

CORE CURRICULUM FRAMEWORK FOR SUPPORTED PAIN SELF-MANAGEMENT COURSES AT TERTIARY PAIN PROGRAMS IN BRITISH COLUMBIA

TOPIC: NERVOUS SYSTEM REGULATION

KEY POINTS FROM THE LITERATURE

- In general, nervous system regulation can be achieved through a variety of mindfulness-based activities including cognitive behavioral therapy (CBT), meditation, therapeutic suggestion, guided imagery, breathing exercises, relaxation, hypnosis, prayer, music therapy, dance/movement therapy, gentle movement, and nature therapy¹⁻¹⁴. These practices can be implemented as stand-alone interventions but may be more effective as adjuncts to neuroscience-based education and gentle movement¹.
- Mindfulness activities can relieve pain from various chronic pain conditions, including low back pain, migraine, arthritis, fibromyalgia, pelvic pain, and irritable bowel syndrome, as well as secondary conditions, including anxiety and depression^{1, 5, 6, 10, 14}.
- To ensure positive engagement and lifestyle integration, mindfulness activities should be easy to follow, trauma-informed, person-centred, and pragmatic to the client^{2, 4, 14}. It is also valuable for the pain practitioner to appreciate that practiced mindfulness activities may be influenced by their client's culture¹¹.
- Meditation involving practices that cultivate present-moment focused attention and meta-awareness, as well as acceptance of thoughts, emotions, and body sensations, can significantly reduce at least momentary pain⁵.
- Relaxation techniques, such as progressive muscle relaxation, systematic relaxation, and jaw relaxation, can reduce pain intensity, pain sensation, and pain distress^{5, 9}. These techniques can be effective as single-session or multi-session interventions⁵.
- Guided-imagery practices involving active imagination of visual, auditory, and somatic sensations and perceptions may reduce pain intensity in people living with chronic pain via single or multiple session interventions; however, the data is not conclusive⁵.
- CBT can lead to significant improvements in pain intensity for those with chronic pain by altering activity in specific brain regions³. CBT is delivered in multiple sessions using a combination of in-person therapists, pain self-management, and interactive voice response⁵.
- Music therapy can influence the nervous system to reduce pain, at least acutely, especially when the affected person can select music that is engaging and pleasurable, while also being able to control the volume. When these factors are considered, music therapy can address the physiological and emotional aspects of pain through mindfulness by enhancing cognition and strengthening a sense of self and self-efficacy⁷.
- Dance/movement therapy influences the nervous system by combining creativity with self-expression, relaxation, and movement to promote physical function, emotional well-being, cognitive processing, and social connectiveness. Over time, dance/movement therapy can increase motivation to move, increase self-efficacy, facilitate a separation of self from pain, and allow expressive movement to increase autonomy as self-fulfilling action¹².
- Various breathing techniques can influence pain; however, there are no specific types or dosages recommended. Additionally, therapeutic relationship between the health care professional and the patient, as well as breathing incorporated with other mindfulness activities, are likely to enhance overall effect⁸.

- Nature therapy is known to cause physiological relaxation by stimulating the senses and positively affecting the central nervous system, autonomic system, endocrine system, and immune system. Nature therapy is suggested to influence chronic pain through nervous system regulation and can be accessed by walking in a forest, attending outdoor or indoor gardens, or by enjoying house plants¹³.

RECOMMENDED LEARNING OBJECTIVES FOR PARTICIPANTS

We recognize that not everyone who enters a pain self-management program will be in the same place in their journey to living well with pain and not everyone will have the same level of readiness to change their behavior. Therefore, the following suggested skills and activities have been organized according to the Stages of Readiness for Change.

1. Precontemplation:

- Start to explore thoughts or feelings about mindfulness-based activities.
- Start to articulate what benefits could come from mindfulness-based activities.

2. Contemplation:

- Discuss past experiences of how stress and anxiety have influenced pain levels.
- Identify current coping mechanism for stress, anxiety, and pain.
- Discuss benefits of using mindfulness-based activities.
- Identify mindfulness-based activities that they enjoy doing or are interested in trying.

3. Preparation:

- Locate a class within the pain program (or in the community) that offers mindfulness-based activities and sign up.
- Explain the importance of mindfulness as an alternative to suppression, rejection, or fixation of stress, anxiety and pain.
- Create a Brief Action Plan for a mindfulness-based activity.

4. Action:

- Participate in new activity/class.
- Incorporate a mindfulness component into movement or sleep activities to enhance self-awareness and understanding of the body's response to these things (if desired).

5. Maintenance:

- Adjust mindfulness-based activity goals as needed as the patient learns to listen to their body's cues and understand their own limits.
- Identify ways to incorporate mindfulness in a variety of settings, contexts and times to enhance an automatic response.
- Acknowledge and celebrate the behaviour change.

RESOURCES AND TOOLS

This is a selection of recommended resources. Please supplement with resources and tools you have used at your clinic/program as needed.

For patients (general):

- Video by Jon Kabat-Zinn, PhD: [20-minute guided meditation](#)

- Audio by Kristen Neff, PhD: [Guided self-compassion meditations](#)
- Anxiety Canada: [How to do progressive muscle relaxation](#)
- Diaphragmatic breathing videos by Harvard Vanguard Medical Associates:
 - [Part 1](#)
 - [Part 2](#)
 - [Part 3](#)
- First Nations Health Authority: [Yoga and meditation resources](#)
- HealthLink BC stress management resources: www.healthlinkbc.ca/health-topics/stress-management
- Books by Jon Kabat-Zinn, PhD:
 - "Meditation is Not What You Think"
 - "The Healing Power of Mindfulness"
 - "Falling Awake"
 - "Mindfulness for All"
- Mindfulness apps:
 - "Insight Timer"
 - "Smiling Mind"
 - "Breathr"
 - "Calm"

For Indigenous people living with chronic pain:

- First Nations Health Authority: [Traditional Medicine web.pdf \(fnha.ca\)](#)
- First Nations Health Authority: [First Nations Virtual Doctor of the Day \(fnha.ca\)](#)
- Metro Vancouver Indigenous Counselling: [Indigenous Mental Health and Wellness Counselling \(mvic.ca\)](#)

Resources in Punjabi:

- Punjabi Community Health Services: <https://pchs4u.com/optimized/index.html>
 - Support with: Provide services in Punjabi for many different aspects such as mental health, family supports, addictions, and senior supports. Phone: (905) 677-0889
- Sikh Family Helpline: Call 1-800-551-9128 to be supported by volunteers in Punjabi. You leave a voicemail and they will return your call within 24 hours
- Moving Forward Family Services: Offer counselling in Punjabi. Phone: 877-485-5025
- Deltassist: Offer support groups and counselling in Punjabi. Phone: 604-594-3455
- List for Punjabi counsellors: <https://counsellingbc.com/counsellors/language/punjabi-64>

Resources in Arabic:

- [Mental Health Information & Resources in Arabic - MMHRC \(multiculturalmentalhealth.ca\)](#)
- [EENet | Arabic-language mental health resources for newcomers \(camh.ca\)](#)
- [عادات غذائية تساعدك في التخلص من الألم المزمن \(ajel.sa\)](http://ajel.sa)
- [الألم المزمن: أسباب، وأعراض، وعلاج \(webteb.com\)](http://webteb.com)
- [الألم المزمن: قرارات العلاج - Mayo Clinic \(مايو كلينيك\)](#)

Resources in Chinese:

- Richmond Mental Health Outpatient Services http://www.vch.ca/Locations-Services/result?res_id=665
- 中僑心理輔導服務 S.U.C.C.E.S.S. Counselling Service <https://successbc.ca/news/s-u-c-c-e-s-s-extends-free-affordable-community-counselling-services/>
- 中僑互助會心理熱線 S.U.C.C.E.S.S Chinese Help Lines <https://successbc.ca/counselling-crisis-support/services/help-lines>
- 由教練帶領的學習 BounceBack Coaching <https://bouncebackbc.ca/bounceback-coaching/>
- 粵語「打開心窗」關懷互助小組 Cantonese 'Heart to Heart' Share and Care Group <https://vancouver-fraser.cmha.bc.ca/programs-services/chinese-mental-health-promotion/>
- 開創會所中文愛心小組活動 Pathways Richmond Chinese Family Support Group <https://pathwaysclubhouse.com/what-we-do/chinese-support/>

For program facilitators:

- Pain BC webinar: [Mindfulness-based cognitive therapy for chronic pain](#)
- Pain BC webinar: [Mindfulness, emotions and pain treatment](#)
- Pain BC resource: [Pain BC Toolbox](#)
- Pain BC: [Clinical education programs](#)
- Langara College: [Mindfulness courses](#)
- Association for Psychological Therapies Canada: [Mindfulness-Based Cognitive Therapy \(MBCT\) course](#)
- PHSA: [San'yas Indigenous Cultural Safety Online Training \(sanyas.ca\)](#)
- Island Health: [Indigenous Health Cultural Safety | Island Health](#)
- Trans Care BC: [Intro to Gender Diversity - Expanded - LearningHub \(phsa.ca\)](#)
- Intercultural Online Health Network (iCON): [English iCON \(iconproject.org\)](#)
- EQUIP Health: [Trauma and Violence Informed Care](#)

LITERATURE SUMMARY

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