The aim of this paper is to verify the average activity and involvement of chosen torso muscles and muscles of lower extremities by the utilization of surface electromyography and the force platform. The muscle activity and the sole load are monitored mainly during dynamic activities; i.e. walk and running drills as the basic element of the proper running technique training. The measuring is carried out under two situations: with and without the running shoes. Two groups of runners have been chosen for the experiment: the performance and the weekend runners.