RFU Community Rugby Injury Surveillance Project

CRISP

Propensity of contact events to cause injury
PROPENSITY OF CONTACT EVENTS TO CAUSE INJURY IN COMMUNITY RUGBY UNION

Introduction
The majority of injuries are sustained in contact events and most notably the tackle. However, it should be considered that there are more tackles than any other contact event during match play and we do not know whether contact events which occur relatively infrequently carry a high risk of injury per event, termed a high ‘propensity’ for injury. We determined the frequency of contact events (such as tackles, rucks, mauls, scrums and lineouts - regardless of whether they resulted in injury) during match play in different levels of community rugby. This information could then be combined with the number of injuries associated with each type of contact event to determine the risk of injury per contact event (the ‘propensity’ for injury). This information can help focus injury prevention strategies on specific contact events.

Methods
Thirty community rugby matches were filmed and every contact event (tackle; collision tackle, ruck; maul; lineout and scrum) was identified. Injury data were derived from CRISP using combined data from seasons 2009-2010 (n=46 clubs), 2010-2011 (n=67 clubs), and 2011-2012 (n=76 clubs).

Results
Contact events
- There were more contact events in group A matches (~399 events per match) compared with group B (~374 events) and group C (~339 events) and more in group B than C.
- Similarly, there were more tackles, ruck and collision tackle events in group A matches compared with B and C and more in group B than C.
- There were more mauls in group B compared with groups A and C.
- The number of scrums and lineouts per match were not different between groups.
- When all data are combined, there were 141 tackles, 115 rucks and 32 scrums per match.
**Injury risk per event**

- Tackles resulted in the greatest propensity for injury (2.3 injuries/1000 events) and the greatest severity (19 weeks missed/1000 events).
- Injury risk was greater to the player being tackled than the tackling player.
- Collision tackles (illegal tackles involving a shoulder charge) had a propensity for injury of 15.0 injuries/1000 events and severity was 109 weeks missed/1000 events, which were both higher than any other event.
- There was a greater risk of tackle injuries in group A (2.8 injuries per 1000 tackle events) than groups B (2.1 injuries per 1000 tackle events) and C (2.1 injuries per 1000 tackle events).
- No differences were found between groups A, B and C for the risk of injury in mauls, rucks, scrums, and lineouts.
- Analysis of the scrum showed that only 5% of all scrums collapsed, but the propensity for injury was four times higher (2.9 injuries/1000 events) and the severity was six times greater (22 weeks missed/1000 events) than for non-collapsed scrums.

**Conclusions**

- Injury prevention in the tackle should focus on technique with strict enforcement of existing laws for illegal collision tackles.
- The scrum is a relatively controllable event and further attempts should be made to reduce the frequency of scrum collapse.

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