Incorporating Positive Psychology into Musculoskeletal Pain Management

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Mary Sue Ingman, PT, DSc, CHWC

Personal Disclosure
- Dr. Archer is an APTA board/committee member, Foundation for Physical Therapy board/committee member; PTJ editorial board member, and is a consultant for NeuroPoint Alliance, Pacira, and Palladian Health.
- Dr. Coronado has nothing to disclose.
- Dr. Ingman has nothing to disclose.

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Learning Objectives

• Understand the influence and interaction of negative and positive psychological factors on chronic musculoskeletal pain
• Differentiate psychological approaches used for promoting positive psychology
• Evaluate and be able to apply practical and evidence-based strategies for targeting positive psychology within orthopaedic physical therapy practice

Positive Psychological Factors in Musculoskeletal Pain

Rogelio A. Coronado, PT, PhD
Research Assistant Professor
Vanderbilt University Medical Center

Chronic Pain

• Chronic daily pain in U.S. affects > 40 million people
• ~26% (10.6 million people) report high-impact chronic pain
  - Headache/migraine, legs, low back, joints

Opioids

• Patients with chronic pain at-risk for prolonged opioid use
• Questionable utility of opioids for chronic pain when considering benefit-risk
Guideline 1: Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain.

Biopsychosocial Model

Psychological

Sociological

Health

Biological

“Fix What’s Wrong”

• Much like medicine and psychology, the historical focus of musculoskeletal PT has been on addressing the negative:
  – Symptoms
  – Distress
  – Dysfunction
  – Pathoanatomy
  – Disease/disorder
  – Trauma
Good Reasons for Negative Focus
• Most urgent or salient
• Directly relates to suffering/relief
• Has lead to advancement in disease management
• Required for clinical documentation and payment

Negative Psychological Factors
• Depression
• Anxiety
• Anger
• Negative affect
• Pain catastrophizing
• Fear of movement
• Activity avoidance

Psychological Screening
• Measures highlighted in Low Back Pain Clinical Practice Guidelines, include:
  – PHQ-2 (depression)
  – FABQ (fear-avoidance beliefs)
  – PCS (pain catastrophizing)
  – Orebro (psychological distress)
  – STarT Back (psychological distress)
Targeted Management Strategies

- Graded Exposure – fear of movement
- Pain Neuroscience Education – fear-avoidance, pain catastrophizing, negative affect
- Traditional Cognitive-Behavioral Strategies – maladaptive thoughts and beliefs

Why consider positive psychological factors?

Point # 1

Positive Affect
- Interested
- Excited
- Alert
- Ashamed
- Irritable
- Nervous

Negative Affect
- Distressed
- Upset
- Unhappy
- Smiling
- Satisfied
- Sad

Watson et al. 1988
Point # 1

Positive Affect
Negative Affect

Point # 2

43.5% - Asymptomatic
10.1% to 12.0% - Fibromyalgia

Point # 3

\[ y = \alpha + \beta x_i + \varepsilon_i \]

• Prediction of chronic musculoskeletal pain outcome or recovery by current models is modest
  – Pain duration, severity, trauma, prior episodes or surgery, additional pain sites, depression, anxiety, smoking, worker’s compensation
Final Point

- Psychological-based approaches largely focused on addressing negative factors have modest effect sizes and are not beneficial for everyone

Hofmann et al. 2012; Morley et al. 2013

A New Science of Human Strengths

- 1998 APA President’s Address by Martin Seligman, PhD

Seligman, American Psychologist. 1999

“Build What’s Strong”

- Positive psychology is devoted to the study of positive individual attributes and strengths, well-being, and optimal functioning

- Shift from disease prevention → health promotion

- Shift from pathology/dysfunction → optimal functioning

Duckworth, Steen, and Seligman et al. 2006; Kobau et al. 2011

Fredrickson 2013
Positive Psychology and Pain

- Positive psychological factors can be a protective resource for patients with musculoskeletal pain.
Positive Psychological Factors
- Self-efficacy
- Positive affect
- Optimism
- Resilience

Self-Efficacy
- Expectations that one can execute a behavior required to produce an outcome
- Confidence and belief in one's capabilities

Pain Self-Efficacy Questionnaire
- PSEQ is a 10-item measure
- Sum of 10 items
- Higher scores reflect greater self-efficacy

Self-Efficacy and Musculoskeletal Pain

<table>
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<tr>
<th>Risk Factor</th>
<th>Pain Intensity</th>
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<td>Age in yrs</td>
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<td>Male vs. Female</td>
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<td>&gt;High School education vs. ≤ High School</td>
<td>(0.81; 0.57-1.14)</td>
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<td>Pain intensity in hospital discharge</td>
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<td>Cognitive-behavioral strategies</td>
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<td>3.69 (1.80-7.59)</td>
<td>11.90 (4.60-32.71)</td>
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<td>Physical activity</td>
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<td>Use of pain management techniques</td>
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* p < 0.05

Nicholas 2007
**Self-Efficacy and Musculoskeletal Pain**

Foster et al. 2010

<table>
<thead>
<tr>
<th>Estimate coefficient (95% CI)</th>
<th>Standardized coefficient (SES)</th>
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<td>0.12</td>
<td>0.10</td>
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**Positive Affect**

- Positive feelings or attitude
- Can be a state and trait characteristic
- Linked to positive social interactions and behaviors

**Positive and Negative Affect Schedule**

- PANAS is a 20-item measure
- Positive affect = sum of 10 positive items
- Higher scores reflect greater positive affect
Results suggest that positive affect and depression are important variables to target when seeking to improve postoperative outcomes in a spine surgery population. Recommendations include screening for positive affect and depression, and treating depression as well as focusing on rehabilitation strategies to bolster positive affect."

Optimism

- Generalized expectation of a good outcome
- Optimists are likely to engage in approach (vs. avoidance) oriented coping
**Life Orientation Test - Revised**

- LOT-R is a 10-item measure
- Sum of items 1, 3*, 4, 7*, 9*, 10* reverse code
- Higher scores reflect higher optimism

*Scheier et al. 1994*

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**Optimism and Musculoskeletal Pain**

- Participants with high optimism: no relationship between baseline pain catastrophizing and 3-month shoulder function
- Participants with low optimism: baseline pain catastrophizing influences 3-month shoulder function

*Coronado et al. 2017*

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**Optimism and Musculoskeletal Pain**

- Baseline Pain Catastrophizing
- Shoulder Function and Pain
- Fear-Avoidance

*Coronado et al. 2017*
Resilience

- Ability to bounce back from negative event
- "Flourishing in the face of adversity"
- Resilient individuals handle adversity through up-regulation of positive emotions

Resilience Measures

- Connor-Davidson Resilience Scale
- Resilience Scale for Adults
- Brief Resilience Scale
- Pain Resilience Scale

Brief Resilience Scale

- BRS is a 6-item measure
- Average of 6 items
  *reverse code 2, 4, and 6
- Higher scores reflect greater resilience

Resilience and Musculoskeletal Pain

Aim: Examine psychological correlates of widespread pain sensitivity

Coronado and George, 2018
Resilience and Musculoskeletal Pain

Higher levels of resilience and self-efficacy were associated with higher physical function and lower disability and pain at 12 months.

Higher resilience was associated with greater physical activity at 12 months.

Take Home Message #1
• Positive factors like self-efficacy, positive affect, optimism, and resilience are important determinants of musculoskeletal pain outcomes.

Next Steps
• Multidimensional screening tools that examine both positive and negative psychological factors for estimating prognosis or guiding treatment.
Take Home Message #2

- Interventions aimed at boosting positive psychological attributes may be beneficial within a comprehensive and/or personalized pain management approach
Health Coaching in Physical Therapy
Practice using Motivational Interviewing Skills
Mary Sue Ingman PT, DSc, CHWC
Associate Professor
St. Catherine University

Health and Wellness Coaching
• "Health and Wellness Coaches partner with clients seeking self-directed, lasting changes, aligned with their values, which promote health and wellness and, thereby, enhance well-being.
• In the course of their work health and wellness coaches display unconditional positive regard for their clients and a belief in their capacity for change, and honoring that each client is an expert on his or her life, while ensuring that all interactions are respectful and non-judgmental" International Consortium for Health and Wellness Coaching

PT/PTA’s Role in Health Coaching
• “Physical therapists can effectively counsel patients with respect to lifestyle behavior change, at least in the short term. They can be effective health counselors individually or within an interprofessional team” Frerichs et al A systematic review and implications. Physiother Theory Pract. 2012
• Integrate into clinical practice
  – PTs coaching pts with RA to increase physical activity Nessen et al PTJ 2014
  – Integrated into practice with veterans Collins et al Global Advances in Health and Medicine 2018
  – Lots of examples cited in PT in Motion April 2012
  – Others cited in this presentation
• Post discharge – Wellness model; private pay
• Employer offering – There is a need for smaller employers

Expert vs Coach Approach Frates et al 2011

<table>
<thead>
<tr>
<th>EXPERT APPROACH</th>
<th>COACH APPROACH</th>
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<tbody>
<tr>
<td>Treats patients</td>
<td>Helps patients help themselves</td>
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<tr>
<td>Educates</td>
<td>Builds motivation, confidence, and engagement</td>
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<tr>
<td>Relies on skills and knowledge of expert</td>
<td>Relies on patient self-awareness and insights</td>
</tr>
<tr>
<td>Strives to have all the answers</td>
<td>Strives to help patients find their own answers</td>
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<tr>
<td>Focuses on the problem</td>
<td>Focuses on what is working well</td>
</tr>
<tr>
<td>Advises</td>
<td>Collaborates</td>
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A PT with a Coaching mindset and “way of being”
• Adding communication tools
• To enhance your therapeutic dialogue with your patients

Coaching is Grounded in Behavioral Change Theories and Communication Techniques ie MI
• Self-Determination Theory (SDT): three psychological needs should be met to build self-determination
  – autonomy, competence, relatedness
  – These are the end goals of a coaching approach
• Social Cognitive Theory (SCT): human behavior is determined by three factors
  – Self Efficacy

Coaching is Grounded in Behavioral Change Theories and Communication Techniques ie MI
• Transtheoretical model of change (TTM): five stages of change
  – precontemplation, contemplation, preparation, action, maintenance
• Appreciative Inquiry (AI): approach for motivating change; focuses on exploring and amplifying the best in a person or situation

Appreciative Inquiry (AI)
• Focuses on exploring and amplifying the best in a person or situation
• Do not focus on weaknesses, barriers, problems to fix
• Clients encouraged to acknowledge strengths and imagine possibilities
• Fosters positive change talk
**Motivational Interviewing/Conversation**

**The What**

- A **Guiding** style of assisting a person in changing a behavior vs a **Directive** style
- Purpose is to activate one’s own motivation for and commitment to change
- A model for discovering motivation and building self-efficacy

**Motivational Interviewing**

Rollnick and Miller (2008)

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**Expert and Coach**

<table>
<thead>
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<th>EXPERT</th>
<th>COACH</th>
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<tr>
<td>Direct</td>
<td>Guide</td>
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<tr>
<td>Prescribe</td>
<td>Empower</td>
</tr>
<tr>
<td>Educate</td>
<td>Listen for their wisdom and reflect it back to them</td>
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</tbody>
</table>
Motivational Interviewing/Conversation
The What

• Listen for and support “Change Talk” vs “Resistance Talk”

Motivational Interviewing/Conversation
The How

• Open ended question
• Affirmations
• Reflective Listening
• Summary statements

Open Ended Questions

• Evokes motivation
• MI principles suggest using at least 50% of time – Who, What, How, When, Where, Why (with caution)
• Examples
  − What was the best experience with your HEP this week?
  − What will your life be like in 1 year if you make this change?
  − What previous successes have you had in making a difficult change?

Affirm

• A statement that recognizes and acknowledges the good
• It can help to build and maintain rapport
• Examples
  − “You clearly have the determination”
  − “Your intentions were good even though you had set backs in reaching your goal”
Reflective Listening

• Your best guess at what the person is saying
• It allows you to state your interpretation of what they said and to get confirmation in order to avoid assumptions
• State as a statement vs a question
• Ask yourself if you are listening or waiting to talk
• WAIT – Why Am I Talking

Summarize

• Pull together what you have heard so far
• Do it often

Motivational Interviewing/Conversation

The How

• On a scale of 0-10; with 0 as not at all important and 10 as extremely important, how important would you say it is for you to ______?"
• "Why are you at a ______ and not a 0?"
• "On a scale of 0-10; where 0 is not at all confident and 10 is certain, how confident are you that you could ______ if you decided?"
• "Why are you at a ______ and not a 0?"

Instead of doing this | Try this
---|---
Explaining 'WHY' pt. should change | Listen with goal of understanding the dilemma. GIVE NO ADVICE until asked
Describing specific benefits of changing | Ask: What might be the benefits to you of changing?
Telling them HOW to change | Ask: How might you do this so it fits into your life?
Emphasizing how important it is to change | Ask: How would your life be different if you changed?
Telling or inspiring pt. to change | Ask: How can this change help you realize your values?
### Instead of asking | Try this
---|---
Do you like to exercise? | What do you enjoy most about exercise?
When did you exercise last? | What is the best experience that you have had with exercise in the past week?
Do you think your health is at risk if you don’t lose weight? | What will your life look like in 5 years if you don’t lose weight?
Are you getting enough sleep? | How would your life be different if you were to get 8 hours of sleep every night?
Do you want to quit smoking? | What are the good things about smoking? What are the not so good things about smoking?

What are the most important ingredients in ANY conversation about changing or adhering to something?

- Empathy
- Genuine curiosity
- Listen for and support Change Talk
- Roll with resistance
- Respect patient’s autonomy

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Psychosocial Strategies for Promoting Positive Psychology in the Clinic

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Associate Professor and Vice Chair of Research  
Vanderbilt University Medical Center
**Learning Objectives**

- Evaluate and be able to apply practical and evidence-based strategies for targeting positive psychology within orthopaedic physical therapy practice

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**Mindfulness**

- Bring one’s attention to moment-to-moment experiences – promote well-being  
  – *Present-mindedness*
- Acceptance without judgement  
  – Thoughts and feelings

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**Mindfulness Meditation: Overview**

Mindfulness practices differ, most include 3 tenets:

- Observing the present moment by attending to the objective qualities
- Maintaining one’s attention to a single focus (breath, feeling, movement) without judgment
- Remaining open to what arises in that moment
Mindfulness Meditation Strategies

- Mindful breathing
- Visualization
- Body scan
- Intention for the day
- Mindful exercise/activities

Mindful Breathing (start 5 minutes)
- Attention on breath
  - Count with breath
- Accept thoughts and feelings
  - Thoughts wander – bring yourself back to breathing

Practice: Now close your eyes if you are comfortable doing so. Take a deep breath in through your nose slowly for a count of three and bring air down to your waist as your hands rise. 1...2...3... Then exhale from your mouth, with a sign of relief, and feel your hands fall. 1...2...3...4... Notice if your

Mindfulness Meditation Strategies

- Mindful Breathing

Concentration phase
Stage 1: Breath counting (week 1)
Sitting on a chair or on the floor, in a quiet room with a straight back, arms relaxed on the laps and eyes and mouth closed, breath normally as you tune in to the nose and then count "one" on the in-breath. When the “one” is reached return to your thoughts. If at any point during this practice period, the concentration of counting is lost due to a distracting thought or feeling return to "one" and start again.

Stage 2: Breath counting (week 2)
Sitting in the same posture in the same environment focus attention on breath and addition of counting notice which control it entering and the sensation the breath cause at the area inside the mouth, e.g., warm, cool,: air, amusing, painful, or even nothing at all. If a thought or feeling distracts this attention gently focus the attention back to the breath.

Mindful Breathing

Stage 3: 2-minute sensation concentration/awareness (week 3)
In the same posture and the same environment, focus attention to the area just below the tip of the nose and become aware of the sensation here along with any sensation brought about by the flow of the breath. If a thought or feeling distracts this attention/awareness gently focus the attention/awareness back to the sensation.

Awareness phase
Stage 4: 10-minute sensation concentration/awareness (week 4)
In the same posture and the same environment, take the awareness to one cheek, then the other cheek, then the chin, then the neck and so on, point by point, until all of the body has been covered. If a thought or feeling distracts from this awareness then gently allow the awareness to come back to the sensation patch that was last reached.

Mindfulness Meditation Strategies

- Visualization
  - Imagine a scene and “step into” that feeling/experience (sounds, movement, scent in air)
    - Relax and breathe
    - Close your eyes and create a vivid image
    - Maintain a positive attitude
    - Have realistic expectations
    - Use all senses to make image as real as possible
Mindfulness Meditation Strategies

• Body Scan
  – Bring attention to parts of body and sensations
  • Beginning at toes, any tension in your feet
  • Move on to your calves and legs
  • Pay attention to how they feel, where they are resting
  • Move on to your abdomen, lower back, and your shoulders
  • Pay attention to how they feel, where they are resting
  • Ask yourself if you can gently relax or soften them

• Word or Phrase for the Day
  A good way to be present-minded is to set an intention every day.
  Wake up, and before you get out of bed, take one deep, controlled breath. Then spend a few moments to set your intention for the day. Let yourself see and feel your intention. Write down your intention, put in your phone or add to your digital calendar.

  Today, I am all about:
  • Breathing
  • Be kind to myself
  • Spending time with family

Mindfulness Meditation Strategies

1. One Bite at a Time
   The Goal: To experience one moment at a time and become aware of impatience
   The Exercise: After you take a bite of food, put the spoon or fork back down in the bowl or on the plate. Place your awareness in your mouth until that one bite has been enjoyed and swallowed. Only then pick up the utensil and take another bite.

2. Home Exercise Program
   The Goal: To be present and aware of your body during each exercise
   The Exercise: Pay attention to each exercise movement, the feeling of your body and the sound of each repetition.

Cognitive-Behavioral Strategies

• Behavioral
  – Graded activity hierarchy
  – Goal setting
  – Scheduling pleasurable activities

• Cognitive
  – Positive/productive self-talk
**Graded Activity Hierarchy**

**Goal Setting**
- Specific, measurable, realistic
- Confidence scale
  - Patient needs to feel confident (0-10 scale)
    - How confident are you…on a scale from 0 to 10
      - 0 is not confident at all
      - 10 is completely confident
    - If below 8 – set a new goal or revise goal

**Goal Setting**
- Verbal commitment from the patient
- Written commitment from the patient

- Confident and committed patient is more likely to accomplish their goals
- When reach goals – provide affirmation (MI)
- Problem Solving
  - Potential obstacles to completing goal
  - Potential solutions to overcome obstacles
Scheduling Pleasurable Activities

- List some activities that you like and enjoy doing
  - (walk, shopping, reading, movie)
- Which ones are you able to do now?
- Create a schedule for the next week (day/time)
- Track activities

<table>
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<th>Pleasant Things</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>1. Gardening</td>
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<td>8. Cropping Photos</td>
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<td>9. Shopping</td>
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<td>10. Listening to music</td>
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Productive Self-Talk

The most important coach during the recovery process is you. You speak to yourself more often than any other person. You coach yourself all day long. The way you speak to yourself either helps your recovery or, if overly critical, can chip away at your ability to feel confident about your recovery.

How am I going to remind myself to use more productive self-talk?

- Take a screenshot and put on phone
- Post a sheet or sticky note in visible place

Motivational Interviewing

- Delivery of mindfulness and cognitive/behavioral skills
  - Open-ended questions
  - Affirmations
  - Reflections
  - Summary
- Not changing clinical style, but sharpening communication “tools”

Fixing one, two, or even three tires on car with four flat tires will not get you anywhere.
Thank you!