

Aligning the Brain and Body: How to Get Moving!

Brittany Rosenbloom, PhD, CPsych; TAPMI Women's College Hospital

Samantha Joubert, MScPT, PT; TAPMI Women's College Hospital



Toronto Academic **Pain** Medicine Institute

Institut Universitaire de Médecine
de la **Douleur** de Toronto

Conflicts of Interest

- Nothing to disclose



Learning Objectives

1. Articulate the connection between anxiety, mood, and movement.
2. Devise fear and movement hierarchies based on activity baselines and progressions.



Patient A "Sarah"

- 42-year-old woman
- Married (heterosexual), 2 adolescents (17 and 19 years)
- 2019 MRI: Herniated disc (L5-S1); Moderate osteoarthritis at L4-L5 with annular tear. No surgery; no red flags
- History of "anxiety and depression"
- Slowly started staying in bed longer and longer to "reset" back; now been in bed for ~5 years
- Does not want pharmacological intervention, but occasionally uses acetaminophen
- Has tried massage and acupuncture with no positive lasting effects
- Ready to "get her life back"



Sarah

- GOAL: Sit up and eat nachos at a restaurant with her spouse
- Psychological requirements:
 - Insight into pacing
 - Manage all or nothing thinking (Balanced thinking)
 - Cope with fear of movement (mindfulness, relaxation, action)
- Physical requirements:
 - Ambulate 365meters
 - Sit for 75 minutes
 - Note: Nothing in her history that would preclude her from moving



3-P Approach to Treatment



Hechler et al 2015



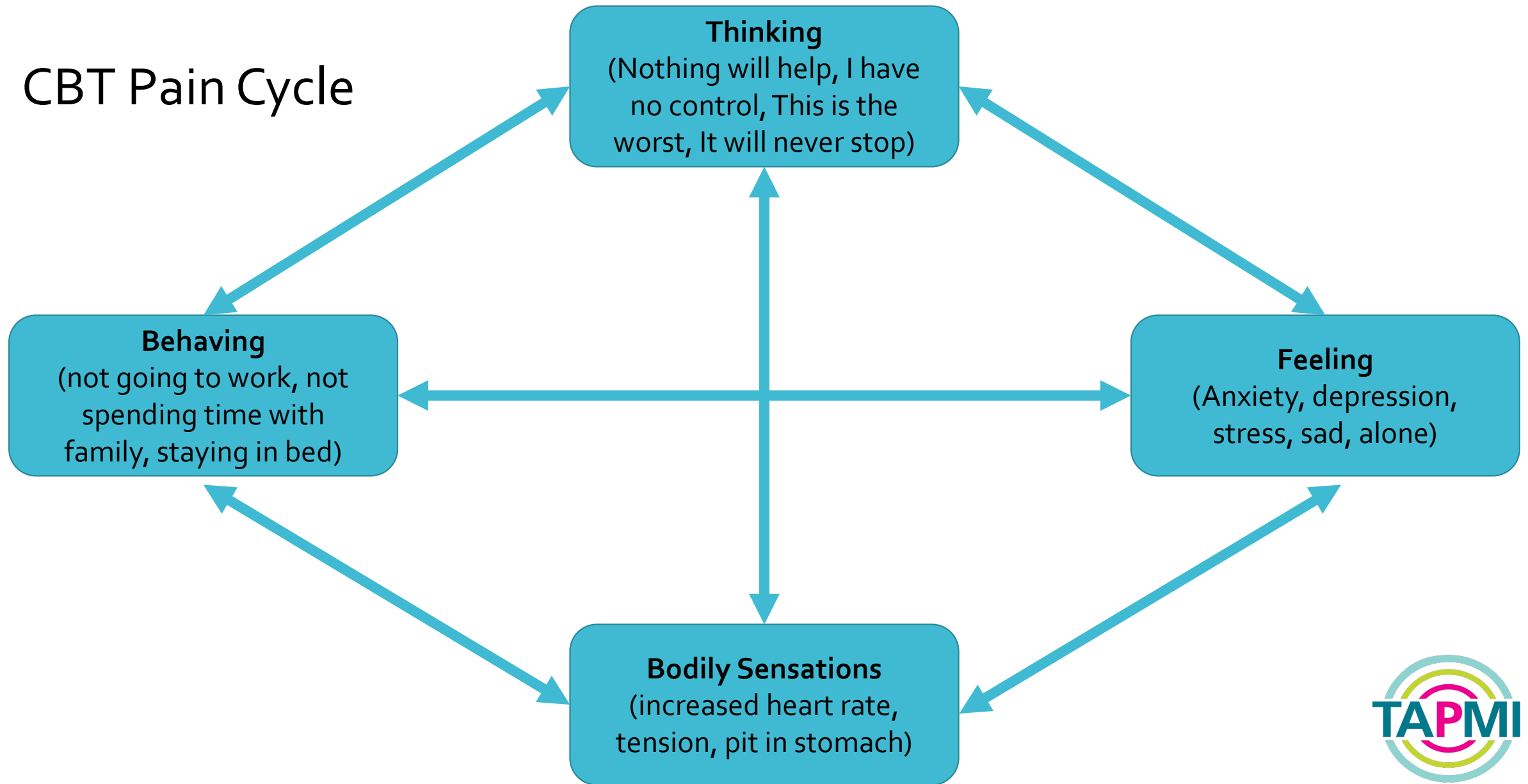
Toronto Academic Pain Medicine Institute
Institut Universitaire de Médecine
de la Douleur de Toronto

Why evidence-based psychotherapy for pain?

- We know from a lot of pain science that:
Pain = physical + emotional
- Pain is the combination of sensory input from the brain and the body as well as context
- Chronic pain is often comorbid with mental health diagnoses such as anxiety and depression (Vinall et al 2016; Baweja et al 2022; Hinze et al 2019)



CBT Pain Cycle



Key ingredients to CBT for chronic pain

- Working alliance
- Psychoeducation (how therapy works)
- Pain education: pain neuroscience and the connection between pain and emotions (Gate Control Theory of Pain; Melzack & Wall, 1965)
- Cognitive: mindfulness (noticing thoughts), balanced thinking, imagery
- Behavioural: mindfulness (5-senses, noticing emotions in body, visualizing pain), relaxation, pacing, spending time with peers, going to work, sleep hygiene, nutrition, distraction
- Between session practice

Ehde et al 2014



Toronto Academic Pain Medicine Institute
Institut Universitaire de Médecine
de la Douleur de Toronto

Pain Dial



Dial up:

- Anxiety, low mood
- High stress
- Negative thoughts
- Attention on pain
- Avoidance of family, friends, and school



Dial down:

- Calm and relaxation
- Balanced thoughts
- Distraction
- Doing pleasurable and value-based activities



Exercise as an intervention for chronic pain


- People living with chronic pain benefit from increased levels of physical activity.
- People with chronic experience increased physical function and improved pain experience as a result of exercise (Booth et al., 2017)



How much and what kind?

150 min/week, moderate intensity

2-3x/week strength training
major muscle groups
(Health Canada)



Tips to Get Active
Physical activity plays an important role in your health, well-being and quality of life. Improve your health by being active as part of a healthy lifestyle.

1 Be active at least 2.5 hours a week to achieve health benefits.

2 Focus on moderate to vigorous aerobic activity throughout each week, broken into sessions of 10 minutes or more.

3 Get stronger by adding activities that target your muscles and bones at least two days per week.

Tips to help you get active


- Choose a variety of physical activities you enjoy. Try different activities until you find the ones that feel right for you.
- Limit the time you spend watching TV or sitting in front of a computer during leisure time.
- Spread your sessions of moderate to vigorous aerobic activity throughout the week. Do at least 10 minutes of physical activity at a time.
- Get into a routine — go to the pool, hit the gym, join a spin class or set a regular run and do some planned exercise. Make it social by getting someone to join you.
- Move yourself — use active transportation to get places. Whenever you can, walk, bike, or run instead of taking the car.
- Join a team — take part in sports and recreation activities in groups. You'll make new friends and get active at the same time.



Set a goal
Make a plan
Pick a time & place
Every step counts

Public Health Agency of Canada / Agence de la santé publique du Canada

Canada



Tips to Get Active
Physical activity plays an important role in your health, well-being and quality of life. These tips will help you improve and maintain your health by being physically active every day.

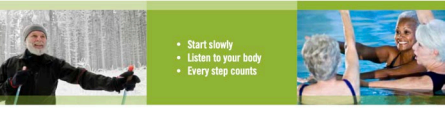
1 Take part in at least 2.5 hours of moderate- to vigorous-intensity aerobic activity each week.

2 Spread out the activities into sessions of 10 minutes or more.

3 It is beneficial to add muscle and bone strengthening activities using major muscle groups at least twice a week. This will help your posture and balance.

Tips to help you get active

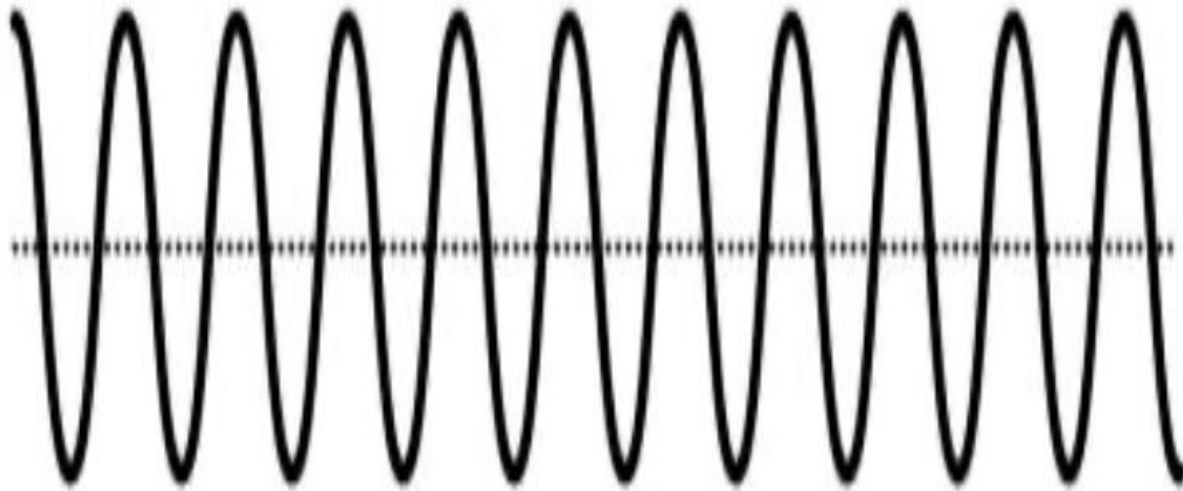
- Find an activity you like such as swimming or cycling.
- Active time can be social time — look for group activities or classes in your community or get your family or friends to be active with you.
- Take the stairs instead of the elevator, when possible.
- Carry your groceries home.
- Walk wherever and whenever you can.

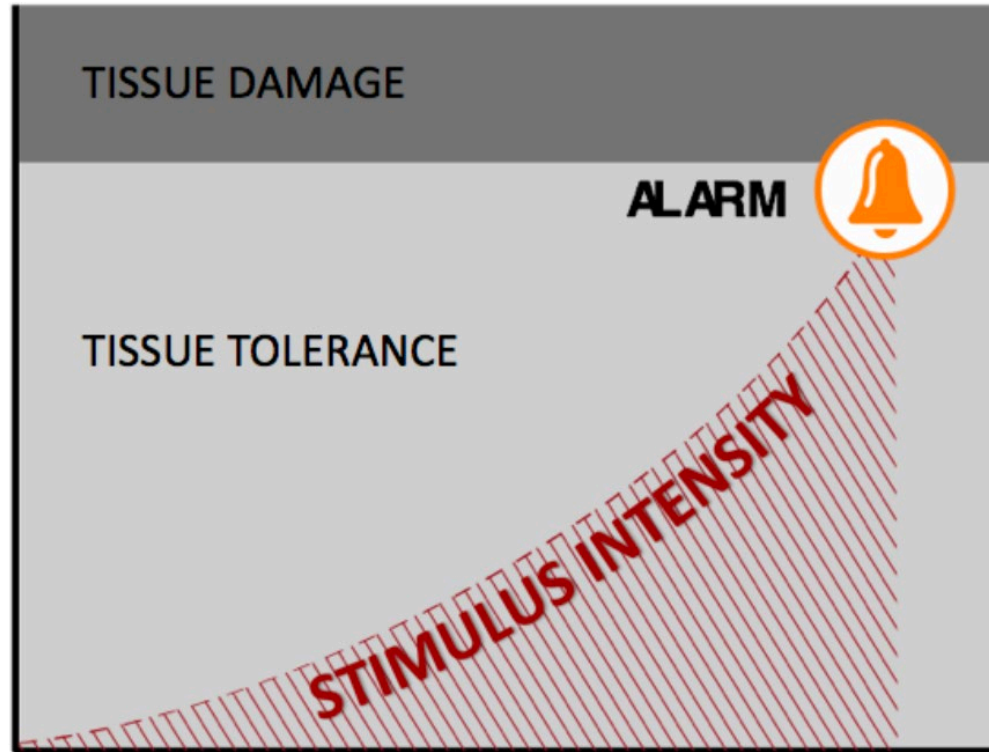


Start slowly
Listen to your body
Every step counts

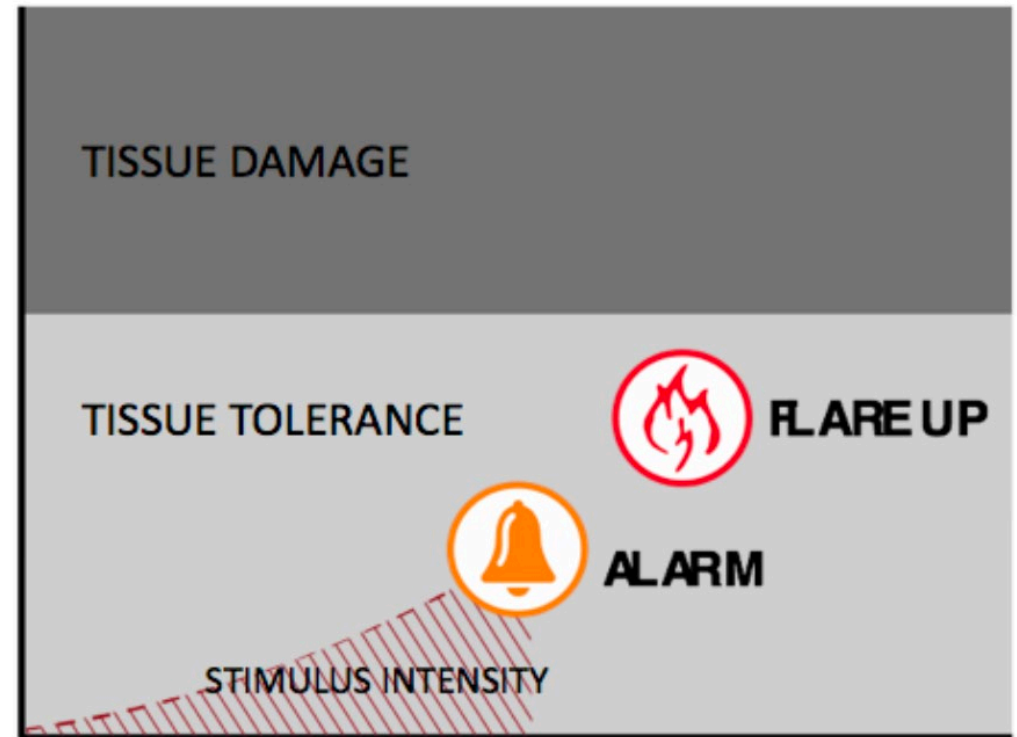
Public Health Agency of Canada / Agence de la santé publique du Canada

Canada





Pain starts just before injury, as a warning



(Adapted by Sheffe, 2019)

Co-Designing
Sarah's plan to
have nachos



Minutes of Sitting	Fear (x/100)
30	30
45	50
60	70
75	100



Finding Activity Baselines

Activity	Total Activity over # of days	Average	80% of Average	Safe Starting Level
Sitting	17 minutes + 10 minutes + 8 minutes <u>+ 5 minutes</u> 40 minutes over 4 days	$40/4 = \mathbf{10}$ minutes	$10 \times 0.8 = \mathbf{8 \text{ minutes}}$	8 minutes of sitting per day is likely "tolerable"
Walking	15 minutes + 7 minutes + 22 minutes <u>+ 12 minutes</u> 56 minutes over 4 days	$56/4 = \mathbf{14}$ minutes	$14 \times 0.8 = \mathbf{11.2 \text{ minutes}}$	11 minutes of walking per day is likely "tolerable"



But it hurts...

- "Pain during therapeutic exercise for chronic musculoskeletal pain need not be a barrier to successful outcomes". (Smith et al., 2017)
- It is normal and expected that exercise can be uncomfortable.
- Dichotomy: **Tolerable** vs **Intolerable** (Booth et al., 2017)
- **Intolerable = STOP.** If pain is growing, or if they feel like they will "pay for this later", stop activity, adjust in some way.
- **Tolerable = Keep going!** If it is within a reasonable range of their usual activity tolerance, then keep going.



Update on Sarah



Practice Time!



Toronto Academic Pain Medicine Institute
Institut Universitaire de Médecine
de la Douleur de Toronto

How did you
do?

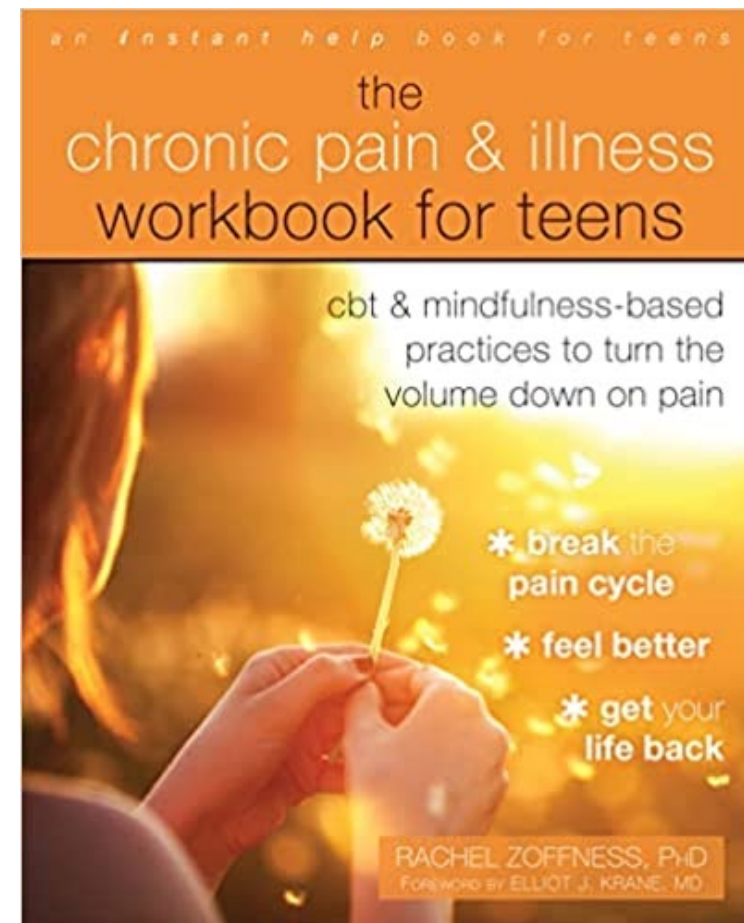
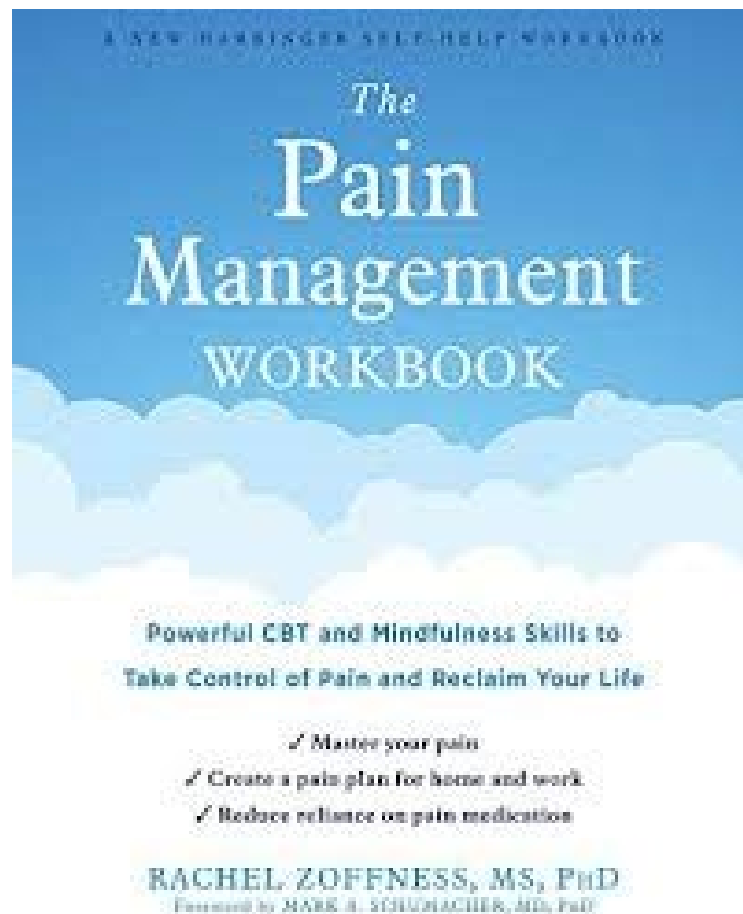
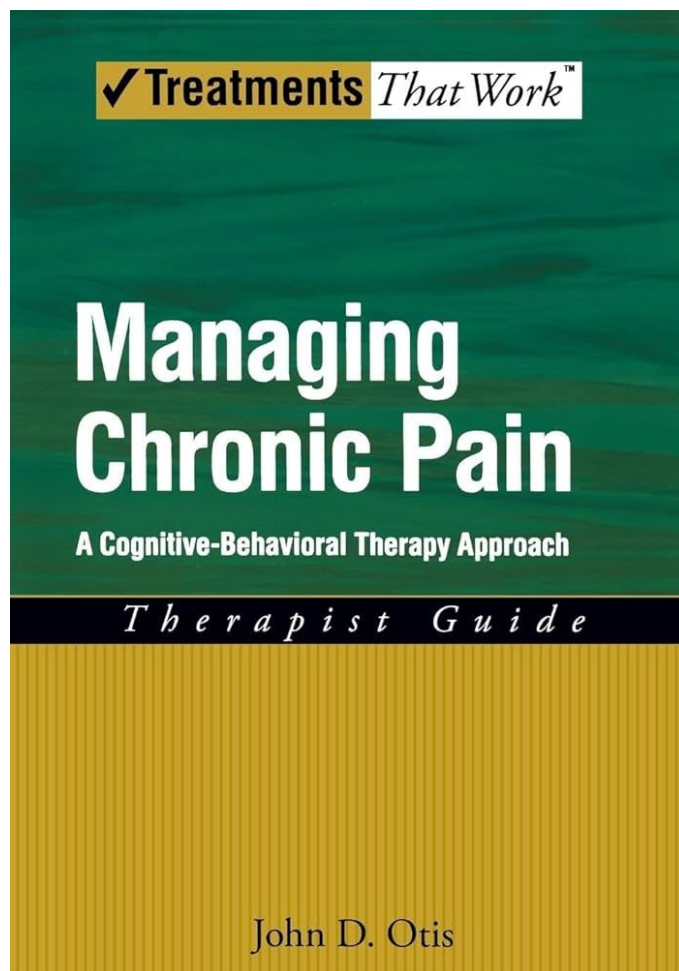
60 Seconds Sit to Stand

Age	Female (average)	Male (average)
18-29	40	43
30-39	41	48
40-49	35	43
50-59	31	35
60-69	26	25
70-79	24	23
80+	20	13

Vilarinho et al, 2024



Toronto Academic Pain Medicine Institute
Institut Universitaire de Médecine
de la Douleur de Toronto





Scan QR code

DOI 10.1002/msc.1191

WILEY

CLINICAL UPDATE

Exercise for chronic musculoskeletal pain: A biopsychosocial approach

John Booth¹ | G. Lorimer Moseley² | Marcus Schiltenswolf³ | Aidan Cashin¹ | Michael Davies⁴ | Markus Hübscher^{5,6}

¹School of Medical Sciences, University of New South Wales, Sydney, Australia

²Sansom Institute for Health Research, University of South Australia, Adelaide, Australia

³Department of Orthopedics, Trauma Surgery and Paraplegiology, Heidelberg University Hospital, Germany

⁴Figtree Hospital, Figtree, Wollongong,

Abstract

Chronic musculoskeletal pain (CMP) refers to ongoing pain felt in the bones, joints and tissues of the body that persists longer than 3 months. For these conditions, it is widely accepted that secondary pathologies or the consequences of persistent pain, including fear of movement, pain catastrophizing, anxiety and nervous system sensitization appear to be the main contributors to pain and disability. While exercise is a primary treatment modality for CMP, the intent is often to improve physical function with less attention to secondary pathologies. Exercise interventions



Scan QR code

STarT Back Tool

The Keele STarT Back Screening Tool

Patient name: _____ Date: _____

Thinking about the **last 2 weeks** tick your response to the following questions:

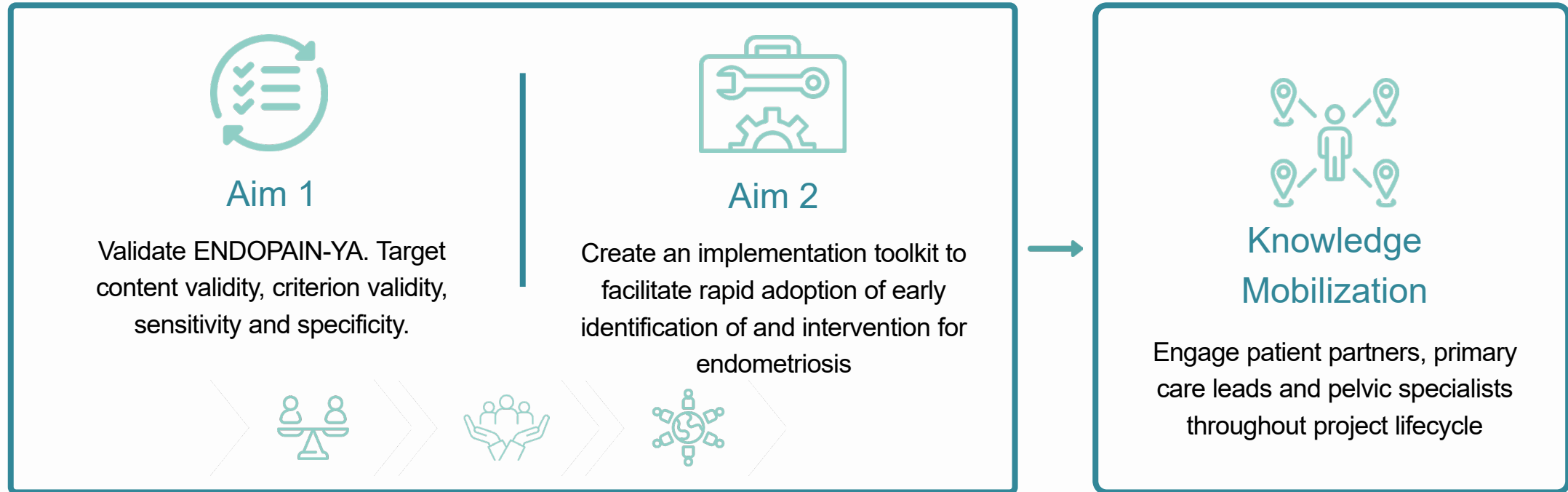
	Disagree 0	Agree 1
1 My back pain has spread down my leg(s) at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
2 I have had pain in the shoulder or neck at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
3 I have only walked short distances because of my back pain	<input type="checkbox"/>	<input type="checkbox"/>
4 In the last 2 weeks, I have dressed more slowly than usual because of back pain	<input type="checkbox"/>	<input type="checkbox"/>
5 It's not really safe for a person with a condition like mine to be physically active	<input type="checkbox"/>	<input type="checkbox"/>
6 Worrying thoughts have been going through my mind a lot of the time	<input type="checkbox"/>	<input type="checkbox"/>
7 I feel that my back pain is terrible and it's never going to get any better	<input type="checkbox"/>	<input type="checkbox"/>
8 In general I have not enjoyed all the things I used to enjoy	<input type="checkbox"/>	<input type="checkbox"/>

9. Overall, how **bothersome** has your back pain been in the **last 2 weeks**?

Not at all	Slightly	Moderately	Very much	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	0	0	1	1

Total score (all 9): _____ Sub Score (Q5-9): _____

Let's not wait 11 years: Development and rapid adoption of a screening measure for endometriosis in young Canadian adults



Are you a clinician working with people who have endometriosis?
Take our short survey!





Toronto Academic **Pain** Medicine Institute

Institut Universitaire de Médecine
de la **Douleur** de Toronto

Contact Information:

Brittany.Rosenbloom@wchospital.ca

Samantha.Joubert@wchospital.ca

Physical capacity and ADLs/IADLs

Activities of Daily Living

- Toilet
- Eat
- Dress
- Bathe
- Groom
- Get of bed
- Get out of a chair
- Walk

Instrumental Activities of Daily Living

- Shop for yourself
- Prepare Food
- Housekeeping
- Laundry
- Manage Medications
- Make phone
calls/communication
- Travel on your own
- Manage finances

