

How to Explain Pain to Kids and Families

Pain ECHO Education Event (E3)

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Faculty/Presenter Disclosure

- **Faculty:** Sara Klein
- **Relationships with commercial interests:**
 - **Grants/Research Support:** None
 - **Speakers Bureau/Honoraria:** None
 - **Consulting Fees:** None
 - **Other:** Employee at SickKids

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Learning Objectives

- By the end of this session, participants will be able to:
 1. Understand importance of pain neuroscience as part of chronic pain treatment
 2. Understand the basic neuroscience of chronic pain
 3. Understand how to explain pain to children and their families in order to improve readiness for 3P approach for intervention



Case

- 14 year old with previous ankle fracture
- 9 months post cast removal, continues to have ankle pain.
- All imaging is normal
- Back, bilateral knee pain and abdominal pain
- Significant anxiety
- Walking tolerance: 5 minutes
- Not attending school
- Poor sleep pattern
- Missing all social outings



Quotes from the visit:

“My left leg is the “bad” leg. I broke it two years ago; the Dr said it was the worst break he had ever seen. It was broken into small pieces.”

“My leg kills me; the pain goes from my toes to the top of my thigh and it feels like daggers cutting into my skin. I really don’t want to move my leg.”

"My sister’s best friend had something like this and she was diagnosed with cancer, she had to have her leg cut off"

“I can’t go to school because if someone bumps my leg it stirs things up.I can’t do gym class, my teacher does not understand and she makes me do too much so my leg hurts even more”

"This will probably last forever.... I just don’t understand why it happened to me....”



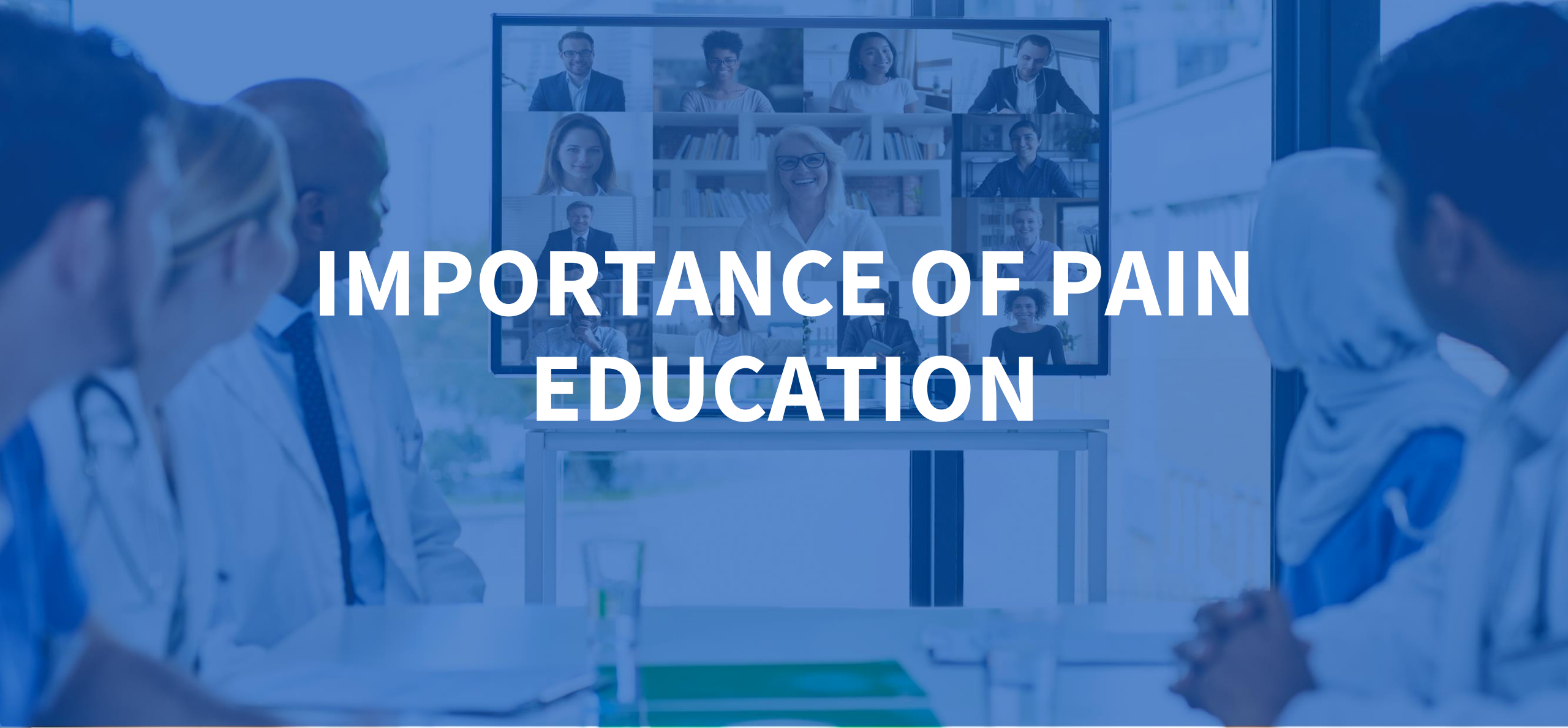
Treatment to date

- Pharm- OTC, no help
- Physical- Tried physio but caused more pain so stopped
- Psych- not interested. "It's not in my head"



Pain Clinic Recommends:

- Recommend 3 P approach
 - Pharm: Tylenol and Advil PRN
 - Psychological: CBT and ACT
 - Physical: graded exercise
-
- How do you explain pain to this teen and family?
 - How do you gain "buy-in" to your treatment plan
 - She responds "so you're saying it's all in my head".

The background of the slide features a blurred image of healthcare professionals in white coats sitting around a table. Overlaid on this is a grid of 12 small video conference windows showing various people. In the center of this grid is a larger, clearer image of a woman with blonde hair and glasses, smiling. The text 'IMPORTANCE OF PAIN EDUCATION' is centered over the image in a large, white, sans-serif font.

IMPORTANCE OF PAIN EDUCATION



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EVIDENCE FOR PAIN EDUCATION



- Changes pain cognitions and physical performance (Moseley, Nicholas, & Hodges, 2004)
- Reconceptualize pain and reduce catastrophizing (Gallagher, McAuley, & Moseley, 2013)
- Improve knowledge and function (Louw et al., 2016)
- Minimize healthcare utilization (Louw et al., 2016)
- Positive impact on pain and physical performance (Louw et al., 2011)

PEDIATRIC PAIN EDUCATION

- Information and context has also been shown to modulate pain expectations and emotional response to pain
- Negative impact of diagnostic uncertainty and inaccurate information on pain experiences
- More research needed for Pain Neuroscience education in pediatric population

(Robins et al., 2016)

))) KEY COMPONENTS TO PAIN EDUCATION

- Include:
 - Use of helpful metaphors
 - Healing language
- Avoid:
 - Jargon
 - Technical language
 - Frightening metaphors



BASIC NEUROSCIENCE OF CHRONIC PAIN



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PAIN DEFINITION

“An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage”





Pain Definition IASP 2020

[Membership](#)[Publications](#)[Resources](#)[Education](#)[Events](#)[Advocacy](#)[IAMA](#)

IASP Announces the 2021 Collaborative Research Grant Recipients

14 September 2021

Submissions are Being Accepted for World Congress Prizes and Awards

08 September 2021

September is Pain Awareness Month

01 September 2021

resembling that associated with, actual or potential tissue damage,” and is expanded upon by the addition of six key Notes and the etymology of the word pain for further valuable context.

- Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.
- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- A person’s report of an experience as pain should be respected.
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

A multi-national, multidisciplinary Task Force developed the revised definition with input from all potential stakeholders, including persons in pain and their caregivers.

The revised definition was introduced in [this article](#) in the journal PAIN and a via a press release. An [infographic](#) also illustrates the changes.





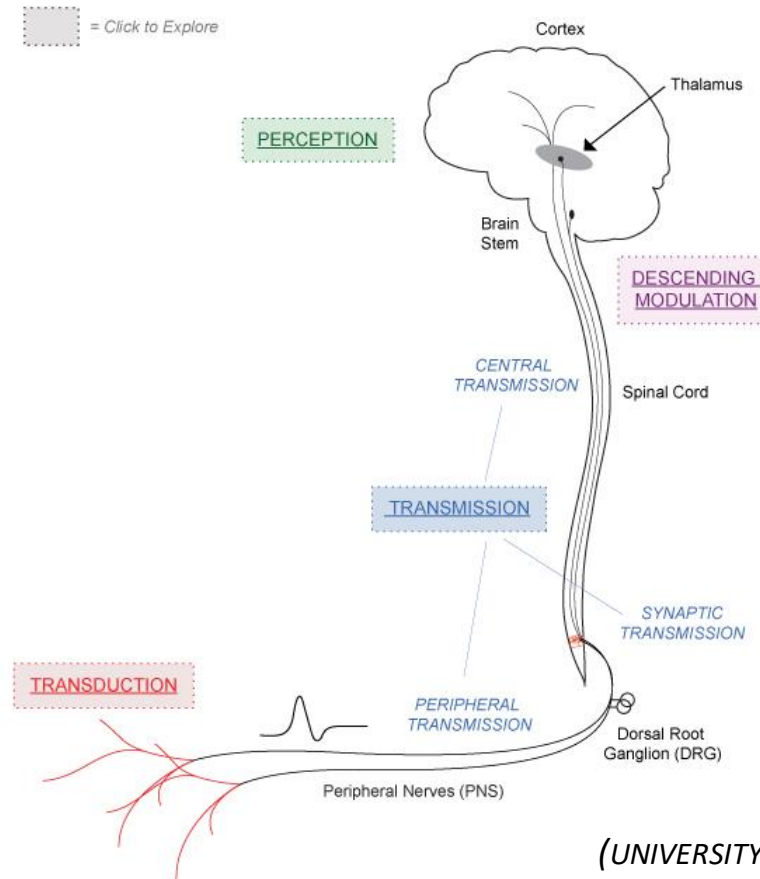
Traditional beliefs about pain

Pain is an indication of

- Tissue damage
- Biomechanical dysfunction
- Irritated tissue
- Imminent damage
- Unhealed or poorly healed tissue

NEURAL PATHWAY

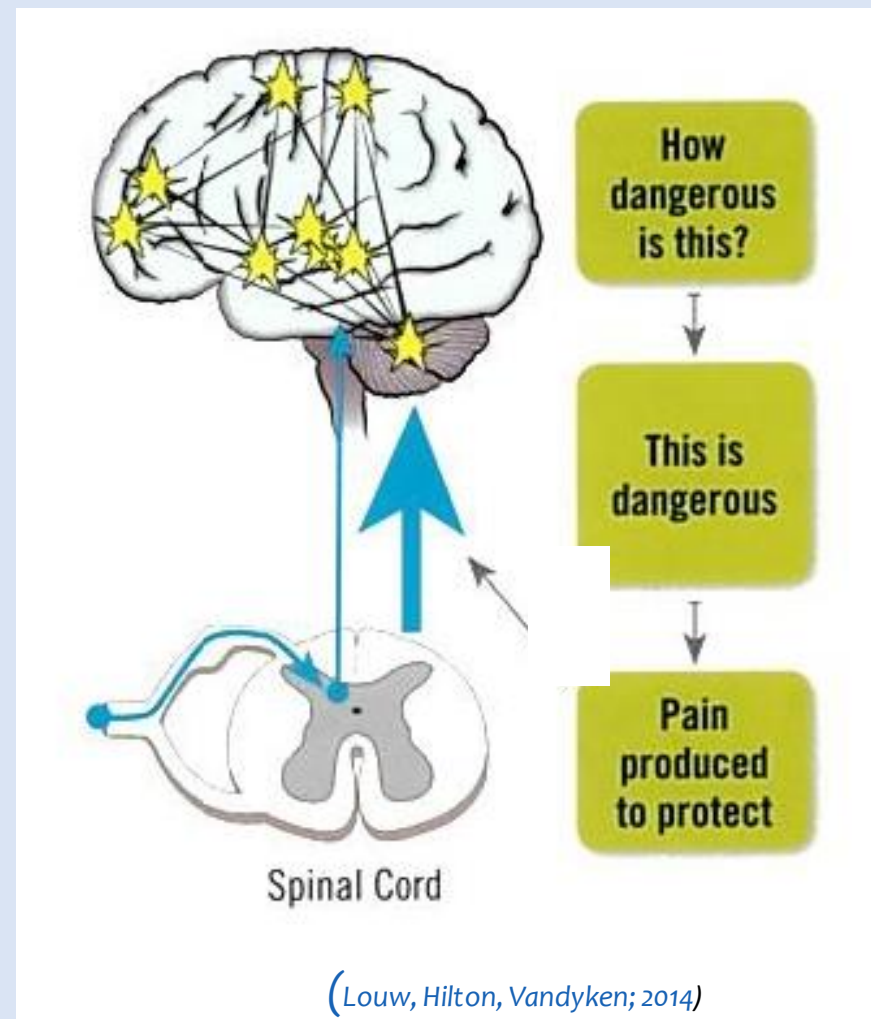
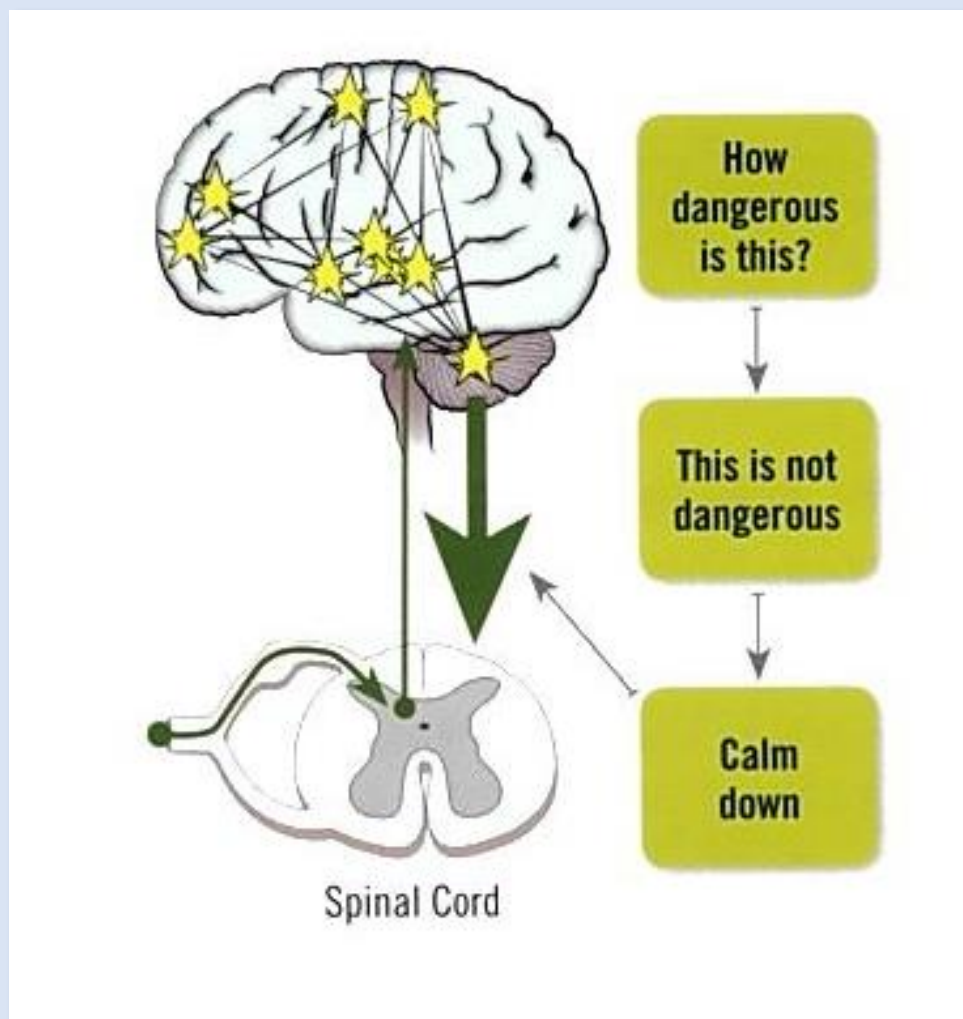
- Transduction: nociceptors activated by intense stimuli in periphery
- Transmission: action potentials conducted to CNS via 2 types of afferent neurons
- Perception: multiple areas of brain involved in recognizing event as pain
- Descending modulation: inhibition or facilitation of nociception through release of neurotransmitters



(UNIVERSITY OF WISCONSIN, 2010)



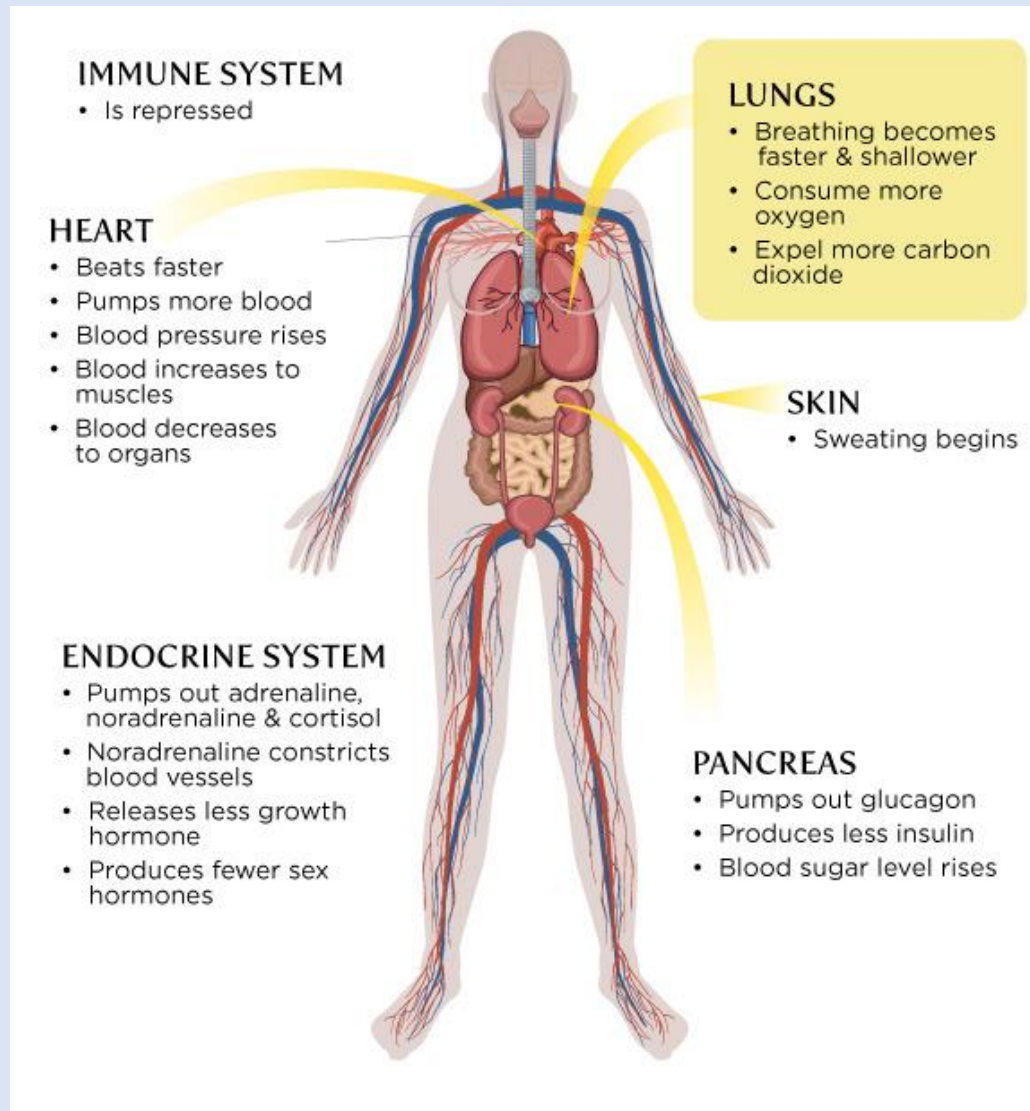
MODULATION OF PAIN



(Louw, Hilton, Vandyken; 2014)

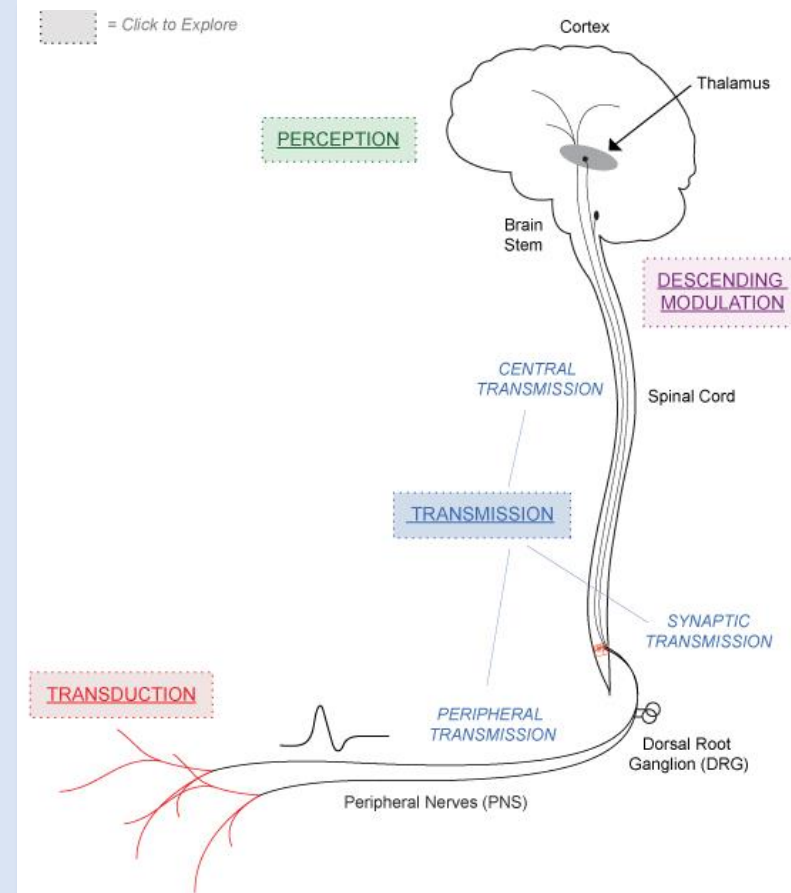


PROTECTIVE SYSTEMS: FIGHT, FLIGHT or FREEZE

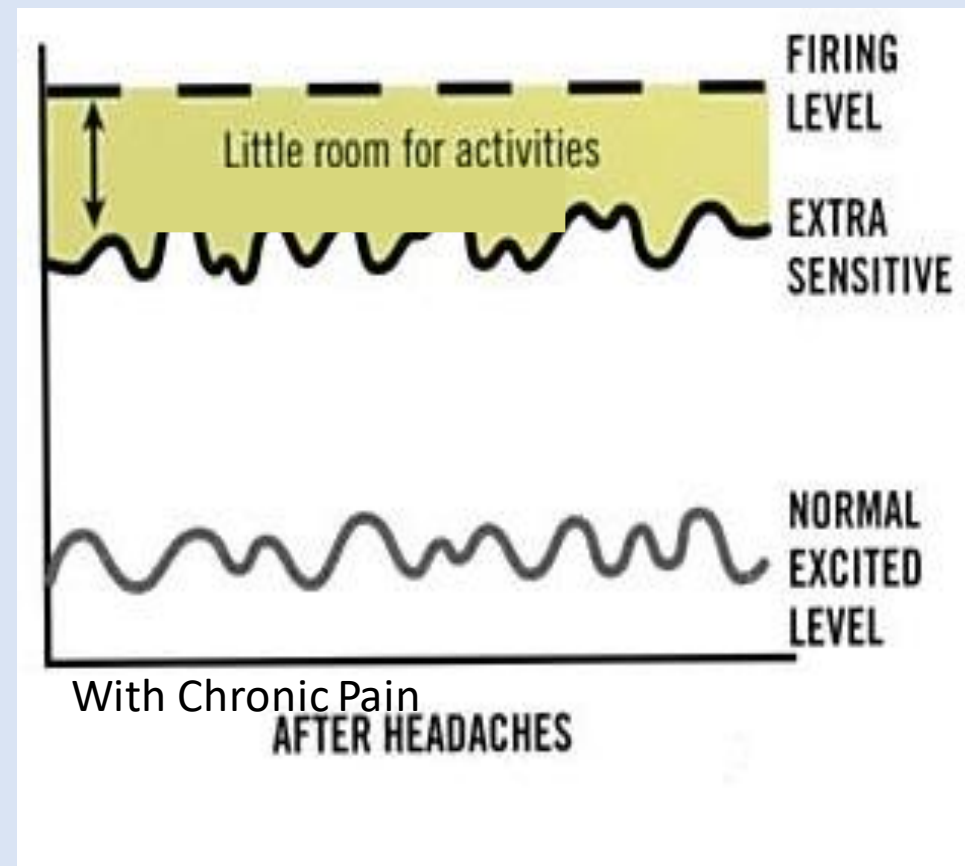
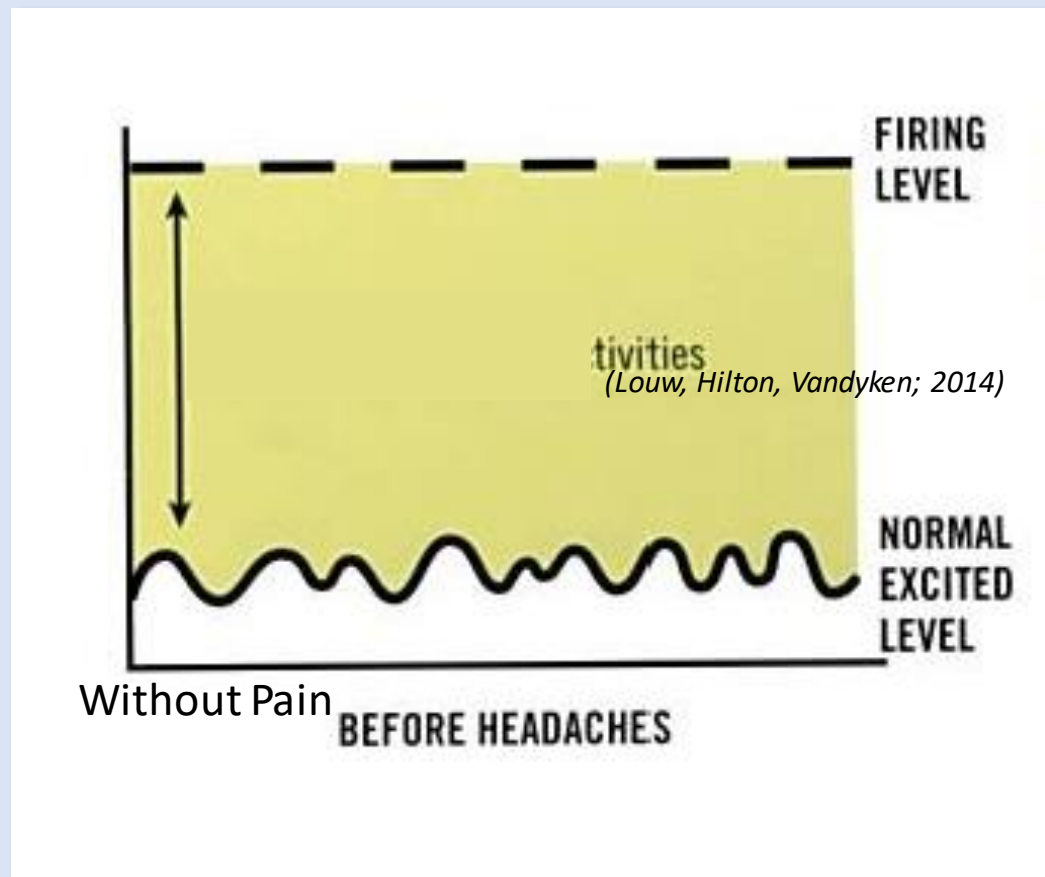


Changes with Chronic Pain

- Nerves fire more easily and frequently (hyperalgesia)
- Develop more "pain" receptors
- Misinterpret normal sensations of touch, stretch and movements as danger (allodynia)
- Inflammation as a protective response



CHANGES WITH CHRONIC PAIN

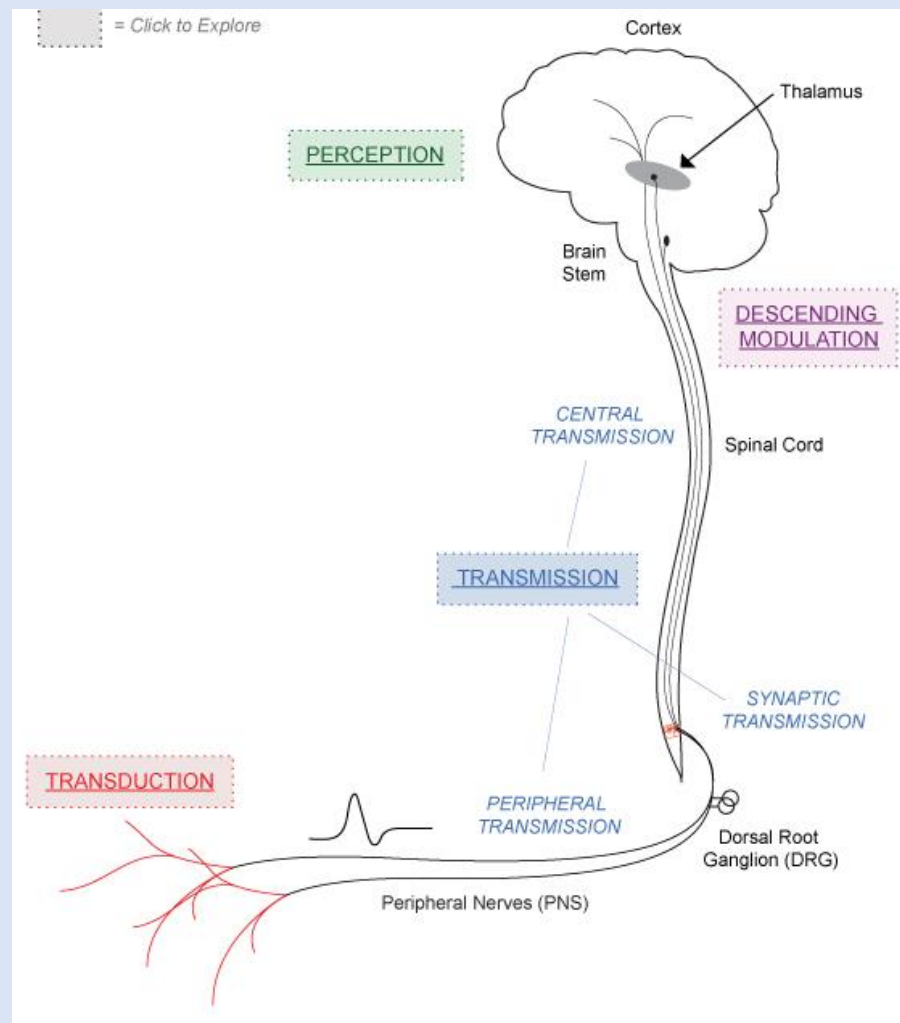


(Louw, Hilton, Vandyken; 2014)



CHANGES WITH CHRONIC PAIN

- The nerve network to detect danger become stronger and faster
- Releases hormones that stimulate fight or flight response
- More neurons pay attention to the painful area
- The area that maps the body part that is in pain changes



HOW TO EXPLAIN TO KIDS...



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TRUE or FALSE

All pain is real

Join Poll Everywhere



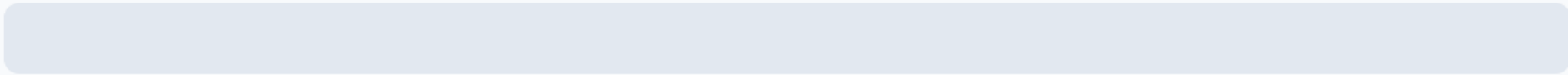
Join by Web:

Pollev.com/eecho196

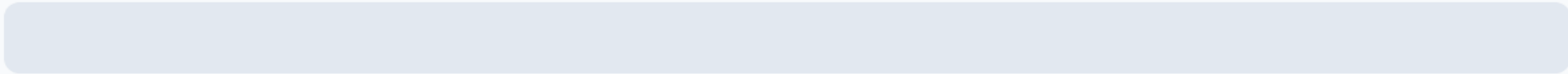
Join by Text:

Send **eecho196** to
37607

All pain is real



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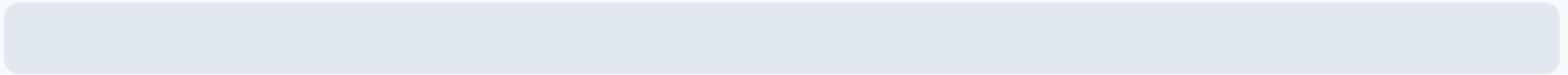
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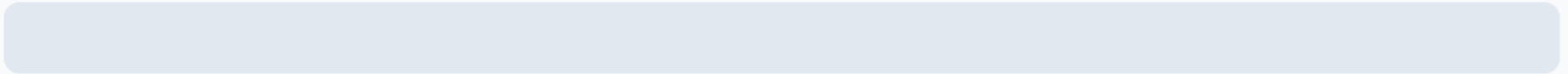
True or False

Pain can be protective/helpful

Pain can be protective/helpful



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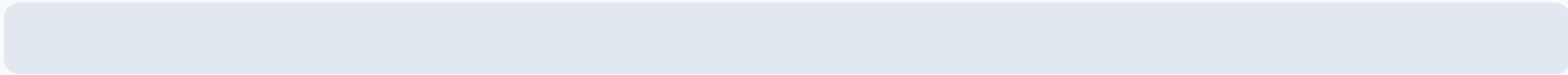
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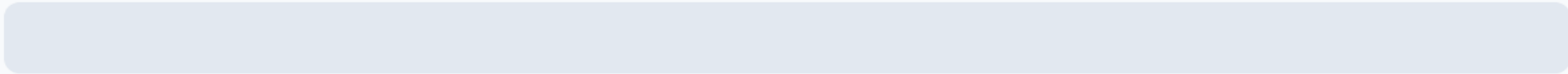
TRUE or FALSE

**The only way to treat chronic pain
is through medication**

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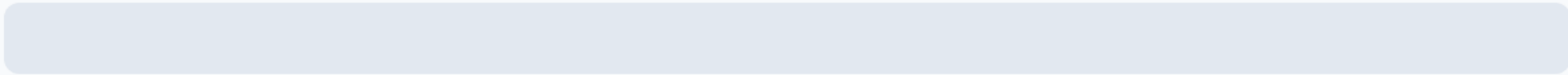
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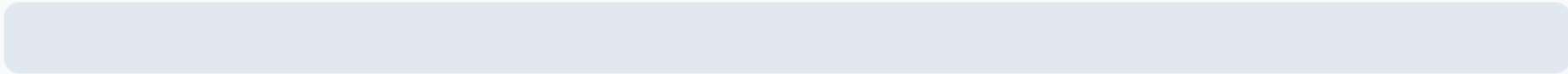
TRUE or FALSE

Chronic pain is pain that is “all in your head”

Chronic pain is pain that is "all in your head"



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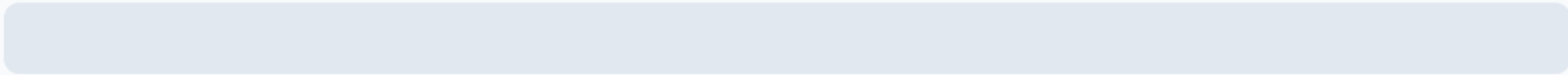
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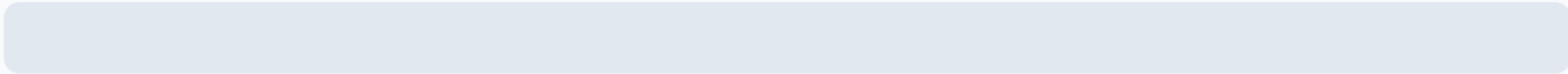
TRUE or FALSE

Two people can have the same injury and experience different amounts of pain

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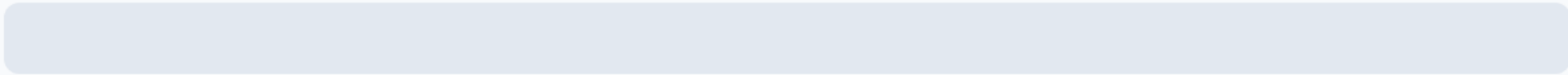
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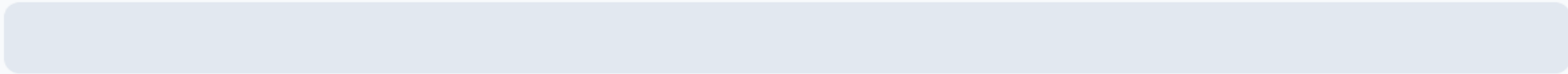
TRUE or FALSE

**Only adults have chronic pain.
Not kids or teenagers**

Only adults have chronic pain. Not kids or teenagers



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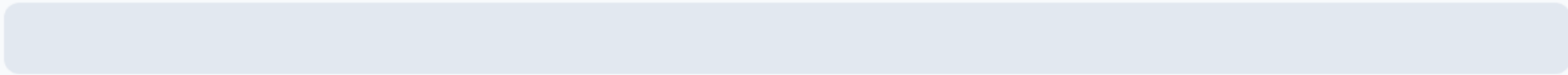
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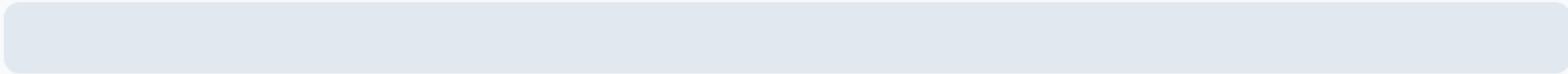
TRUE or FALSE

You can only experience pain if you have a bruise or are bleeding

You can only experience pain if you have a bruise or are bleeding



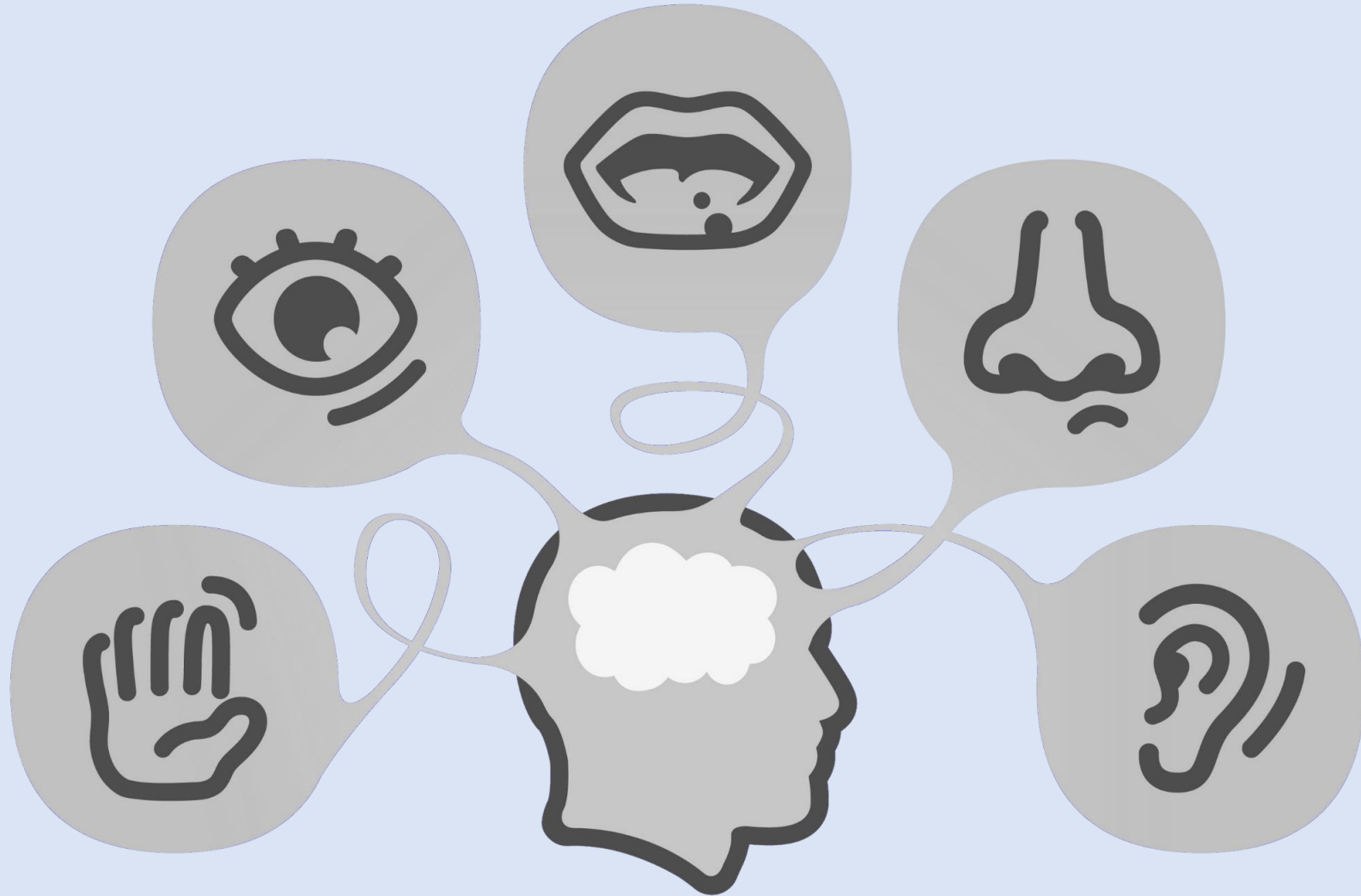
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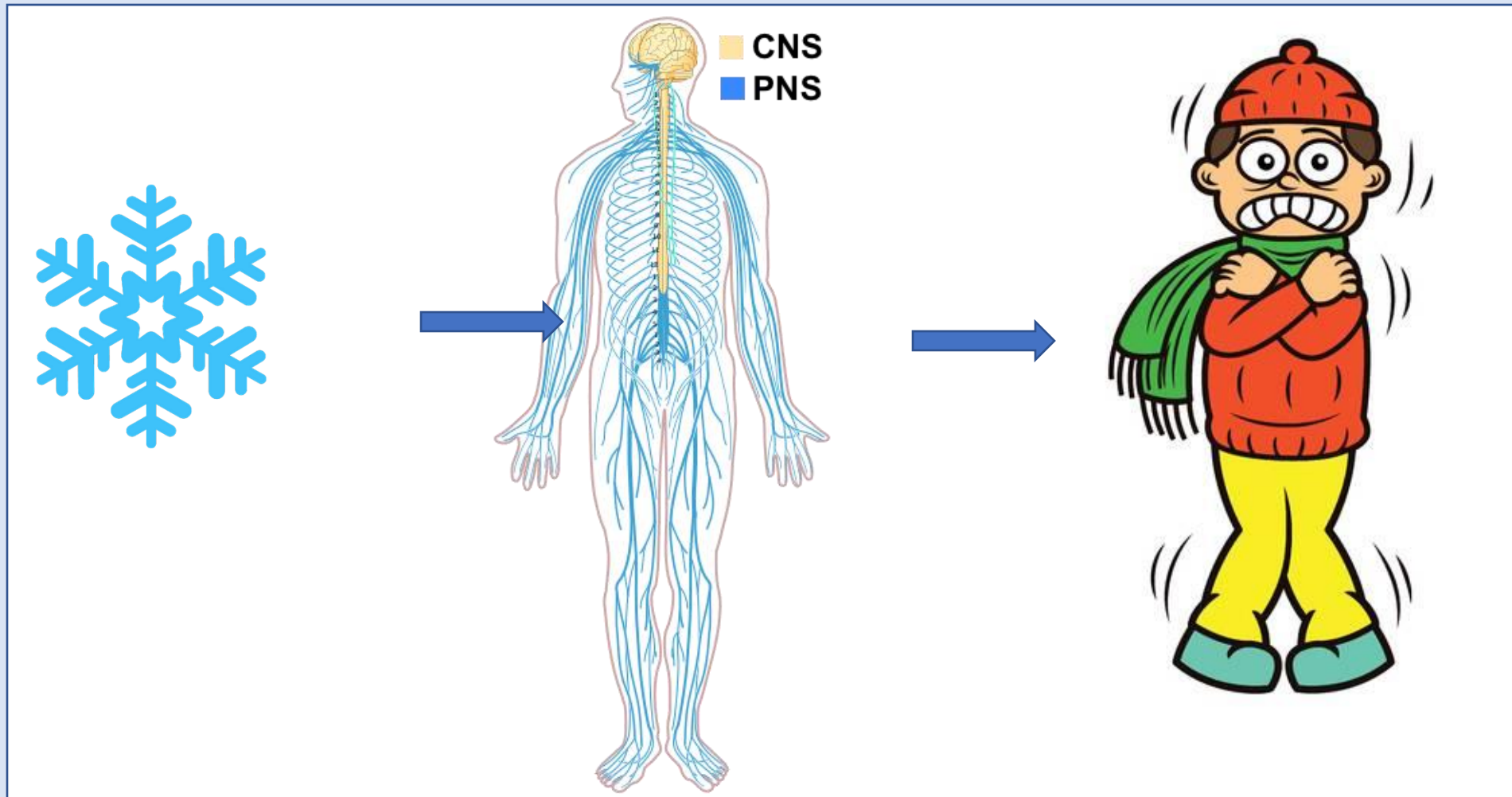


NEUROSCIENCE

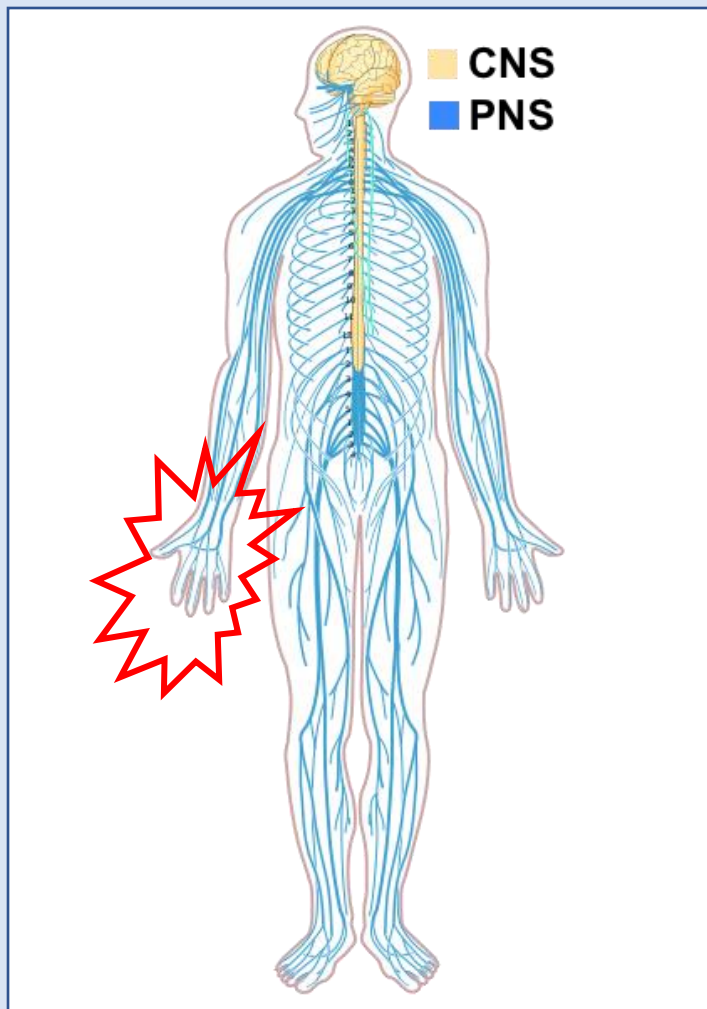




NEUROSCIENCE



NEUROSCIENCE OF PAIN FOR KIDS

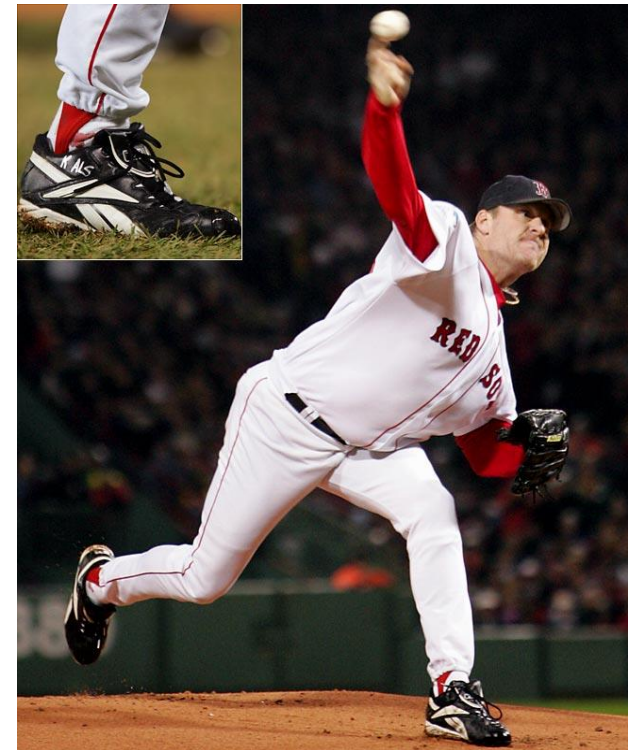


PAIN AS PROTECTIVE RESPONSE

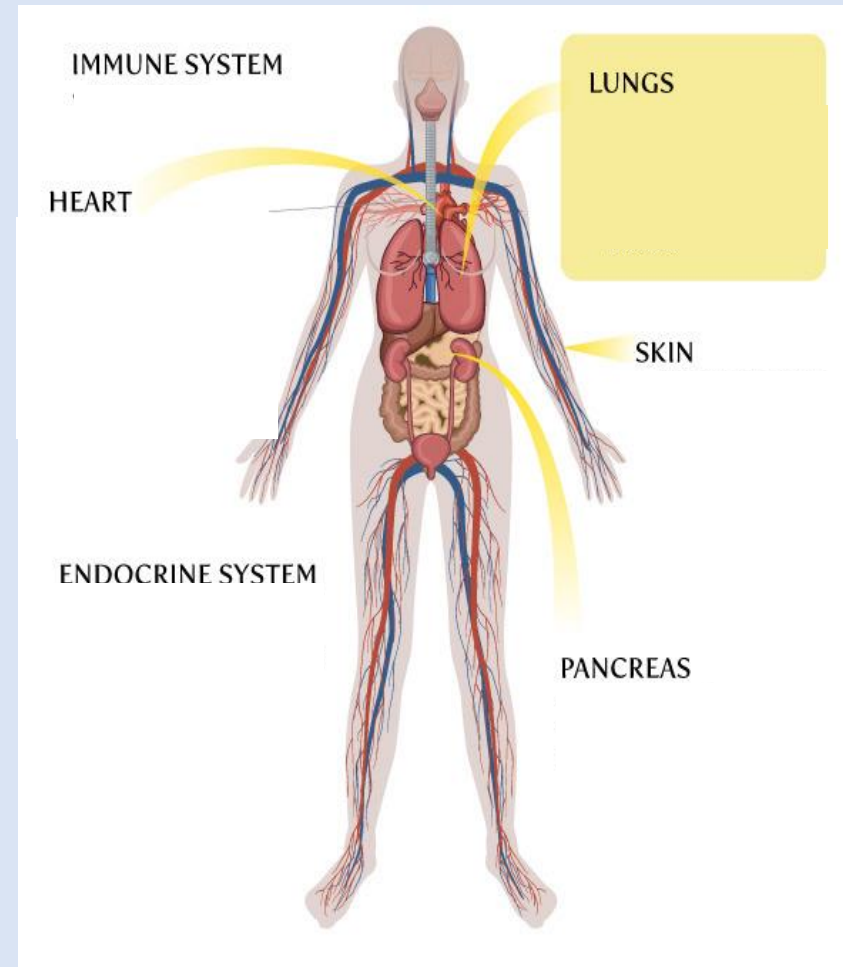




MODULATION OF PAIN



FIGHT, FLIGHT or FREEZE FOR KIDS



CHRONIC PAIN FOR KIDS





CHRONIC PAIN METAPHORS FOR KIDS

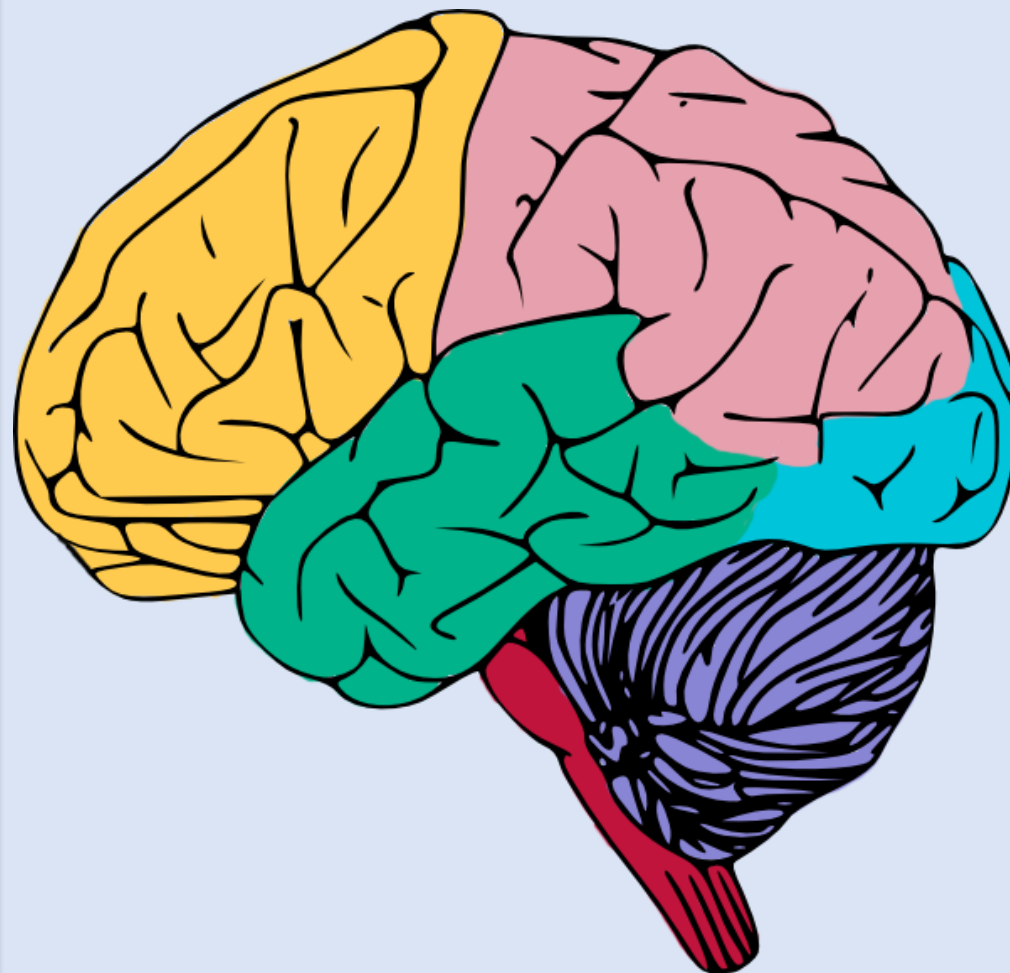




PAIN IN THE BRAIN

- Memory centre
- Learning centre
- Emotional centre
- Thought centre
- Sensory system

There is no single pain centre in the brain

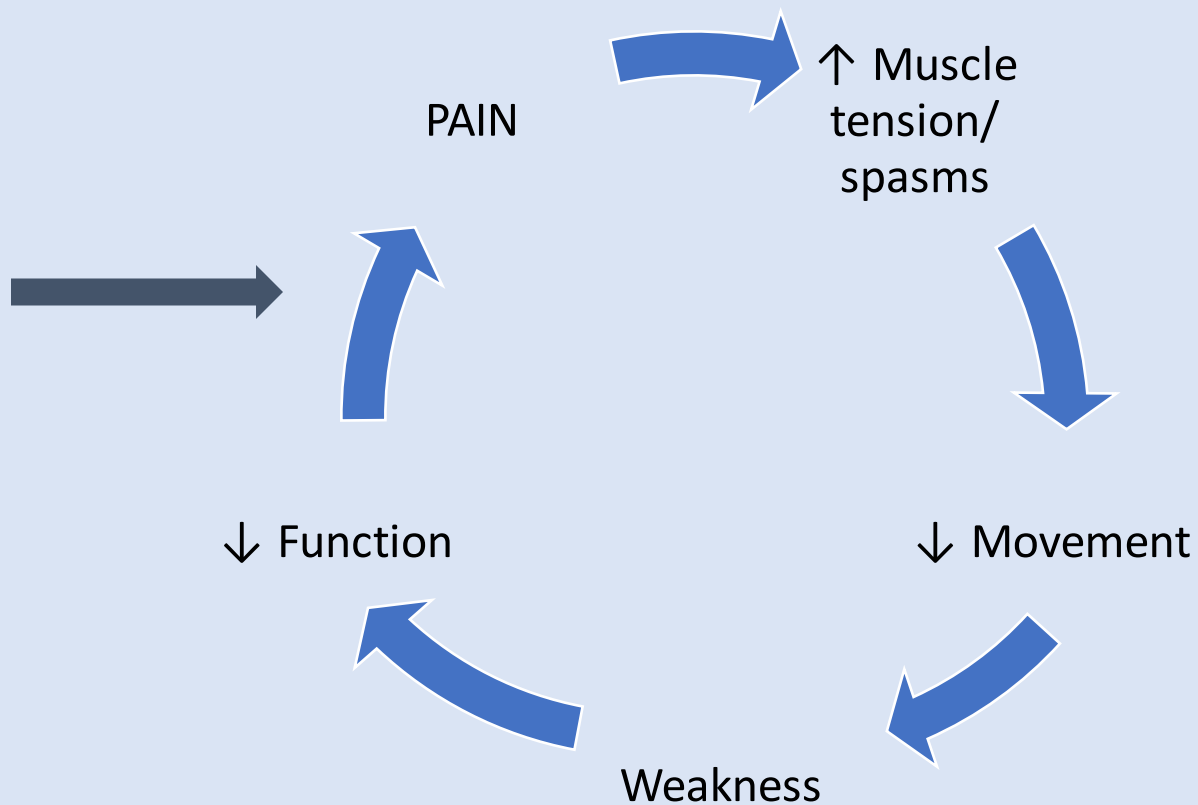




Persistent Pain Cycle

Important Contributory Factors

- Anger
- Worry
- Sadness
- Frustration
- Depression
- Fear
- Anxiety
- Stress
- Negative thoughts
- Painful memories





PERSISTENT PAIN CYCLE METAPHOR

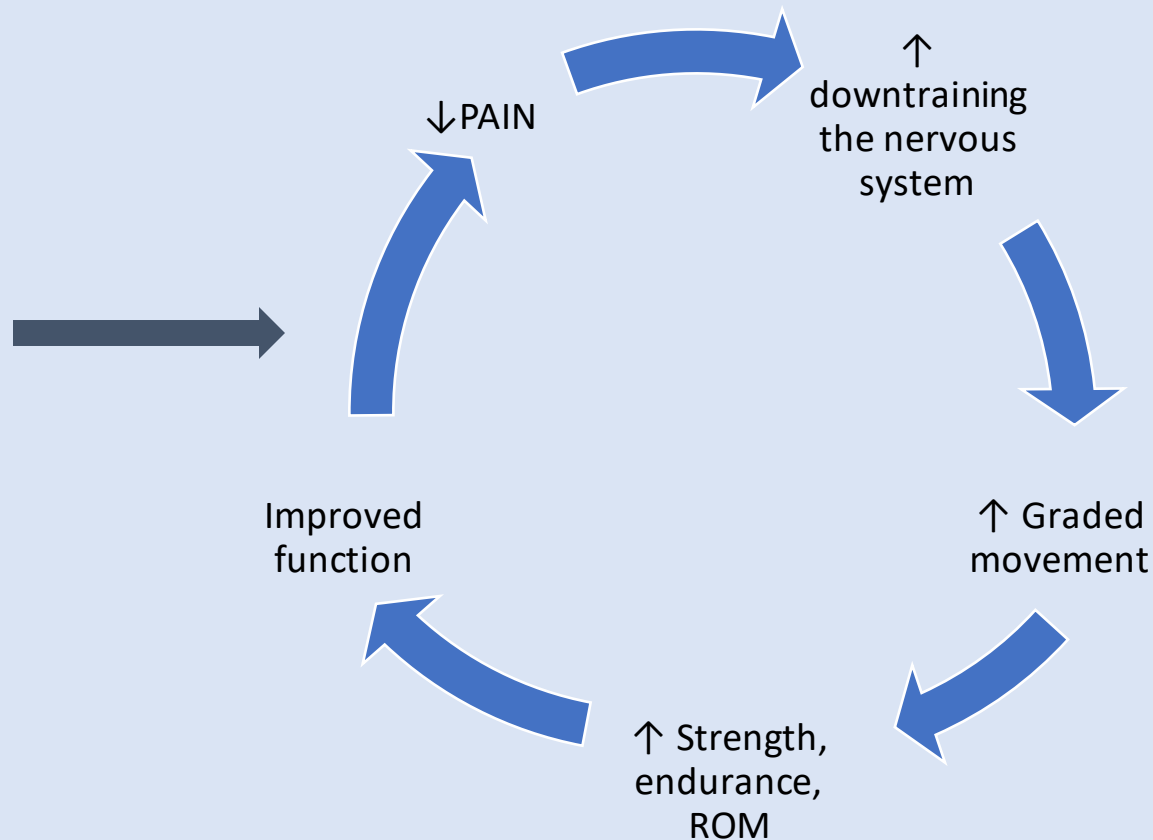




Reversing the Pain Cycle

Important Contributory Factors

- Higher self-esteem
- Positive mental attitude
- Decreased stress
- Release of endorphins
- Pride
- Good sleep hygiene





Pain Clinic Recommends:

- Recommend 3 P approach
 - Pharm: Tylenol and Advil PRN
 - Psychological: CBT and ACT
 - Physical: graded exercise
-
- How do you explain pain to this teen and family?
 - How do you gain "buy-in" to your treatment plan
 - She responds "so you're saying it's all in my head".



REVERSE THE PAIN CYCLE

Psychology:

- role of the brain in perception of danger
- role of emotions and physiological responses and their relationship to pain

Physical:

- reduce fear of movement and activity avoidance
- retrain nerves sensitivity and remaps the brain
- improve mobility
- avoid secondary sequela of poor mobility

Pharmacological

- helps support functional rehabilitation
- reduce nerve sensitivity



Language to avoid

http://ppl.childpain.org/issues/v15n1_2013/v15n1_coakley.shtml

- Chronic degenerative changes
- Negative test results
- Instability
- Wear and tear
- Neurological
- Don't worry
- Tear
- Damage
- Paresthesias
- Trapped nerve
- Lordosis
- Kyphosis
- Bulge/herniation
- Disease
- Effusion
- Chronic
- Diagnostic
- You are going to have to live with this forever

RESOURCES



EDUCATIONAL RESOURCES

1. Understanding pain – and what's to be done about it in 10 minutes

<https://www.youtube.com/watch?v=KfYC6zfrV80&feature=youtu.be>

2. Understanding Pain in less than 5 minutes, and what to do about it!

https://youtu.be/C_3phB93rvI

3. TEDxAdelaide - Lorimer Moseley - Why Things Hurt

<https://youtu.be/gwd-wLdIHjs>

4. Understanding Pain: Brainman chooses

<https://youtu.be/jlwn9rC3rOI>

5. What is Chronic Pain ?

<https://www.mycarepath.ca/understanding-pain/what-is-chronic-pain>

6. Tame The Beast

<https://www.tamethebeast.org/>

7. <http://www.ucalgary.ca/pip369/mod7/tempain/theories>



SELF-MANAGEMENT RESOURCES

1. **MyCarePath**

www.mycarepath.ca

2. PainBytes

<http://www.aci.health.nsw.gov.au/chronic-pain/painbytes>



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