

# Alternative Measures to Chronic Pain Management

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“No pain no gain” still is one of the most widely used inspiring quotes. With that spirit, chronic pain sufferers should find heaven on earth at some point of life. However, chronic pain is a widespread and complex set of conditions that are often difficult and expensive to treat. The Institute of Medicine (US) estimated that chronic pain affects over 100 million Americans and is associated with \$874 billion in healthcare costs annually. Of this, close to 10% is associated with the economic burden of prescription of opioid overdose, abuse, and dependency. Pain increases depression three- to fivefold, and 50–80% of chronic pain patients report insomnia that warrants clinical attention. Conventional pain killers are usually associated with a variety of adverse side effects, such as constipation, urinary retention, nausea, sedation, respiratory depression, low platelet count, sexual dysfunction, and hyperalgesia.

Pain affects more than 65% of cancer patients, distressing or intolerable in more than one-third of patients. Although the WHO described opioids as essential medicines for pain control but distribution shows substantial inequity—a less than 20% of the world’s population consuming more than 90% of the world’s supply. Famous celebrities like Bruce Lee, Chris Penn, Elvis Presley, Heath Ledger, and Anna Nicole Smith died from opioid overdose. Also, some 85% of primary care physicians perceived their training in pain management to be inadequate in a pan-European survey. Along with these, fear of dependence, prescription diversion, regulatory scrutiny, withdrawal symptoms, opioid-related adverse events, and deaths limit its use. Although abuse and availability of medical cannabis are big issues, several studies support use of cannabis/marijuana in cancer pain management. Its social acceptability is gradually increasing around the world, but many studies oppose its use or at least demand further investigation of the benefit: risk ratio. Long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs, like ibuprofen, naproxen) is often associated with many serious cardiovascular, gastrointestinal, renal, and other side effects.<sup>1</sup>

Mild-to-moderate pain may be relieved by nondrug techniques alone. Moderate-to-severe pain may require medication in addition to nondrug techniques. Neuropathic pain estimates of 60% among those with chronic pain. Non-drug techniques can decrease pain intensity and awareness of pain. Physical activity is the most basic, simple, and well-known preventive and therapeutic measure for low back pain, particularly when the problem is caused by sedentary behavior. A study on arthritic patients revealed that walking 1,000 or more steps/day was associated with 16–18% less risk of developing functional limitation 2 years later.<sup>2</sup> Regular exercise can reduce physical impairments and improve participation in social, domestic, occupational, and recreational activities. Additional benefits of exercise include improvements in mobility, risk of falls, body weight, mental health, and metabolic abnormalities among

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arthritis patients. Approximately, 70–85% of the Western population will develop low back pain at least once during their lifetime. An 8-week moderate-intensity aerobic exercise at 40–60% of heart rate reserve combined with conventional physiotherapy significantly reduced nearly 50% nonspecific chronic low back pain (NSCLBP).<sup>3</sup>

Pain causes stress, and stress affects pain control chemicals in the brain, such as norepinephrine and serotonin. Behavioral approaches/relaxation training can help reduce muscle tension and stress, lower blood pressure, and control pain. Physical therapy should strongly be considered for the management of chronic pain to gradually increase flexibility and strength. Adding the cognitive behavioral treatment (CBT) component to routine physical therapy reduces NSCLBP, disability and depression, and fear of movement with enhanced self-efficacy, enhancing functional capacity and QoL.<sup>4</sup> Companion of choice at birth increases the likelihood of vaginal births, reduces the need for cesarean sections, the use of forceps or vacuum during vaginal births, need to use pain medications during labor, shortens the duration of labor, improves women’s satisfaction with care, and improves Apgar scores.<sup>5</sup> Music therapy, in general, was effective in reducing pain intensity, fatigue, anxiety, and analgesic consumption in gynecological patients during the postoperative period.

Postoperative pain is not adequately managed in greater than 80% of patients in the United States. Cryotherapy should be widely used in the same because it is a noninvasive, very cost-effective, devoid of complication, and a very favorable patient report. About 75% of patients with low back pain are treated with heating therapy and 7% with cooling therapy. Cooling therapy decreases tissue blood flow due to vasoconstriction, and it also reduces tissue metabolism, oxygen utilization, and inflammation. Transcutaneous electrical nerve stimulation (TENS) as an adjunct is effective in reducing lower limb spasticity when applied for more than 30 minutes over nerve or muscle belly in chronic stroke survivors.<sup>6</sup> In France, work productivity loss contributed almost 90% of the total costs incurred by patients with fibromyalgia, with an economic cost of 13,000 million euros annually, which is around \$100 billion in the United States. Low fermentable oligo-, di-, monosaccharides, and polyols (FODMAP) and neurofeedback reduce pain intensity

and improve attention and QoL more successfully than other psychological or multicomponent programs. Meditation-based interventions improve pain symptomology across a wide spectrum of pain-related disorders, including fibromyalgia, migraine, and chronic pelvic pain.<sup>7</sup>

Aromatherapy with orange oil can relieve pain in patients with fractured limbs. A study has shown that edible oil of orange can reduce breast pain caused by premenstrual syndrome. Pets provide companionship, unconditional love, and joy. An average 12 minutes of exposure to a therapy dog reduces anxiety in 34% of fibromyalgia patients, together with reductions in pain and improvements in mood.<sup>8</sup> Pet therapy significantly increases patients' overall feeling of well-being and reduces anxiety about future uncertainty. There are three elements in hypnosis: absorption, dissociation, and suggestibility. Alleviation of pain with hypnosis, especially for patients who experienced obvious pain during the first eye surgery, is also reported. A hypnosis session during subcutaneous venous port implantation under local anesthesia in cancer patients significantly improved patient satisfaction. Acupuncture and yoga are found to be effective in reducing lymphedema and pain in patients after breast cancer treatment.<sup>9,10</sup>

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