

The aim of this thesis was to summarize current findings about exercise testing. The main goal was to evaluate protocols used in daily practice, their indications and benefits, comparability and parameters that can influence the results. The purpose of the practical part was to compare the maximal values of physiological parameters (heart rate, VO_2 , minute ventilation, RER, power output and rated perceived exertion) for the two most commonly used protocols for bicycle ergometry tests in the Czech Republic. We compared ramp ($1/3\text{W}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$) and step ($1\text{W}\cdot\text{kg}^{-1}$ every 3 min) incremental protocols to exhaustion. Thirteen young, healthy and physically fit subjects (9 males and 4 women aged from 20 to 31 years) underwent two tests in separate occasions, during which they performed the protocols in random order. Paired t-test was used to statistically analyze the data. We found no statistically significant differences in these maximal values except for the exercise test time. We deduced some practical benefits of each protokol from obtained data.