

## 研究業績 英文表記

和文	
表題	バレーボールの試合における高負荷動作の検出: 横断的研究
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英文	
Title	Detection of High-impact Movements in a Volleyball Match: A Cross-Sectional Study.
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Abstract	<p><b>OBJECTIVES:</b> Detection of the frequency or intensity of high-impact movements during volleyball match would help understand physical load causing the injuries. The present study aimed to classify different volleyball-specific high-impact movements based on the measurement of trunk acceleration in a volleyball match as a cross-sectional study. <b>METHODS:</b> Linear accelerations of six female volleyball players were measured during a single volleyball match. The instances at which &gt;4G and &gt;6G of resultant acceleration was generated were detected. Movements recorded with a synchronized video were also detected and categorized. Counts (cases) and frequencies (cases/min) of the detected movements were calculated, and the resultant and each directional acceleration among the top seven volleyball-specific detected movements were compared. <b>RESULTS:</b> For attackers, 361 and 97 movements were detected for the resultant acceleration thresholds over 4G and 6G, respectively. Landing, takeoff and running were the top three detected movements in both thresholds. Landing was the most frequently observed high-impact movement, and the ratio of landing over 6G was greater among all detected movements compared with the ratios of landing over 4G threshold. For receivers, 297 and 38 movements were detected for the resultant acceleration thresholds over 4G and 6G, respectively. Running, steps on the spot, and steps forward or backward were the top three detected movements. The top seven detected volleyball-specific movements generating over 4G were landing after blocking, landing after spiking, takeoff before spiking, takeoff before blocking, stationary steps during receiving, steps forward or backward during receiving and sidesteps during receiving. Resultant and vertical accelerations of landing after spiking were significantly greater than those of the other six movements (<math>p &lt; 0.001</math>). <b>CONCLUSIONS:</b> Using the results of present study, we were able to estimate the physical load causing injuries during a real volleyball match.</p>
keyword	Athletic Injuries; Biomechanical Phenomena; Female; Prevention & Control; Risk Assessment; Volleyball Injuries.

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