

## **Acupressure as a Complementary Approach for Managing Musculoskeletal Pain**

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### **Abstract**

Musculoskeletal pain is a common health problem that can affect mobility, physical functioning, work capacity, sleep, and quality of life. Although conventional approaches such as medication, exercise, and physical therapy remain central to management, interest has increased in complementary non-pharmacological interventions. Acupressure involves applying manual pressure to selected points of the body and may offer a relatively simple, non-invasive approach for managing pain-related symptoms. This paper reviews the role of acupressure as a complementary approach for musculoskeletal pain, focusing on its principles, proposed mechanisms, applications across common musculoskeletal conditions, effects on pain and function, safety, and limitations of current evidence. Previous research suggests that acupressure may reduce pain intensity in selected populations and may support improvements in physical functioning and perceived well-being. However, evidence varies because studies differ in pressure points, treatment duration, intensity, comparison conditions, and outcome measures. Acupressure should therefore be viewed as an adjunct rather than a replacement for appropriate clinical care. Further well-designed research using standardized protocols and longer follow-up is required to determine its effectiveness across specific musculoskeletal conditions.

### **Keywords**

Acupressure; Musculoskeletal Pain; Pain Management; Complementary Therapy; Non-Pharmacological Intervention; Physical Function; Quality of Life

### **Introduction**

Musculoskeletal pain affects muscles, joints, bones, tendons, ligaments, and related structures and represents a major cause of discomfort and functional limitation. Conditions such as chronic low back pain, neck pain, osteoarthritis, shoulder pain, and other musculoskeletal disorders may interfere with movement, employment, sleep, and daily activities. Because pain is influenced by biological, psychological, and social factors, management often requires more than one therapeutic approach.

Conventional management can include medication, exercise therapy, physical therapy, education, behavioural approaches, and other evidence-based interventions. At the same time, many individuals seek complementary therapies that can be incorporated into their

existing treatment plans. Acupressure is one such approach and involves manual stimulation of selected points without the use of needles.

Research has examined acupressure for pain relief, anxiety, sleep problems, and other symptoms. Its potential value for musculoskeletal pain may be related to sensory stimulation, relaxation, pain modulation, and patient participation in self-management. Nevertheless, study findings are not uniform and protocols differ substantially.

This paper reviews acupressure as a complementary approach for managing musculoskeletal pain. It examines the nature of musculoskeletal pain, the concept and principles of acupressure, possible mechanisms, applications in common conditions, effects on pain and physical function, safety considerations, research limitations, and its potential role in multimodal pain management.

### **1. Musculoskeletal Pain and Its Impact**

Musculoskeletal pain can be acute, recurrent, or persistent and may involve one or more body regions. Chronic low back pain, osteoarthritis, neck and shoulder pain, and other conditions can produce persistent symptoms and functional limitations. Pain may be accompanied by stiffness, reduced range of motion, fatigue, sleep disturbance, and emotional distress.

The impact of musculoskeletal pain extends beyond the physical symptom itself. Reduced mobility may affect employment, social participation, exercise, and independence. Consequently, interventions should ideally address both pain and functional outcomes.

### **2. Concept and Principles of Acupressure**

Acupressure involves the application of controlled manual pressure to specific points on the body. It is historically related to traditional East Asian medical practices and is conceptually related to acupuncture, although no needles are used. Contemporary studies have investigated its possible effects through sensory stimulation and relaxation.

Treatment protocols differ in the points selected, pressure intensity, duration, frequency, and practitioner training. Some techniques can be taught for self-application, while others are delivered by trained practitioners. Clear description of these factors is important when evaluating research evidence.

### **3. Possible Mechanisms of Pain Modulation**

Several mechanisms have been proposed to explain how acupressure may influence musculoskeletal pain. Stimulation of pressure points may activate sensory pathways involved in pain processing and may contribute to endogenous pain-modulation responses. Relaxation and changes in autonomic activity may also influence pain perception.

Psychological mechanisms may be relevant because a structured session can encourage focused attention, relaxation, and active participation. These effects may complement

physical pain modulation, although the relative contribution of specific pressure points and general relaxation remains uncertain.

#### **4. Application to Chronic Low Back Pain**

Chronic low back pain is one of the most common musculoskeletal conditions and can substantially affect mobility and daily functioning. Non-pharmacological management commonly includes exercise, education, physical therapy, and behavioural strategies. Acupressure may be considered as an additional supportive approach for symptom management.

Research on pressure-based complementary interventions has reported potential reductions in pain in some low back pain populations. However, differences in intervention protocols and study quality mean that acupressure should not be regarded as a substitute for established evidence-based management.

#### **5. Application to Osteoarthritis and Joint Pain**

Osteoarthritis can cause persistent joint pain, stiffness, and functional limitation. Complementary interventions are sometimes used alongside exercise, weight management, medication, and other clinical approaches. Acupressure may provide an additional non-invasive method for managing pain and supporting comfort.

Potential benefits should be assessed using both pain intensity and functional outcomes. Reductions in pain are clinically meaningful when they allow individuals to move more comfortably and participate more fully in daily activities.

#### **6. Effects on Pain Intensity and Physical Function**

Pain intensity is commonly measured using numerical rating scales or visual analogue scales. Some studies of acupressure have reported improvements in pain intensity, although results vary. Physical function is another important outcome because musculoskeletal pain often limits movement and activity.

If acupressure contributes to pain reduction or relaxation, it may indirectly support movement and participation in exercise or rehabilitation. However, evidence for functional improvements is less consistent than evidence for short-term pain relief, highlighting the need for studies with validated functional measures.

#### **7. Quality of Life and Psychological Outcomes**

Musculoskeletal pain may affect sleep, mood, social participation, and overall quality of life. Complementary interventions may have value when they address both physical symptoms and psychological aspects of pain.

Acupressure may promote relaxation and provide individuals with a sense of active involvement in their care. Potential improvements in well-being should nevertheless be evaluated using validated measures rather than assumed from changes in pain scores alone.

## **8. Safety and Practical Considerations**

Acupressure is generally non-invasive, but pressure should be applied appropriately. Excessive pressure may cause discomfort, and pressure should not be applied over injured, infected, inflamed, or otherwise compromised areas. People with specific health conditions should seek professional guidance before using complementary interventions. Acupressure should complement, not delay, appropriate clinical assessment. Persistent, severe, progressive, or unexplained musculoskeletal pain may require diagnostic evaluation. A coordinated approach involving qualified healthcare professionals is preferable for chronic or functionally limiting conditions.

## **9. Evidence Limitations and Future Directions**

Current research is limited by differences in study populations, pain conditions, pressure points, treatment duration, intensity, control groups, and outcome measures. Small sample sizes and short follow-up periods can also limit the strength of conclusions. Future studies should use larger randomized controlled trials, standardized treatment protocols, appropriate comparison groups, validated pain and functional measures, and longer follow-up. Research should also identify which musculoskeletal conditions and patient characteristics are most likely to respond to acupressure.

### **Conceptual Framework**

The following framework summarizes a possible pathway through which acupressure may contribute to musculoskeletal pain management. The model links the intervention to pain modulation and relaxation, followed by potential improvements in pain, function, and quality of life.

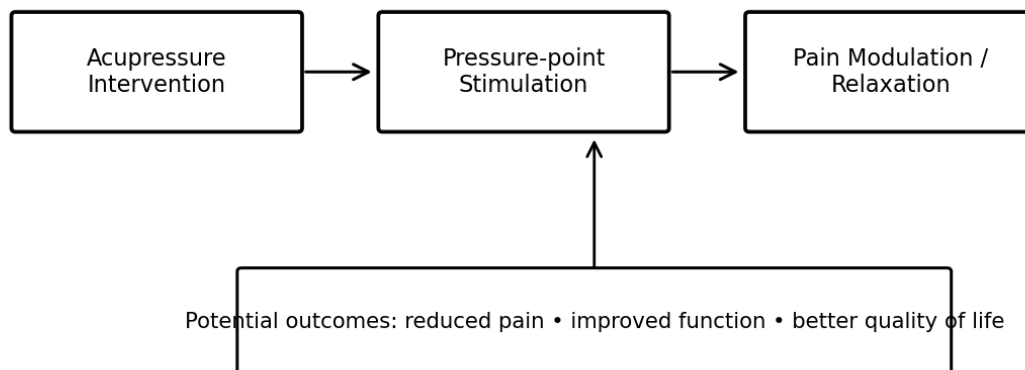


Figure 1. Conceptual framework for the potential role of acupressure in musculoskeletal pain management.

## **Conclusion**

Acupressure may serve as a useful complementary approach for managing musculoskeletal pain. Research suggests potential benefits for pain intensity in selected populations, and improvements in function or quality of life may occur when pain reduction enables greater participation in daily activities and rehabilitation.

However, evidence remains heterogeneous and does not support acupressure as a universal or stand-alone treatment. Its most appropriate role is likely within a multimodal management strategy that includes appropriate clinical assessment, exercise, physical therapy, education, and other evidence-based interventions.

Further research using standardized protocols, larger samples, reliable outcome measures, and longer follow-up is needed. Such evidence will help clarify the effectiveness of acupressure for specific musculoskeletal conditions and identify patients most likely to benefit.

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