

Metabolic Effects on a Novel Whole Body Exercise Device Compared With a Cycle Ergometer

MELODY A. GARY, ANDREA L. HENNING, JILL N. BEST SAMPSON, and BRIAN K. MCFARLIN

Applied Physiology Laboratory; KHPR/Biological Sciences; University of North Texas; Denton, TX

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ABSTRACT

BACKGROUND: This machine was created under the expectation that it gave a better cardio workout than a regular cycle ergometer. **METHODS:** The purpose of this study was to compare the metabolic effects during a similar bout of exercise on the Fish and Kangaroo Machine (FKM) and a cycle ergometer. Recreationally active individuals (men, women; N=13) completed two workouts, one on the FKM and the other on the cycle ergometer. The exercise protocol included intervals alternating between exercise (3-min) and rest (3-min) for a total duration of 23-min. After the 1st exercise bout (on the FKM) the heart rate response on the FKM was used to establish the cycle resistance for the 2nd exercise bout. Heart rate, cardiac output, stroke volume were measured using a wireless telemetry technique (Physioflow Enduro). Oxygen consumption (VO₂) was measured via breath-by-breath automated analysis of expired respiratory gas (MGC Diagnostics Ultima). Capillary (fingertip) blood lactate was measured using a handheld meter (Lactate Plus Nova Biomedical). With the exception at the beginning, at the beginning of each rest interval and at the very end of the last rest interval. **RESULTS:** During rest intervals heart rate, stroke volume, and cardiac output returned to resting levels when exercising on the bike; however, when exercising on the FKM stroke volume remained elevated. VO₂ was lower on the FKM compared to the bike. With the exception of the last exercise interval blood lactate values were similar between the two exercise devices. **CONCLUSIONS:** Both modes of exercise demonstrated similar physiological responses; however, the FKM appeared to have a slightly greater anaerobic component. Given the nature of the way the exercise intervals were designed; it is plausible that the FKM may be best used as an aerobic training device. More research is needed to determine how to best use FKM exercise as a part of a comprehensive training program.

