

Abstract

Title: The Use of Vibration in Sports and Health Care

Objectives: The aim of this study is to determine whole-body vibration training as potential training method in sport and health area. The usage of vibration training should increase strength, bone mineral density, and balance.

Methods: This diploma thesis is solely theoretical. It is based on review of available literary sources, clinical trials accessible through electronic databases of medical and sports, and library catalogs. The resources from sport, physiology, biomechanics, and various medical disciplines (osteology, physiotherapy, kinesiology) were used also.

Results: The research concluded that the usage of whole-body vibration of an appropriate frequency or acceleration respectively could represent an alternative or a supplement to conventional training in order to increase muscle strength and bone mineral density or improve balance and mobility of elderly. The selection of right vibration parameters could support ordinary physical therapy of some neurological disorders.

Keywords: vibration, whole-body vibration training, muscle strength, balance, bone mineral density, neurological disorders, physical therapy