Chronic Pain and Exercise:
Let's Change the “E” Word to Fun Movement

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Objectives
• Discuss traditional versus alternative (non-pharmacological) assessments of chronic pain.
• Discuss traditional versus alternative (non-pharmacological) interventions for chronic pain.
• Compare and contrast assessment and interventions for pain in a variety of outpatient environments.

Why Are We Here?

The Problem of Pain

• Chronic pain is #1 cause of long-term disability
• 1.9 to 2.1 million Americans have “substance use disorder involving prescription pain relievers (PPR)”
• Over 47,000 lethal drug overdoses in America in 2014
  o Leading cause of accidental death
  o Almost 19,000 of those due to prescription pain relievers
• Within past 2 decades, sales of PPR and “substance use disorder treatment admissions” due to PPR increased at same rate (4 – 6 x)
• 259 million prescriptions written for opioids in 2012
  o “…enough to give every American adult their own bottle of pills”

The Problem of Pain

• Women are more likely than men:
  o To have chronic pain
  o To be prescribed PPR
  o To be given higher doses of PPR
  o To use PPR for longer periods of time
  o To potentially become dependent on PPR
• In one decade, 48,000 women died of PPR overdose; by 2010, an increase of > 400% 

PAINS Project - KC

• “Most people don’t understand how chronic pain impacts your life. People think you’re just whining that you’re not in that much pain. It’s a constant companion in your life, so you have no choice but to persevere.” – Mike
• “The courage and conviction of those who live with chronic pain places on our society a duty to care for them. As the IOM report stated, there is a ‘moral imperative’ to do so.” - Dr. Rosemary Flanigan, CSJ, philosopher and healthcare ethicist
Definitions of Pain

• “Pain is a more terrible lord of mankind than even death itself.”
  --Albert Schweitzer

• “Pain is whatever the experiencing person says it is, existing whenever the person says it does.”
  --McCaffery, 1999

• “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.”
  -IASP

We ALL Have Clients with Chronic Pain

• 1. Think of a client you have/have had in therapy that has chronic pain
• 2. Pair up with the person next to you.
• 3. Share that client’s case (without identifying factors, of course!)
  o Make sure to include any specifics that were pertinent to the case. Include anything that might have frustrated or challenged you with this particular case.

Chronic Pain: Effect on Function

• Literature review in 2011 of “this highly prevalent condition” demonstrates impact on:
  o Sleep
  o Cognitive processes
  o Mood
  o Mental health
  o Cardiovascular system
  o Sexual processes
  o Quality of life

• Recommendation:
  o Treatment similar to “other chronic disease states”
  o Use of “early and effective” multi-modal therapy
  o Goals:
    • Minimizing negative outcomes/sequelae
    • Restoration of function

The Difference Between Acute and Chronic Pain

• Acute pain tendencies:
  o Clear etiology (with sufficient investigation)
  o Single angle complaint
  o Observable signs
  o Any of the clinical pain syndromes
  o Tend to invoke “pain-relieving response” (Burns)
  o Self-limiting

• Chronic pain tendencies:
  o Unclear etiology
  o Multiple complaints
  o Symptoms out of proportion to signs
  o Often related to inflammatory pain but may be categorized as any of the clinical pain syndromes
  o No longer invokes a pain-relief response
  o Perpetuates indefinitely

“Chronic pain is NOT prolonged acute pain.”
  --Edward L Burns, MD, FACP
What is our profession doing about it? (aka the APTA)

Oh, that’s what the APTA is doing about it!

What are you doing about it?

APTA Resources

- #ChoosePT
- Moveforwardpt.com Resources
- APTA Podcast (Move Forward radio)

APTA Membership

- “Eat your vegetables!”
- https://www.youtube.com/watch?v=IhlFwpo3kD0

Role as a Matchmaker/Bridge
How would you describe your client’s relationship with EXERCISE?

• Estranged and painful?
• Long distance relationship?
• Stable and comforting?
• Inconsistent and sporadic?
• Nonexistent?

“Shake Hands and Make Up!”

Ab Workout Break

Pain Assessments

• Traditional: VAS
• Modified-Oswestry Scale
• Pain Catastrophization Scale
• FAB-Q
• IND-ash

Interventions for Pain

• Therapeutic Neuroscience Education (form of CBT)
• Relaxation
• Exercise/activity

Therapeutic Neuroscience Education (TNE)

• Utilizing education regarding the nervous system, its physiology and its response as a therapeutic intervention
• Using stories and metaphors to explain a complex neurological system
• Resources available to develop this skill for communication with patients
TNE as a Foundation

- Therapeutic Neuroscience Education provides a way to talk to patients with sensitive nervous systems.
- Words and the language we use can impact (either increase or decrease) the response of the nervous system.
- Being able to describe pain in a simple manner allows patients to move forward.

How does this work?

- Turning down the nervous system’s alarm works by the patient understanding the mechanism of pain.
- Utilizing relaxation techniques and strategies calms/turns down the nervous system.
- Endorphins, endorphins, endorphins!
- Oxygenate tissues; they like it!

Language Strategies

- Analogies/metaphors
- Tell stories and make them real
- Listen to the words the patient uses. Reflect back the positive ones, rephrase the negative ones.
- Ask the patient what is his/her biggest fear.

Relaxation

- Breathing – we all know this!
- Mindfulness
- Progressive relaxation
- Guided imagery
- Tai Chi

Exercise is Medicine!

Exercise is Medicine!
Benefits of Physical Activity

• Increased energy
• Improved sleep cycle
• Release of endorphins and enkephalins
• Decreased risk of injury
• Stress relief
• Improved cognitive function
• Improved physical function
• Improved emotional well-being
• Decreased risk of co-morbidities (HTN, ...

Recommendations for Exercise in Chronic Pain

• Heavier focus on aerobic activity
• Low to no impact
• Longer time, lower intensity
• Graded to patient tolerance
• Use of Borg Scale (Rate of Perceived Exertion) rather than heart rate
• Essential to include warm-up, cool-down, and flexibility/stretching
• Provide therapeutic rest periods
  o “rest days”
  o Intermittent exercise rather than single episode
• Enjoyment is key!

Types of Exercise

• Lower intensity exercise
• Aerobic exercise
• ADLs/functional movements
• Strength training
• Movement therapies (Tai Chi, yoga, Qigong)
• Flexibility
• Graded Motor Imagery

Lower Intensity Exercise

• Address muscle imbalance/movement disorders/motor control
• Slow gentle movement to address kinesiophobia/somatosensory cortex smudging
• Use of feedback (stabilizer, lasers) to enhance proprioception
• Balance between too little variability and too much variability
• Neck and shoulder best option for tension type headaches
• Reminder: people with chronic pain have difficulty with proprioception

Aerobic Exercise

• Utilize RPE as needed to achieve 50-60% max HR to improve symptoms
• Utilize RPE as needed to achieve 60-80% max HR to improve fitness
• Releases endorphins/oxygenates tissues
• Best option for migraine prophylaxis
• Self-paced exercise is tolerated better

ADL/Functional Movements

• May get better adherence
• Functional = sustainable
• Learning to space and pace normal activities as an exercise program
• Include hobbies and enjoyable activities, not just chores
• Focus on the patient’s goals!
• Must address self-efficacy and fear avoidance, but more sustainable to address integration into recreational activities rather than exercises in isolation.
Strength Training
• Start with area that is not painful
• “Low and slow” with low weights and few reps, then increase slowly (increase reps first)
• Generally work more for endurance than strength
• May tolerate strengthening if motivated and able to progress slowly
• Carryover will occur by moving and oxygenation of tissues.

Movement Therapies
• Tai Chi, yoga, Qigong
• Well-tolerated
• Decreases pain
• Improves function
• Improves balance
• Improves mobility
• Decreases depression and anxiety
• Increases flexibility
• May be financially limited to mid to upper socioeconomic

Flexibility
• Determine need for muscular stretching versus neurodynamics
• High percentage of hyper mobility (paired with decreased proprioception) in people with chronic pain
  o Ensure patients are not over-stretching
  o Be specific with stretches

Graded Motor Imagery
• Utilize in conjunction with exercise or prior to initiating
• Start by visualizing the movement (if it is too painful to perform)
  o Can begin visualizing someone else prior to yourself
• Use magazines, TV, printed pictures/cards
• Start with the least stressful, increase the difficulty as tolerated

Exercise Adherence
• Systematic Review: Interventions to improve adherence to exercise for chronic musculoskeletal pain in adults – Jan., 2010
  o Interventions such as supervised or individualised exercise therapy and self-management techniques may enhance exercise adherence. However, high-quality, randomised trials with long-term follow-up that explicitly address adherence to exercises and physical activity are needed. A standard validated measure of exercise adherence should be used consistently in future studies.
• LEAP article from PTJ
  o Crandall S, Howlett S, Keysor J
  o Exercise Adherence Interventions for Adults with Chronic Musculoskeletal Pain – Jan. 2013

Delivery of Care
• Individual approach (traditional therapy)
• Group approach
  o Leons Center
• Community Resources for transition of care
  o YMCA
  o Community Center
  o Arthritis Foundation
Dosage is Key

• Spacing and pacing activity
• Start where the person is
• Utilize patient goals to guide/plan the program and progression
• Motivation tools: Habitica app, Don’t Brake the Chain

The “E” Word

• Language matters.
• Connotation matters.
• Use “fun movement” instead of the “e” word, if needed.
• Question: How do you currently emphasize “fun movement” for your clients?

PRACTICE!

Sally, a 48 year-old female, underwent a R RCR 6 months ago. She is returning to your out-patient PT clinic today. This also happens to be her first day back at work (the place that she initially injured her shoulder). She walks into your clinic in/near tears, telling you that “If you touch me with a cotton ball, I will scream.” She reports 10/10 pain in her right shoulder and significant decreases in motion.

o What is your response? What do you do? How do you address her pain today?

Next Steps…

Sally is feeling better, but still would like to have a more realistic exercise plan, now that her shoulder is doing better. She reports enjoying fishing with her partner and is also an avid photographer. (She prints hundreds of photos at Walgreens when she has coupons!)

o How do you tailor an exercise program for Sally that keeps the FUN in functional?

PRACTICE!

Think…Pair….Share….

John is a 66 year-old male who had a right knee replacement yesterday. You are scheduled to see him for his initial PT evaluation today in your acute care setting. He reports his knee hurts too much to move it. From his chart review, it is obvious he has had right knee pain for years prior to this surgery. You suspect he may have had chronic pain prior to the surgery.

o How does this realization impact your approach to John? Is there anything you will do for sure? Not do at all?
• How will you work with your interprofessional team regarding John’s pain management while in the hospital?

PRACTICE!

Lori, a 72 year-old female, has undergone 3 hip replacements (2 of them revisions). She had her first hip replacement 15 years ago. She still remembers the PT being the person that did not listen to her when her hip was clicking. (That hip ended up requiring a revision.) Since that time, she has had pain in that hip (or other areas). She has fibromyalgia and previously had CRPS in her wrist. She would like to have less pain in her left hip (the side with the revisions), but is thinking of having a second opinion about having it revised again. (She will be going out of town for the second opinion – to Mayo.)

o How do you even start/navigate with this client?
• What interventions will you try/employ?
Your Next Steps on Monday…

- Write down 2-3 steps you would like to take on Monday.
- How will you incorporate exercise/physical activity with your clients?
- Will you have to think more about incorporating function with clients? Or does this already happen easily for you?
- How can you collaborate/communicate with other healthcare professionals/team members regarding a physical activity plan for clients?
- Let us know!
  - #choosept
  - #exerciseismedicine
  - #optin2exercise

Thank you for your attention!

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References/Resources


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Patient Resources

- Explain Pain
- Moveforwardpt.com
- Lorimer Moseley TEDx Talk