

## 研究業績 英文表記

和文	
表題	成長期女子バドミントン選手の体幹加速度の特徴：オーバーヘッドストローク後の片脚着地に着目して.
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英文	
Title	Characteristics of trunk acceleration in female badminton players during maturation: Focus on single-leg landing after overhead stroke.
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Abstract	<p>Non-contact anterior cruciate ligament (ACL) injuries in badminton players often occur during single-leg landings after overhead strokes. The incidence of ACL tears in female badminton players is six times higher in high school than in junior high school. This study aimed to quantify physical load in the single-leg landing after an overhead stroke during actual badminton games using micro-sensor technology and compare the loading difference among maturation and playing area. Twenty-seven female badminton players (23 players in the late pubertal stage [LP stage]; and four junior high school players in the middle pubertal stage [MP stage]) played two singles games while wearing a tri-axial accelerometer. The moments that generated &gt;4G resultant acceleration of the single-leg landing after an overhead stroke were extracted. We compared the extracted movement number, frequency, and each axis accelerations (mediolateral, vertical, and anteroposterior) between MP and LP stages. There was a total of 661 single-leg landings that generated &gt;4G acceleration. The single-leg landing frequency of the LP stage was not significantly higher than those of the MP stage. The magnitude of each axis accelerations was not also different between MP and LP stages. On the other hand, the vertical acceleration on the racket-hand leg and mediolateral acceleration on the leg opposite the racket hand were greater than those on the contralateral side legs. These findings suggest that trunk acceleration of the single-leg landing after an overhead stroke cannot be a key variable to monitor high-risk loading in female badminton players, whether MP and LP stages.</p>
keyword	Accelerometer, badminton, single-leg landing, anterior cruciate ligament, puberty.

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