# Yoga for Chronic Low Back Pain Treatment

With few exceptions, previous studies and a randomized control trial (RCTs) indicated that yoga can reduce pain and disability, can be practiced safely, and is well received by participants. Some studies also indicate that yoga may improve psychological symptoms, but these effects are currently not as well established [1].

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It is recommended that future RCTs include an active control group to determine whether yoga has specific treatment effects and whether yoga offers any advantages over traditional exercise programs and other alternative therapies for CLBP [2].

see Exercise for Chronic Low Back Pain Treatment.

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A study by Adhikari et al. examined the feasibility and acceptability of a yoga research protocol, including recruitment, retention, and data collection, and investigated the preliminary effects of yoga on psychological and neurophysiological functions, including gene expression and DNA methylation profiles, in participants with cLBP.

A single-arm trial was conducted with 11 participants with cLBP who enrolled in a 12-week yoga intervention. Data on subjective pain characteristics, quantitative sensory testing, and blood for analysis of differentially expressed genes and CpG methylation was collected prior to the start of the intervention and at study completion.

Based on pre-determined feasibility and acceptability criteria, the yoga intervention was found to be feasible and highly acceptable to participants. There was a reduction in pain severity, interference, and mechanical pain sensitivity post-yoga and an increase in emotion regulation and self-efficacy. No adverse reactions were reported. Differential expression analysis demonstrated that the yoga intervention induced increased expression of antisense genes, some of which serve as antisense to known pain genes. In addition, there were 33 differentially hypomethylated positions after yoga (log2 fold change ≥ 1), with enrichment of genes involved in NIK/NF-kB signaling, a major pathway that modulates immune function and inflammation.

The study supports the feasibility and acceptability of the proposed protocol to test a specific mechanism of action for yoga in individuals with cLBP. These results also support the notion that yoga may operate through our identified psychological and neurophysiologic pathways to influence reduced pain intensity and interference [3].

1)
Chang DG, Holt JA, Sklar M, Groessl EJ. Yoga as a treatment for chronic low back pain: A systematic review of the literature. J Orthop Rheumatol. 2016 Jan 1;3(1):1-8. PMID: 27231715; PMCID: PMC4878447.
2)
Holtzman S, Beggs RT. Yoga for chronic low back pain: a meta-analysis of randomized controlled trials. Pain Res Manag. 2013 Sep-Oct;18(5):267-72. doi: 10.1155/2013/105919. Epub 2013 Jul 26. PMID: 23894731; PMCID: PMC3805350.
3)

Adhikari B, Starkweather A, Xu W, Acabchuk RL, Ramesh D, Eze B, Yang Y, Yang GS, Walker J, Laubenbacher R, Park CL. A feasibility study on yoga's mechanism of action for chronic low back pain: psychological and neurophysiological changes, including global gene expression and DNA methylation, following a yoga intervention for chronic low back pain. Pilot Feasibility Stud. 2022 Jul 7;8(1):142. doi: 10.1186/s40814-022-01103-2. PMID: 35794661.