

THE ECONOMICAL RACING-MOVEMENT OF SPORTSWOMEN AT VARIOUS LEVELS OF PERFORMANCE

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The investigation was carried out on a training-stand "Tredban". During the running parameters such as: breathing, stride length and stride frequency, time of support time of flight, vertical oscillations and impact (shocking) accelerations were recorded.

The economical level of running was calculated as the cost of oxygen charge for one metre of running at a speed 4 m/sec.

During the experiment it was revealed that the sportswomen at the "elite level" had the most economical level of running. Qualified runners had a level 8-12% below, and the beginners- 20-30% below the level of the elite performers.

The analysis of biomechanical parameters characterises the non-optimal running-pattern of the beginners. More qualified runners use a step 5% longer, and the beginners 7-12% longer than those of the most qualified (elite) runners.

The beginners were identified by the high values of vertical oscillation and by the quantities of acceleration. The data of the investigation indicates that the most economical level of running was performed by the sportswomen of the "elite" group as compared to that of the runners of the lower qualification group.