

## **THE EFFECTS OF A HIGH VOLUME VERSUS LOW VOLUME 8-WEEK PROPRIOCEPTIVE TRAINING PROGRAM ON POSTURAL SWAY**

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### **Abstract**

The purpose of this investigation was to determine if high or low volume training was more effective in improving postural sway and proprioception, as measured by a force plate, after an eight-week proprioceptive training program utilizing the same exercises.

Eighteen subjects (14 men, 4 women) were randomly divided into a control group (*CG*), low volume training (*LVT*) or high volume training (*HVT*) group. Subjects completed eight weeks of proprioceptive training on a **dura disc**. Proprioception was measured subjectively by subjects performing a single limb stance on a force plate. The disbursement of the centre of pressure (*CoP*) was obtained from the force plate in the medial-lateral (*m-l*) and anterior-posterior (*a-p*) sway path and subsequently used for pre-test and post-test analysis.

After the eight-week training intervention, there was a significant difference ( $P < 0.05$ ) in postural sway (see figures 1, 2 & 3) between pre and post testing for both the control and high volume training group in the m-l direction. While there was a significant difference ( $P < 0.05$ ) in postural sway between pre and post testing for the low volume training group in the a-p direction, there was no significant difference ( $P > 0.05$ ) detected for improvements between the low and high volume training groups. These results suggest that eight-weeks of balance training on a **dura disc** is an effective means of improving proprioception and is an effective rehabilitation tool for people suffering from functional ankle instability. Furthermore, these results also demonstrate that low volume training is equally effective as high volume training in improving postural sway and proprioception.

Key Words: Postural sway, proprioception, force plate, **dura disc**.

Research Review – AOK Duradisc

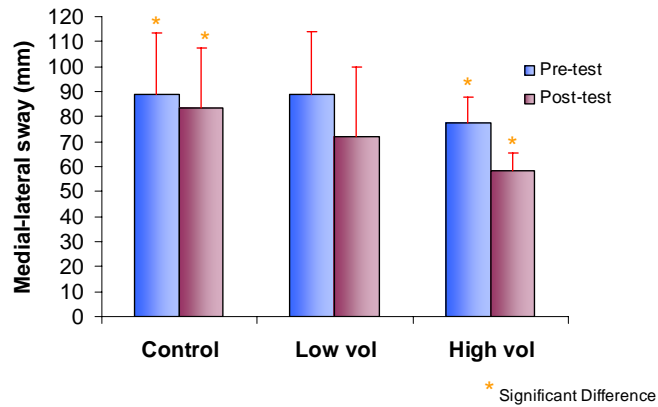


Figure 1: Means for Pre and Post Testing Conditions in the Medial-Lateral Direction. Values are means  $\pm$  95% confidence intervals. (n = 6 control, 6 low vol and 6 high vol)

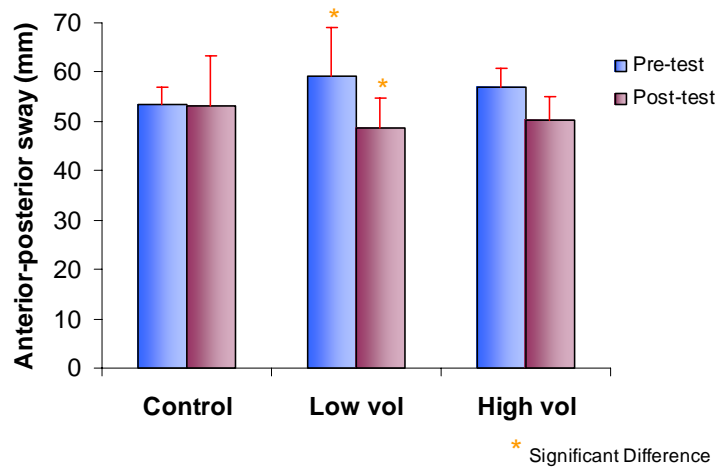


Figure 2: Means for Pre and Post Testing Conditions in the Anterior-Posterior Direction. Values are means  $\pm$  95% confidence intervals. (n = 6 control, 6 low vol and 6 high vol)

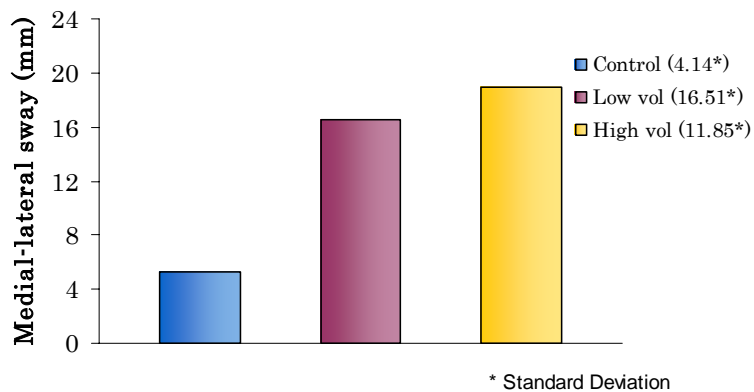


Figure 3: Mean Improvement (training effect) in Medial-Lateral Sway for each Experimental Group. Values are means. (n = 6 control, 6 low vol and 6 high vol)