

研究業績 英文表記

和文	
表題	バスケットボール競技における高加速度動作、筋損傷、および主観的運動強度
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英文	
Title	High-Acceleration Movement, Muscle Damage, and Perceived Exertion in Basketball Games.
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Abstract	<p>Purpose: To evaluate the effect of the number of high-acceleration movements on muscle damage and the rating of perceived exertion (RPE) in basketball games. Methods: Twenty-one male collegiate basketball players (mean age, 20.0 [1.0] y) were included. A triaxial accelerometer was used to measure acceleration in basketball-simulated scrimmages. To detect higher physical load during the actual game, the resultant acceleration was calculated, and 3 thresholds were set: >4G, >6G, and >8G resultant accelerations. The number of the extracted movements was calculated at each acceleration threshold. Plasma creatine kinase (CK) levels (marker of muscle damage) were estimated before and 24 hours after the match, and the session-RPE load was calculated within 30 minutes after the match. Pearson product-moment correlations with 95% confidence intervals were used to determine the relationships between the number of high-acceleration movements and plasma CK and session-RPE load. Results: Significant correlations were observed between the number of high-acceleration movements >8G and CK level ($r = .74$; 95% confidence interval, 0.44-0.89; $P < .0001$). Furthermore, the correlation coefficient between acceleration and CK increased with increased acceleration threshold (>4G: $r = .65$; >6G: $r = .69$). Contrastingly, the correlation coefficient between acceleration and the session-RPE load decreased with increased acceleration threshold (>4G: $r = .72$; >6G: $r = .52$; >8G: $r = .43$). Conclusions: The session-RPE reflects the total amount of movement, while the high-acceleration movement reflects the momentary large impact load or intensity, and they evaluated different factors. Basketball coaching and conditioning professionals recommended combining acceleration and session-RPE when monitoring the load of athletes.</p>
keyword	accelerometer; creatine kinase; external load; fatigue; internal load.

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