How to Explain Pain to Kids and Families

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**

This program has received financial support from the Ministry of Health and Long Term Care

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

IMPORTANCE OF PAIN EDUCATION

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

(Bedell, Graboys, & Bedell, 2004; Gallagher et al., 2013)

BASIC NEUROSCIENCE OF CHRONIC PAIN

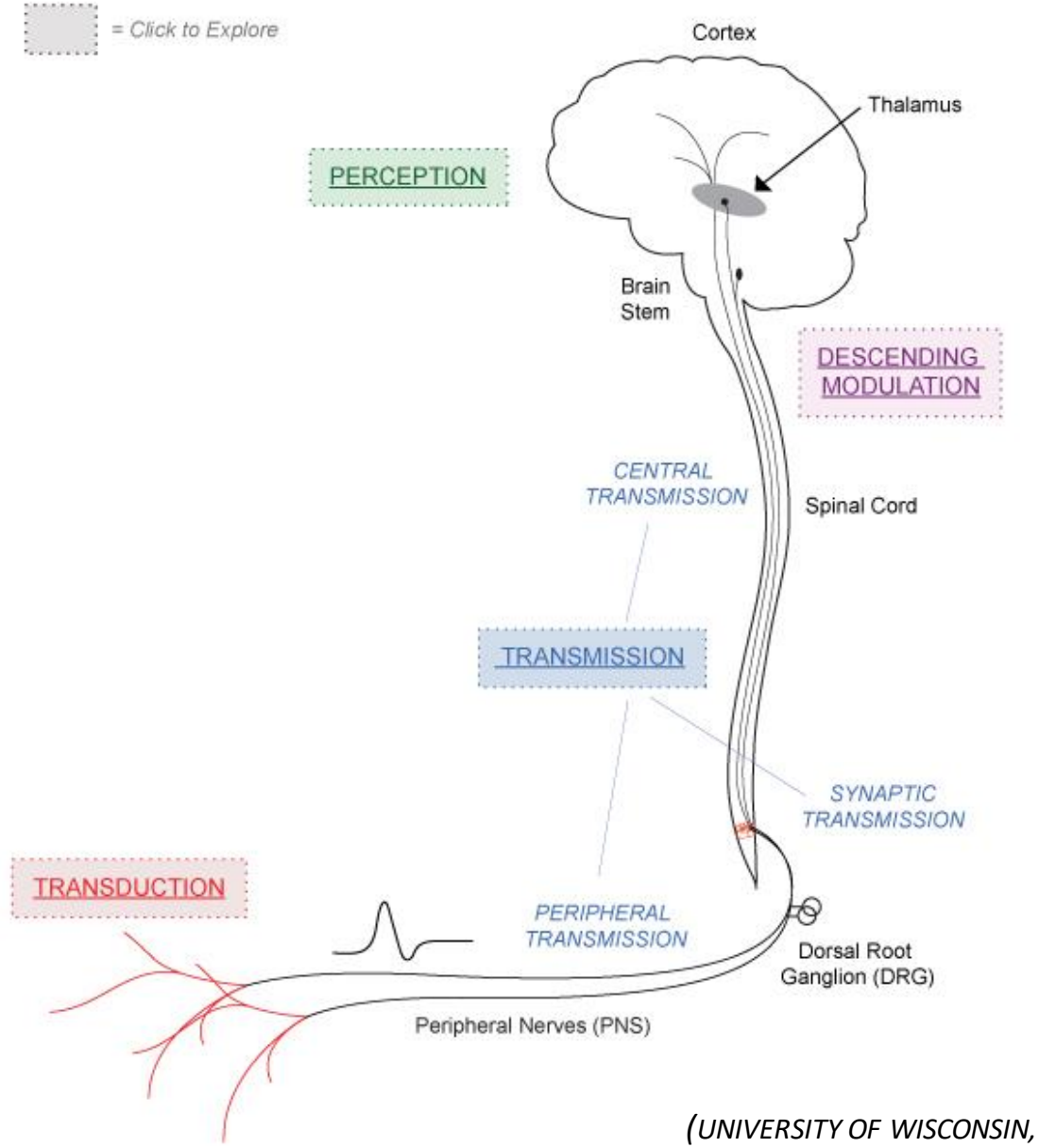
PAIN DEFINITION

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

(IASP, 2018)

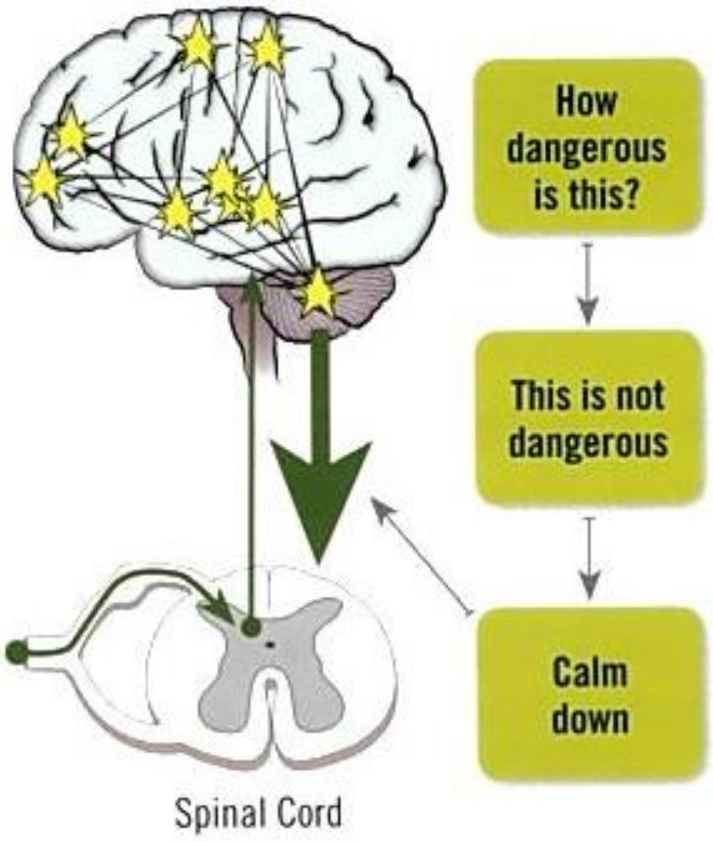
NEURAL PATHWAY

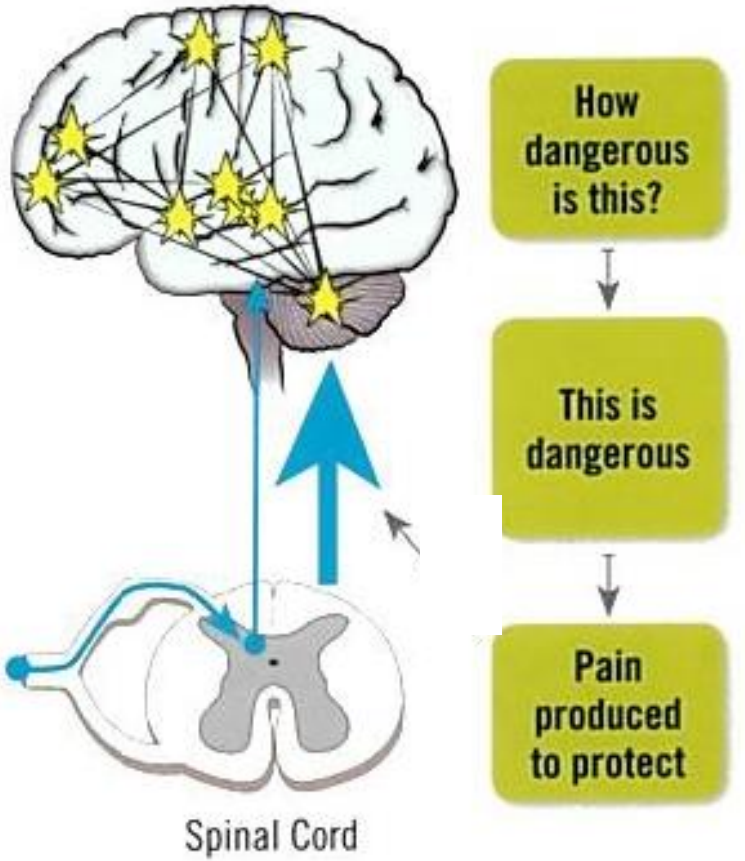
- Transduction: nociceptors activated by intense stimuli in periphery
- Transmission: action potentials conducted to CNS via 2 types of afferent neurons
- Perception: multiple areas of brain involved in recognizing event as pain
- Descending modulation: inhibition or facilitation of nociception through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



(UNIVERSITY OF WISCONSIN, 2010)

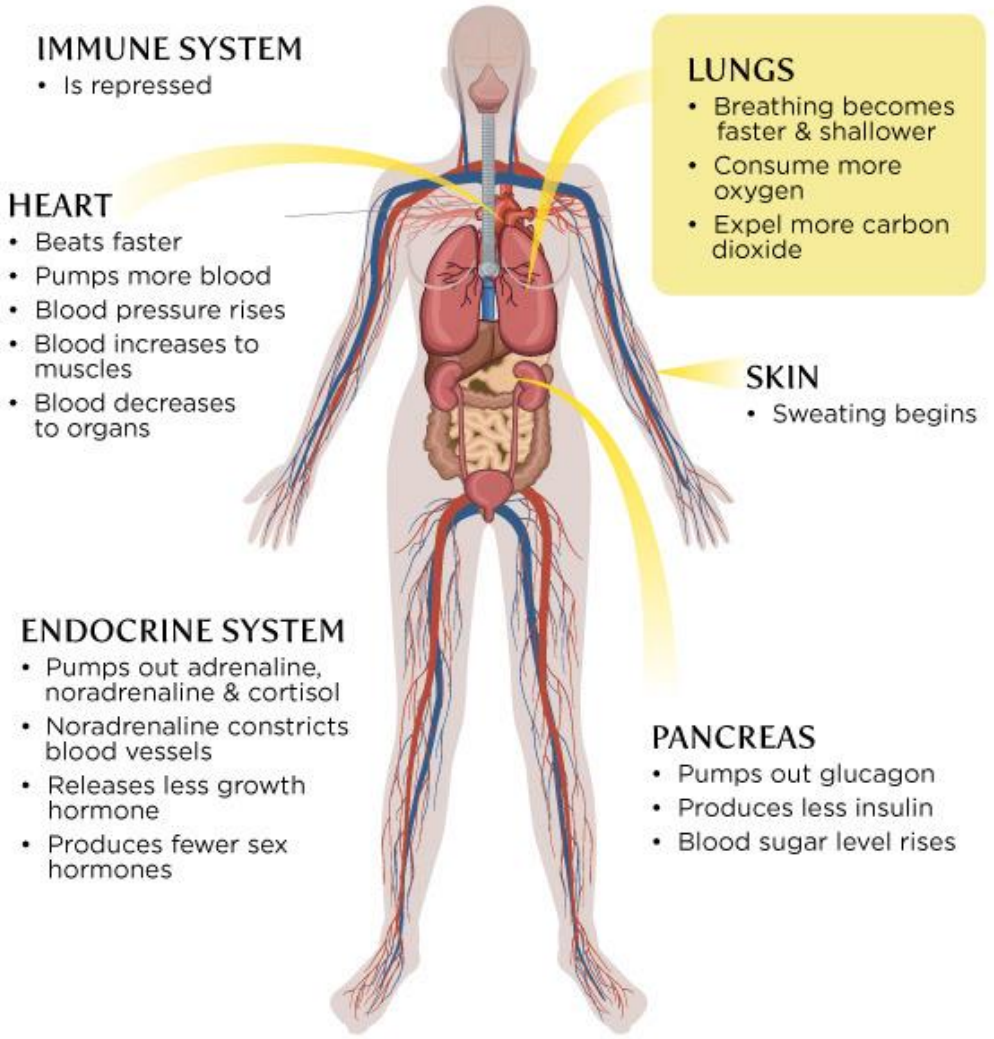
MODULATION OF PAIN





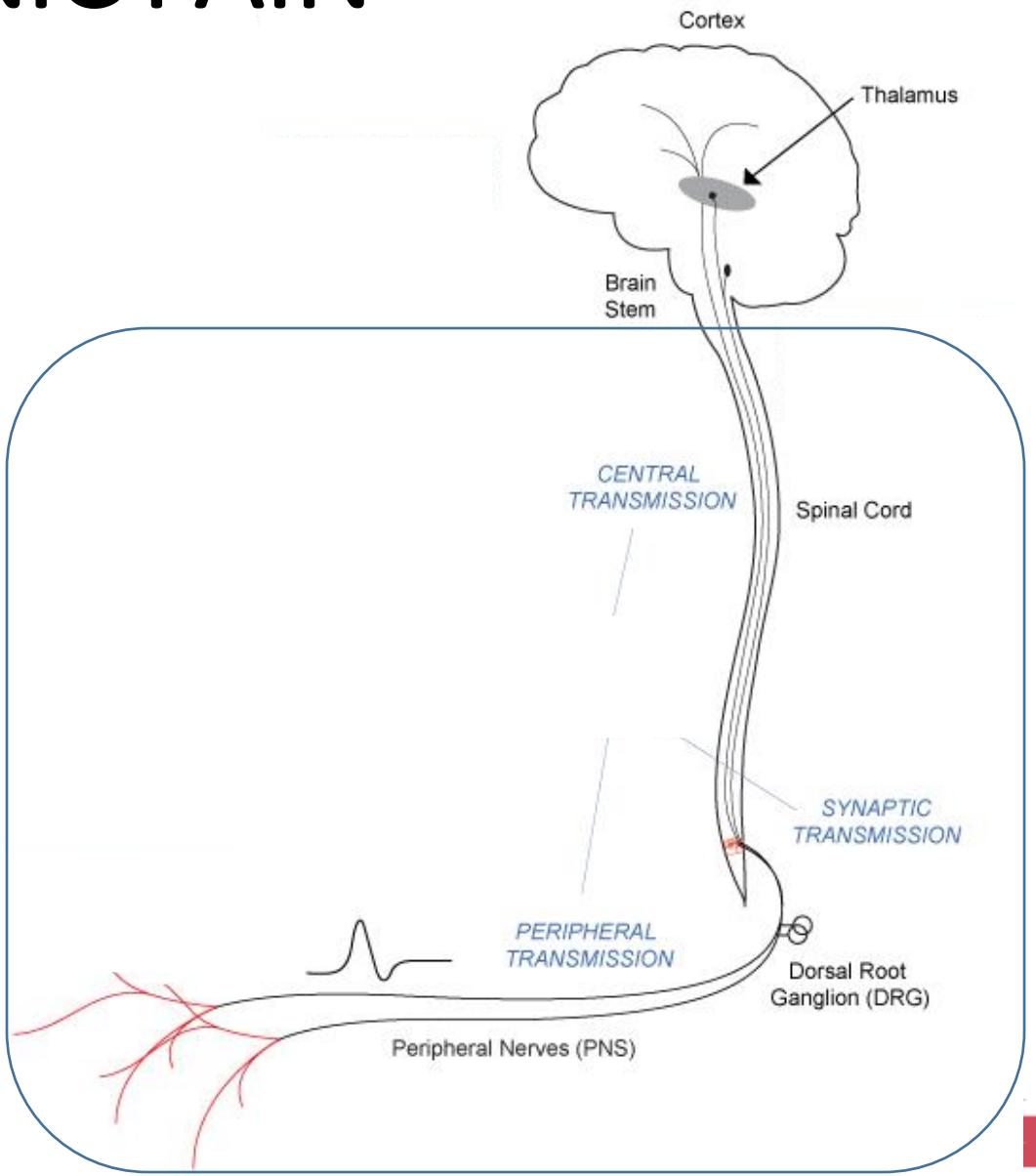
(*Louw, Hilton, Vandyken; 2014*)

PROTECTIVE SYSTEMS: FIGHT, FLIGHT or FREEZE

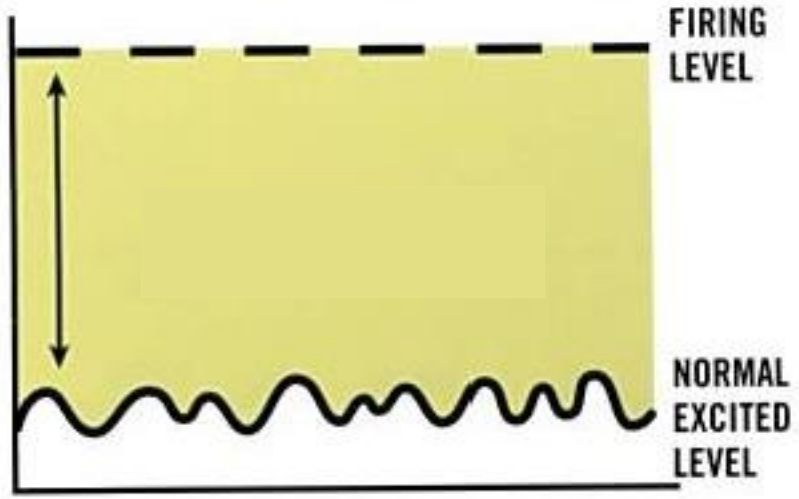


CHANGES WITH CHRONIC PAIN

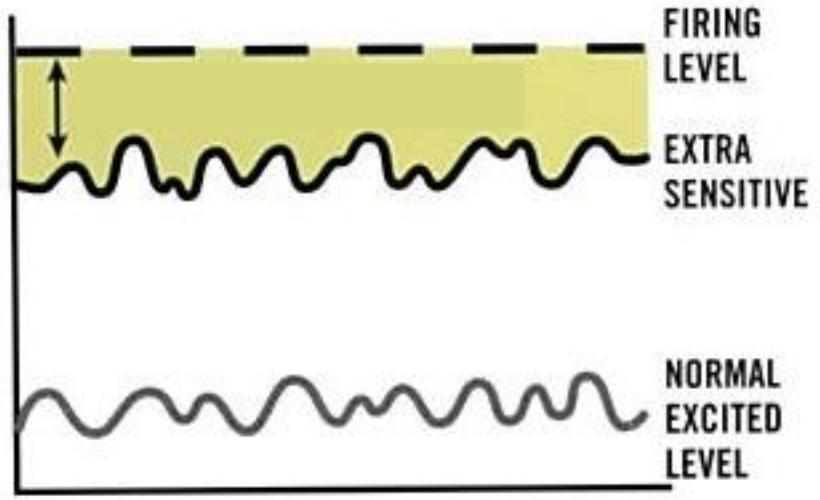
- Nerves fire more easily and frequently (hyperalgesia)
- Develop more "pain" receptors
- Misinterpret normal sensations of touch, stretch and movements as danger (allodynia)
- Inflammation as a protective response



CHANGES WITH CHRONIC PAIN



Without Pain

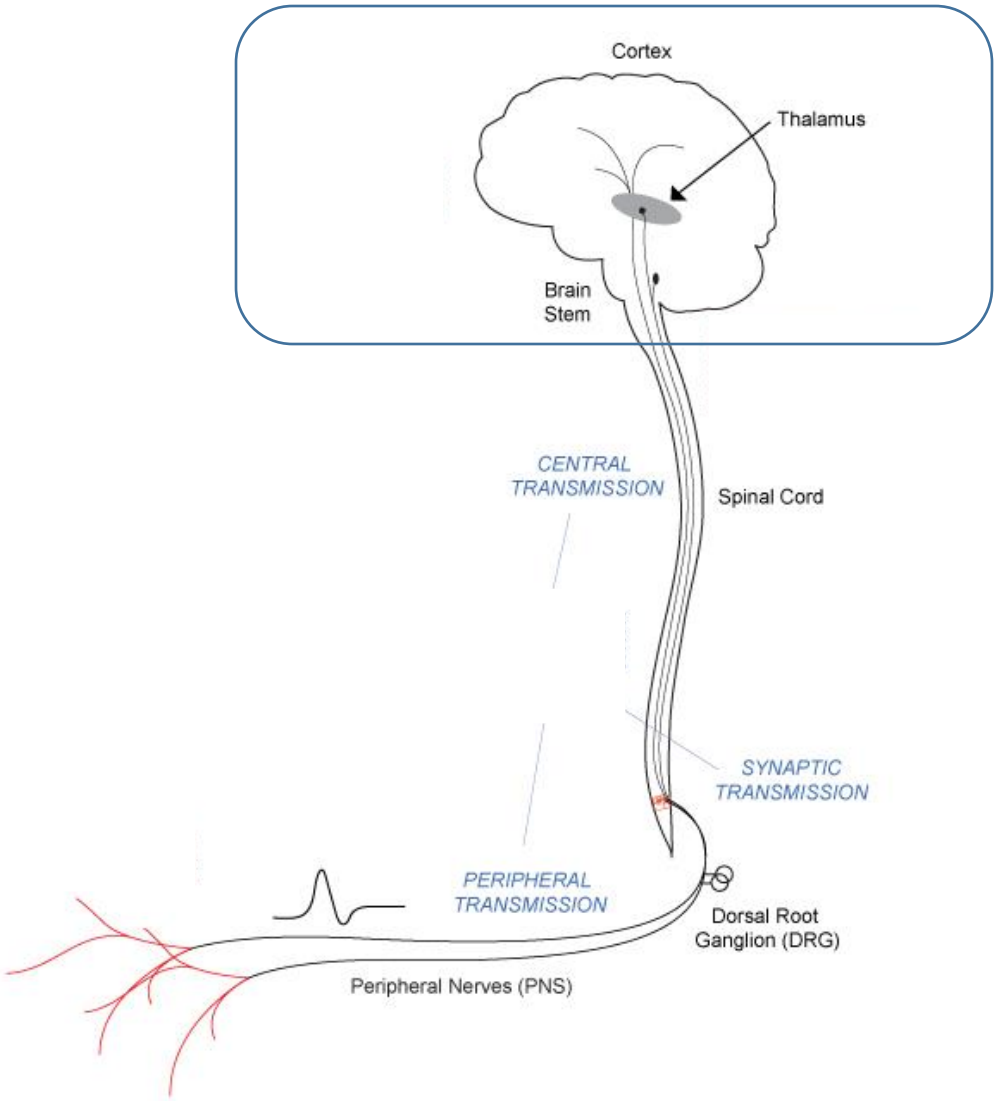


With Chronic Pain

(Louw, Hilton, Vandyken; 2014)

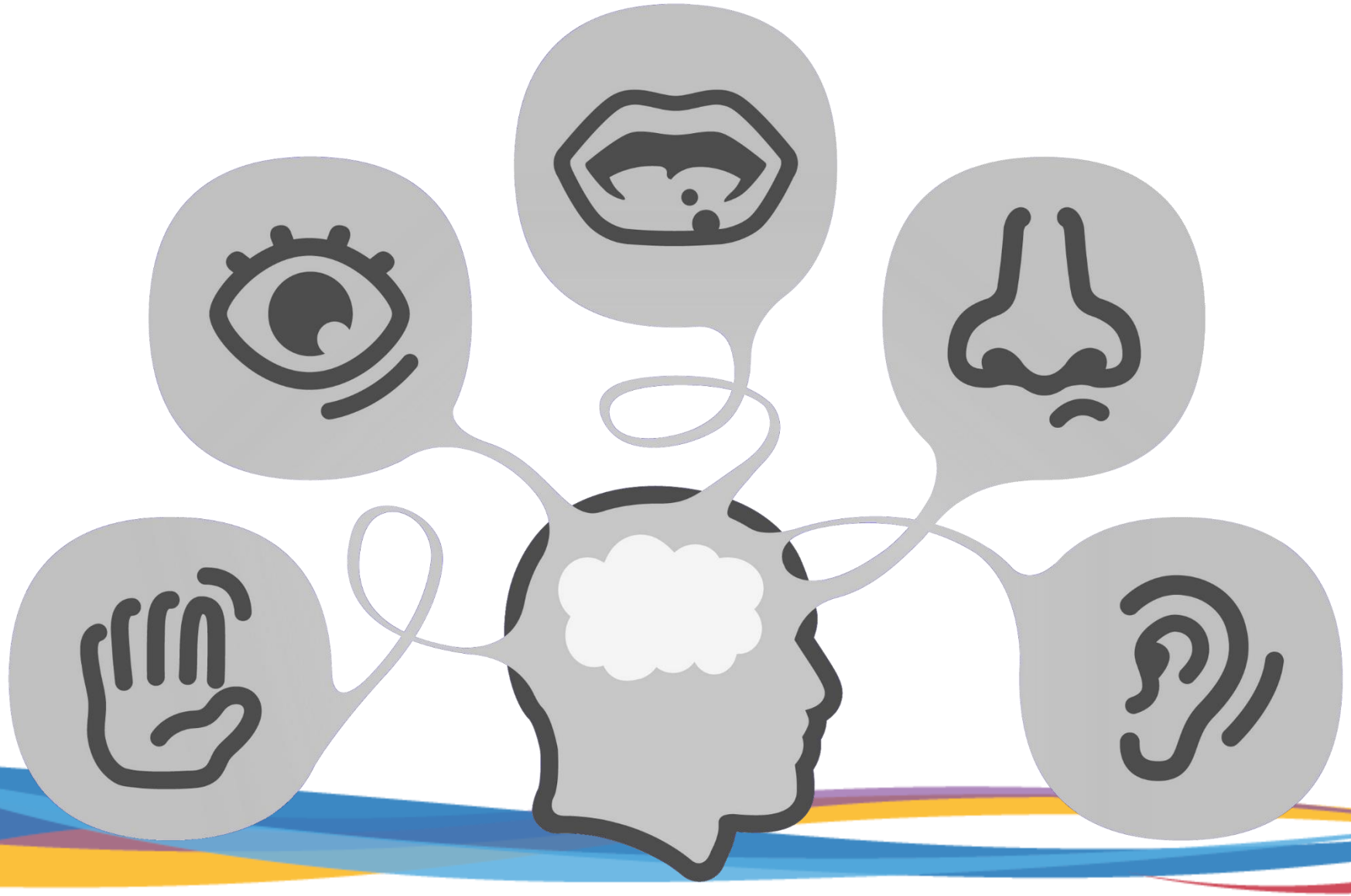
CHANGES WITH CHRONIC PAIN

- 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

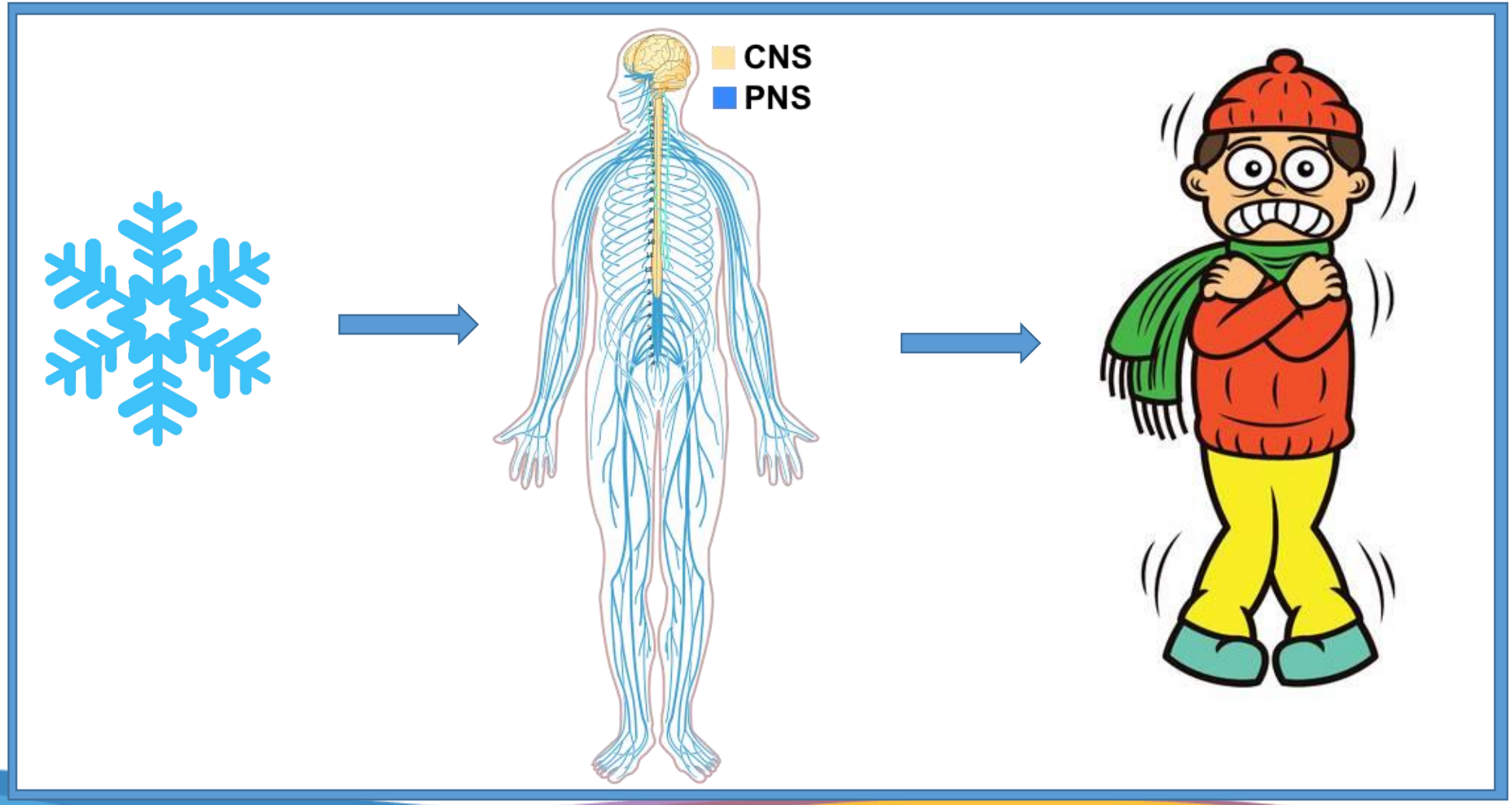


HOW TO EXPLAIN TO KIDS...

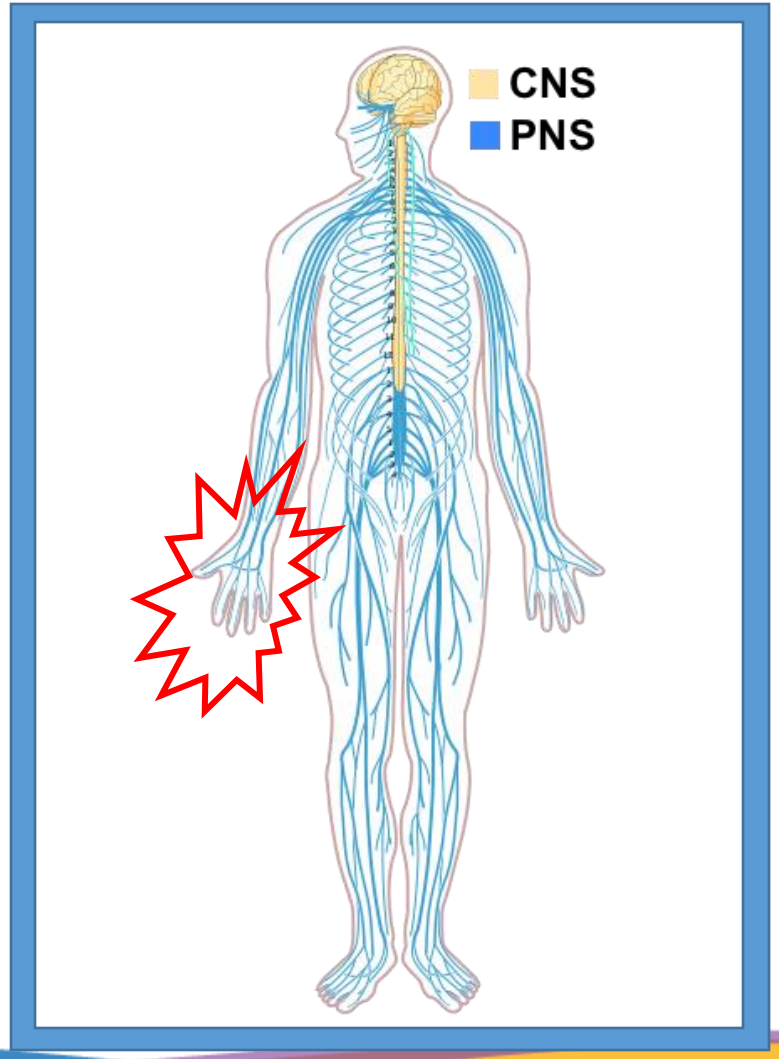
NEUROSCIENCE



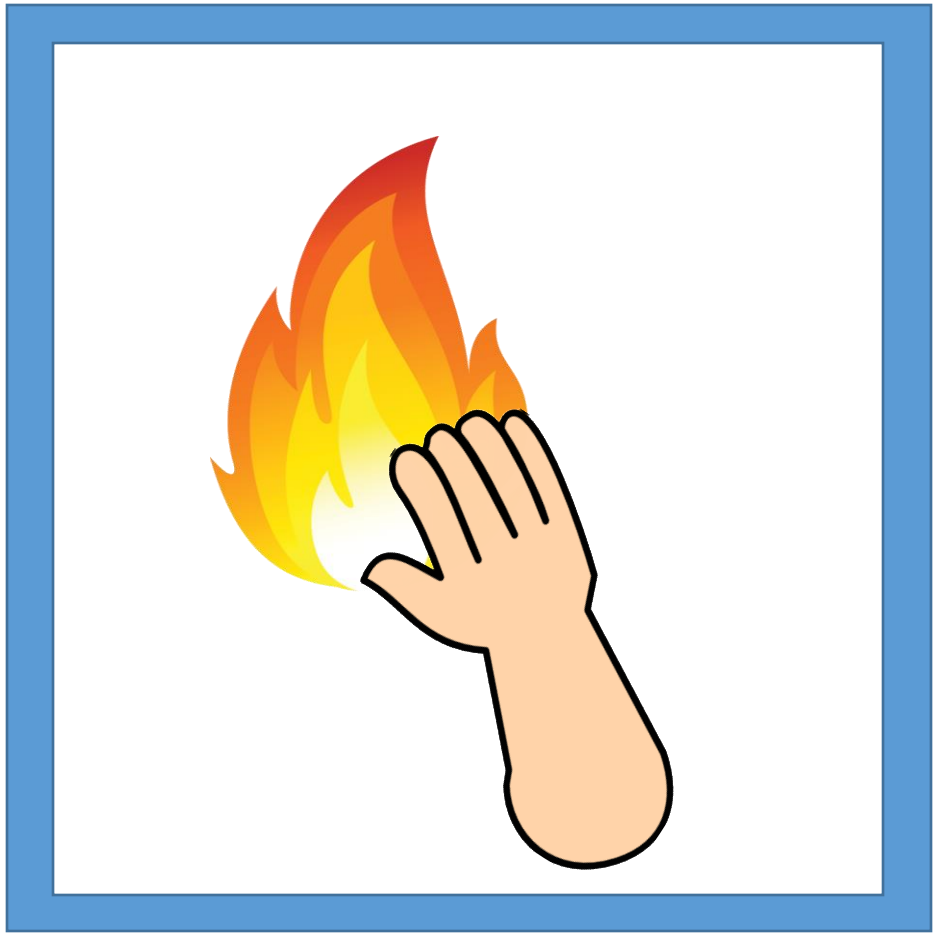
NEUROSCIENCE



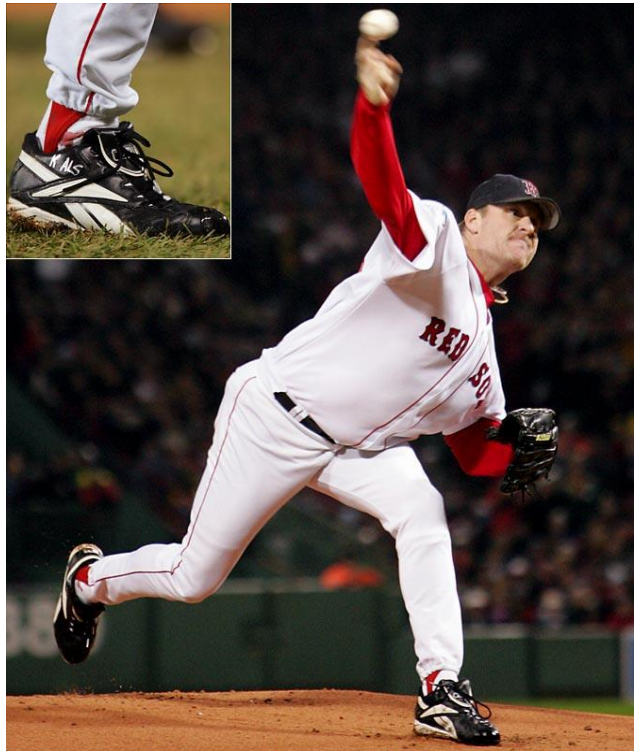
NEUROSCIENCE OF PAIN FOR KIDS



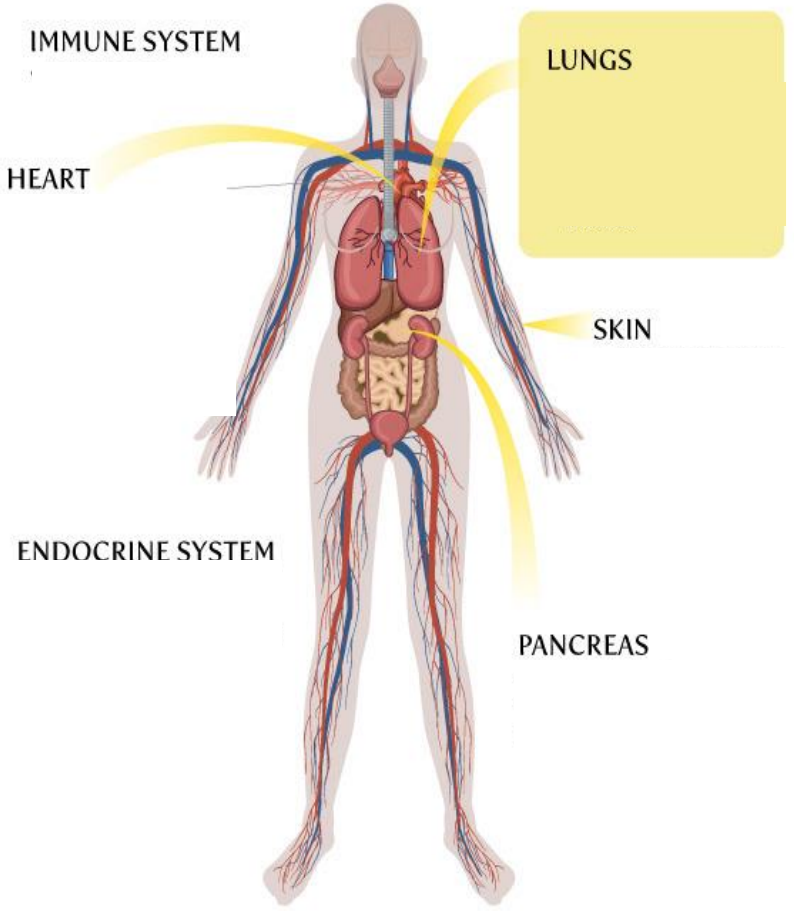
PAIN AS PROTECTIVE RESPONSE



MODULATION OF PAIN



FIGHT, FLIGHT or FREEZE FOR KIDS

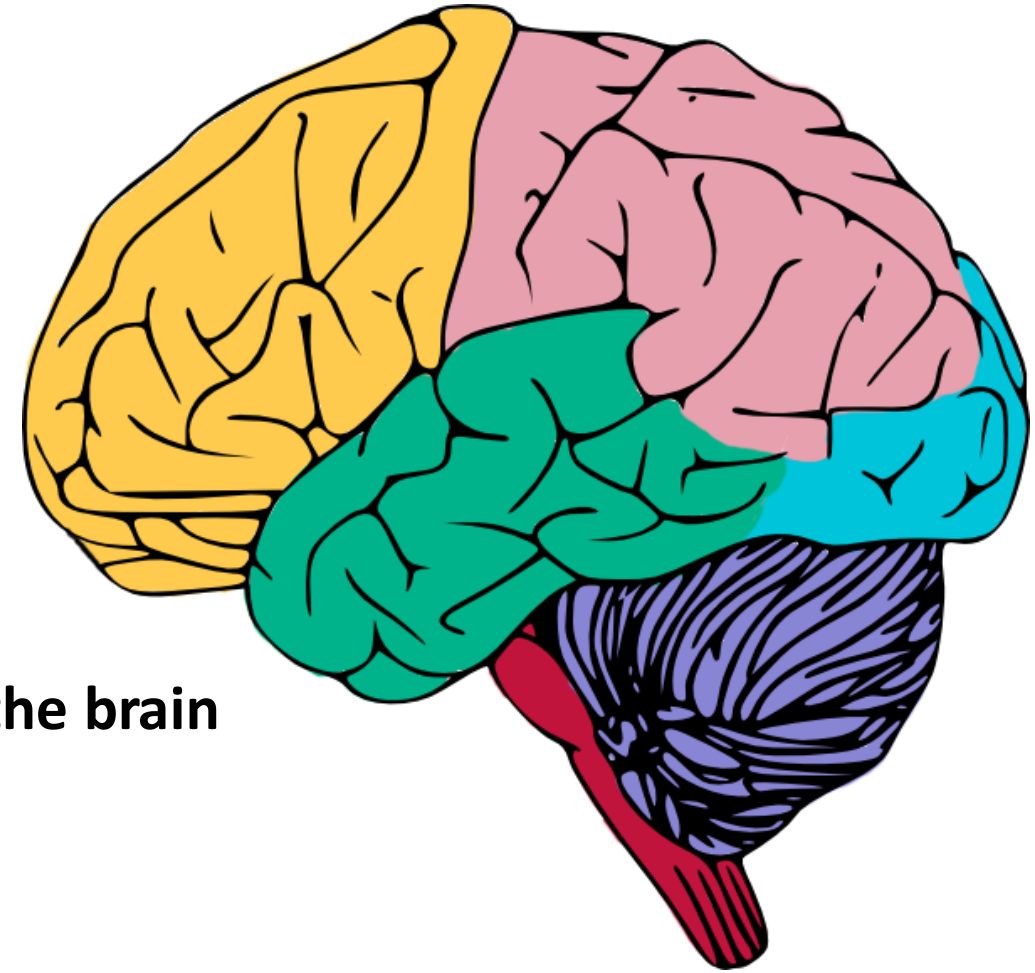


CHRONIC PAIN FOR KIDS

CHRONIC PAIN METAPHORS FOR KIDS

PAIN IN THE BRAIN

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

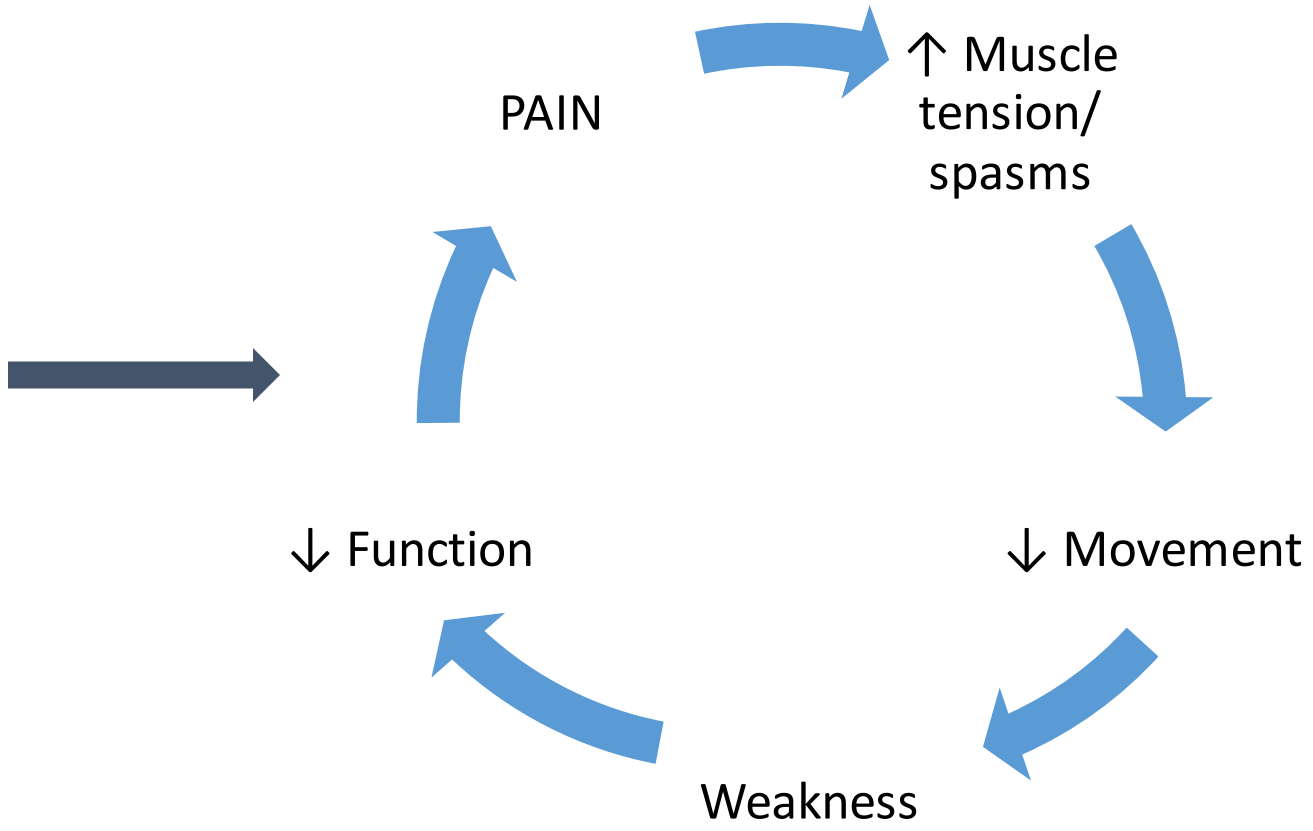


There is no single pain centre in the brain

PERSISTENT PAIN CYCLE

Important Contributory Factors

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

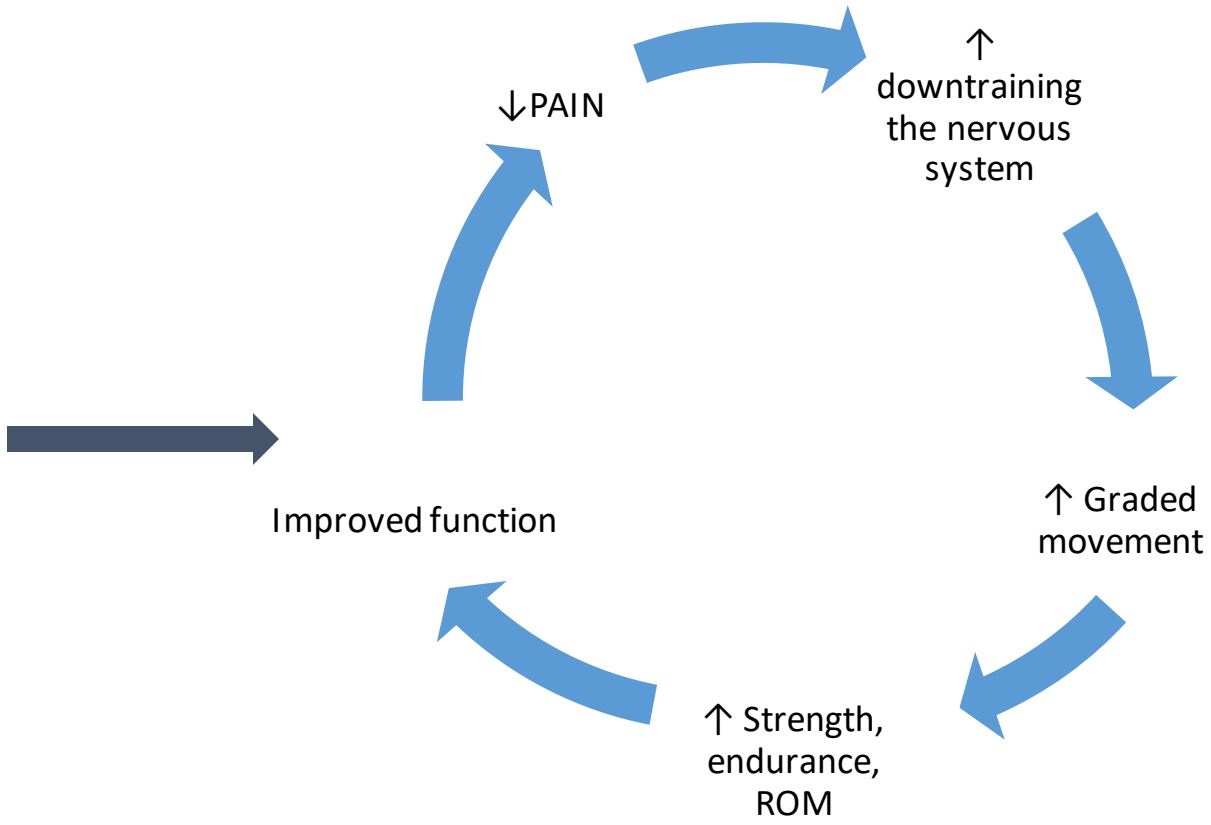


PERSISTENT PAIN CYCLE METAPHOR

REVERSING THE PAIN CYCLE

Important Contributory Factors

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



REVERSE THE PAIN CYCLE

Psychology:

- role of the brain in perception of danger
- role of emotions and physiological responses and their relation ship 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

- 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/jIwn9rC3rOI

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. **My**CarePath

www.mycarepath.ca

2. PainBytes

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

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