

# Effect of Yogaasana in Chronic Low Back Pain

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**Abstract:** *Chronic low back pain (CLBP) affects millions of people worldwide, and appears to be increasing in prevalence. It is associated not only with pain, but also with increased disability, psychological symptoms, and reduced quality of life. There are various treatment options for CLBP, but no single therapy stands out as being the most effective. In the past 10 years, yoga interventions have been studied as a CLBP treatment approach. The objective of this paper is to review the current literature supporting the efficacy of yoga for CLBP. In nations with abundant resources, more than 70% of people eventually have low back pain (CLBP). However, recuperation is not always successful; 82 percent of non-recent-onset patients are still in pain after a year. Many chronic patients, whose natural histories were previously deemed to be favourable, spend months or years looking for treatment. We carried out a systematic review with the following clinical inquiries in mind: What results do oral medication treatments produce? What results does injectable therapy produce? What outcomes might non-drug therapies expect? Up until May 2007, we conducted searches in Medline, Embasy, The Cochrane Library, and other significant databases. (BMJ Clinical Evidence reviews are updated on a regular basis; for the most recent version of this review. We incorporated hazards warnings from pertinent agencies as the UK Medicines and Healthcare products Regulatory Agency and the US Food and Drug Administration (FDA) (MHRA). Our inclusion criteria were satisfied by 74 systematic reviews, RCTs, or observational studies. We graded the strength of the interventional evidence using the GRADE system. The effectiveness and safety of the following interventions are discussed in this systematic review: acupuncture, analgesics, antidepressants, back schools, behavioural therapy, electromyography biofeedback, exercise, injections (epidural steroid injections, facet joint injections, local injections), intensive multidisciplinary treatment programmes, lumbar supports, massage, muscle relaxants, non-steroidal anti-inflammatory drugs (NSAIDs), and spinal manipulation (TENS).*

**Keywords:** Chronic Low Back Pain, Specific Chronic Low Back Pain

## I. INTRODUCTION

It is the most common cause of reduced activity in those under 45, the second most common reason for doctor visits, the third most common reason for surgery, and the fifth most common reason for hospitalisation.

The majority of people suffering from back pain and sciatica heal within 4–8 weeks [3–5]. After an injury, 80–90% of people return to work within 12 weeks [6]. In the next year, however, 25–80 percent of low back pain patients develop some sort of recurrent . Those who are affected include following One year after an incident of low back pain, up to 33% of individuals who experienced it have moderate intensity pain, and 15% may have severe pain [7].

Chronic low back pain is connected with additional issues such as anxiety [9–11], depression [12,13], and disability [2,14], as well as a lower quality of life [15,16]. Major depression affects 20% of people with chronic back pain, compared to only 6% of people who are pain-free [13].

Yoga literally means "yoking" or "coming together" in reference to a harmonious relationship between the body, mind, and emotions in order to integrate the particular human spirit with divine spirit or the True Self [17,18]. Yoga is a method of physical and mental training that leads to self-realization and contains eight components. Personal discipline, postures/poses ("asana"), breathing, focus, contemplation, meditation, and absorption/stillness are all guided by the eight components. Yoga poses are one of eight components of a greater discipline of physical, mental, and spiritual health, according to traditional definitions. Postural alignment, breathing, concentration, and meditation are all common features of modern Hatha yoga. A typical Hatha yoga class consists of a 60–90 minute session guided by an instructor. The instructor instructs on proper posture, breathing, and concentration. They frequently promote positive self-esteem. Iyengar yoga focuses on holding poses and using props (blocks, belts, chairs, and blankets) to suit different physical

capacities. Other yoga types exist, and the experience in one style or class might be extremely different from the experience in another. The Yoga can range in intensity from light to severe, with some styles focusing on a cardiovascular workout and others on relaxation and peace. Another sensory element is the yoga facility itself, which can foster a sense of social and spiritual connection.

Yoga's popularity has skyrocketed during the last few years. The Centres for Disease Control and Prevention's (CDC) National Health Interview Survey results suggest a growth in the use of complementary and alternative medicine (CAM) treatments [19]. Yoga was the seventh most popular complementary and alternative medicine therapy in 2007. CAM therapies are most commonly utilised to treat musculoskeletal problems, such as back pain and, to a lesser extent, neck discomfort.

Millions of people suffer with CLBP agony. There are numerous therapy options available, but only a handful are effective. indications of effectiveness [20,21]. Several randomised control trials (RCTs) on the effects of yoga for low back pain have been completed, although the outcome metrics for pain and functional disability vary. With 2011 searches, a few meta-analysis studies were conducted, with the majority revealing a favourable effect, but with a relatively small total number of qualified RCTs [22–25].

In 2011, Boltzmann et al. used an electronic search to find 8 yoga studies focusing on pain and functional disability [23]. Ward et al. investigated various databases in 2011 and found 17 studies on functional impairment, pain, and depression [24,25]. The papers' relevance and quality, however, were restricted. Twelve of the 17 articles were on back discomfort. These 12 Only three of the identified CLBP studies were assessed to have satisfactory adherence to the intervention, and two pilot studies were considered to be of poor methodological quality. Cramer et al. also looked through 2011 articles, focusing on pain, disability, and quality of life outcomes. They utilised yet another statistical method to reduce a large number of yoga and low back pain papers to only eight [22]. Despite the fact that the Boltzmann et al., Ward et al., and Cramer et al. investigations utilised quite diverse search methodologies, they all narrowed down their findings in similar, semi-objective ways to a smaller list of yoga studies for further examination.

This report is unusual in that it contains revisions not found in previous review papers [21–25]. This research compares yoga to existing workout programmes using randomised control trials and randomised studies. This paper also includes a review of existing research findings on physical functionality and impairment, pain, and psychological aspects, as well as a review of data on the molecular processes of yoga's effects on back pain. Yoga's influence on psychological health has not been adequately described in the scientific literature to yet. Galantino et al. [28] conducted a depression pilot research with a Hatha yoga intervention. This study had a limited sample size and a high dropout rate, as previously stated. In their yoga intervention group, they saw a non-significant trend toward less depression.

The effect of yoga on depression and quality of life in veterans with back pain was investigated by Grossly et al. [42]. They discovered significant improvements in depression as well as a trend toward significant improvements in the SF-12's Mental Health Scale. The amount of self-reported home practise was found to be related to the improvement in depression. The (Beck Depression Inventory) was tested in CLBP patients [30]. Subjects who were randomly assigned to the yoga group improved their depression more than those in the control group. The yoga group received more attention than the self-directed control group, which was one of the study's limitations. Another limitation was the lack of physical activity controls between the groups.

## **II. CHRONIC LOW BACK PAIN**

Chronic back pain is defined as pain that continues for 12 weeks or longer, even after an initial injury or underlying cause of acute low back pain has been treated. Yoga asana for chronic low back pain

### **2.1 Cat and Cow Pose**

This gentle, accessible backbend stretches and mobilizes the spine. Practicing this pose also stretches your torso, shoulders, and neck.

Muscles worked:

- Erector Spine
- Rectus Abdominis
- Triceps

- Serratus Anterior
- Gluteus Maximus

To do this:

1. Get on all fours.
2. Place your wrists underneath your shoulders and your knees underneath your hips.
3. Balance your weight evenly between all four points.
4. Inhale as you look up and let your stomach drop down toward the mat.
5. Exhale as you tuck your chin into your chest, draw your navel toward your spine, and arch your spine toward the ceiling.
6. Maintain awareness of your body as you do this movement.
7. Focus on noting and releasing tension in your body.
8. Continue this fluid movement for at least 1 minute.

### **2.2 Downward Facing Dog**

This traditional forward bend can be restful and rejuvenating. Practicing this pose can help relieve back pain and [sciatica](#). It helps to work out imbalances in the body and improves strength.

Muscles worked:

- hamstrings
- deltoids
- gluteus Maximus
- triceps
- quadriceps

To do this:

1. Get on all fours.
2. Place your hands in alignment under your wrists and your knees under your hips.
3. Press into your hands, tuck your toes under, and lift up your knees.
4. Bring your sitting bones up toward the ceiling.
5. Keep a slight bend in your knees and lengthen your spine and tailbone.
6. Keep your heels slightly off the ground.
7. Press firmly into your hands.
8. Distribute your weight evenly between both sides of your body, paying attention to the position of your hips and shoulders.
9. Keep your head in line with your upper arms or with your chin tucked in slightly.
10. Hold this pose for up to 1 minute.

### **2.3 Extended Triangle Pose**

This classic standing posture may help alleviate backache, sciatica, and neck pain. It stretches your spine, hips, and groin, and strengthens your shoulders, chest, and legs. It may also help relieve stress and anxiety.

Muscles worked:

- latissimus dorsi
- internal oblique
- gluteus Maximus and medius
- hamstrings
- quadriceps

To do this:

1. From standing, walk your feet about 4 feet apart.
2. Turn your right toes to face forward, and your left toes out at an angle.
3. Lift your arms parallel to the floor with your palms facing down.
4. Tilt forward and hinge at your right hip to come forward with your arm and torso.

5. Bring your hand to your leg, a yoga block, or onto the floor.
6. Extend your left arm up toward the ceiling.
7. Look up, forward, or down.
8. Hold this pose for up to 1 minute.
9. Repeat on the opposite side.

#### **2.4 Cobra pose**

This gentle backbend stretches your abdomen, chest, and shoulders. Practicing this pose strengthens your spine and may soothe sciatica. It may also help to relieve stress and fatigue that can accompany back pain.

Muscles worked:

- hamstrings
- gluteus Maximus
- deltoids
- triceps
- serratus anterior

To do this:

1. Lie on your stomach with your hands under your shoulders and your fingers facing forward.
2. Draw your arms in tightly to your chest. Don't allow your elbows to go out to the side.
3. Press into your hands to slowly lift your head, chest, and shoulders.
4. You can lift partway, halfway, or all the way up.
5. Maintain a slight bend in your elbows.
6. You can let your head drop back to deepen the pose.
7. Release back down to your mat on an exhale.
8. Bring your arms by your side and rest your head.
9. Slowly move your hips from side to side to release tension from your lower back.

#### **2.5 Locust pose**

This gentle backbend may help relieve lower back pain and fatigue. It strengthens the back torso, arms, and legs.

Muscles worked:

- trapezius
- erector spine
- gluteus Maximus
- triceps

To do this:

1. Lie on your stomach with your arms next to your torso and your palms facing up.
2. Touch your big toes together and turn out your heels to the side.
3. Place your forehead lightly on the floor.
4. Slowly lift your head, chest, and arms partway, halfway, or all the way up.
5. You may bring your hands together and interlace your fingers behind your back.
6. To deepen the pose, lift your legs.
7. Look straight ahead or slightly upward as you lengthen the back of your neck.
8. Remain in this pose for up to 1 minute.
9. Rest before repeating the pose

### **III. YOGA SAFETY**

Low back pain is a chronic illness with a high recurrence rate and a high risk of incomplete resolution [8,49]. As a result, it's not uncommon to see some negative outcomes when investigating patients with back discomfort. In general, however, it does not appear that yoga poses pose a major risk to healthy people or patients with back discomfort. One adverse event was recorded among 30 patients randomised to yoga in one research [29]. During the trial, the participant had symptoms

of osteoarthritis and was diagnosed with a ruptured disc. The Institutional Review Board decided that the adverse event was unrelated to the yoga postures after conducting a medical review.

There were no major adverse events recorded among 101 yoga versus meditation patients. One yoga student dropped out owing to migraine headaches, while another hurt her back and sought treatment from a chiropractor. Sherman et al. identified an equivalent incidence of mild to moderate adverse effects (mainly temporary increased back pain) in both the yoga and standard stretching interventions [35]. A herniated disc was experienced by one of the 87 yoga class participants. One person in the self-care control group experienced more pain. Despite these negative events, the yoga and stretching groups had moderately better results overall.

In the study by Millbrook et al. [36], 8% of 156 yoga participants and 1% of 157 usual care participants reported adverse events. There were 11 non-serious occurrences in the yoga group, caused by a temporary increase in discomfort. One of the incidents was serious, and it occurred in a person who had previously experienced acute pain following any physical exertion. There was a mortality and an injury unrelated to the intervention in the usual care group.

Only a few instances of major adverse events were found in a comprehensive assessment of non-pharmacological and non-invasive therapy for chronic low back pain [50]. However, enhanced harm reporting was proposed as a must. Previous back pain episodes, high physical demands of work, low job satisfaction, age, back weakness, and smoking are all low back pain risk factors [51–53]. Individual clinical features and workplace physical demands had less influence on care seeking and impairment owing to persistent low back pain [53]. Identifying and addressing these psychosocial determinants can enhance results while also lowering expenses [20].

There is conflicting data to support the effectiveness of non-pharmacologic [50] and pharmacological [54] care for CLBP. Yoga may be more cost effective than spinal manipulation, physical therapy, or acupuncture because it may be offered in a group setting and self-administered at home. Actual cost analyses of yoga therapies are, nevertheless, required.

According to this research, yoga is beneficial. Pain and impairment are reduced, and physical and mental performance are improved. Sherman et al. employed a three-arm intervention, comparing yoga to a traditional stretching programme supervised by physical therapists and a self-care book from primary care practitioners [35], providing key "comparative efficacy" data. A few crucial points come from their research, which is backed up by additional studies [33]. Yoga was not found to be more beneficial than traditional stretching. For both conventional exercise therapy and yoga, self-efficacy and hours of back exercise may be the most critical elements.

In comparison to typical exercise programmes generated from physical therapy, yoga may give higher long-term compliance and benefit. Yoga positions, once learned, may be easier to maintain. Patients will recall the poses and their names because they are universally recognised. In most cities, yoga programmes, including 'adaptive' or 'senior' courses, are available in studios, local gyms, leisure centres, and hotel wellness facilities. Patients who complete a physical therapy programme, on the other hand, may receive a variety of prescribed exercises with little standardisation and little resemblance to what another physical therapist could prescribe. At the end of a formal physical therapy prescription, patients may misplace, forget, or never get a home exercise programme from their therapists. With the exception of Millbrook et al. [36], most yoga research to far have lasted fewer than 26 weeks, necessitating long-term outcome studies to investigate this theory.

Yoga's benefits include Yoga may deliver better mental health advantages than typical physical therapy because of its spiritual and psychological foundations. However, just a tiny number of studies have looked into the effects of yoga on depression. Two studies [30,42] indicated significant impacts on depression, but only non-significant trends for the Mental Health Scale SF-12 [42]. Self-efficacy and sleep were revealed to be key psychological advantages of yoga on low back pain by Sherman et al. [47]. With the high incidence of depression among CLBP patients, more study is needed in this area [20]. Another essential research direction is to see if yoga affects other mental health conditions (such as anxiety disorders, which are not adequately evaluated by the SF-12). Finally, results from the largest and most recent trials indicate a 10–15 percent incidence of momentarily elevated low back discomfort, with two cases of herniated disc found. Yoga appears to have certain hazards associated with it. However, the vast majority of participants appear to reap significant benefits with little drawbacks.

Overall, yoga appears to be a well-positioned intervention as the healthcare system shifts from primarily caring for patients with acute illnesses to primarily caring for patients with chronic diseases, and healthcare providers seek to

develop preventative strategies against the chronic diseases that plague modern society. Yoga may find particular relevance among military veterans who must live with the long-term impacts of combat because it is a reflective exercise.

#### **IV. CONCLUSION**

Yoga appears to be just as beneficial as other non-pharmacologic therapy at reducing back pain's functional impairment. When compared to conventional care or no care, it appears to be more successful in reducing pain severity of CLBP. Yoga may help with depression and other psychological co-morbidities by maintaining BDNF and serotonin levels in the blood. Yoga appears to be a safe and effective treatment for chronic low back pain.

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