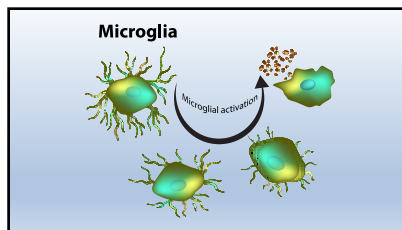
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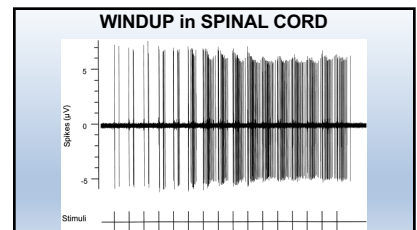
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### Pain Reprocessing Therapy

Effect of Pain Reprocessing Therapy vs Placebo and Usual Care for Patients With Chronic Back Pain: A Randomized Clinical Trial  
Yoni Ashar, Alan Gordon, Howard Schubiner, M.D.

*Jamapsychiatry*, 2021



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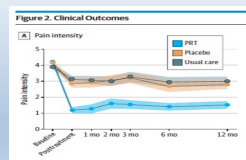
### Pain Reprocessing Therapy

Pain for 11 years.  
6 weeks of PRT compared to placebo and usual care.  
67% little or no pain at 6 weeks.  
55% sustained little or no pain at 1 year.  
Functional MRI changes in insula and prefrontal cortex at 1 year..

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### Pain Reprocessing Therapy

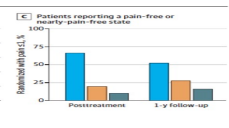
Figure 2. Clinical Outcomes



Time Point	PRT	Placebo	Usual Care
Baseline	~4.5	~4.5	~4.5
1 mo	~1.5	~3.5	~3.5
2 mo	~1.5	~3.5	~3.5
3 mo	~1.5	~3.5	~3.5
6 mo	~1.5	~3.5	~3.5
12 mo	~1.5	~3.5	~3.5

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### Pain Reprocessing Therapy



Time Point	PRT	Placebo	Usual Care
Posttreatment	~75	~25	~25
1-y follow-up	~55	~35	~35

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### Pain Reprocessing Therapy

1. Education
2. Gather data – be Sherlock Holmes
3. Lens of safety – somatic tracking
4. Other emotions – fear, anxiety, depression...
5. Safety mode – positive sensations

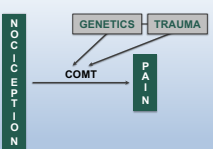
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### Key points about Chronic Pain:

- All pain is real.
- Thoughts and emotions drive the experience of chronic pain.
- Opioids often make pain worse.
- Treat to improve function.
- Expectations influence outcomes.

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### Pain Switchboard: Threshold to feel "pain"

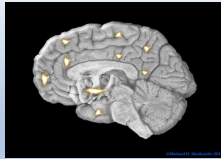


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graph LR
    GEN[GENETICS] --> COMT[COMT]
    TRA[TRAUMA] --> COMT
    COMT --> PAIN[PAIN]
    NOC[NOCICEPTION] --> PAIN
    
```

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### Normal Pain Response:



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### Neuroplastic Pain = Learned Neural Pathways



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### FALSE ALARM

From *British Medical Journal* article by Fisher, et al. 1995

"A builder aged 29 came to the accident and emergency dept. having jumped down on to a 15 cm nail. As the smallest movement of the nail was painful he was sedated with fentanyl and midazolam."



From *British Medical Journal* article by Fisher, et al. 1995, (continued).

"The nail was then pulled out from below. When his foot was removed a miraculous cure appeared to have taken place."

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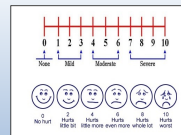
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From *British Medical Journal* article by Fisher, et al. 1995, (continued).

"... the nail had penetrated between the toes: the foot was entirely uninjured."

### Pain Assessment Scale

**Clinical Definition of Pain:**  
Whatever the patient says it is...  
unless proven otherwise.



### Reasonable Goals of Pain Management:

- **Enhance the quality of life!!**
- 1. Maintain function.
- 2. Improve function.
- 3. Reduce discomfort by 50%.

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### Pharmacologic Non-Opioid

- NSAIDs
- Tricyclics and SNRIs
- Anti-convulsants
- Muscle Relaxants (Avoid SOMA/carisoprodol)
- Topicals
- Low dose naltrexone (5mg per day)

### Treating Chronic Pain with Opioids:

- Clinical Trial
- Ongoing Assessment
- Need exit strategy

### Appropriate Opioid Prescribing: Utilizing CDC Guidelines

**Never vs. Always vs. It Depends!!**

**Assessment, trust, relationship, and verification:**

- Considerate, judicious use.
- Balance risks and benefits.
- Informed consent and agreement.
- Communicate and connect.
- Assess and document the 5 A's: Analgesia, ADLs, Adverse Side Effects, Aberrancy, and Addiction.

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### CDC: #5 Use the Lowest Effective Dosage

Carefully reassess doses of  $\geq 50$  morphine milligram equivalents (MME)/day.

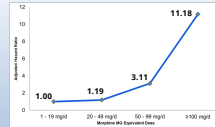
- Avoid increasing dosage to  $\geq 90$  MME/day
- Or carefully justify a decision to titrate dosage.

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### High Opioid Dose and Overdose\* Risk

Overdose is defined as death, hospitalization, unconsciousness, or respiratory failure.

*Source: CDC, 2016. Adapted for this presentation.*



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### CDC: #6. 3-7 Day Guideline

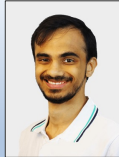
Long-term opioid use often begins with treatment of acute pain. Clinicians should prescribe the **lowest effective dose of immediate-release opioids...**

- Three days or less will often be sufficient.
- More than seven days will rarely be needed.

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### Eyes Open to the Risks: Slippery Slope

The longer you use opioids, the greater the risks—and the risks seem to rise fast.  
—Anuj Shah

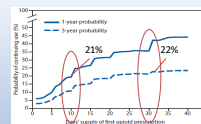


Reference: Shah A, et al. JAMA. 2015;313(15):1553-1560.

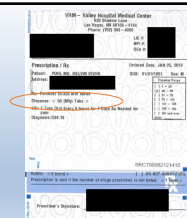
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One and three-year probabilities of continued opioid use among opioid-naïve patients, by number of days' supply\* of the first opioid prescription.

—United States, 2006-2015



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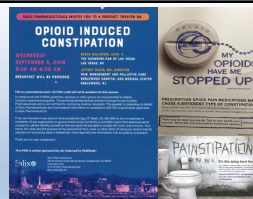


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### Problems with Opioids

- Side effects

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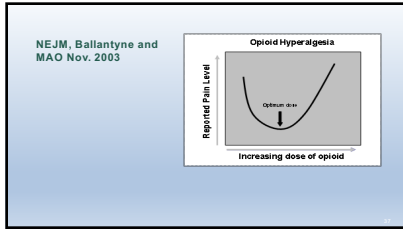


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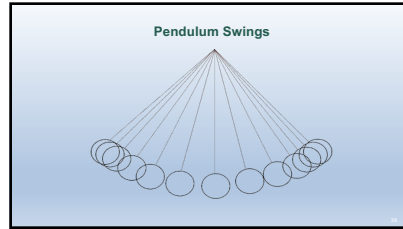
### Problems with Opioids

- Side effects
- Tolerance and physical dependence
- Loss of function
- Perceive emotional pain as physical pain (chemical copers)
- Hyperalgesia

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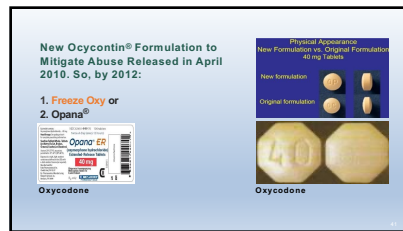
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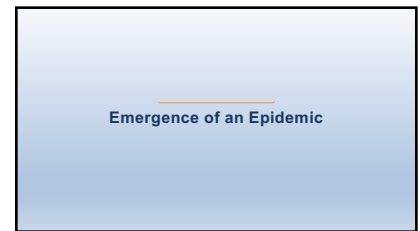
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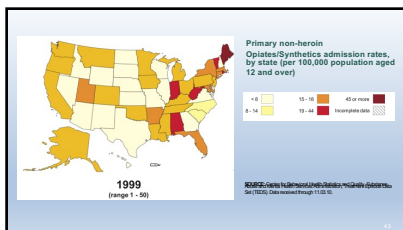
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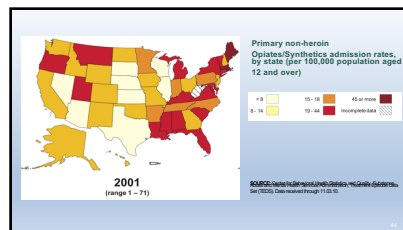
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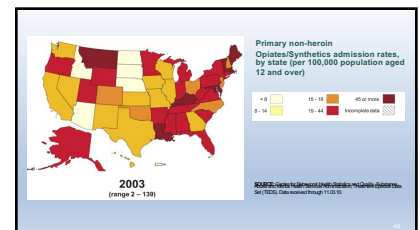
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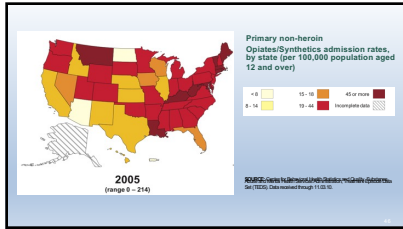
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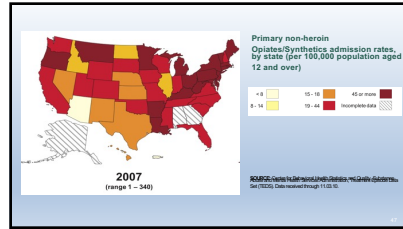
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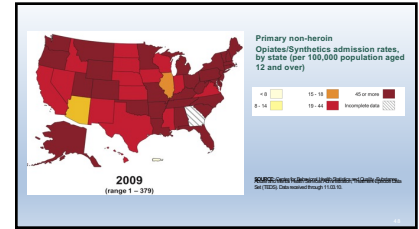
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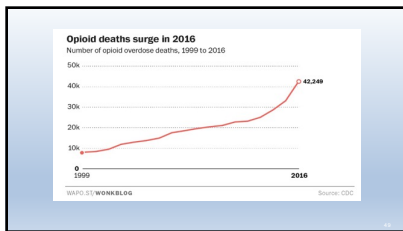
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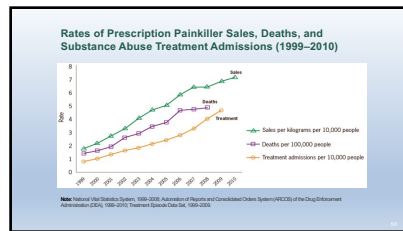
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**Industry-influenced "Education" on Opioids for Chronic Non-Cancer Pain Emphasizes:**

- Physicians are needlessly allowing patients to suffer because of 'opiophobia'.
- Opioids are safe and effective for chronic pain.
- Opioid therapy can be easily discontinued.
- Opioid addiction is rare in pain patients.

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**Only four cases of addiction among 11,882 patients treated with opioids.**

Cited frequently (according to Google Scholar)

Source: Franks, J. et al. Addictive potential of oral morphine. *New England Journal of Medicine*. 1993;329:1215.

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**ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS**

In the Editor: Recently, we requested our readers file to document the incidence of narcotic addiction in 30-day, long-term medical patients who were treated with morphine. Although we have received numerous responses, we have not yet received any reports of addiction in our patients. The only reports of addiction were in patients who were not treated with morphine. Presumably, these reports were not related to the use of morphine in our patients. The development of addiction is rare in medical patients with the history of addiction.

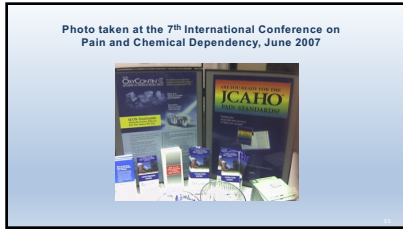
John H. Himmelfarb, MD, PhD  
Boston University Medical Center  
Boston, MA 02114

1. John H. Himmelfarb, MD, PhD, et al. *New England Journal of Medicine*. 1993;329:1215.

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**The FDA used to permit drug manufacturers to advertise opioids as safe and effective for chronic pain.**

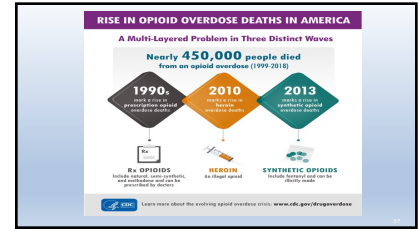
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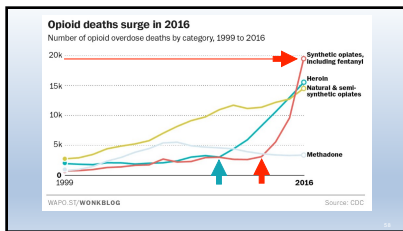
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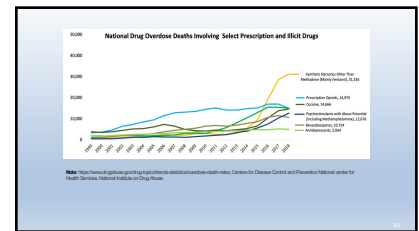
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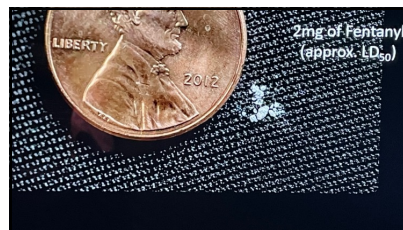
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**Fentanyl is responsible for more overdoses than any other opioid.**

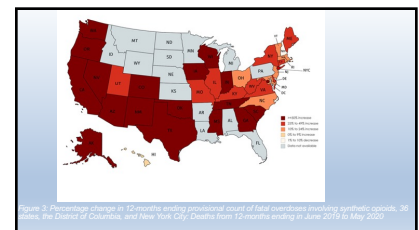
- Fentanyl is more than just a potent opioid (100 times potency of morphine).
- 105,752 people died of drug overdoses in the 12-month period ending October 2021.
- About two-thirds of those deaths involved synthetic opioids such as fentanyl.

CDC's National Center for Health Statistics provisional data.

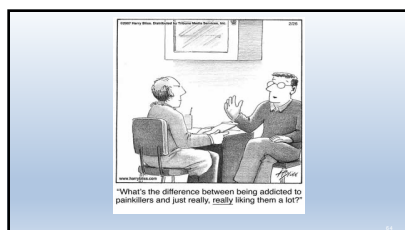
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### ASAM Short Definition of Addiction (Old)

**Addiction...**  
is reflected in an individual **pathologically pursuing reward and/or relief** by substance use...

Source: CPTM.org

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### Treatment Considerations for Chronic Pain

**Emotional Intensifiers**

- Guilt
- Anxiety
- Anger / Resentments
- Loneliness
- Helplessness
- Fear (anticipation – story - narrative)

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### Multidisciplinary Treatment

- Cognitive Behavioral Therapy (CBT) \*
- Dialectical Behavioral Therapy (DBT) (Linehan)
- Acceptance and Commitments Therapy (ACT) (Hayes)
- Somatic Experiencing (SE), Pain Reprocessing Therapy (PRT)
- Polyvagal theory (Porges)
- Exercise, Physical Therapy, Occupational Therapy, Hydrotherapy \*
- Mindfulness Practice \*
- Expressive Writing (Pennebaker)
- Massage and other myofascial release techniques (back hook, fascia rollers, etc.)
- Nutrition \*
- Hypnotherapy, EMDR, individual and group therapy
- Motivational Interviewing
- Mutual help groups
- Yoga \*
- Acupuncture
- Fear Reduction \*

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### Pain Self-Management Tasks – Lead to Self-Efficacy:

- Having the **confidence** to deal with their conditions.
- Best outcomes are achieved when patients are **actively involved** in the management of their illness.
- Provide **education and supportive interventions** by HCP to increase patients' skills and confidence.
- **Regular assessment of progress and problems** with goal-setting and problem-solving support.

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### Cognitive-Behavioral Interventions

- Evidence supports the role of CBT in **decreasing pain and increasing functions** (Williams AC et al. Cochrane Library 2012).
- CBT is a component in **multidisciplinary pain programs**.

**Cognitive restructuring** is the changing of problematic thoughts (like catastrophizing).

**Skills training** to enhance effective coping.

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### Exercise

**Graded Exercise:** Start slow and gradually increase over time—pacing is key to avoid pain flare-ups. Exercise should include:

- Balancing Practice
- Stretching
- Endurance (low-impact aerobics)
- Strength Training
- Core strengthening – Pilates, yoga, core exercise

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### Nutrition

- **Increase Anti-Inflammatory Foods:**
  - Water
  - Powerhouse vegetables (like beets, broccoli, spinach, and other greens).
  - Extra Virgin Olive Oil
  - Omega-3 fish and flax-oil supplements
  - Fruits (especially berries, tart cherries, and red grapes)
- **Decrease Inflammatory Foods:**
  - Sugar (especially processed)
  - Nightshade vegetables (like eggplant, white potatoes, tomatoes, and peppers)
  - Omega-6 (especially vegetable oils)
  - Preservatives, additives, and pesticides (organic if possible).
  - Trans fats (meat and dairy).
  - Alcohol
  - Nicotine

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### Mindfulness Practice

- **Willful directed attention to present moment without judgment.**
- Daily practice—like tuning an instrument.
- **Meta-cognitive process** (vs CBT).
- Change our relationship with our thoughts without changing the thoughts themselves.
- Detach from thoughts, feelings, and physical sensations (e.g. pain).  
(Attachment = suffering)—Observer or spectator of thoughts.

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### Mindfulness Practice

- Changes the brain—neuroplasticity.
- **Enriches the brain's neuronal structures:**
  - Enhances connections.
  - Affects neurotransmitter levels:
    - Decreased cortisol & epinephrine (stimulation)
    - Increased serotonin & GABA (relaxation, antidepressant)
    - Increases ventral vagal tone = parasympathetic nervous system
- After three months of daily meditation in 27 older adults (>65):
  - Less pain.
  - Improved attention.
  - Enhanced well-being.
  - Improved quality of life.

Source: Moore, Lynch, Chappell, The Journal of Pain (2008) 9:951-956.

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### Mindfulness Practice

- 4 days of mindfulness training:
  - Decreased pain unpleasantness by 50%.
  - Increased Anterior Cingulate Cortex and Anterior Insula = cognitive regulation of nociception.
  - Thalamic deactivation.
- "I feel the pain but I'm not as upset about it. I'm able to let it go."
- 342 adults—8 week training in MBSR—**43% meaningful reduction in pain**—vs 26% usual care."

Neurological Rehabilitation 2011.

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### Pain Pearls:

- Conditioning increases pain.
- Pain patients are a pain.
- Secondary gain prevents getting well.

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Research confirms that drugs give the same benefits as yoga!!!

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Halasana



Position of total relaxation.

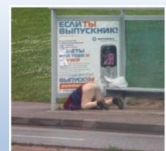


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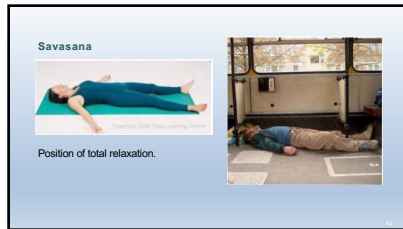
Balasana



Position that brings the sensation of peace and calm.



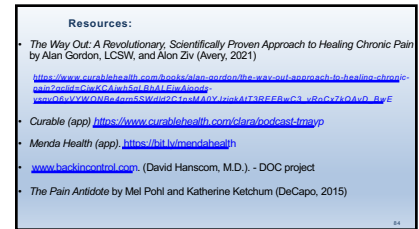
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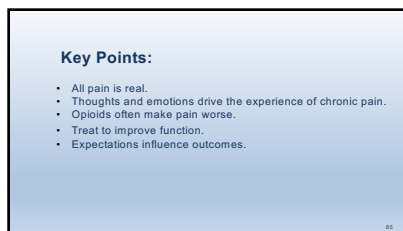
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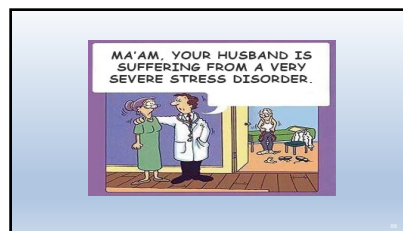
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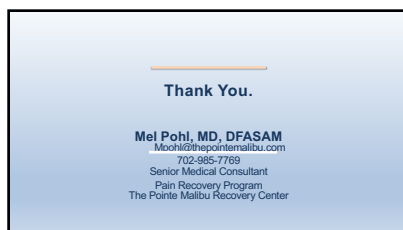
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