

Obesity and ageing are associated with the changes in adipose tissue characteristics, which are considered as one of important contributors to development of complications, such as cardiovascular diseases or type 2 diabetes. Physical exercise is known to be effective in prevention of diseases related to obesity and ageing. However, the effect of exercise on adipose tissue characteristics is only few elucidated in humans. The goal of this bachelor thesis is to summarize the main effects of exercise on adipose tissue characteristics. This thesis subsequently discuss detrimental changes (dysfunction) of the adipose tissue in obesity. Recent findings about the effects of some types of physical training on health of the elderly people are also mentioned. The initial chapter deals with adipose tissue in general, concretely the morphology, metabolism and endocrine function of the adipose tissue are described. Next part is focused on obesity, the concept of a chronic low-grade inflammatory state is introduced. The key section is the fourth chapter, in which the effects of exercise on adipose tissue, i.e. effects on metabolism of adipocytes and activation of immune cells, are reviewed. At the end of this thesis, the pathophysiological changes in inflammatory state and adipose tissue distribution associated with ageing are described, and the effects of exercise on these factors are discussed.