



# In Motion

Highlighting Articles Advancing Pain Research in Canada and the World

## Featured article:

Bartel, L., & Mosabbir, A. (2021). **Possible Mechanisms for the Effects of Sound Vibration on Human Health.** *Healthcare*, 9(5), 597.

<https://doi.org/10.3390/healthcare9050597>

## Key insights from the study:

- **Types of Vibration:** The study discusses different types of sound vibration applications, including whole body vibration, vibroacoustic therapy, and focal applications of vibration.
- **Mechanisms of Response:** It categorizes the mechanisms of response to vibration into hemodynamic, neurological, and musculoskeletal effects. Highlights how rhythmic auditory stimulation can synchronize neural activity and influence cellular responses, which may help in pain management.
- **Clinical Applications:** The research highlights various clinical applications of vibration, such as increased blood circulation, pain reduction, and enhanced muscle relaxation and mobility.

## What happened?

Researchers conducted a narrative review of existing literature to explore the mechanisms by which sound vibration affects human health. The focus was on low-frequency sound (up to 250 Hz), including infrasound (1–16 Hz). They examined various applications of vibration, such as whole-body vibration, vibroacoustic therapy, and focal applications. The literature review categorized the mechanisms of response into three main areas: hemodynamic, neurological, and musculoskeletal.

## Why is it important?

Understanding the mechanisms by which sound vibration impacts human health is crucial for developing effective clinical applications. This study provides a comprehensive overview of how different types of sound vibrations can be used to improve health outcomes. By identifying the physiological, neurological, and biochemical responses to vibration, healthcare providers can better utilize these therapies to treat various conditions, including pain management, muscle relaxation, and blood circulation improvement.

## What now?

The study emphasizes the need for more research to understand the detailed mechanisms of how sound vibration affects the body. Future studies should focus on comparing different types of vibration delivery, exploring the effects of specific frequencies and intensities, and fostering interdisciplinary cooperation. By doing so, the field of vibrational medicine can develop more targeted and effective treatments, ultimately improving patient care and expanding the use of sound vibration in healthcare.

