Physical Therapy Treatment for Chronic Pain

Project ECHO®

Changing the world by connecting healthcare providers.

Faculty/Presenter Disclosure

- Faculty: Brittany Wu, MScPT
  - Special thanks to Anne Ayling Campos, Karen Chiu, and Sara Klein
- Relationships with commercial interests:
  - None
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Learning Objectives

1

- **Identify** physical therapy treatments and/or physical strategies that may be utilized in the management of paediatric chronic pain

2

- Explain the **theory** behind using specific treatments and/or physical strategies in the management of chronic pain conditions

3

- Develop a **toolkit** of pain management strategies that is suitable for the child's or youth's pain presentation

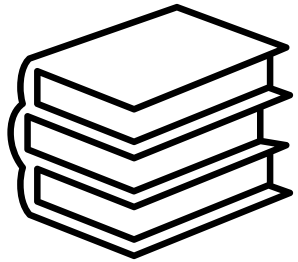
Question for you…

In your current practice, do you recommend that patients use physical strategies, in addition to pharmacological or psychological strategies, as a way of coping with pain? (i.e. muscle relaxation, graded movement, heat)

a) Never or infrequently (0-25%)
b) Sometimes (25-50%)
c) Often (50-75%)
d) Always or frequently(75-100%)

Highlighting Evidence

- Gold standard for chronic pain management is the '3-P' approach involving pharmacology, psychology, and physiotherapy
- No standardized treatment protocol for children and youth with chronic pain



Caes et al. 2018; Fisher et al. 2022

Physical Strategies – The Pain Toolkit

- Wide variety of interventions provided by a wide array of practitioners
- Physical strategies should assist with pain management to promote calming of pain pathways and restoration of normal physical functioning

Sulka K. 2018

Physical Strategies – the Pain Toolkit

Modalities – Ice, Heat, TENS

Activity pacing & daily routines

Return to school

Graded exercise

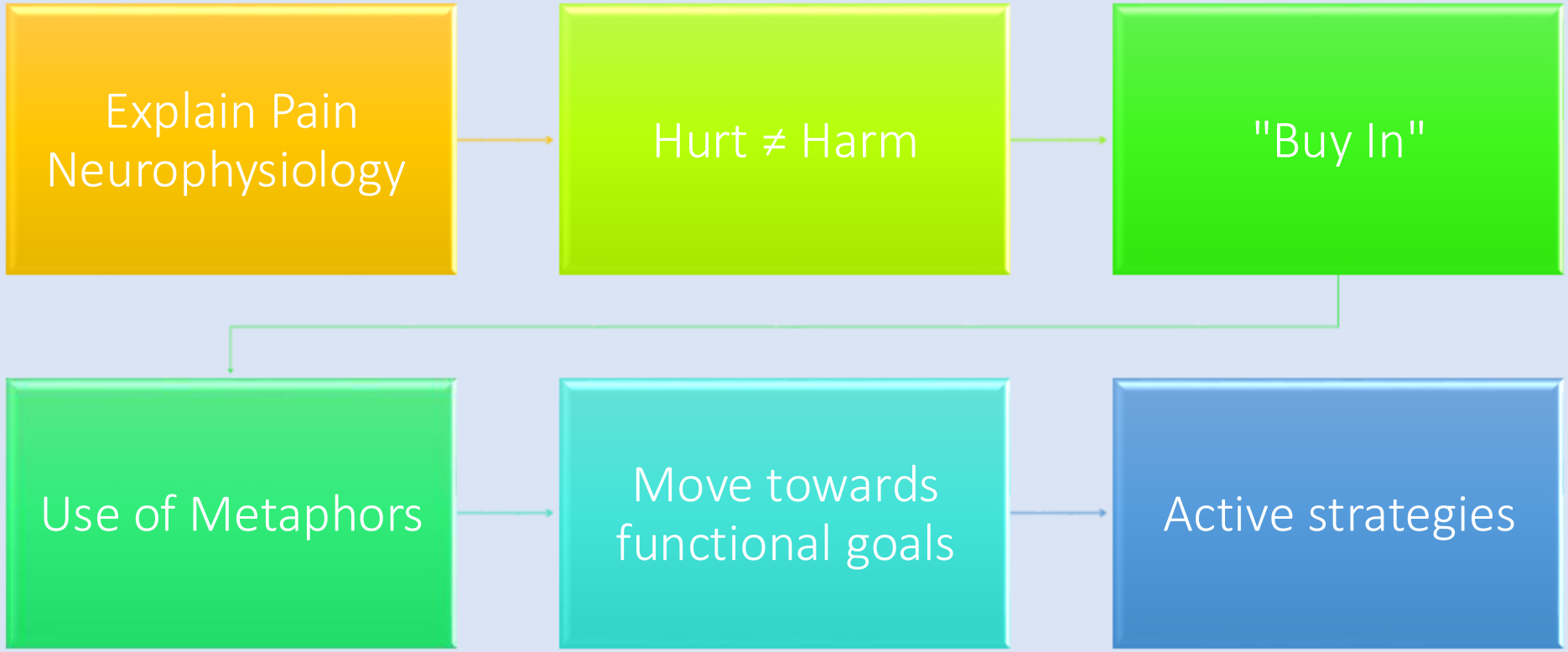
Desensitization

Muscle relaxation

Graded motor imagery

Pain Education

Pain Education – Foundation of the Toolkit



Moseley et al. 2004

Pain Education: Question #1

All pain is real.

a) True

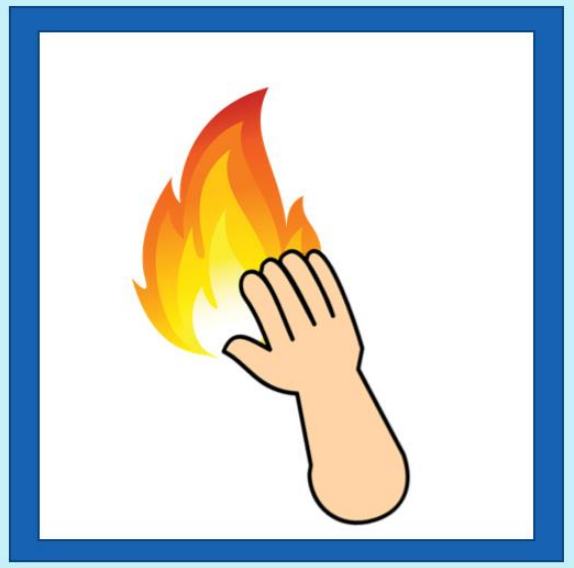
b) False

Question #2

Pain can be protective or helpful.

a) True

b) False



Question #3

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

a) True

b) False

Question #4

The only way to treat chronic pain is through medication.

a) True

b) False

Pain Education Videos

Video references for pain education which explain pain in a biopsychosocial framework

About Kids Health – What is Chronic Pain?

- https://www.youtube.com/watch?v=EL1E54nH_7c

TedEd - The Mysterious Science of Pain - Joshua W. Pate

- https://www.youtube.com/watch?v=eakyDiXX6Uc

AboutKidsHealth - The Impact of Chronic Pain – Focus: Physical Activity

- https://www.youtube.com/watch?v=7MAoMvCmX1k&list=PLjJtOP3StIuUKKc7L8lcRlmFQ8RV9QPLf&index=2

Take-Home Message from Pain Education

- Your pain is real
- **Practice** => dialing down pain signals to allow you to increase function
- **BREAK THE PAIN CYCLE**

Physical Strategies – the Pain Toolkit

Modalities – Ice, Heat, TENS

Activity pacing & daily routines

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Chronic Pain Management Toolkit

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Pain Education

Muscle Relaxation

- Modulating state of the autonomic nervous system
- Reduce muscle tension
- Prepare for activity or post-activity

Rest and recovery ⟷ Belly breathing ⟷ Heat ⟷ Gentle movement

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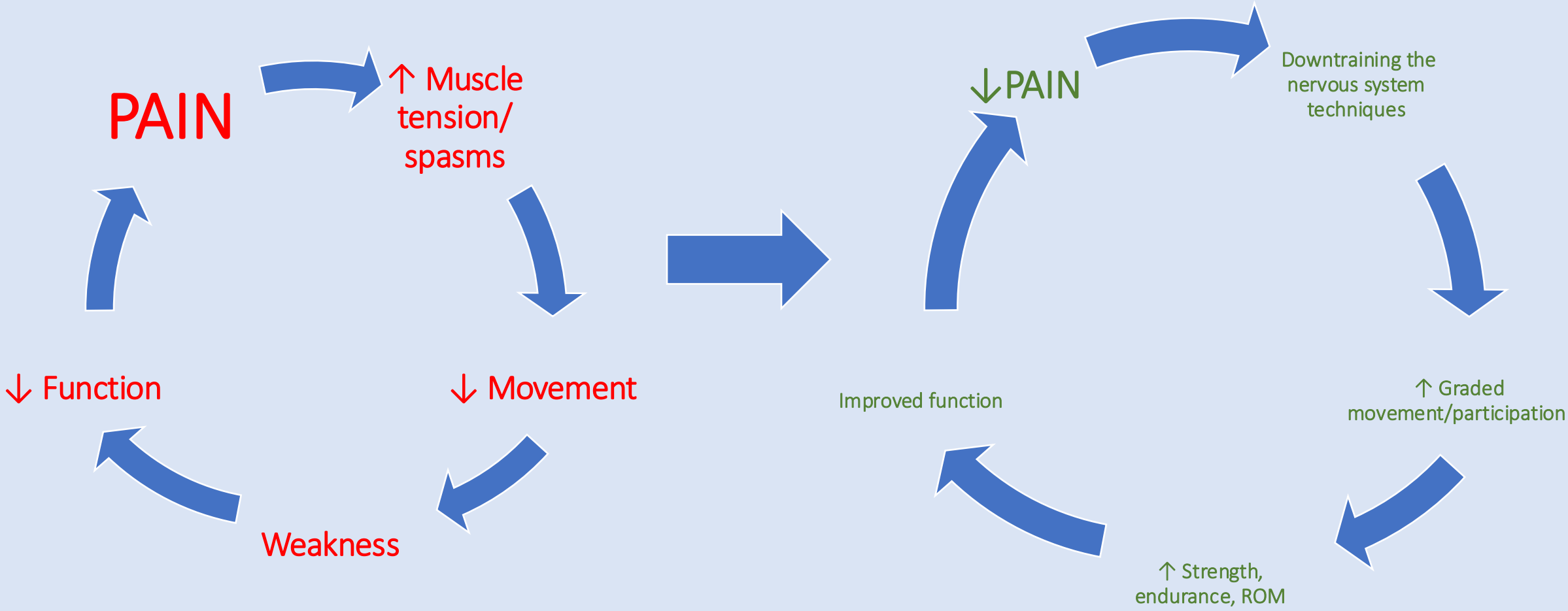
Graded Exercise & Activity



Graded Exercise & Activity

- SMART goals
- Types of exercise/activities that are meaningful to the child or teen:
  - Simple activities that are accessible
  - Start low and increase slowly to minimize pain activation
  - Increase by 10-20% every 4-5 days of activity completion
  - Do the activity/exercise according to a plan, not according to how you feel

Caes et al. 2018; Kempert 2021

Example of a graded activity plan:

My Progressive Plan

Date	Plan	Outcome
09/21	Walking 3000 steps daily for 4-5 days	✓
	Walking 3300 steps daily for 4-5 days	
	Walking 3630 steps daily for 4-5 days	
	Walking 3993 steps daily for 4-5 days	

Physical Strategies – the Pain Toolkit

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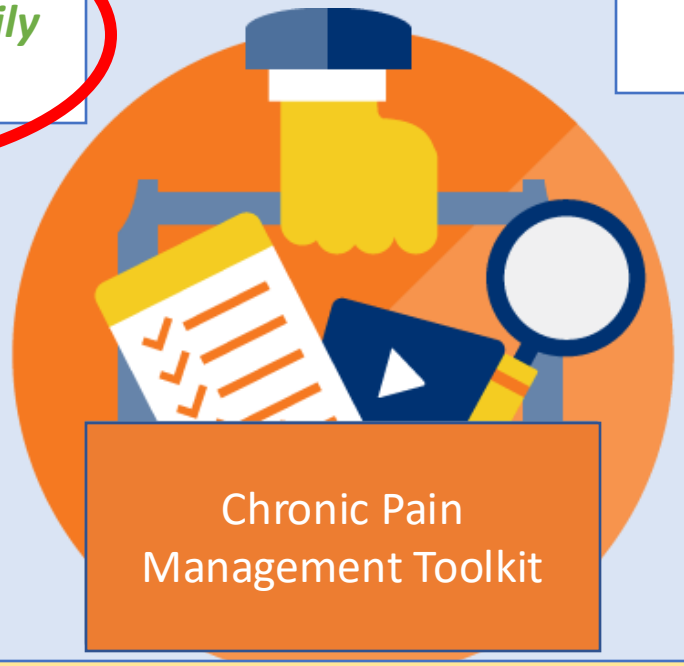
Activity pacing & daily routines

Return to school



Graded exercise

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Chronic Pain Management Toolkit

Pain Education

Activity Pacing and Daily Routines

- Pacing means that you slowly increase your levels of activity in a planned way, under your control
- Pacing helps you keep a regular amount of activity each day
- Daily routines starting from wake-up time to bedtime helps with normalization of day-time activities

Physical Strategies – the Pain Toolkit

Modalities – Ice, Heat, TENS

Activity pacing & daily routines

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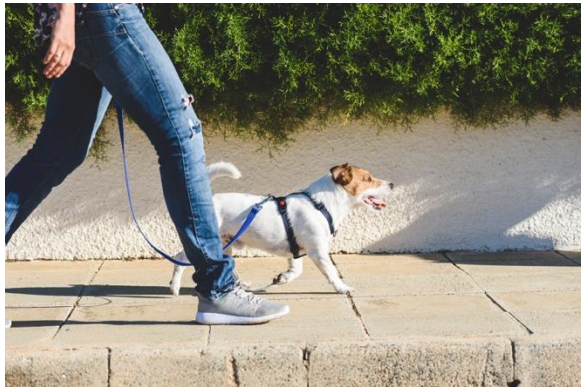
Passive Strategies

- Ice
- Heat
- Massage
- TENS



- Used in adjunct with active strategies to **facilitate a functional goal**:
  - use a hot-pack over muscles while taking a break during gym class
  - keep ice pack at school to use during breaks in quiet place
  - use TENS machine on back while sitting at desk studying

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Return to School

- Point person who the student can go to when support is needed, regular check-ins
- Ability to rest in a quiet place and use pain management strategies in their "toolkit"
- Ability to stand-up, reposition, take a walking break
- Ability to take breaks during gym class and continue to participate

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Desensitization

Description

- Rubbing a variety of textures on an area of skin that is sensitive to touch
- Goals of rx:
  - Normalize sensory input
  - Reduce fear of touch through graded exposure

= **TRAIN** the brain to interpret sensory stimuli as **normal** and **non-threatening**

Clinical Indications and Tips

- Allodynia and/or hyperalgesia
- Commonly used for neuropathic pain and CRPS
- Frequency: 30 minutes/day
- Textures: readily available household objects

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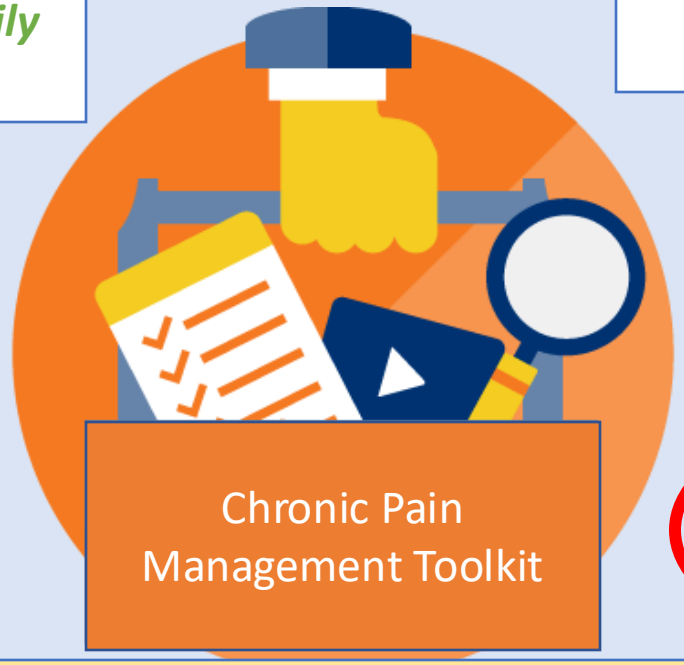

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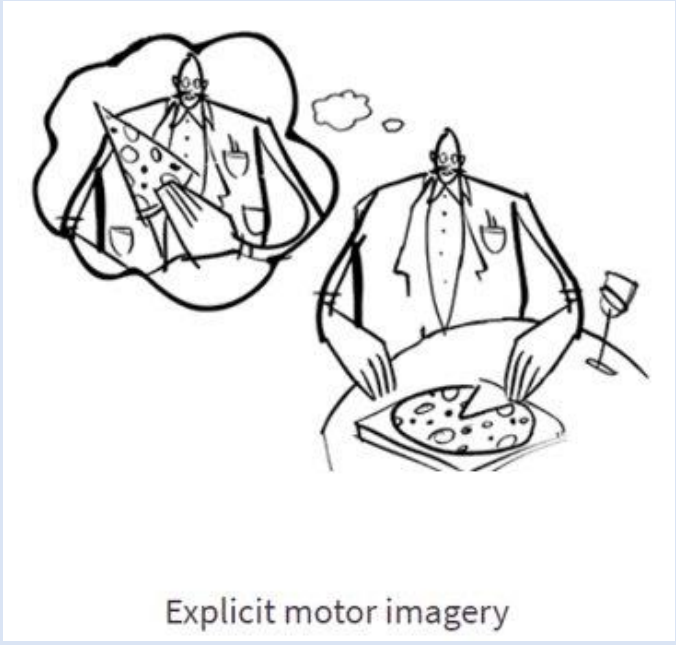
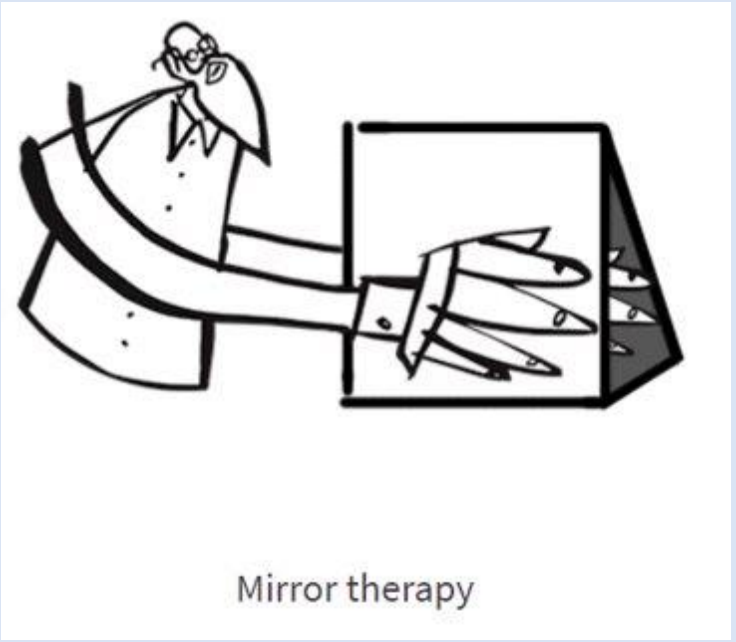
Pain Education

Graded Motor Imagery

Left/right discrimination



Explicit motor imagery



Mirror therapy

Moseley et al. 2006

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Reflection

How confident are you to explain, identify, and guide your patients with physical strategies to manage pain?

a) Not at all
b) Somewhat
c) Confident
d) Very confident

References

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Graded motor imagery: https://www.noigroup.com/graded-motor-imagery/

Thank You!