

VIBRATION TRAINING VERSUS EQUIVALENT POWER TRAINING FOR YOUNG SKIERS: EFFECTS ON STRENGTH

N. Mahieu, D. Michilsens, D. Van de Voorde, V. Arbyn, W. Van den Broecke, E. Witvrouw

ABSTRACT

Several studies have been conducted to examine the effects of Whole Body Vibration (WBV). Nevertheless the added value of a vibration program is not yet fully known. This study aims to find out whether a WBV program leads to more analytical and/or functional muscle strength, compared to the same exercise program performed without vibratory stimulus.

For this study, competition skiers were randomized in a vibration group (WBV) and an equivalent power training group (PT). Both groups trained for six weeks. A total of 33 competition skiers participated voluntarily. The skiers' isokinetic plantar and dorsiflexion strength, the isokinetic knee flexion and extension strength, and their explosive power (high box test) were measured before and after.

After six weeks of training, the isokinetic strength of the test subjects' lower and upper leg muscles and their explosive strength had increased significantly. In addition, the WBV showed better results for knee flexion and knee extension at 180°/sec and for plantar flexion strength at 30 °/sec in comparison to the GT group. The WBV group had a tendency towards better performance at the high box test and the plantar flexion at 120 °/sec ($p = 0.080$; $p = 0.057$).

A six week vibration program seems to have an added value in training young skiers. These results support the hypothesis that WBV constitutes an interesting complementary form of training within power training.

Key words: Whole Body Vibration, Skiing, Strength.

Nele Mahieu
Revaki UZ 6K3
De Pintelaan 185
9000 Gent
09/240.37.68
Nele.Mahieu@ugent.be