The dissertation work focusses on changes in resting energy expenditure during the reducing regimes. I have compared two groups of people – women in reducing regimes and men after strength training. My research confirms the following: within the women's group, there was a decrease in weight, thereby also a decrease in resting energy expenditure. On the contrary, a slight increase of resting energy expenditure can be observed within the men's group; however, it is not significant. There was no weight-decrease in this group, which is, in my opinion, caused by the changes in the body composition – above all, the increase of FFM.