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## What is Central Sensitization?

- Chronic pain can change or distort the way our brains process signals from the rest of our body.
- Central sensitization describes a state where the central nervous system alters the brain's processing of pain and sensory stimuli.
- Cells in the brain, called neurons, undergo structural and chemical changes which abnormally amplify or heighten pain and sensory signals.
- This causes us to perceive pain and normal sensory inputs in an amplified or more intense way.
- This amplification of sensory inputs can lead to chronic, widespread pain in other body regions and chronic fatigue.

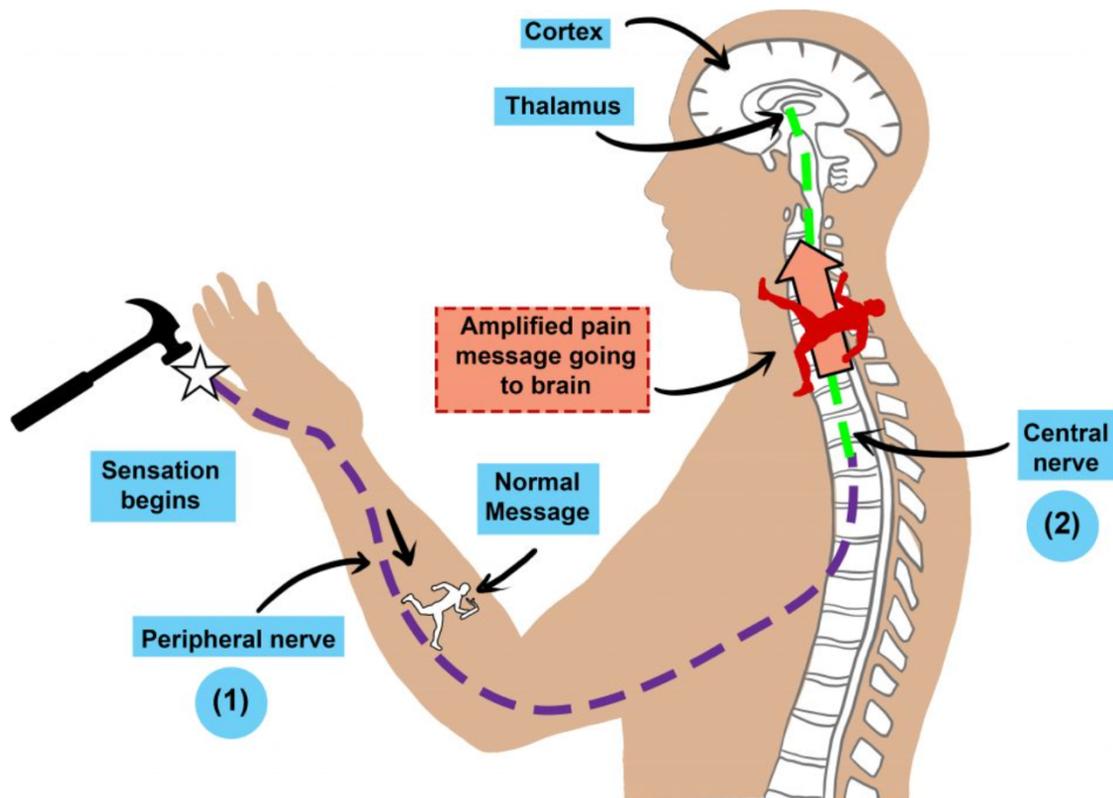


Figure 1: Image adopted from lifeafterpain.com

## Types of Pain Related to Central Sensitization:

1. **Hyperalgesia**: a stimulus that is normally painful (such as a toothpick prick) becomes even more intense and painful
2. **Allodynia**: a stimulus that is previously not painful (such as a gentle pat on the back or a hug) now causes pain
3. **Global Sensory Hyperresponsiveness**: Sensitivity to environmental stimuli such as bright lights, certain smells or foods, loud noises, or internal body stimuli such as your heartbeat or the movement of your digestive tract

In figure one above, the stimulus depicted as a hammer, may be a painful stimulus (such as a hammer hitting your finger), or the stimulus could be a sensation that was previously normal to you and is now uncomfortable or painful.

## Options for Treatment:

- Ask your doctor to explain and answer your questions about central sensitization.
  - It is a complicated diagnosis, but understanding is a key part to your treatment!
- Therapy, specifically cognitive behavioral therapy, has been shown to help re-organize your body and brain's response to pain.
- Stress management is also key in symptom treatment.
  - Strategies that can help include mindfulness based stress reduction (MBSR), diaphragmatic breathing, adequate restful sleep, and cognitive behavioral therapy
- Graded exercise routine: exercise can improve physical and cognitive function, sleep and energy levels!
  - Recommend starting at low, tolerable levels and guide goals of exercise based on duration, number of repetitions or distance rather than pain levels.
    - For example, start by walking 10 minutes per day for 1 week then increase by 10 minutes per week
- Be sure to discuss all possible treatment options with your provider to craft a treatment plan that is just right for you.*



Report by Lisa Laurenzana, MD, Physical Medicine & Rehabilitation resident, Northwestern University and Shirley Ryan AbilityLab Mentored by Amy Benjamin, MD. Adopted from the International Pelvic Pain Society Conference 2023.