

## Mindfulness-based Pain Relief - Resources

Mindfulness is a practice of moment-to-moment non-judgmental awareness, during which you note sensory events (i.e., sensations, thoughts, sounds and emotions), without reaction. According to research below, mindfulness can reduce pain and stress in people who live with chronic pain. Mindfulness works by interrupting the communication between the brain areas involved in pain sensation and areas that produce sense of self.

Here are two introductory articles, followed by scientific articles and resources.

- [Using Mindfulness to cope with chronic pain](#) (Mayo Clinic)
- [Mindfulness meditation reduces pain by separating it from the self](#) (UC San Diego)

### The Science of Mindfulness-based Pain Relief

- Khatib, L. , Dean, J.G., Oliva, V., Riegner, G., Gonzalez, N., Birenbaum, J., Cruanes, G., Miller, J., Patterson, M., Kim, HC, Chakravarthy, K., and Zeidan, F. [The role of endogenous opioids in mindfulness and sham mindfulness-meditation for the direct alleviation of evoked chronic low back pain: a randomized clinical trial](#). Neuropsychopharmacology. 2023 Nov
- Riegner G, Posey G, Oliva V, Jung Y, Mobley W, Zeidan F. [Disentangling self from pain: mindfulness meditation-induced pain relief is driven by thalamic-default mode network decoupling](#). Pain. 2023 Feb 1;164(2):280-291. doi: 10.1097/j.pain.0000000000002731. Epub 2022 Jul 7. PMID: 36095039; PMCID: PMC9823141.
- Zeidan, F, Baumgartner, J.N., & Coghill, R.C. (2019). [The neural mechanisms of mindfulness-based pain relief: a functional magnetic resonance imaging-based review and primer](#). PAIN Reports, 4: 1-11.
- Adler-Neal, A.L. & Zeidan, F. (2017). [Mindfulness meditation for fibromyalgia: Mechanistic and clinical considerations](#). Current Rheumatology Reports 19: 59.

### Mindful Breathing and Body Scans for Pain Relief

- Apps: Among other content, these apps offer mindful breathing and body scans for pain relief. Check out the pricing tiers, including free content, trials, and paid subscriptions. Calm is available for free to all members of Kaiser. Some places of employment also offer free subscriptions.
  - [Aura](#)
  - [Calm](#)
  - [Headspace](#)
  - [Healthy Minds](#)
  - [Insight Timer](#)
- Online Classes: Mindfulness-based Meditation for Stress Reduction & Pain Management (MBSR) is offered at 700 hospitals around the U.S.
  - Kaiser ([intro videos](#)): [Oakland](#) / [Santa Rosa](#) / [San Francisco](#)
  - [Palouse Mindfulness](#) (English, Spanish, Portuguese, Italian, Russian / Recorded / Free)
  - [Stanford Medicine](#)
  - [Sutter Health](#)
  - [UCSF Osher Center for Integrative Health](#) (English & Spanish / Financial support available.)