

## Mindfulness Meditation for Low Back Pain

### Introduction

Globally, low back pain is the leading cause of disability<sup>1</sup>. Chronic low back pain (CLBP)—the second leading cause of lost work time—is common, costly, disabling, and often refractory to existing treatments.<sup>2-5</sup> Worldwide, prevalence rates have neared 20% in those age 20 to 59.<sup>6</sup> Approximately 80% of U.S. adults experience low back pain during their lifetime, with 2%-8% developing chronic back pain.<sup>4</sup> Americans spend at least \$50 billion per year on low back pain, with chronic back pain making up at least 90% of the costs.<sup>4</sup>

Individuals with CLBP often need to resort to opioid pain medications to reduce pain and improve function, and CLBP has been the leading noncancer chronic pain condition for which long-term opioids have been prescribed.<sup>7</sup> Despite using potent opioid analgesics, many patients continue to suffer from CLBP, co-occurring mental health problems, and adverse effects of opioids, including overdose and death.<sup>7-12</sup> There is a critical need for safe and effective treatments for CLBP.<sup>7,9,10,13,14</sup>

### Mindfulness Meditation for Low Back Pain: Research

Patients with CLBP frequently turn to complementary and integrative health (CIH) approaches. Mindfulness-based interventions, which are both popular and safe, are important examples of popular CIH approaches.<sup>5</sup>

Mindfulness-based interventions, including mindfulness meditation (referred to just as “meditation”), help train the mind in nonjudgmental attention to the present moment experiences.<sup>15</sup> They have great potential as therapies for CLBP.<sup>16-20</sup> These approaches are already widely used to improve health<sup>21-23</sup>, well-being, and pain<sup>24,25</sup>, and they show sustained effects over time.<sup>18,26</sup> Mindfulness-based interventions can positively impact many chronic health problems, including depression and anxiety<sup>27</sup>, which are common in patients with CLBP.<sup>3,9,10,16,18,28</sup>

Mindfulness-based interventions can exert biological effects and have been associated with beneficial changes in brain areas involved in adaptive pain, stress, cognitive, and affect regulation.<sup>29,30</sup> Meditation-learned skills can complement those acquired through “traditional” behavioral therapies, such as Cognitive Behavioral Therapy (CBT), which is a part of evidence-based, standard-of-care treatments for CLBP.<sup>31-33</sup> Refer to “[Mindful Awareness](#)” and “[Mind and Emotions](#)” Integrative Health modules for additional information.

Although meditation has been used clinically in CLBP for several decades, research evidence on its efficacy in this specific patient population is limited, albeit promising. Initial uncontrolled studies in the 1980s have shown promise of Mindfulness-Based Stress Reduction (MBSR) for refractory chronic pain and reduction in pain medication use.<sup>34,35</sup> Since then, several small randomized controlled trials have examined mindfulness-based therapy's efficacy in CLBP, including opioid-treated CLBP, and they have shown positive effects on pain intensity, function, and pain coping,<sup>33,36-42</sup> as well as on objectively assessed pain sensitivity to noxious stimuli.<sup>37</sup>

Meditation helps with opioid use and mood effects in people with CLBP as well. Preliminary evidence also suggests that mindfulness-based treatments can assist patients with chronic pain with reducing aberrant opioid-use-related behaviors, desire for opioids, and daily opioid use.<sup>33,43</sup> A systematic review and meta-analysis of mindfulness meditation as a therapy for mental health conditions and well-being showed meditation's efficacy for reducing pain severity in chronic pain conditions as well as decreasing anxiety and depression symptoms.<sup>37</sup> Furthermore, recent systematic reviews found that Mindfulness-Based Therapy can be effective specifically for CLBP.<sup>20,24,44-46</sup>

**Relating to Pain in a New Way.** Mindfulness-based interventions, including mindfulness meditation practice, facilitate and improve the mind's ability to pay attention to "the present moment" while maintaining an accepting, nonjudgmental awareness of "the present moment" experiences (e.g., thoughts, emotions, or bodily sensations, such as pain).<sup>15,20</sup> As such, meditation may help change the individual's *relationship* to pain and other experiences, rather than focusing on changing the content of the experience itself (which, of note, may not be possible). It has the potential to uncouple the physical experience of pain from pain-related suffering. In chronic pain conditions, pain severity and pain-related suffering have been conceptualized as overlapping but unique entities, further supporting the understanding of chronic pain as a multidimensional construct.<sup>47</sup> Pain coping skills play a major role in how patients cope with and experience pain. Acceptance-based pain coping has been linked to improved outcomes in chronic pain. Mindfulness meditation training may improve adaptive, acceptance-based coping, while reducing unhealthy "fear-avoidance" (e.g., pain catastrophizing) coping.<sup>48,49</sup>

## Elements of Mindful Awareness Training for Low Back Pain

Many of the existing mindfulness meditation-based programs have been patterned after Mindfulness-Based Stress Reduction (MBSR<sup>34</sup>), and consist of eight weekly group sessions, guided by experienced, trained instructors, and daily at-home practice. During the program, participants are taught a variety of mindfulness meditation techniques, including longer, more formal techniques (e.g., body scan, breath, or sitting meditation), as well as shorter techniques (e.g., mindful walking, mindfulness of daily activities, other mini-meditations) that may be particularly useful for immediate coping with "acute" challenges brought by daily life. A common mini-meditation practice that may be helpful to implement when faced with a challenge such as a pain flare involves the following steps:

1. Taking a moment to pause (instead of automatically reacting to the challenge/pain)
2. Noticing what is happening "right now" in the body, mind, and heart (the thoughts, images, emotions, and sensations that are occurring)

3. Focusing on noticing the sensations of breathing, of the air moving or the belly rising and falling with each breath
4. Expanding one's awareness to the body and mind as a whole
5. Making a mindful decision about, as opposed to reacting automatically about, what to do next (if anything).<sup>32,33</sup>

## Resources

### Chronic Pain/Chronic Low Back Pain Resources

1. Healing and the Mind with Bill Moyers: "[Healing from Within](#)" website and video, Bill Moyers (1993)
2. *Living Well with Pain and Illness: The Mindful Way to Free Yourself from Suffering*, Vidyamala Burch (2010)
3. *Mindfulness Meditation for Pain Relief: Guided Practices for Reclaiming Your Body and Your Life* (book, 2-disc CD set), Jon Kabat-Zinn (2009)
4. *Natural Pain Relief: How to Sooth and Dissolve Physical Pain with Mindfulness*, Shinzen Young (2011)
5. *The Mindfulness Solution to Pain: Step-by-Step Techniques for Chronic Pain Management*. Jackie Gardner-Nix. (2009)

## Resource Links

- [Mindful Awareness](#): <https://www.fammed.wisc.edu/integrative/resources/modules/mindful-awareness/>
- [Mind & Emotions](#): <https://www.fammed.wisc.edu/integrative/resources/modules/mind-emotions-relaxing-healing/>
- [Healing from Within](#): <https://billmoyers.com/series/healing-and-the-mind/>

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