

HydroWorx Aquatic Therapy Improves Balance and Stability

Effect of Aquatic Immersion on Static Balance



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Purpose:

The study was conducted in order to **compare the measures of static balance and limits of stability (LOS) in an aquatic environment to land.**

Methods:

Fifteen, healthy and young, males and females from the ages of 21-25 participated in this study. Participants were asked to perform a 90 second static balance trial under varying conditions. The three environmental conditions were land, water immersion at the greater trochanter (waist high) and xiphoid (chest high) process depths with eyes open and eyes closed. To understand environmental influences, participants performed anterior-posterior and medial-lateral LOS excursions.

Results:

The differences between land and water that resulted from the study showed that there were significant effects on LOS. Percentages show that compared to land values 155% and 317% increased for the greater trochanter and xiphoid conditions in water. **LOS revealed that anterior-posterior and medial-lateral excursions were significantly different between land and both water conditions.**



Conclusion:

When the participants took part in this study, measures of balance and stability were inferior when the task was performed in water compared to on land. The participants also achieved greater center of pressure maximum excursions in water than compared to land. **Therefore, it was determined that the inclusion of aquatic training is an important consideration as part of a comprehensive training/rehabilitation program. Developing stability through exercises that are characteristically instable improves neuromuscular coordination and postural control strategies and reduced risk for falls for special populations (e.g. older adults, those with impaired neuromuscular function.)**



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