The theoretic part of this dissertation examines the influence of excessive energy intake and low energy expenditure on development of lifestyle diseases. Walking is the most
recommended example of basic movement activity and there are emphasised its main health benefits in the work. The theoretical part is further exploring the energy metabolism and focuses especially on the possibility of its measuring. In this work are compared referential methods of monitoring of the energy expenditure to the methods applicable in everyday life. The aim of the practical part is the evaluation of the energy expenditure calculated by algorithms of the Omron HJ-720IT and the SenseWear Armband. As the reference method has been used indirect calorimetry with the use of the analyzer of respiratory gases MedGraphics VO 2000. The monitored activity was the laboratory simulation of walking. The walking has been performed on electronic treadmill, which has generated the predefined speed, gradients and combinations of these factors.