



## Trevor Clark

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### BIOGRAPHY

Trevor Clark is a proud Kiwi (New Zealander), currently based in Sydney Olympic Park at the Australian College of Physical Education where he is Head of Department, Sport Performance and Sport Business. He oversees bachelor degree programs in coaching (strength and conditioning) and (management) and one each in applied fitness and business leadership. He also manages a post graduate diploma in sports administration. He maintains strong affiliations with his industry and holds elite level accreditations with the Australian Strength and Conditioning Association and Exercise and Sport Science Australia. However his passion still revolves around rugby league which has a very strong presence in Sydney and Australia.

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### SPORTS RELATED CONCUSSION

Accelerometer devices will quantify the magnitude of head impacts throughout sport to determine potential for brain injury. There aren't any printed head impact knowledge for rugby league. The main objective of this study was to quantify head impacts for amateur senior rugby league players to ascertain potential for brain injury. Data on head impact magnitude, frequency and distribution were collected with instrumented behind-the-ear XPatches (accelerometers) worn by 42 premier senior amateur rugby league players participating in 2014 and 2015 domestic seasons of matches. During the study there have been twenty,837 impacts >10g recorded. The mean number of impacts per player over the season was  $672 \pm 237$  resulting in  $52 \pm 79$  impacts to the head per player, per match. Players recorded a median [IQR] linear (14 [10 to 23] g) and rotational (3,181 [1830 to 5,612] rad/s<sup>2</sup>) accelerations over the study. Over the study there have been 103 impacts (0.5%) for linear acceleration and four, 505 impacts (22%) for movement acceleration, on top of antecedently printed linear and movement injury tolerance thresholds. The median peak linear acceleration of 14g was lower, while the median rotational acceleration of 3,181 rad/s<sup>2</sup> was higher than the medians reported in American high school football, collegiate football and youth ice hockey. The potential for brain injury in rugby league players as indicated by head impact acceleration is likely similar to American football and rugby union. Given world-wide growth of rugby codes, sports clinicians need to be aware of the potential for head injury and likely concussion prevention and management options.