

Psychologically Informed Physical Therapy: Improving Psychosocial Risk Factors

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Overview

- Psychologically informed physical therapy (PIPT)
- Evidence on integrating PIPT into practice
- Specific cognitive-behavioral skills
 - Strategies to address psychosocial risk factors
 - Guided Imagery
 - Deep Breathing
 - Present-Mindedness
 - Cognitive Restructuring (Monitor Self-Talk)
 - Graded Activity Hierarchy
 - Goal Setting
 - Education – set realistic expectations

Psychologically Informed Practice

Physical Therapy
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Psychologically Informed Practice for Management of Low Back Pain: Future Directions in Practice and Research

Chris J. Main and Steven Z. George
PHYS THER. 2011; 91:820-824.

Consideration of Physical Factors

Standard Practice

Core Philosophy:
Address physical impairments based on biomedical concepts

Primary Goal:
Reduce symptoms

Psychologically Informed Practice

Core Philosophy:
Incorporate patient beliefs, attitudes, and emotional responses into patient management based on biopsychosocial models

Primary Goal:
Secondary prevention of disability

Mental Health Practice

Core Philosophy:
Identify and treat mental illness

Primary Goal:
Minimize the impact of psychological disorder on well-being and function

Consideration of Psychological Factors

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SPECIAL ISSUE

WILEY

Journal of Applied Rehabilitation Research
An International Journal of Research and Practice

Assessing psychosocial profile in the physical therapy setting

Joshua J. Van Wyngaarden¹ | Brian Noehren¹ | Kristin R. Archer²

Current Physical Medicine and Rehabilitation Reports
<https://doi.org/10.1007/s40141-018-0169-x>

MUSCULOSKELETAL REHABILITATION (J. FRIEDLY, SECTION EDITOR)

The Role of Psychologically Informed Physical Therapy for Musculoskeletal Pain

Kristin R. Archer¹ · Rogelio A. Coronado² · Stephen T. Wegener³

Psychologically Informed Practice

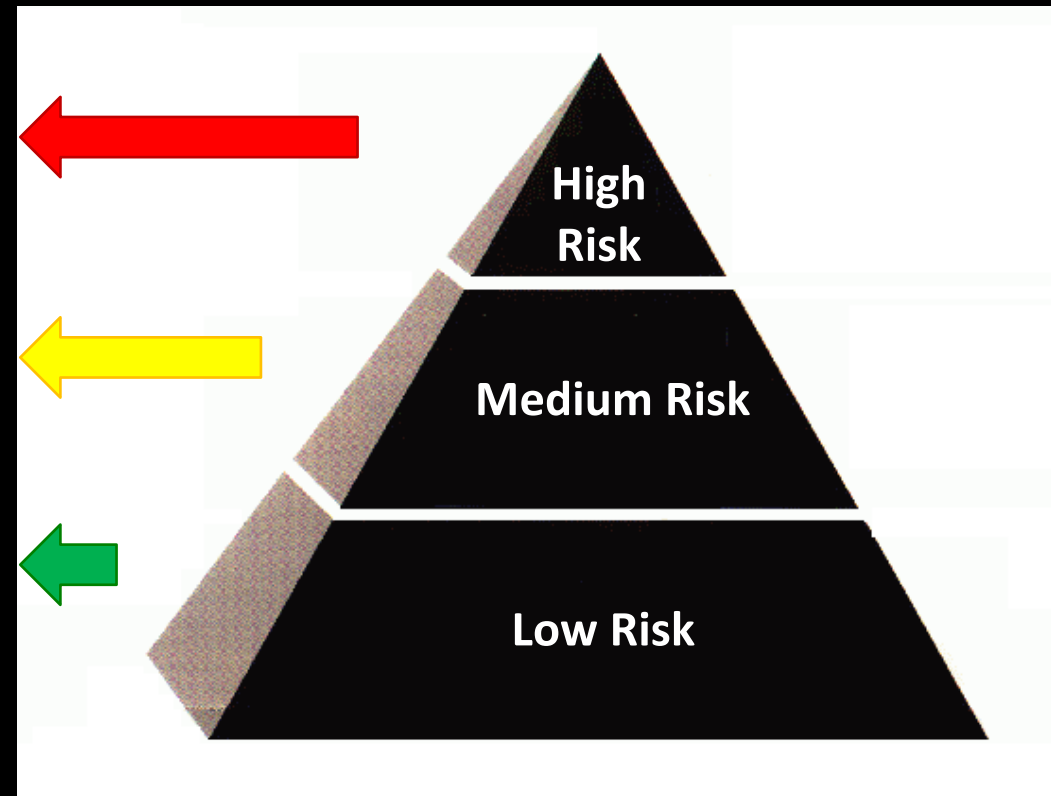
Identify patients at high-risk

Use targeted strategies

Psychosocial Barriers to Recovery
Psychologically-Informed Therapy

Physical Barriers to Recovery
Physical Therapy, Medication

Minimal Barriers to Recovery
Advice and Reassurance



Cognitive-Behavioral Therapy (CBT)

- Psychologist
- Cognitive and behavioral strategies

Thoughts → **Feelings** → **Behavior**

- Incremental steps towards behavior change

Physical Therapist–Delivered Pain Coping Skills Training and Exercise for Knee Osteoarthritis: Randomized Controlled Trial

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Objective. To investigate whether a 12-week physical therapist–delivered combined pain coping skills training (PCST) and exercise (PCST/exercise) is more efficacious and cost effective than either treatment alone for knee osteoarthritis (OA).

Methods. This was an assessor-blinded, 3-arm randomized controlled trial in 222 people (73 PCST/exercise, 75 exercise, and 74 PCST) ages ≥ 50 years with knee OA. All participants received 10 treatments over 12 weeks plus a home program. PCST covered pain education and training in cognitive and behavioral pain coping skills, exercise comprised strengthening exercises, and PCST/exercise integrated both. Primary outcomes were self-reported average knee pain (visual analog scale, range 0–100 mm) and physical function (Western Ontario and McMaster Universities Osteoarthritis Index, range 0–68) at week 12. Secondary outcomes included other pain measures, global change, physical performance, psychological health, physical activity, quality of life, and cost effectiveness. Analyses were by intent-to-treat methodology with multiple imputation for missing data.

Results. A total of 201 participants (91%), 181 participants (82%), and 186 participants (84%) completed week 12, 32, and 52 measurements, respectively. At week 12, there were no significant between-group differences for reductions in pain comparing PCST/exercise versus exercise (mean difference 5.8 mm [95% confidence interval (95% CI) –1.4, 13.0]) and PCST/exercise versus PCST (6.7 mm [95% CI –0.6, 14.1]). Significantly greater improvements in function were found for PCST/exercise versus exercise (3.7 units [95% CI 0.4, 7.0]) and PCST/exercise versus PCST (7.9 units [95% CI 4.7, 11.2]). These differences persisted at weeks 32 (both) and 52 (PCST). Benefits favoring PCST/exercise were seen on several secondary outcomes. Cost effectiveness of PCST/exercise was not demonstrated.

Conclusion. This model of care could improve access to psychological treatment and augment patient outcomes from exercise in knee OA, although it did not appear to be cost effective.

Cognitive-Behavioral–Based Physical Therapy for Patients With Chronic Pain Undergoing Lumbar Spine Surgery: A Randomized Controlled Trial

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Table 3. Primary Outcome Scores and Change from Pretreatment to Posttreatment and 3-Month Follow-Up by Group

VARIABLE	CBPT MEAN (SD)	EDUCATION MEAN (SD)	MEAN CHANGE FROM PRETREATMENT		BETWEEN-GROUP DIFFERENCE	
			CBPT	EDUCATION	CBPT VS EDUCATION	P VALUE
BPI: back pain						
Pretreatment	3.0 (2.2)	2.8 (2.0)				
Posttreatment	2.9 (2.6)	2.5 (2.0)	-.08 (-.65 to .49)	-.3 (-.68 to .08)	.22 (-.46 to .9)	.52
3 mo	1.9 (2.0)	2.5 (2.4)	-1.1 (-1.5 to -.74)	-.26 (-.76 to .23)	-.88 (-1.5 to -.25)	.007
BPI: leg pain						
Pretreatment	2.5 (2.6)	2.2 (2.1)				
Posttreatment	2.1 (2.2)	2.3 (2.2)	-.48 (-.91 to -.06)	.05 (-.34 to .44)	-.53 (-1.1 to .04)	.07
3 mo	1.3 (2.1)	2.1 (2.6)	-1.3 (-1.9 to -.72)	-.1 (-.75 to .55)	-1.2 (-2.1 to -.34)	.007
BPI: interference						
Pretreatment	3.8 (3.0)	3.1 (2.6)				
Posttreatment	3.2 (3.2)	2.8 (2.9)	-.65 (-1.16 to -.14)	-.3 (-.84 to .24)	-.35 (-1.1 to .38)	.34
3 mo	2.1 (2.5)	2.8 (2.8)	-1.7 (-2.4 to -1.1)	-.26 (-.89 to .38)	-1.5 (-2.4 to -.57)	.002
ODI score						
Pretreatment	38.8 (17.3)	34.0 (16.7)				
Posttreatment	28.6 (17.6)	27.9 (19.4)	-9.8 (-12.1 to -7.5)	-6.1 (-10.5 to -1.7)	-3.7 (-8.6 to 1.2)	.14
3 mo	21.1 (16.7)	26.5 (20.5)	-17.3 (-20.3 to -14.4)	-7.5 (-12.1 to -2.9)	-9.8 (-15.3 to -4.4)	<.001

REVIEW ARTICLE

Physiotherapist-delivered cognitive-behavioural interventions are effective for low back pain, but can they be replicated in clinical practice? A systematic review

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ABSTRACT

Purpose: To determine if physiotherapist-led cognitive-behavioural (CB) interventions are effective for low back pain (LBP) and described sufficiently for replication.

Method: Randomised controlled trials (RCTs) of patients with LBP treated by physiotherapists using a CB intervention were included. Outcomes of disability, pain, and quality of life were assessed using the GRADE approach. Intervention reporting was assessed using the Template for Intervention Description and Replication.

Results: Of 1898 titles, 5 RCTs ($n = 1390$) were identified. Compared to education and/or exercise interventions, we found high-quality evidence that CB had a greater effect (SMD; 95% CI) on reducing disability (-0.19 ; -0.32 , -0.07), pain (-0.21 ; -0.33 , -0.09); and moderate-quality evidence of little difference in quality of life (-0.06 ; -0.18 to 0.07). Sufficient information was provided on dose, setting, and provider; but not content and procedural information. Studies tended to report the type of CB component used (e.g., challenging unhelpful thoughts) with little detail on how it was operationalised. Moreover, access to treatment manuals, patient materials and provider training was lacking.

Conclusions: With additional training, physiotherapists can deliver effective CB interventions. However, without training or resources, successful translation and implementation remains unlikely. Researchers should improve reporting of procedural information, provide relevant materials, and offer accessible provider training.

Sports Rehabilitation

- Video Coping Modeling
(Maddison and Clatworthy 2006; N=72)
- Guided Imagery
(rehab exercises, healing, motivation)
 - 10 sessions after ACLR
(Cupal and Brewer 2001; N=30)
 - 9 sessions after ACLR
(Maddison et al. 2012; N=21)

Table 1 Description of imagery intervention

Time period	Description of session goals
Post-operative week 1 Session 1	Visualize: Restful place, mobilization of body to heal Trauma subsiding Tightness of joint as normal and protective Back of kneecap well lubricated Contraction of quadriceps ACL extending and flexing
Post-operative weeks 2–5 Sessions 2, 3, 4	Visualize: Interior of joint returning to normal, all tissue healing and intact Strength returning ACL extending and flexing like a large resilient cable Gently stretching scar tissue, scar tissue releasing, knee range of motion increasing Successfully dealing with feelings of discouragement and helplessness Performing at peak in 3 months' time
Post-operative weeks 6–9 Sessions 5, 6	Visualize: Entire knee joint as intact and solid ACL extending and flexing through entire range of motion Quadriceps strength increasing Circular motion of cycling strengthening and aligning all components of the knee
Post-operative weeks 10–11 Session 7	Visualize: All soft tissue healed Returning to and surpassing previous strength ACL healed all the way through Knee joint feeling normal but sensitive to torque
Post-operative weeks 12–24 Sessions 8, 9	Visualize: Total confidence in integrity of ACL Alleviating re-injury anxiety Strength and endurance of repaired joint Improved proprioception in repaired joint

Psychologically Informed Strategies

- Guided Imagery
- Deep Breathing
- Present-Mindedness
- Cognitive Restructuring (Monitor Self-Talk)
- Graded Activity Hierarchy
- Goal Setting
- Education – set realistic expectations

Guided Imagery

- Visualization or mental rehearsal
- Relaxation or to ‘intend’ an outcome of an event or situation
 - Image a scene and “step into” that feeling/experience
- Mentally practicing a skill over and over again can enhance sports performance

Guided Imagery

- How to use:
 - 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

Now focus your attention on your hurt knee ... Notice what it feels like ... See what it looks like, the swelling, bruising ... Concentrate on reducing the swelling ... Imagine a leak in your knee and see some of the fluid drain out ... Concentrate on the swelling going down ... See your knee returning to its normal size ... Concentrate on the swelling going down ... As your swelling reduces, notice your knee feeling more normal

Deep Breathing



- Practice 1-2x/day, 3-5 minutes
 - Breathe in through nose (count of 3)
 - Exhale from mouth (count 4)
 - Practice during times of low pain or fear/anxiety
 - Use later to decrease pain and fear/anxiety

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 sigh of relief, and feel your hands fall. 1.....2.....3.....4.....Notice if your

Present-Mindedness

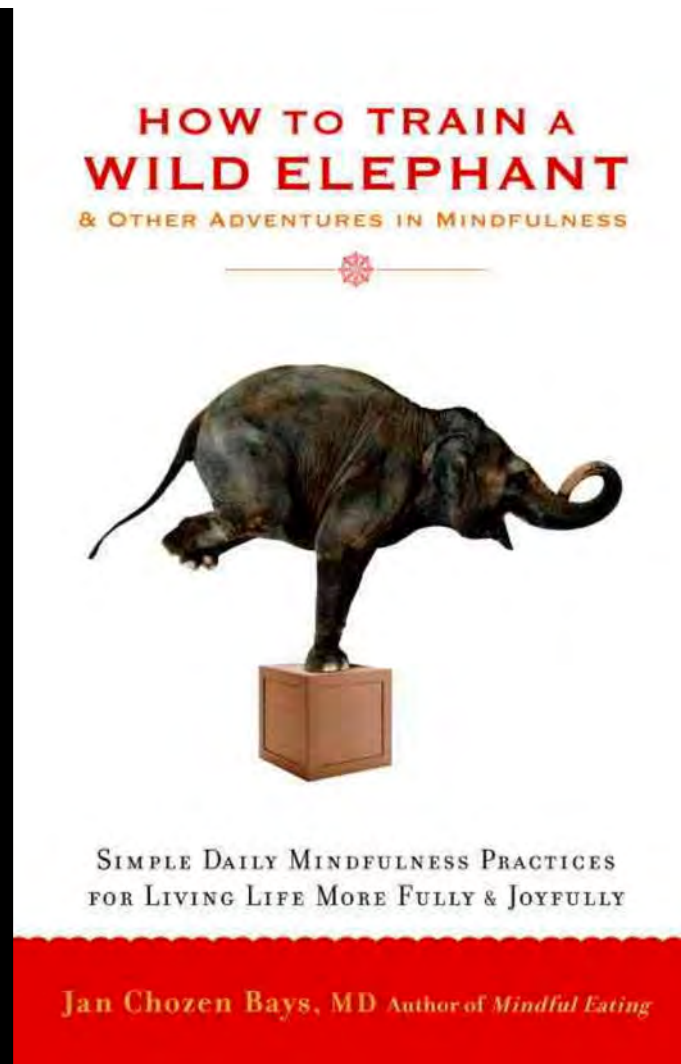
- Deliberately focusing your attention in the present
- Helpful way to decrease stress and stay focused on recovery

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:

-



1. Use Your Nondominant Hand

The Goal: To be present and aware during activities you do every day.

The Exercise: Use your nondominant hand for an ordinary task today. Try brushing your teeth, combing your hair, or eating with your nondominant hand.



Monitor Self-Talk

- **Negative Self-Talk**

- “I will never play again”
- “This pain will never go away”
- “I won’t be able to do things I used to do”
- “I should be back to normal”
- “I’m overwhelmed”

- **Productive Self-Talk**

- “I know I’ll be back on the field again”
- “This is just a setback”
- “I can tolerate this”
- “I’ll focus on relaxing and staying calm”
- “This is upsetting, but I know how to deal with it”



Monitor Self-Talk

My Negative Self-Talk	Is That Right?	More Productive Self-Talk

At first, you will have to make an effort to remind yourself to repeat these more positive thoughts to yourself on a daily basis. After a while you will find that you may think them automatically.

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

Monitor Self-Talk

An ACL injury and the recovery process can disrupt an athlete's schedule, routine and lifestyle. People will have a wide range of reactions to this disruption. Some people will pretend everything will be fine. Others will be angry or depressed. Still others might come to accept the injury and find other ways to find fulfillment.

1. What role has athletics played in your life?
2. What reactions have you had to not being able to practice and play?
3. *How can you still be a part of the team and stay connected to sports?*
4. *What other activities or interests can you explore outside of your sport to provide a sense of fulfillment and enjoyment?*

Graded Activity Hierarchy

Activity	Difficulty Scale 0-10
Playing specific sport Running Road bike	10
Exercise Routine	8
Climbing stairs Carrying a backpack of books Walking to class Making bed	5
Walking around the house/dorm Driving a car Swimming	4
Showering Getting out of bed Getting up from chair	2
Brushing teeth	0



Goal Setting

- Shared 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

Week	Activity	Goal	Confidence Level (0-10)



Goal Setting

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

Expectations

Looking forward: What are your expectations following surgery?

-
-
-

Looking Forward: What do you hope to get out of this recovery program?

-
-
-

Expectations

Looking Back: What benefits from the program have you noticed over the last couple weeks?

- 1.
- 2.
- 3.
- 4.

Looking Forward: What benefits do you still hope to get out of the program?

- 1.
- 2.
- 3.
- 4.



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



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