

# WHOLE BODY VIBRATION RESEARCH

## Athlete Performance

- The influence of Whole Body Vibration on jumping performance. (C. Bosco, M. Cardinale, O. Tsarpela, R. Colli - Biol. Sport, 1998)
- New Trends in training science: The use of vibrations for enhancing performance. (C. Bosco, M. Cardinale, O. Tsarpela, E. Locatelli - New Stud Athletics - 1999)
- Adaptive responses of human skeletal muscle to vibration exposure. (C. Bosco, R. Colli, E. Introini, M. Cardinale, O. Tsarpela, A. Madella - Clinical Physiology, 1999)
- Acute Whole Body Vibration Training increases vertical jump and flexibility performance in elite female field hockey players. (D.J. Cochrane, S.R. Stannard - British Medical Journal, 2005)
- Acute and residual effects of vibratory stimulation on explosive strength in elite and amateur athletes: Influence of vibration on mechanical power and electromyogram activity in human arm flexor muscles. (C. Bosco, M. Cardinale, O. Tsarpela - European Journal of Applied Physiology and Occupational Physiology , 1999)
- Acute changes in neuromuscular excitability after exhaustive Whole Body Vibration exercise as compared to exhaustion by squatting exercise. (J. Rittweger, M. Mutschelknauss, D. Felsenburg - Clinical Physiology and Functional Imaging, 2003)

## Muscle Power and Strength

- Human skeletal muscle structure and function preserved by Vibration muscle exercise following 55 days of bed rest. (D. Blottner, M. Salanova, B. Püttman, G. Schiffl, D. Felsenberg, B. Buehring, J. Rittweger – European Journal of Applied Physiology, 2006)
- The use of Vibration Training to enhance muscle strength and power. (J. Luo, B. McNamara, K. Moran – Sports Medicine, 2005)
- Effect of Whole Body Vibration stimulus and voluntary contraction on motoneuron pool. (Y. Nishihira, T. Iwasaki, A. Hatta, T. Wasaka, T. Kaneda, K. Kuroiwa, S. Akiyama, T. Kida, K.S. Ryol – Advances in exercise and sports physiology, 2002)
- Short-term effects of Whole Body Vibration on maximal voluntary isometric Knee extensor force and rate of force rise. (C. de Ruiter, E. van der Linden, M. van der Zijden, A. Hollander, A. de Haan – European Journal of Applied Physiology, 2003)
- High-Efficiency Vibration training increases muscle power in postmenopausal women. (C.R. Russo, F. Laurentani, S. Bandinelli, B. Bartali, C. Cavazzini, J. Guralnik, L. Ferrucci – Archives of Physical Medicine and Rehabilitation, 2003)

- Effect of a vibration exposure on muscular performance and body balance. (S. Torvinen, P. Kannus, H. Sievanen, T.A.H. Jarvinen, M. Pasanen, S. Kontulainen, T.L.N. Järvinen, P.Oja, I. Vuori – Clinical Physiology, 2002)

### **Metabolic Changes**

- Hormonal Responses to Whole Body Vibration in men. (C. Bosco, M. Lavovelli, O. Tsarpela, M. Cadinale, M. Bonifazi, J. Tihanyi, M. Viru, A. DeLorenzo, A. Viru – European Journal of Applied Physiology, 2000)
- The effects of vibration on human performance and hormonal profile. (C. Hammel, M. Hartard, C. Kleinmond, H. Schiessl, D. Jeschke - Doctoral thesis, Semmelweis University, 2002)
- Whole Body Vibration exercise leads to alterations in muscle blood volume. (K. Kersch-Schindl, S. Grampp, C. Henk, H. Resch, E. Preisinger – Clinical Physiology, 2001)
- Oxygen uptake during Whole Body Vibration exercise: Comparison with squatting as a slow voluntary movement. (J. Rittweger, H. Schiessl, D. Falsenberg – European Journal of Applied Physiology, 2001)
- Acute physiological effects of exhaustive Whole Body Vibration exercise in man. (J. Rittweger, G. Beller, D. Felsenberg – Clinical Psychology, 2000)
- Oxygen uptake in Whole Body Vibration exercise: Influence of vibration frequency, amplitude and external load. (J. Rittweger, J. Ehrig, K. Just, M. Mutschelknauss, K.A. Kirsch, D. Felsenberg – International Journal of Sports Medicine, 2002)

### **Senior Performance**

- Controlled Whole Body Vibration to decrease fall risk and improve health-related quality of life of nursing home residents. ( O. Bruyere, M.A. Wuidart, E. Di Palma, M. Gourlay, O. Ethgen, F. Richy, J. Reginster – Archives of Physical Medicine and Rehabilitation, 2005)
- Efficacy of training program for ambulatory competence in elderly women. (J. Iwamoto, Y. Otaka, K. Kudo, T. Takeda, M. Uzawa, K. Hirabayashi – The Keio Journal of Medicine, 2004)
- Balance training and exercise in geriatric patients. (M. Runge, G. Rehfeld, E. Resnicek – J Musculoskel Neuron Interact, 2000)

### **Bones**

- The anabolic activity of bone tissue, suppressed by disuse, is normalized by brief exposure to extremely low-magnitude mechanical stimuli. (C. Rubin – The FASEB Journal, 2001)
- Effect of Whole Body Vibration on muscular performance, balance and bone. (S. Torvinen – Acta Universitatis Tamp Erensis 908 University of Tampere, Tampere, 2003)

- Low frequency vibratory exercise reduces the risk of bone fractures more than walking. (N. Gusi, A. Raimundo, A. Leal – BMC Musculoskeletal Disorders, 2006)

#### **Low Back Pain**

- The effect of weight bearing exercise with low frequency, Whole Body Vibration on lumbosacral proprioception: A pilot study on normal subjects. (T.L. Fontana, C.A. Richardson, W.R. Stanton – Australian Journal of Physiotherapy, 2005)
- Treatment of chronic lower back pain with lumbar extension and Whole Body Vibration exercise. (J. Rittweger, K. Just, K. Kautzsch, P. Reeg, D. Felsenberg – Spine, 2002)

#### **Neurological Conditions**

- Effects of Whole Body Vibration in patients with multiple sclerosis: A pilot study. (O. Schuhfried, C. Mittermaier, T. Jovanovic, K. Pieber, T. Paternostro-Sluga – Clinical Rehabilitation, 2003)
- Effects of random Whole Body Vibration on postural control in Parkinson's Disease. (S. Turbanski, C.T. Haas, S. Schmidtbleicher, A. Friedrichl; P. Duisberg – Research in Sports Medicine, 2005)
- Short-term effects of Whole Body Vibration on postural control in unilateral chronic stroke patients. (I.J. van Nes, A.C. Geurts, H.T. Hendricks, J. Duysens – American Journal of Physical Medicine & Rehabilitation, 2004)

#### **Urinary Incontinence**

- Effect on Muscles of mechanical vibrations produced by the Galileo 2000 in combination with physical therapy in treating female stress urinary incontinence. (S. von der Heide, G. Emons, R. Hilgers, V. Viereck – galileowholebodyvibration.com.au)