

HydroWorx and Running Study

Water Treadmill Parameters Needed to Obtain Land Treadmill Intensities in Runners



Rachel K. Rife, Joseph William Myrer, Pat Vehrs, Jeffery Brent Feland, Iain Hunter, and Gilbert W. Fellingham

Department of Exercise Sciences, Brigham Young University

Purpose:

This study was conducted to **establish water treadmill running parameters with shoes and without shoes** needed to obtain known land treadmill running cardiorespiratory responses.

Method:

Eighteen trained college-aged runners participated in three running conditions. Subjects performed workouts on a **land treadmill, on a HydroWorx underwater treadmill with shoes, and a HydroWorx underwater treadmill without shoes.**



Results:

All subjects were able to exercise on an underwater treadmill at **intensities equivalent to 80% of oxygen consumption on land treadmills.** This study reveals that participants can select a treadmill speed in underwater treadmills that **elicits a heart rate of seven beats per minute less than their land treadmill rate.** Participants took twenty-two fewer strides per minute during the underwater treadmill workout than during the land treadmill workout. Wearing **shoes created more resistance** for the underwater treadmill workouts, creating a slower stride and increasing oxygen consumption.

Conclusion:

The water treadmill provides athletes an **alternative method of training to maintain cardiovascular fitness without the weight bearing demands of land running.** Subjects should select water treadmill speeds that elicit a heart rate response that is seven beats per minute less than typical training heart rate during land based running.



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