

The Impact of the Tackle: Shoulder Injuries in a Rugby Union Team

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Background & Aims

Rugby Union (rugby) is the third most popular contact sport in the world¹ and has one of the highest reported incidences of injuries amongst all sports.² Thoroughly characterising these injuries may help develop preventative methods to reduce absence from rugby at professional and amateur levels. Although the tackle event is most commonly associated with concussion and cervical nerve root injuries, shoulder injuries are responsible for up to 46% of days lost to participation at a professional level.³ This study sought to evaluate the type, circumstances, and severity of shoulder injuries over the course of one season at a professional rugby team.

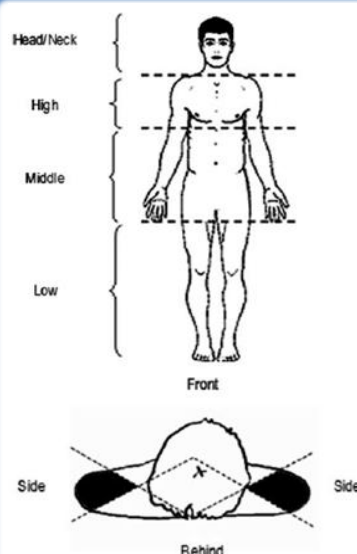


Figure 1. Height and direction coding⁴

Methods

All shoulder injuries from matches and training during the 2010-11 season at a Welsh regional rugby team were identified using the *SportsCode* video analysis programme and recorded in Microsoft Excel® spreadsheets. Data recorded for circumstances included direction and height of a tackle coded using Figure 1, and player movement and the nature of a tackle (e.g. stopping tackle) using a schema for qualitative analysis proposed by Wilson et al.⁵ Data recorded for severity was measured by number of days lost from competition and/or training. Type of shoulder injury was classified using the Orchard Sports Injury Classification System (OSICS) version 10.1.⁶

Results

There were 24 injuries (3 training injuries and 21 match-related) during the 2010-2011 season. Five of these videos were unsuitable or unavailable and were excluded from analysis for circumstances, but were suitable for analysis for other parameters. Tackles caused the majority of shoulder injuries (92%, n=22).

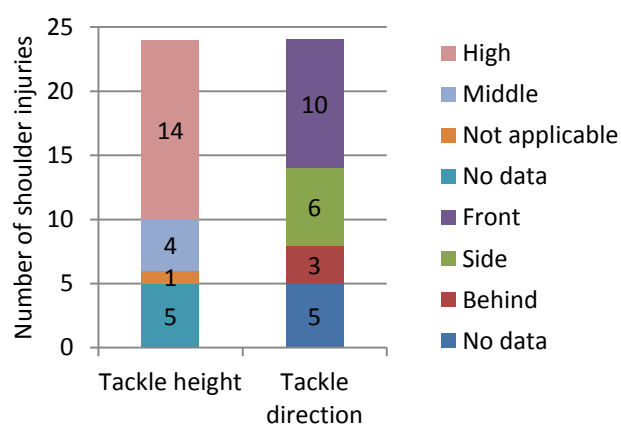


Figure 2. Frequency of shoulder injuries by tackle height and direction

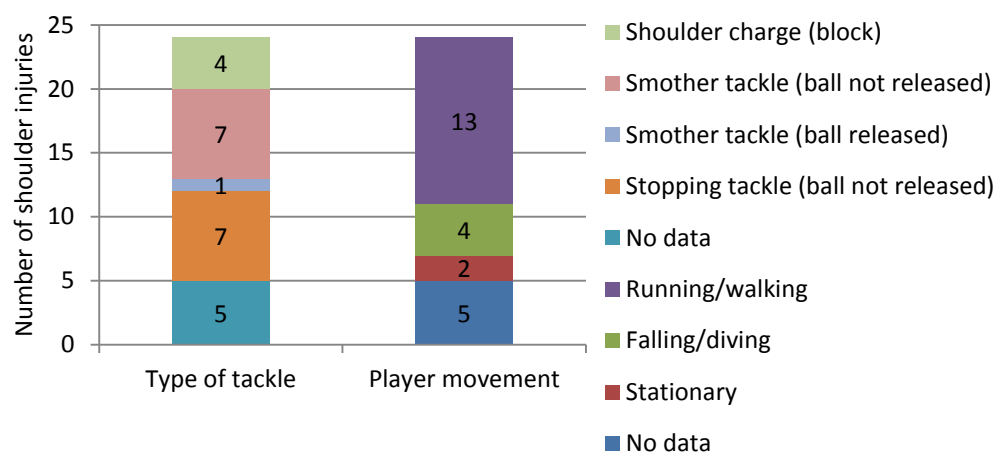


Figure 3. Frequency of shoulder injuries by tackle type and player movement

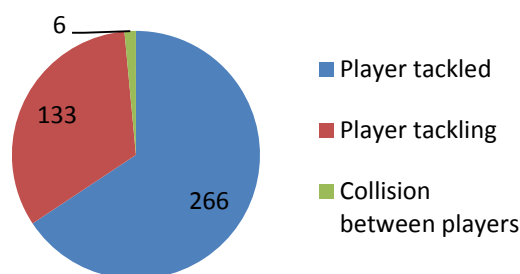


Figure 4. Days lost to shoulder injuries by injury event

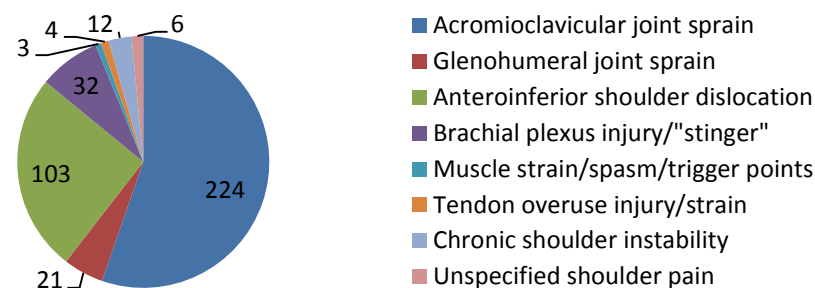


Figure 5. Days lost to shoulder injuries by injury type

Conclusions

Tackles cause the majority of shoulder injuries in professional rugby, most commonly acromioclavicular joint sprains. Most of these tackles are high, front-on and occur at velocity. Tackle injuries are the commonest cause of days lost due to shoulder injuries, therefore potential methods of "prehabilitation" such as strengthening muscles around the joint to stabilise the shoulder and coaching correct tackle techniques are essential in minimising time lost. Limitations to this study include: 1. Reporting injury frequency across one team only; 2. Coding of injuries may be subjective; 3. Video analysis was retrospective and carried out by only one investigator. A study using a larger sample size across a greater number of professional rugby teams, using immediate post-injury video analysis by multiple investigators, is needed before evidence-based recommendations for shoulder injury prevention can be made.

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References

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