

Physical and physiological profile of Swiss street skateboarders

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The continued expansion of skateboarding at the professional and amateur levels in Europe and worldwide, leads this sport to gain increasing importance. This study aimed to investigate the physical and physiological profile of Swiss street skateboarders and to investigate whether there are differences according to the skateboarder level. The hypothesis was that skateboarders with better technical skateboard skills also have better physical and physiological fitness level. Eight Swiss recreational skateboarders were selected for this study. A street skateboarder level assessment questionnaire was specifically developed and filled out by the candidates to assess the street skateboarding level. In addition to skateboard level a skateboards experience index were assigned to each participant (total weekly practice time * accumulated experience in years/months). Subsequently, the candidates performed a battery of tests to assess their physical level. The tests consisted in balance, jumping (countermovement jump), maximal (Fmax) and explosive force (torque development rate; RTD) of the ankle, hip, knee joints and finally an anaerobic capacity test (90 second box jump test). The results of this study showed no significant correlation between the results of the different tests and the technical level of the skateboarders ($p < 0.05$). However, a trend ($r = 0.071$; $p = 0.053$) between experience accumulated on skateboarding and Ankle RTD was shown among the results obtained. The ankle plantar flexion and dorsal extension movement assume an important role in skateboarding. The ankle is responsible for specific balance in skateboarding but especially in lower limbs power output, influencing the tricks and the performance. In conclusion, although the sample was small and very heterogeneous, including many sports backgrounds, thanks to this study it was possible to obtain interesting results, where the importance of ankle in skateboarding was explained.

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