

## **Abstract**

### **Title:**

Testing of maximal heart rate in a swimming flume

### **Objectives:**

Pilot study using the methodology for testing the maximum heart rate in swimming flume, functioning as a swimming trainer. An alternative method for determining maximum heart rate by each swimmer.

### **Methods:**

Due to the basis of the pilot study, a methodology for heart rate max. testing was created. A sample of probands was chosen to study Physical Education and Sport of the students who are former or still active swimmers. A sporttester was used to detect a heart rate. Data processing was made by Polar Precision Performance program. For the submaximal swimmer speed detection probands went through a CSS test. Speed obtained from this test was further used for warming of probands before the graded strain test started up to the maximal heart rate of probands.

### **Results:**

By the CSS test is obtained the individual speed of swimming at the ANP level of each of the probands in meters per second. This was further used as the speed for warming in the graded test up to the maximal heart rate of probands. The results are showing that four of six probands reached the maximum heart rate level in comparison with a theoretical calculation of the maximum heart rate.

### **Key words:**

swimming flume, swimming speed, maximum heart rate, Critical Swim Speed, sporttester, lactate