

# AGE AND GENDER DIFFERENCES IN PERFORMANCE AT CROSS TRIATHLON WORLD CHAMPIONSHIPS

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## Abstract

**Introduction.** Cross triathlon is a sport consisting of three segments: swimming, off-road cycling, and running. Our study analyses the differences in performance between genders and changes in performance in selected age categories at the ITU Cross World Championships held between 2011 and 2016. **Material and methods.** During this period, a total of 1,933 triathletes were analysed (1,472 men and 461 women). Two-way analyses of variance (ANOVA) were used to examine the impact of sex differences and age-related changes on performance (time, percentage of time, and performance ratio) in swimming, cycling, running, and total race. **Results.** The age groups with the highest level of participation were persons aged 40-44 and 45-49 years among men and women, respectively. With regards to performance in the different age groups, in men and women, its high level was maintained between 25 and 49 years, and it decreased significantly from the age of 50-54. In men, the best results in cycling and total race time were obtained in the 30-34 age group and in swimming and running in the 40-44 group. Women obtained the best results in running in the 25-29 age group, in cycling in the 30-34 group, and in swimming and total race time in the 35-39 group. **Conclusions.** The results of the study have confirmed that there is a demand for sports in 40+ age groups. As for performance in the different age groups, it was on a high level between 25 and 49 years and decreased significantly from the age of 50-54 onwards. According to these results, the sports training of these triathletes should be oriented so that they obtain their best results between 30 and 35 years of age.

**Key words:** competition, endurance, master category, aging