

# Research Perspective

## Yoga and Chronic Low Back Pain

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Recently, on a number of occasions, I have come across the statement, “Research supports that Yoga decreases low back pain.” This led me to consider the level of clarity and truth of this statement. Many of my students would agree with this statement, and there is a growing body of research suggesting that Yoga should be considered as an effective and cost-effective intervention for people with chronic low back pain. However, the research evidence does not support making such a broad statement as the one above.

In Yoga, we practice *satya* (truthfulness) and *santosha* (acceptance of what is). In the world of healthcare professionals, precision is important! Let’s look at different aspects and perspectives on the claim that Yoga decreases low back pain, to better understand how to state claims about Yoga therapy that are both accurate and evidence-informed.

First, let’s consider that this statement can be interpreted as suggesting that there is research confirming Yoga will help anyone with low back pain. This is not the case. To date, there are a few good-quality studies examining Yoga for people with chronic low back pain. However, these studies included only specific subgroups of people with pain. For example, if we look at the excellent studies published by Williams and colleagues in 2009<sup>1</sup> and by Sherman and colleagues in 2005,<sup>2</sup> we will see that the typical subjects were 40-year-old Caucasian women with college education and gainfully employed. This study sample is not representative of the typical patient with low back pain seen by doctors or physical therapists.

Saper and colleagues’ 2009 report<sup>3</sup> helped expand our knowledge by specifically looking at the effects of Yoga on minorities with chronic low back pain. In their pilot study, the mean age of their participants was 44, 83% were female, 83% were ethnic/racial minorities, and 48% had annual

incomes of less than \$30,000. The positive findings of this small study show promise that Yoga for low back pain is not just beneficial for one small segment of the population. Maybe there will be positive outcomes in other groups as well, but science has not yet shown that. When we, as Yoga therapists, promote the benefits of Yoga within academic and regulated health professional arenas, we must take care not to generalize subgroup outcomes to everyone with chronic low back pain.

Second, when studying the effectiveness of any intervention, we need to consider the dose of the intervention. What does the research tell us about the amount of Yoga required to create positive outcomes in those with chronic low back pain? To date, the key outcome studies showing effectiveness have involved 24 weeks of Iyengar Yoga practice, twice/week for 90 minutes, plus a daily 30-minute home practice<sup>1</sup>; 16 weeks of Iyengar Yoga, once/week for 90 minutes, plus a 30-minute home practice 5 days/week<sup>4</sup>; 12 weeks of Viniyoga, once/week for 75 minutes<sup>2</sup>; and 12 weekly Hatha Yoga classes, plus a 30-minute home practice 4 days/week<sup>3</sup>. This represents a range of “doses,” but all required a large commitment from participants. Smaller doses of Yoga may still provide positive changes in pain and perceived disability. However, I think we can clearly state there is not yet evidence that any dose of Yoga will create positive changes significant to both the scientist and to the person with pain.

We also must take note of how factors such as one’s belief that Yoga will be beneficial influence how effective Yoga is for a person with chronic low back pain. In both Sherman’s and Williams’s reports, it is stated that the people in the Yoga group believed Yoga would be beneficial (they scored, on average, 8/10 on expectation of benefits), whereas the

people in the other treatment groups expected their intervention to be less beneficial (they scored less than 5/10, on average). In the research world, this is extremely important. Considerable evidence supports that expectation is a significant determinant of both pain perception and treatment outcome.<sup>5-6</sup> So, will Yoga be as effective in people who are reluctant or skeptical to practice? To date, we do not know.

Third, let's consider a challenging idea: Yoga does not change pain. Practicing Yoga leads to changes in the person with pain. As a physical therapist and Yoga teacher working in the area of pain management, this concept is very important. Most of us need to alter our views of pain and of people in pain. Pain is not a biomedical problem affecting only the physical body. Pain can create changes in every aspect of our existence, including every system of our physical body, but also the full range of our moment-to-moment life experience, including thoughts, emotions, behavior, and relationships. Practicing Yoga is intended to create positive changes in all aspects of our existence. This makes it a great match for helping people in pain. But for this reason, we should not be looking at the effectiveness of Yoga practice in the same way that research looks at the effectiveness of a drug for pain. It is just not that simple! People are complex. Pain is complex. Yoga is complex.

There is one last consideration we must not overlook when we are considering research, Yoga, and back pain. All chronic pain is not the same. The definition of chronic low back pain is pain that has lasted longer than six months. Many of my patients have made it clear to me that there is a huge difference between constant unremitting severe low back pain and intermittent low intensity pain. Some people with chronic low back pain have huge amounts of sensitization of their nervous system. This translates to their body's protective systems being on high alert 24 hours a day. Small movements, thinking about movement, being touched gently, and emotional shifts can all lead to worse pain. There may be significant isolation, depression, anxiety, and suicidal thoughts. To date, there are no reports on the effectiveness of Yoga in people with this degree of central sensitization and severe symptoms. Williams<sup>1</sup> reported decreased depression in their participants; however, baseline depression scores were mild in their study.

My experiences teaching individuals with severe pain, depression, anxiety, and hopelessness suggest that Yoga can be a powerful and effective component of a chronic pain treatment program. Experience also suggests that the Yoga these more severely affected individuals would most benefit from might be very different than the Yoga described in recent studies. The level of evidence associated with this statement is my personal clinical expertise. This should not be disregarded or overlooked. However, we need to stay aware that clinical expertise is not at the top of the hierarchy of evidence in the Western world.

After all this deconstruction, it may feel as if we cannot make any specific statement about Yoga and low back pain. However, I would like to offer you a more optimistic outlook than that. We can state that the prescription of Yoga as a therapeutic intervention for people with chronic low back pain is evidence-based practice. We have research supporting the benefits of some styles of Yoga, by teachers with varying experience and skill, with specific dosages for some people with low back pain. Many interventions performed by regulated health professionals have exactly this level of scientific support. I hope all Yoga teachers and therapists can be content stating that this is what we have been able to show so far with research. Broader statements will await further research.

## References

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