





•After this webinar, participants will be able to

- 1. Recognize that some cognitions and behaviors, in response to a pain experience, may have a negative impact on recovery and health.
- 2. Identify limitations of the outdated pathoanatomical models in explaining pain, especially complex chronic pain.
- 3. Outline the benefits of Pain Neuroscience Education in mitigating some of the psychosocial risk factors that impact and even prevent the use of active coping strategies in people with pain.

Chronic Pain Statistics Approximately 1 in 5 people in the world experiences chronic pain Prevalence of chronic pain is increasing over time Chronic pain leads to: Suffering Loss of productivity Disability Increased healthcare utilization Increased risk for mental and behavioral health issues Chronic pain led to the well-documented opioid epidemic

1 A. March L (2020) Global low back nain prevalence and years lived with disability from 1990 to 2017- estimates from the Global Burden of Disease Study 2017. Ann Transl Med 8(6): 299





If you stepped on a rusty nail, would you want to know about it?



















If you sprain your ankle, does it hurt?



























- Nociceptive (Tissue Issues)
- Peripheral Neuropathic (Nerves)
- Nociplastic (Central Sensitization)













Nociceptive (Tissue Issues)

- Signs and Symptoms
 - Proportionate pain
 - Aggravating and easing factors
 - Intermittent sharp, dull ache, or throb at rest
 - No night pain, dysethesia, burning, shooting or electric pain
- Indicates patients are 100 times more likely to have Nociceptive Pain

Pain State Buckets

Peripheral Neurogenic (Nerves)

<u>Signs and Symptoms</u>

- Pain in dermatomal or cutaneous distribution
- Positive neurodynamic and palpation tests
- History of nerve pathology or compromise
- Indicates patients are 150 times more likely to have peripheral neurogenic pain states

Nociplastic (Central Sensitization)

- Signs and Symptoms
 - Disproportionate pain
 Disproportionate aggravating and easing factors
 - Diffuse palpable tenderness
 - Psychosocial concerns
- Indicates patients are 486 times more likely to have centrally sensitized pain state

























18;12(2):242.





Our PNE Wellness Center Program at Froedtert Holy Family Memorial









Session 1 (2 hours)	Session 2 (2 hours)
 PNE: The Nervous System (Your Alarm System) Ion Channels (Nerve Sensors) Spreading Pain (Nosy Neighbors) 4 Pillars of Pain Treatment Overview and PNE Breathing Exercises Session 3 (2 hours) PNE: Pain Meeting (Pain Neuromatrix) Stress and Pain (Lion Story) Immune System and Pain (Spice in the Soup) The neuro-endocrine-immune protection super-system A Pillars of Pain: Movement 	 PNE: Tissue Issues (Nociception) Pain is an Output (Mature Organism Model) 4 Pillars of Pain Treatment: Sleep Hygiene Mindfulness and Relaxation Techniques Session 4 (2 hours) PNE: Review Session 4 Pillars of Pain Treatment: Goal Setting, Question & Answer Tai Chi
Chair yoga	
Session 5 (1 hour)	Session 6 (1 hour)
Nutrition and pain	 PNE Body Maps (Homunculus) Emotions and Pain (Overflowing Cup)
Session 7 (2 hours)	
 Review of PNE, Sleep Hygiene, Exercise, Goal Setting Coping Skills Program Review and Ouestion and Answer. 	





Rebne E, Louw A, Hoffman K, Graf B, Mitchler B, Gordon R, Fencl L, Zeddies C, Werner E, Schroeder C, Milbrath M, Niquette K, and Vaca L. A Non-Pharmacological Multidisciplinary Pain Program within a Hospital Wellness Program: A Mixed Methods Study. Ann Physiother Occup Ther 2025, 8(1): 00028



Feedback: Biggest Takeaways from Clients

- •The importance of exercise and movement with graded exposure and pacing
- •Learning more about how pain works and increasing understanding of pain
- •Lots of ways to help pain, i.e., sleep, exercise, nutrition



In Summary

- •Beliefs and cognitions about pain can impede recovery
- •Outdated pain models drive much of medical pain treatment
- •Chronic pain is complex and so is its treatment
- •The best evidence indicates that treatment for chronic pain includes:
 - Cognitive therapy
 - Movement
 - Strategies to calm the nervous system
- •A non-pharmacologic multidisciplinary PNE wellness program led to:
 - Positive shifts in Pain Knowledge, Fear of Movement, Pan Catastrophizing
 - Positive Feedback from Patients

Thank you and acknowledgements!

- •Medical Fitness Association (MFA)
- •Froedtert HFM Wellness Center and Tony Bieri
- •Past and Present PNE Wellness Center Program Team Members
- Rachel, Maddie, Cher, Megan, Emily, Callie, Linsey, Luz, Kathy, Britta, Kelsey, Brian
- •Froedtert HFM Orthopaedics Leaders and Spine Team
- •Adriaan Louw and the EIM Pain Science Faculty
- •Jessie Podolak, Colleen Louw, and Mai Huong Ho Tran
- •EIM Pain Science Fellowship Cohort 4
- •APTA WI Pain SIG
- Alexia and Gunnar

