Impact of Aging on Recreational Surfers’ VO_{2peak} During Simulated Paddling

JOSEPH F. MOON, JOANNE T. CAYABYAB, JENNY LOU D. CARDINAL, JEFF A. NESSLER, GEORGE H. CROCKER & SEAN C. NEWCOMER

Department of Kinesiology, California State University, San Marcos, CA, 92096

Abstract

**Background:** There is a growing body of literature characterizing peak oxygen consumption (VO_{2peak}) of young surfers during simulated paddling. Conversely, no data on VO_{2peak} during simulated paddling has been collected over the ages of 30–60. This paucity of data is surprising that there is a paucity of data characterizing the peak oxygen consumption (VO_{2peak}) of young professional surfers during paddling on a swim bench ergometer (Lci). Data from previous studies demonstrate that young competitive surfer’s VO_{2peak} is comparable to athletes from other sports such as swimming (2). It is surprising that there is a paucity of data characterizing the peak oxygen consumption of recreational surfers over the age of thirty years, given the changing demographics of surfing.

**Purpose:** The purpose of this study was to characterize VO_{2peak} during simulated paddling in recreational surfers between the ages of 18 to 69.

**Methods:**

**Subjects:** Eight, male, recreational surfers ages 18-69 years participated in this study.

- Health and surfing history questionnaires were completed following informed consent.
- Subjects performed a graded exercise test that started at 20 W and increased by 10 W every minute until volitional fatigue on a modified swim bench ergometer (Vasa, Inc., Essex, Vermont, USA).
- Heart rate (HR) and oxygen consumption were measured continuously using a HR monitor (Polar Rc5) and metabolic cart (ParvoMedics, respectively).

**Statistical Analysis:**

- Data reported as mean, standard deviation, and range for each age-group.
- Pearson’s correlation coefficient (r) and linear regression were used to describe relationships between measured endpoints (e.g. VO_{2peak}, HR, and RER) and age.
- Statistics were performed using Microsoft Excel 2013 at α = 0.05.

**Results:**

- Among the group of sixty-eight recreational surfers (ages 18-69) there was a significant decrease in VO_{2peak} and maximal HR with an increase in age (Figures 1.3).
- RER decrease in older subjects (Figures 2).
- Paddling, an upper body exercise, shows similar age-related decline in VO_{2peak} and maximal HR as that of lower and whole body exercise.

**Conclusions:**

- VO_{2peak} and HR in recreational surfing at ages 40–69 years are significantly lower than their younger counterparts (ages 18–39) and are similar to other upper body exercises.

**References:**


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