

# HydroWorx and Strength Training Study

## Aquatic Treadmill Training Enhances Strength and Lean Mass Gains When Combined with Resistance Training



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### Purpose:

This study was conducted in order to explore the **differences in soreness, inflammation, muscle-mass gain and loss of body fat** between resistance training along, with land treadmill aerobic exercise and resistance training with underwater treadmill aerobic exercise.

### Method:

Forty-seven healthy, sedentary volunteers participated in this study. Subjects were **tested** twenty four hours before and after initial acute exercise. As well as **twelve weeks later for VO2max, body composition, and strength**. Subjects were randomized into three groups: **Resistance Training, Resistance Training Plus Land Treadmill (LTM), and Resistance Training Plus Underwater Treadmill (ATM)**. ATM or LTM exercise occurred immediately following resistance training sessions and in isolation on a third day during the week. After training, baseline tests were repeated. A 3x2 mixed model ANCOVA with repeated measures was used to examine changes in body composition, strength, and VO2max .

### Results:

There was **a benefit in almost every aspect** to resistance training plus underwater treadmill. The underwater treadmill **reduced soreness, body fat and inflammation**. While also **improving muscle mass and strength performance**. Results also show that with resistance training plus underwater treadmill **blood pressure was lower** than if resistance training plus land treadmill was used.

### Conclusion:

Concurrent resistance training plus underwater treadmill **elicits greater increases in lean mass and strength than resistance training alone or resistance training plus land treadmill**. In combination with resistance training, the novel use of resistance training plus underwater treadmill running may benefit those who **desire both aerobic fitness and maintenance of strength and muscle mass**. These results challenge the view that training for both strength and endurance are universally incompatible.



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