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Energetic Profile in 500m Kayak Sprint

Summary

Objects: Energetic profile of 500m kayak sprint was researched.

Methods: Eight junior female kayakers (15 ± 1 yr, 172 ± 4 cm, 65 ± 5 kg, 15 ± 10 month of training experience) volunteered to participate in this research and paddled on a Dansprint kayak ergometer for a step test and a 120s all-out test. Using information from ergometer and spirometric analyzer, the energetic contribution was measured with accumulated oxygen deficit (AOD) method.

Results: The energy of 500m kayak sprint was supplied with $59.6\pm 11.4\%$ from aerobic system. The maximal heart rate and blood lactate acid during the 500m paddling were 179 ± 8 bpm, and 11.3 ± 1.5 mM/L, respectively. The energy of the first 5 to 10 seconds (s) in 500m paddling was provided primarily by anaerobic alactic system. The anaerobic lactic system played an important role from the 10th to 40th s. After 40s paddling, the aerobic system dominated the energy supply.

Conclusion: Kayak sprint 500m is an aerobic-dominated sport event. There is an underestimation on the aerobic contribution. The energetic profile of energy supply in 500m kayak sprint could provide a better biological background for the training.

Key words: kayak ergometer; 120s; energetic supply