



# DIFFERENTIATING HUMAN HEALTH BENEFITS: MICRO-IMPACT THERAPY VS. WHOLE BODY VIBRATION

- Mechanical stimulation and load bearing exercises can induce vital metabolic pathways (e.g. bone and muscle morphogenesis, endocrine regulation, protein synthesis, and stem cell proliferation) in the human body.
- While controlled low magnitude high-frequency mechanical stimulation has tremendous health benefits, several studies have shown that uncontrolled, high energy, long-term WBV exposure increases risks for low back pain, spinal degeneration, and lumbar intervertebral disc (IVD) herniation.
- Occupational exposure (in excess of ISO/OSHA standards) to WBV through frequent operation of vibrating vehicles are linked to higher incidences of neck pain and brain stem malfunctions.
- Most WBV technologies are not optimized, controlled or limited to accepted safe levels of force for clinical purposes with results varying from not beneficial to detrimental health outcomes.

## **Low-magnitude High-frequency mechanical stimulation (LMMS):**

- Low-magnitude mechanical stimulation (LMMS) is a relatively new mechanical stimulation technology.
- LMMS is applied through the feet, by standing on a platform oscillating at relatively high frequency.
- LMMS is non-invasive and non-pharmacologic with minimal risk for adverse events.

## **Juvent's Micro-Impact Platform: The leading LMMS technology for healthcare and sports applications.**

- Juvent Micro-Impact Platform is the result of \$45 million of research and development, which has culminated in over 20 patents worldwide.
- Juvent's unique LMMS reflects a perfect combination of intelligent software, a high-resolution accelerometer, and a precision mechanism that optimizes a signal optimized for each user.
- Unlike whole body vibration(WBV) 'shakers' Juvent's Smart Technology provides precisely controlled micro-impacts by self-adjusting user's unique resonant frequency, so it only needs 0.3g's of force to be effective.

FEATURES	Whole Body Vibration	Micro-Impact Platform
Delivered stimulation type	High to Low Magnitude High frequency High Displacement	Low Magnitude High frequency Micro Displacement
Amplitude type	Variable (1g – 12g)	Micro or nano-impacts (0.3 g)
Meets OSHA/ISO Standards	✗	✓
Machine software-induced stable posture	✗	✓
User's weight-calibrated amplitude adjusting	✗	✓
Induce controlled & resonant frequency	✗	✓
Induce key bone morphogenic and stem cell genes (e.g. BMP, osteocalcin)	✗	✓
Stable and uniform resonance with active feedback	✗	✓
Induces unnecessary pain signaling	✓	✗
Stable positive dose-response on bone-neuro-muscular anabolic signaling	✗	✓

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 These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease. Juvent's Platform is a Powered Exercise Device.