

## Two days, two marathons: superman?

M. Vescovi M.D.\*, S. Benzo M.D.\*, D. Bronzini \*\*°, F. Bruttini M.D.\*, A. Mortara \*\*, I. Nakou M.D.\*, Monica Vescovi M.D.\*

\* Medical Staff Cus Pavia Canoa \*\* Technical Staff Cus Pavia Canoa ° Canoe and Kayak Technical Teacher Faculty of Sports Medicine University of Pavia

### Introduction

The river marathon races are characterized by a duration longer than two hours, with intermissions at predetermined distances depending on the route. In these intermissions the athletes make portages where the competitors carry their canoes in a foot race with a distance of about 150 meters, and then they resume paddling.

### Method

This type of high endurance races should be prepared down to the last detail (training, hydration, nutrition before the race, during the race, after the race, pharmacological support). In the last year two articles which have attracted our attention, appeared in the literature: “Dietary nitrate supplementation reduce the O<sub>2</sub> cost of low-intensity exercise and enhances tolerance to high-intensity exercise in humans”<sup>1</sup> and “Acute L-arginine supplementation reduces the O<sub>2</sub> cost of moderate-intensity exercise and enhances tolerance to high-intensity exercise tolerance”<sup>2</sup>

We have performed field tests of the efficiency and the tolerance in these two training plans, trying them both individually and sequentially, on an athlete particularly gifted in endurance races. There was no tolerance issue both in the individual and sequential tests.

Since we did not have any available method to evaluate the training plan’s efficiency in the water, we evaluated the average heart rate during a route with the same length and average speed. The data indicated that there was a better performance when we applied the training plans in sequence. The sensation reported by the athlete confirmed our impressions.

### Results

We decided to test the sequential hypothesis (500 ml per day of beetroot juice in the last 6 days before the race and 6 grams of L-arginine taken one hour before the race) during the World Cup marathon which took place in Rome in June 2011. The athlete raced on the 25<sup>th</sup> of June 2001 in the C1 marathon category. His time was 2h 14’49”22 which classified him in the 3<sup>rd</sup> place. The next day (after exactly 24 hours) the athlete repeated the marathon at the World Cup in C2 category and took the second place with a time of 2h4’52”72. During the competition the athlete was monitored by a heart rate meter produced by Polar, which allowed us to evaluate both the heart rate recorded every

5 seconds and the velocity measured with a GPS device. The collected data during the first day convinced us to permit the athlete to repeat the marathon the next day on a multiple row boat (C2). Certainly, the difference between the race time of the first and second marathon, demonstrates an understandable fatigue of our athlete. On the other hand it is probably not usual to reach the finish line in two canoeing marathons within 24 hours. The sensation reported in the athlete's log convinced us try again the supplements in the European Championship of canoe marathon scheduled to take place in France in the end of July 2011.

The data will be updated again with the use of a heart rate monitor, after the race.

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<sup>1</sup> Stephen J. Balley, Paul Winyard, Anni Vanhatalo, Jamie R. Blackwell, Fred J. DiMenna, Daryl P. Wilkerson, Joanna Tarr, Nigel Benjamin and Andrew M. Jones: Dietary nitrate supplementation reduce the O<sub>2</sub> cost of low-intensity exercise and enhances tolerance to high-intensity exercise in humans *J Appl Physiol* 107: 1144-1155, 2009

<sup>2</sup> Stephen J. Balley, Paul Winyard, Anni Vanhatalo, Jamie R. Blackwell, Fred J. DiMenna, Daryl P. Wilkerson, Joanna Tarr, Nigel Benjamin and Andrew M. Jones Acute L-arginine supplementation reduce the O<sub>2</sub> cost of moderate-intensity exercise and enhances tolerance to high-intensity exercise tolerance *J Appl Physiol* 109 (2)