



Research of Injury Risks in Rugby Union



Injury Research

The ARU and World Rugby funded a series of research projects that investigated injury risks in rugby union:

- ❖ Rugby Headgear Study 2002-2003
- ❖ Rugby Union Injury Surveillance Study (RUISS) 2000-2008
- ❖ Rugby Pathway Study 2009-2010

These projects were conducted by an independent research team within the Faculty of Science at the University of New South Wales.

The purpose of injury research is to identify injury pattern within community rugby and understand more about such factors as the number of injuries occurring, the type of injuries, and how they occur. This information is valuable to inform possible intervention strategies and minimize injury for particularly common or severe injuries in rugby.

Game Event Leading to Injury

Key findings and implications:

- ❖ The TACKLE (BEING TACKLED and TACKLING another player, combined) is the single event that accounts for the largest proportion of injury (46.6%) across all levels of play.
- ❖ BEING TACKLED is the most common cause of injury across all levels of play.
- ❖ The BALL CARRIER is approximately twice more likely to be injured than the TACKLER.
- ❖ Teaching correct tackling technique for both the BALL CARRIER (receiving a tackle) and the TACKLER is critical and a prime focus of coaching.
- ❖ OVEREXERTION injury (e.g. hamstring strains) is the leading cause of “noncontact” injury.

Nature of Injury

Key findings and implications:

- ❖ Prevention of SPRAINS and STRAINS remain a priority.
- ❖ Warm-up and cool-down: critical for both training and matches.
- ❖ Compliance with the ARU Concussion Guidance for Graduated Return to Play (GRTP) following a CONCUSSION is crucial.
- ❖ Cases of SPINAL CORD INJURY occurring in rugby union are rare.

Injured Body Region

Key findings and implications:

- ❖ The SHOULDER, LOWER LEG and HEAD/NECK/FACE regions are the most commonly injured body regions.
- ❖ SHOULDER INJURIES are mainly sustained during the TACKLE (both BEING TACKLED and TACKLING another player). Shoulder pads are unlikely to protect the SHOULDER during a TACKLE.
- ❖ LOWER LEG INJURIES are mainly sustained whilst BEING TACKLED.
- ❖ HEAD/FACE/NECK INJURIES are mainly sustained during the TACKLE (both BEING TACKLED and TACKLING another player).
- ❖ Head placement and body height are critical in avoiding HEAD/FACE/NECK INJURY during the TACKLE (BEING TACKLED and TACKLING another player).

Levels of Play

Key findings and implications

- ❖ Injury incidence increases with age and level of play.
- ❖ There are very few injuries in the U7/8, U9/10 and U11/12 age groups.

| Level of Play | Injuries per 1000 Athletic Exposures |
|---------------|--------------------------------------|
| U7 / U8 | 0.0 |
| U9 / U10 | 2.1 |
| U11 / U12 | 4.0 |
| U13 | 8.4 |
| U14 | 7.4 |

| Level of Play | Injuries per 1000 Athletic Exposures |
|---------------|--------------------------------------|
| U15 | 10.6 |
| U18 | 17.8 |
| Snr Country | 23.9 |
| Colts Metro | 31.7 |
| Snr Metro | 38 |

Source: Injury incidence for levels of play, presented as “injuries per 1000 athletic exposures”, combined RUISS 2004-2008, Rugby Headgear Study, Rugby Pathways Study.

Other Research Projects

Rugby Headgear Study (2002-2003)

The effectiveness of headgear in reducing injury in rugby union was investigated by using a randomised controlled trial involving players wearing no headgear, World Rugby standard headgear or modified headgear with increased thickness and foam density.

It was found that:

- ❖ No statistically significant differences in rates of head injury or concussion were found between the three groups.
- ❖ No significant protective effects for headgear were observed.

Rugby Pathways Study (2009-2010)

The incidence of injury was investigated for junior and youth rugby union players in the U7 to U14 age groups.

It was found that:

- ❖ Most injuries were of minor severity and/or typical childhood injuries;
- ❖ Injuries were typically caused by an impact (fall, tackle, scrum);
- ❖ The injury rate increased with the age group.

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