The Irish Rugby Injury Surveillance Project

School Senior Cup Rugby

2018-2019 Season Report

University of Limerick

Ollscoil Luimnigh

IRFU

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The authors would like to acknowledge with considerable gratitude, the work of the doctors, physiotherapists and school staff involved with the IRIS schools who have recorded injury information throughout the project.

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Irish Rugby Football Union Foreword

The IRFU are committed to player welfare across all areas of the game. We are delighted to see the first report of the injury surveillance project which focuses on the school's rugby game. School's rugby is an area of the game in which there are limited data on injury surveillance. This is the first in a series of annual reports which will provide the IRFU with information on the incidence, nature and severity of injuries in the schoolboy age group.

Over time the reports will inform us of trends within this age group as well as contribute information that will help prevent and manage these injuries.
I wish to thank all the schools, data collectors and researchers for all their work and support in compiling this report.

Dr. Rod McLoughlin

Irish Rugby Injury Surveillance Foreword

The Irish Rugby Injury Surveillance (IRIS) project involves research stemming from ongoing sports performance, injury prevention and psychological preparation work by University of Limerick academics across a range of sports, as well as our specific expertise in Rugby Union. It has effectively brought together academics with expert practitioner experience from the fields of biomechanics, medicine, mathematics and statistics, physiotherapy, physiology, sport psychology, and strength & conditioning as well as three doctoral researchers. This holistic approach to injury surveillance and prevention is central to the project.

Comprehensive injury surveillance systems in underage Rugby Union are rare and this innovative project to date has involved the research, design and implementation of an online injury recording platform. Collection has now been completed of a full season's data and this 2018/19 season report documents our collaborative work with the IRFU, and with 11 schools. It represents 95 matches from School Senior Cup teams, over 305 players, and support from dedicated data injury recorders, coaches, doctors, physiotherapists, teachers, managers and ancillary staff within schools: thank you. This report complements IRIS' All-Ireland League Club Rugby report (reported separately) and in the future IRIS will also report on the incidence, nature and severity of injuries in School Junior Cup, and underage amateur Rugby.

IRIS Principal Investigators
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1.0 Executive Summary

1.1 Match Injuries

Commencing in November 2018, the Irish Rugby Injury Surveillance (IRIS) project collected one full season of injury data across 95 matches from 11 School Senior Cup teams. The matches consisted of friendlies, league games and Senior Cup games.

School Senior Cup

- There were 11 School Senior Cup teams involved in the IRIS project for the 2018-2019 season.
- There was a total of 305 School Senior Cup players registered with IRIS.
- The overall match time-loss injury incidence rate for School Senior Cup players was 67.8/1,000 player hours.
- A single player would have to play 13 matches to sustain one injury.

1.2 Training Injuries

There was a total of 21 training injuries reported in the School Senior Cup.

1.3 Injury Occurrence

The most commonly reported match injuries for the School Senior Cup were ankle sprains (17%) followed by shoulder subluxations/dislocations (11%). Ankle sprains resulted in an average of 20 days absence from Rugby match or training activities, while shoulder subluxations/dislocations resulted in an average of 53 days absence.

1.4 Injury Event

The tackle event accounted for the majority of match injuries, with 56% of all match injuries happening during the tackle. The tackler appeared at a slightly increased risk of injury with 56% of the tackle-related injuries due to tackling as opposed to being tackled (ball carrier) (44%). The most commonly reported training injuries occurred during contact drills (43%), followed by speed drills (33%).

1.5 Playing Position

Of all match injuries recorded in the School Senior Cup, 60% were to the forwards (position no. 1-8), while 40% were to the backs (position no. 9-15). Blindside flankers (no.6) had the highest proportion of match injuries at 14%.

1.6 Injury Burden (number x time lost per injury)

The burden of an injury assesses the frequency of an injury in relation to the severity of the injury (measured as the number of days absent).

Shoulder subluxations/dislocations accounted for 27% of all severe match injuries (>28 days absence) in the School Senior Cup and resulted in an average of 69 days absence from Rugby match or training activities. Concussions accounted for 6% of all severe match injuries and resulted in an average of 60 days absence (Graduated Return to Play Protocol requires 23 days absence).

2.0 Introduction

2.1 The IRIS Project

The Irish Rugby Injury Surveillance (IRIS) project has developed and implemented the first long-term Rugby Union specific injury surveillance system within underage and amateur Rugby Union in Ireland. This system will monitor the incidence, type, nature and severity of both match and training injuries occurring across the amateur game in Ireland. By monitoring this information, injury trends may emerge which will aid in the development and implementation of future evidence-based injury prevention strategies in order to minimise injury risk and enhance player welfare.

IRIS Aims:

- To develop and implement an injury surveillance system for underage and amateur Rugby Union in Ireland.
- To monitor the incidence and type of injuries occurring and identify any possible injury risk factors.
- To enhance the health and welfare of Rugby Union players by using this information to assist the IRFU policy regarding injury prevention strategies.

2.2 Injury Definitions

The IRIS project follows the guidelines from the World Rugby 'Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union'.[1]

An injury was defined as "Any physical complaint, which was caused by a transfer of energy that exceeded the body's ability to maintain its structural and/or functional integrity that was sustained by a player during a Rugby match or Rugby training, irrespective of the need for medical attention or time-loss from Rugby activities."
A recurrent injury is one of the same site and same type as the original injury and occurs within two months of the player returning to match play following the original injury.

Both time-loss and medical attention injuries have been monitored and analysed separately. Medical attention injuries are any injury that resulted in 0-1 days absent from Rugby match or training activities (i.e. slight injuries). Any injury that results in greater than 1 day absence from match or training activities is classed as a time-loss injury and categorised according to injury severity. Only these injuries were included in injury incidence calculations. [1]

Injury severity is calculated as the number of days that elapsed from the date of injury to the date of the player's return to full participation in training and availability for match selection.

Injury severity is classified as;
slight (*0-1 days*), minimal (*2-3 days*), mild (*4-7 days*), moderate (*8-28 days*) and severe (*>28 days*).

Match injury data are presented as the number of injuries per 1,000 player hours of match exposure. In order to calculate match injury incidence rates, the following calculation was used:

Team match injury incidence rate (IR):

$$IR = \frac{\text{number of injuries}}{\text{number of matches x number of players (15) x match duration (1.17)}} \times 1000$$

[1] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.

2.3 Recruitment

Between September and October 2018, the IRIS team recruited 12 Senior Cup Schools.
The IRIS project had over a 90% compliance rate for the 2018-2019 season with one school excluded from data analysis due to poor compliance.

Table 1: : The IRIS Schools 2018-2019

	Number of Schools	Number of Players
School Senior Cup	11	305

Each school nominated an 'injury recorder', who was trained on use of the IRIS system during the pre-season training of the 2018-2019 season. In the majority of schools, the physiotherapist/nurse or coach acted as the injury recorder. Each injury recorder was given a secure and confidential login to their own school's home-page on the IRIS system. Each school registered all players involved with the Senior Cup team onto the IRIS system. Beginning with the pre-competitive season in November 2018, the injury recorder documented all injuries occurring to the Senior Cup team players. The injury recorders also reported when a player returned to play so that injury severity data could be calculated.

3.0 Match Injuries

3.1 Overall Time-loss Match Injuries

For the 2018-2019 season, data from 11 School Senior Cup teams across 95 matches were collected. A total of 113 match time-loss injuries (any injury resulting in more than 1 days absence from Rugby match or training activities) were recorded. Any injuries resulting in 0-1 days absence from Rugby match or training activities (slight injuries) were considered to be 'medical attention injuries' and were not included in the analysis of time-loss injuries, as per international best practice.[2]

The overall team match time-loss injury incidence rates:

- School Senior Cup – 67.8/1,000 hours.
- This is approximately 1 injury occurring per school game.
- A School Senior Cup player would have to play 13 matches to sustain one injury.

Table 2 shows the overall team match time-loss injury incidence rate for the School Senior Cup teams.

Table 2: Match time-loss injuries (excluding 'slight' injuries).

Division	No. Clubs	No. Players	No. Matches	Exposure hours	No. Injuries	IR*
School Senior Cup	11	305	95	1663	113	67.8

***IR** – Incidence rate per 1,000 player hours.

- 10% of match time-loss injuries resulted in a hospital visit for medical investigation and imaging.
- 9% of match time-loss injuries were referred to a nurse or doctor for further assessment.

[2] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

3.2 Match Injury Classification

The injury diagnosis refers to the specific bodily location alongside the nature of the injury.

The most common injury diagnosis for the School Senior Cup was ankle sprains (type not specified) followed by shoulder subluxations/dislocations, accounting for 17% and 11% of all time-loss match injuries respectively.

Table 3 shows the top three most common specific match time-loss injury diagnosis for the School Senior Cup teams. Note: Reported concussion incidence includes suspected concussions as per "*Recognise and Remove*" protocol.

Table 3:[3] Most frequent injury locations, nature and diagnoses (IR/1,000 player hours, % of injuries).

School Senior Cup Teams
Ankle Sprains 11.4 (17%)
Shoulder Subluxations/Dislocations 7.2 (11%)
Concussion 6.6 (10%)

[3] An 'ankle sprain' refers to a tear of the ligaments located on the outside (anterior talofibular (ATFL) ligament) or the inside (deltoid ligament) of the ankle joint. An ATFL sprain is the most common type of ankle sprain.
A 'shoulder subluxation/dislocation' refers to either a partial or complete separation of the upper arm bone (humerus) from the shoulder socket (glenoid fossa).
A 'concussion' refers to an injury to the brain, usually caused by a direct or indirect blow to the head.

The shoulder and clavicle (collar bone) were the most commonly injured bodily location in the School Senior Cup, accounting for 26% of all injuries. Shoulder subluxations/dislocations were the most common injury diagnosis for the shoulder.

Table 4:[4] School Senior Cup: Most common injury diagnoses with regards body location.
(IR/1,000 player hours, % of injuries)

Location	Diagnosis
Shoulder 17.4/1,000 player hours (26%)	Shoulder Subluxation/Dislocations 7.2 ACJ Sprains 4.2 Rotator Cuff Strains 3
Ankle 11.4/1,000 player hours (17%)	Ankle Sprains 11.4
Head 8.4/1,000 player hours (12%)	Concussion 6.6 Lacerations 1.8

[4] A 'shoulder subluxation/dislocation' refers to either a partial or complete separation of the upper arm bone (humerus) from the shoulder socket (glenoid fossa).
A 'rotator cuff strain' refers to a tear of any of the tendons that surround the shoulder joint.
An 'ACJ sprain' (acromioclavicular joint sprain) refers to a tear of the ligaments that connect the collar bone (clavicle) to the shoulder (glenohumeral joint).
An 'ankle sprain' refers to a tear of the ligaments located on the outside (anterior talofibular (ATFL) ligament) or the inside (deltoid ligament) of the ankle joint. An ATFL sprain is the most common type of ankle sprain.
A 'concussion' refers to an injury to the brain, usually caused by a direct or indirect blow to the head.
A 'laceration' refers to a cut located anywhere on the body.

3.3 Timing of Match Injury

The majority of injuries (42%) in the School Senior Cup teams occurred in the 3rd quarter. An injury incidence rate of 0.6/1,000 player hours occurred during an unknown period of the game.

Figure 1 shows the time of injury occurrence during match play.

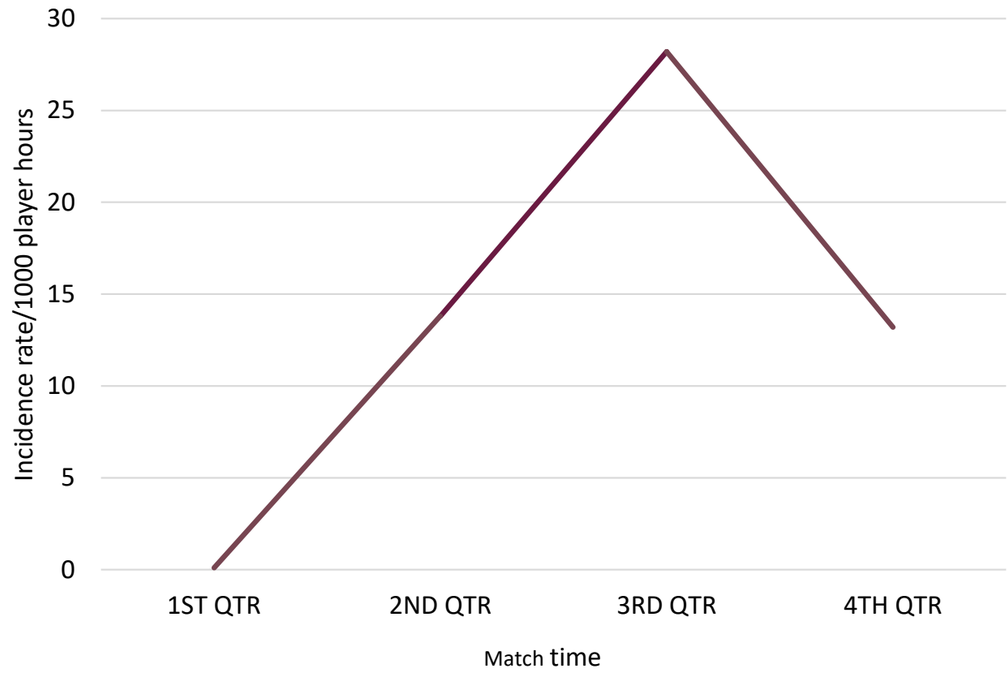

Figure 1: Timing of injury during match play (IR/1,000 player hours)

3.4 Match Injury Event

Figure 2 shows the event surrounding the occurrence of an injury.

The tackle event accounted for the majority of injuries (56%) with more injuries resulting from tackling than being tackled (ball carrier).

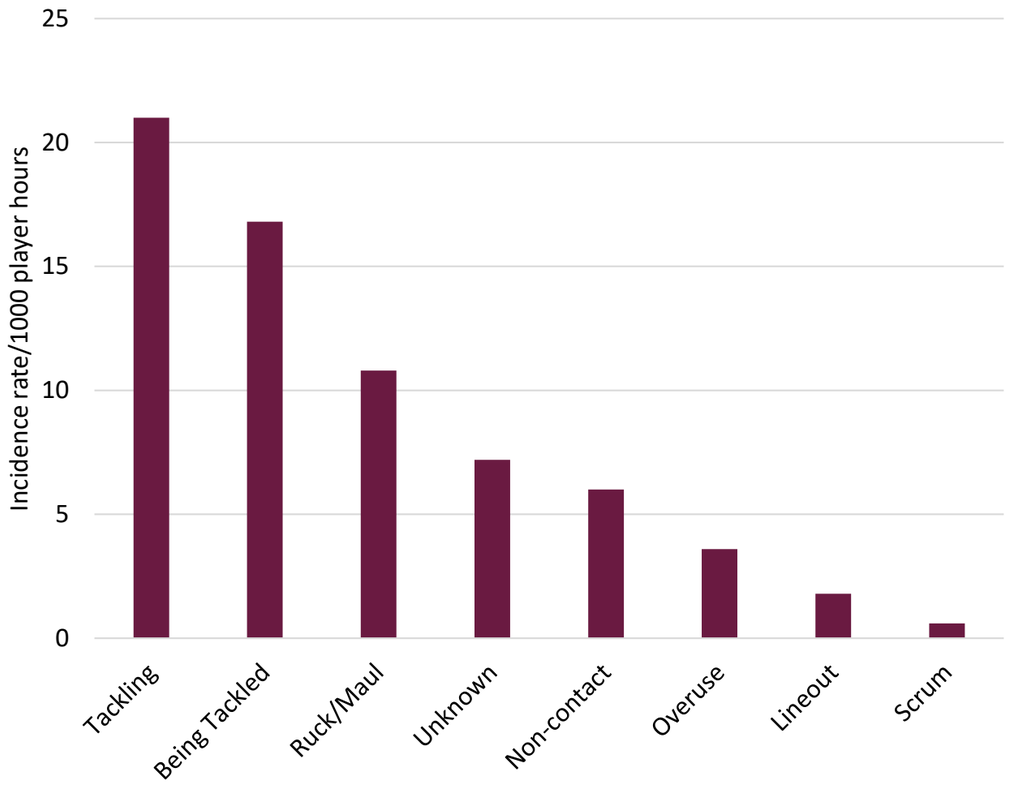

Figure 2: Match Injury event (IR/1,000 player hours)

3.5 Nature of Match Injury

The nature of injury refers to the type of injury occurring.

Sprains (referring to ligament tears) and strains (referring to muscle or tendon tears) were the most common injury type across School Senior Cup teams, as shown in Figure 3.

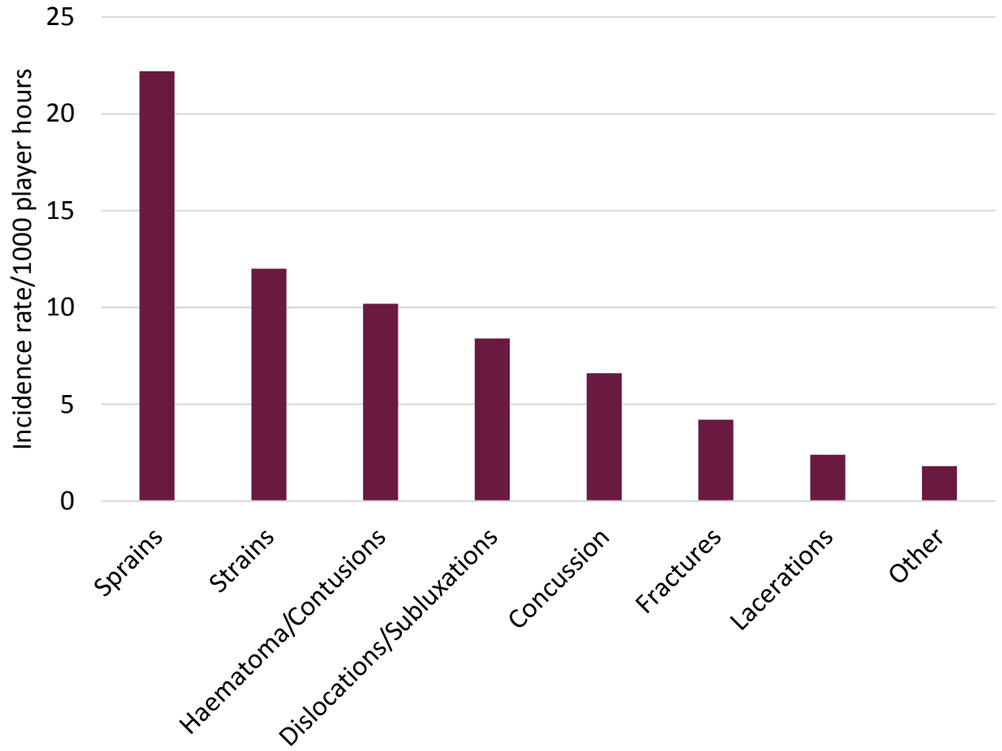

Figure 3: Nature of injury (IR/1,000 player hours)

3.6 Body Location of Match Injury

The shoulder was the most commonly injured body area in the School Senior Cup games.
The most common lower limb location of injury was the ankle (17%) followed by the knee (12%). The most common upper limb location of injury was to the shoulder/clavicle (26%) followed by the wrist (4%) and hand/fingers (4%).

Figure 4 shows the incidences of injury according to bodily location for the School Senior Cup teams.

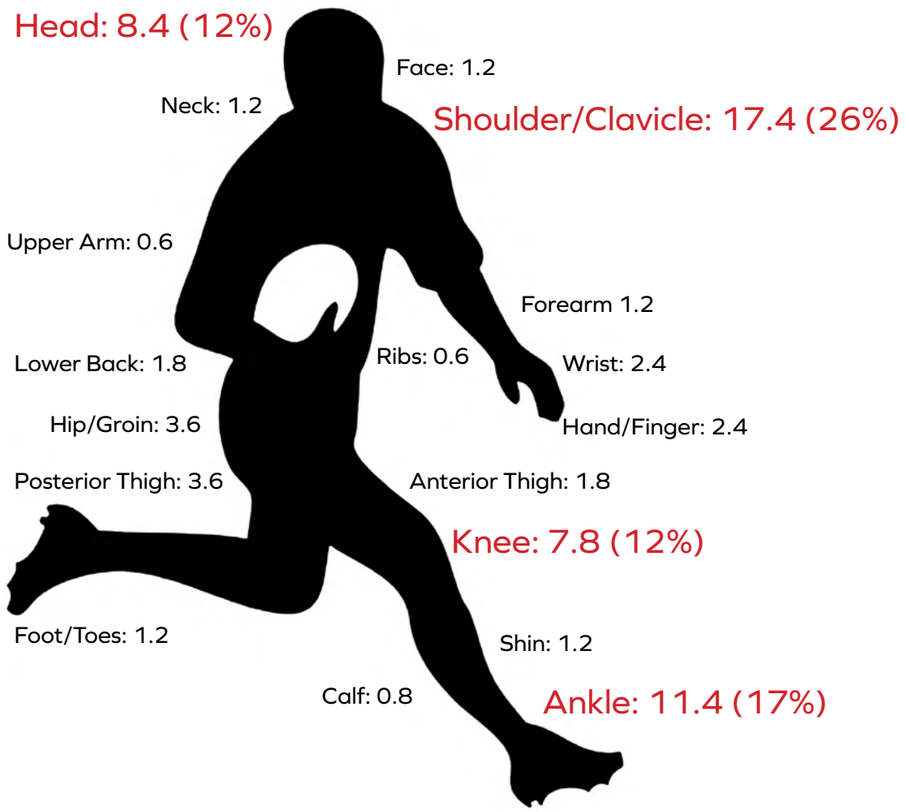

Figure 4: Location of match injury for the School Senior Cup (IR/1,000 player hours)

3.7 Playing Position of Match Injury

Rugby player positions are split into 'forwards' (position no. 1-8) and 'backs' (position no. 9-15).

The blindside flanker (no. 6) suffered the most injuries in the School Senior Cup matches (14%), with the majority of injuries to the blindside flanker (no. 6) occurring due to the tackle event (tackling = 31% and being tackled = 6%). The second row (no. 4-5) and outhalf (no. 10) also suffered more injuries than any other position in the School Senior Cup, each accounting for 11% and 10% of injuries respectively.

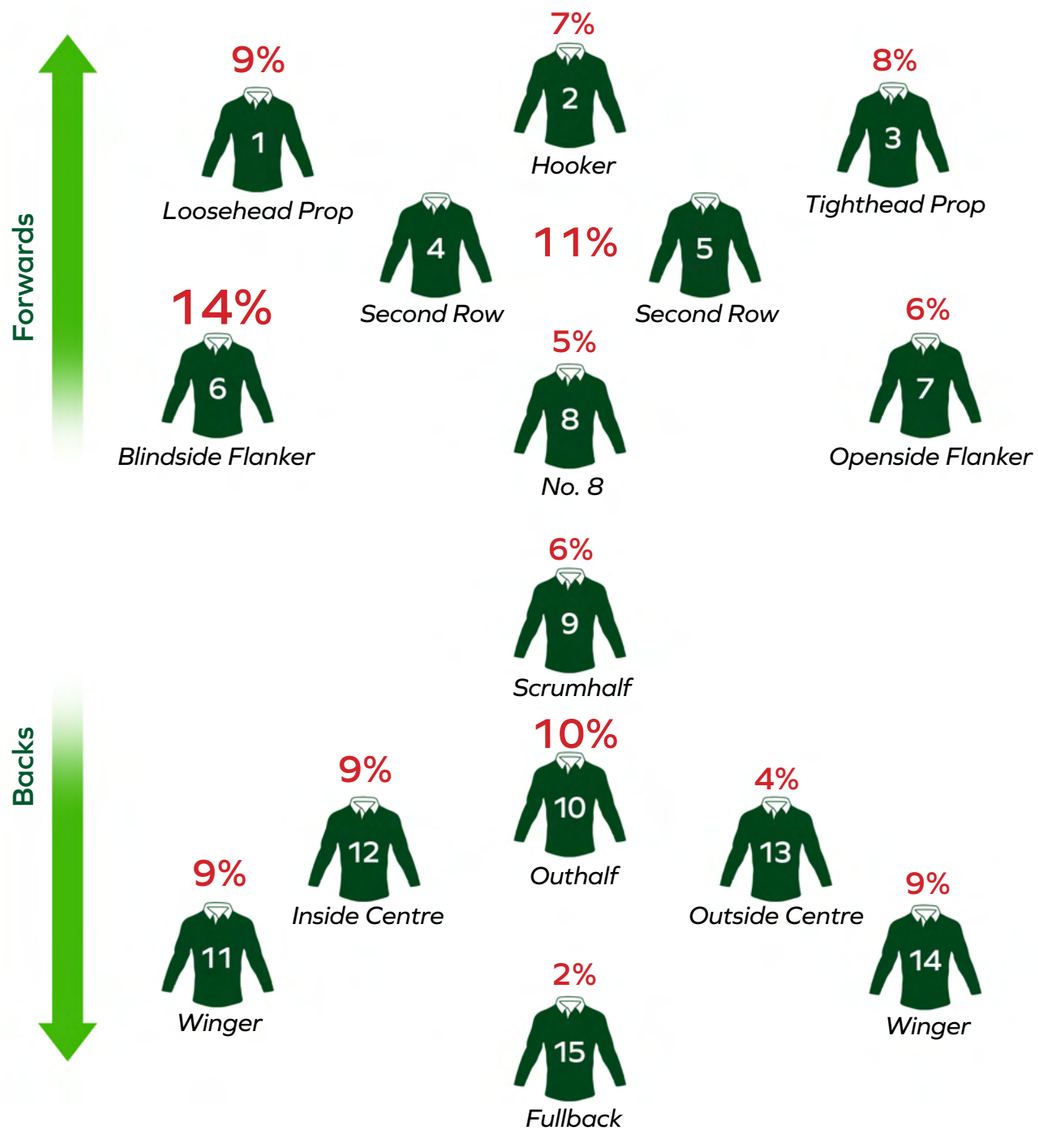

Figure 5: Percentage of injuries occurring per playing position in the School Senior Cup

Note: Second Row and Winger positions denote respective combined percentages.

3.8 Match Injury Severity

Injury severity was calculated as total number of days absent from Rugby match or training and classified according to the World Rugby Consensus guidelines. The majority of injuries were moderate or severe (resulting in greater than eight days absence), as shown in Figure 6.

Slight injuries (0-1 days absence) were considered as 'medical attention injuries' and were not included in analysis of time-loss injuries.[5] Slight injuries are discussed in more detail in sub-section 3.10.

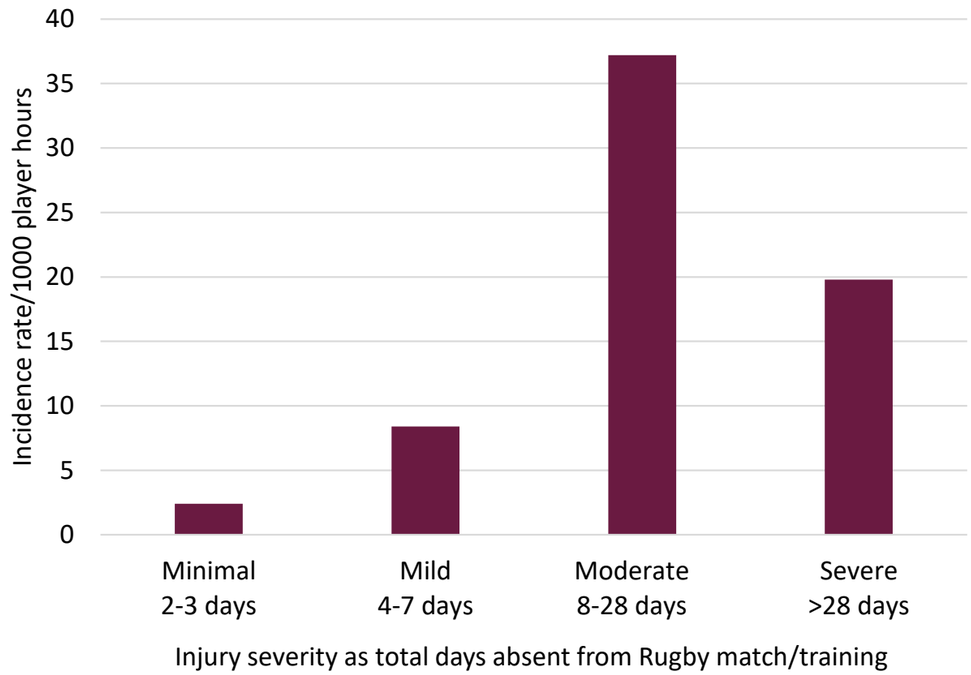

Figure 6: Injury severity of time-loss injuries (IR/1,000 player hours).

[5] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

3.9 Match Injury Burden (number of injuries x time lost per injury)

The burden of an injury assesses the frequency of an injury in relation to the severity of the injury (measured as the number of days absence).

Shoulder (glenohumeral joint) subluxations/dislocations accounted for 27% of all severe match injuries (>28 days absence) in the School Senior Cup teams and resulted in an average of 69 days absence from Rugby match or training activities.

The ankle and acromioclavicular (AC) joints were also commonly injured sites which resulted in severe injuries (in terms of total number of days absent from Rugby match or training). Ankle sprains accounted for 12% of severe match injuries resulting in an average of 42 days absence overall. Fractures and AC joint sprains also each accounted for 12% of all severe match injuries resulting in an overall average of 79 days and 31 days absence respectively. Two concussions occurred during matches which resulted in an absence of >28 days, accounting for 6% of severe injuries.

Table 5[6]: Injury Burden (% of severe match injuries) and average TDO (total days off)

	Injury Burden	Average Total Days Off
School Senior Cup	Shoulder (Subluxations/Dislocations) 27%	69
	Fractures (all Fractures) 12%	79
	Ankle Sprains (type not specified) 12%	42

[6] A 'shoulder subluxation/dislocation' refers to either a partial or complete separation of the upper arm bone (humerus) from the shoulder socket (glenoid fossa).
A 'fracture' refers to a partial or complete break of any bone.
An 'ankle sprain' refers to a tear of the ligaments located on the outside (anterior talofibular (ATFL) ligament) or the inside (deltoid ligament) of the ankle joint. An ATFL sprain is the most common type of ankle sprain.

3.10 Medical Attention Match Injuries (slight injuries)

Any injuries resulting in 0-1 days absence from Rugby match or training are considered as slight, or 'medical attention', injuries and therefore were excluded from the analysis of time-loss injuries, as per international best practice.[7]

During the 2018-2019 School Senior Cup season, there were no medical attention injuries recorded (0-1 day time loss) which occurred during match play.

3.11 Other Match-related Injuries

One injury occurred during the warm-up and this was not included in the analysis of the time-loss match injury incidence, as only injuries occurring during the match play counted as match injuries.

- The warm-up injury was diagnosed as an ankle sprain injury.
- The warm-up injury occurred during contact drills in the warm up.

[7] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

4.0 Training Injuries

4.1 Overall Time-loss Training Injuries

For the 2018-2019 school season, training injury data from 11 School Senior Cup teams were also collected. For operational reasons, as the frequency and duration of training sessions were not recorded for this season, training injury incidence rates were not available. Therefore, the total number of training injuries that occurred are reported.

Any injuries resulting in 0-1 days absent from Rugby match or training activities were considered to be medical attention injuries and were not included in the analysis of time-loss injuries, as per international best practice.[8]

The overall number of training injuries for the **School Senior Cup teams was 21.**

Table 6 shows the overall number of training injuries for the School Senior Cup teams.

Table 6: Training time-loss injuries (excluding slight injuries).

Division	No. Clubs	No. Players	No. Injuries
School Senior Cup	11	305	21

[8] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

4.2 Training Injury Classification

The injury diagnosis refers to the specific bodily location and nature of the injury.
The most common injury diagnosis for the School Senior Cup teams was hamstring strains, accounting for 19% of all training time-loss injuries. This was followed by ankle sprains accounting for 14% of all training time-loss injuries.

Table 7 shows the top three most common specific training time-loss injury diagnosis for School Senior Cup teams.

Table 7:[9] Overall most common injury diagnoses for School Senior Cup teams (% frequency)

School Senior Cup	
Hamstring Strains	19%
Ankle Sprains	14%
Knee Ligament Sprains Head Lacerations Calf Strains	10% 10% 10%

[9] A 'hamstring strain', refers to a tear of the muscle group located on the back (posterior aspect) of the thigh.
An 'ankle sprain' refers to a sprain of the ligaments either on the outside (anteriortalofibular (ATFL) ligament) or the inside (deltoid ligament) of the ankle joint. An ATFL sprain is the most common type of ankle sprain.
A 'knee ligament sprain' refers to a sprain of one or more of the ligaments around the knee joint.
A 'head laceration' refers to a cut on the head or face.
A 'calf strain' refers to a tear of the muscle group located at the back of the shin.

4.3 Body Location of Training Injuries

Overall, the posterior thigh, the ankle and the knee were the most commonly injured sites in the Senior Cup teams, each accounting for 19% of all training time loss injuries. This was followed by the head, calf and hip/groin region each accounting for 10% of all training time loss injuries.

Figure 7 shows the incidences of injury according to bodily location for the School Senior Cup teams.

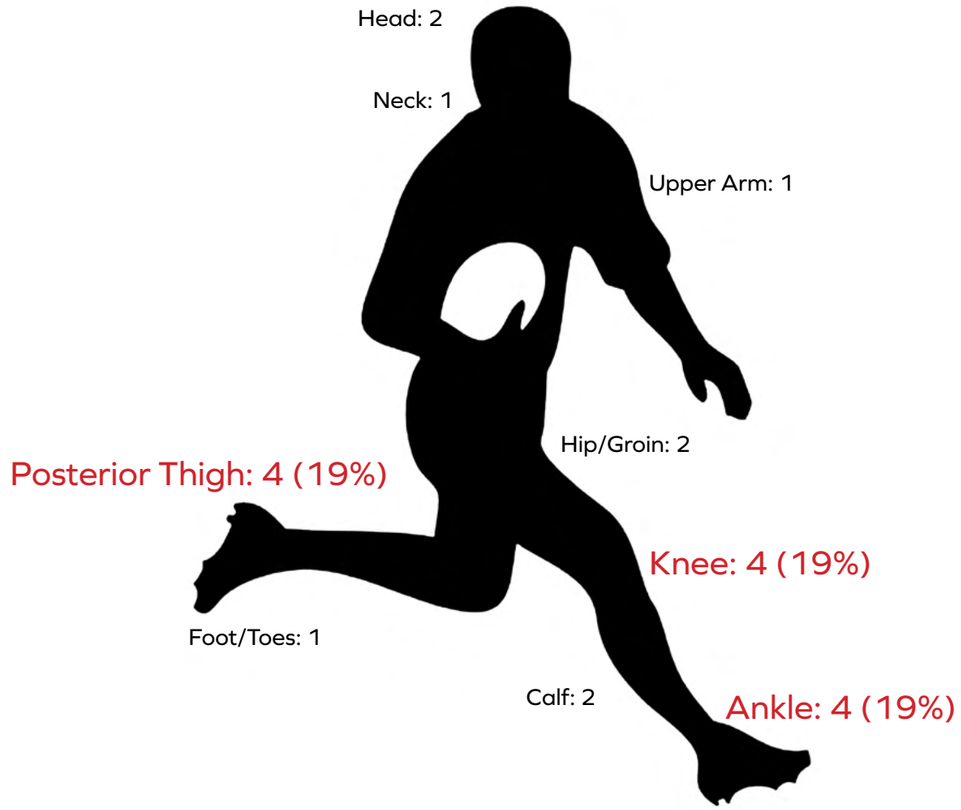

Figure 7: Location of training injuries for the School Senior Cup.

4.4 Nature of Training Injuries

The nature of injuries refers to the type of injury occurring.

Strains (52%) (referring to muscle or tendon injuries) were the most common injury type across the School Senior Cup training injuries followed by sprains (29%) (referring to ligament injuries). Hamstring strains accounted for the most common muscle strain across training injuries (36%)

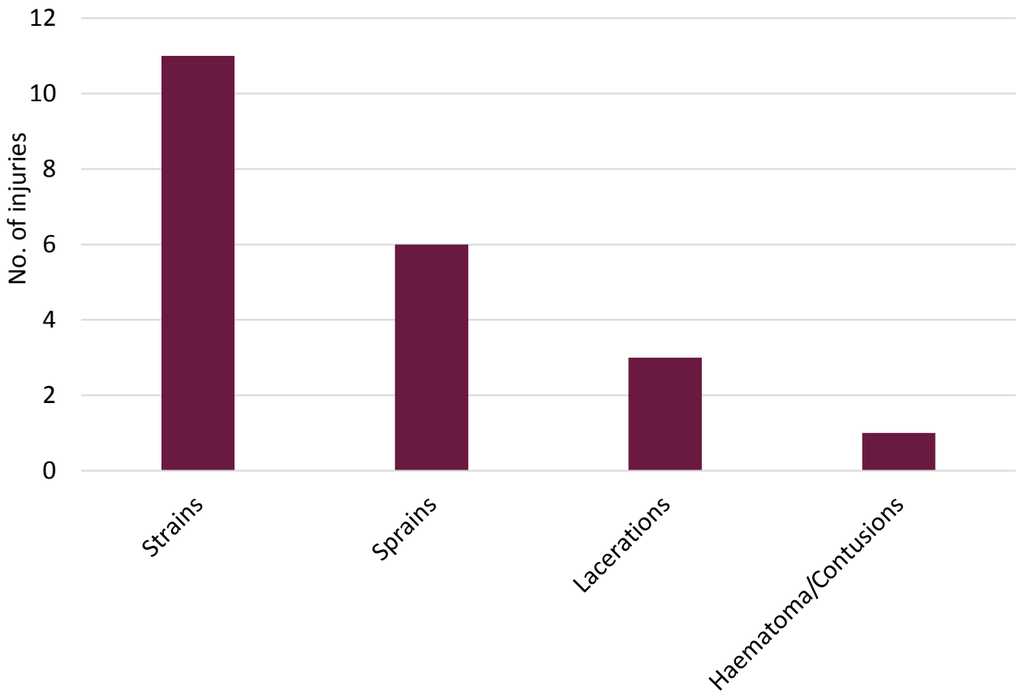

Figure 8: Nature of injury (number of injuries)

4.5 Training Injury Event

Figure 9 shows the events surrounding the occurrence of an injury.

Contact Drills resulted in the most amount of injuries in the School Senior Cup.

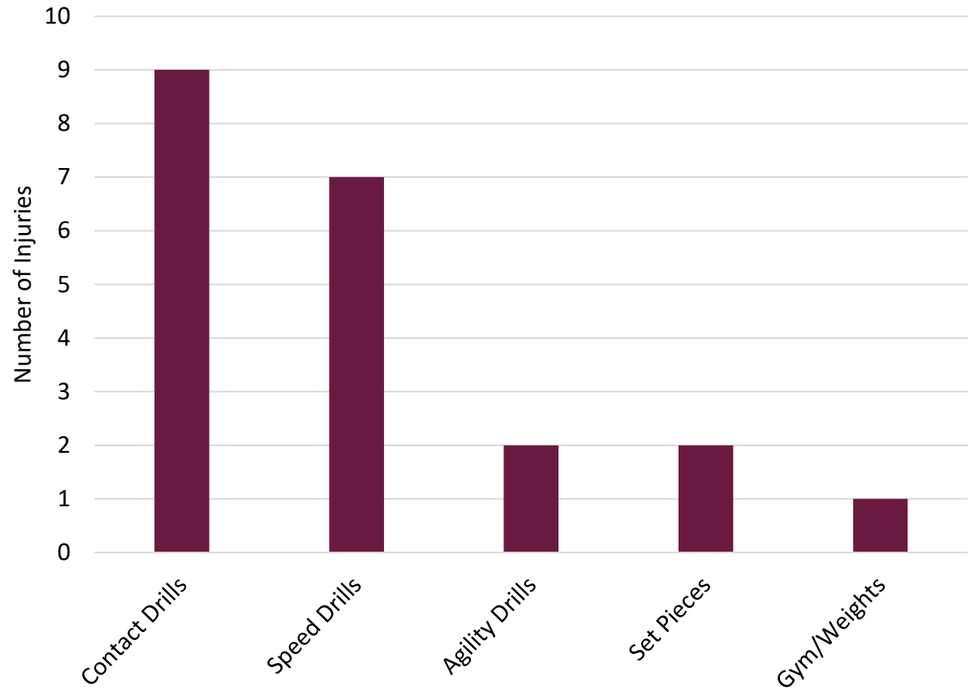

Figure 9: Injury event (number of injuries)

4.6 Training Injury Severity

Injury severity was calculated as total number of days absent from Rugby match or training and classified according to the World Rugby Consensus guidelines. The majority of injuries were moderate or severe (resulting in greater than eight days absence), as shown in Figure 10.

Slight injuries (0-1 days absence) were considered as 'medical attention injuries' and were not included in analysis of time-loss injuries, as per international best practice.[10]. Slight injuries are discussed in more detail in sub-section 4.8.

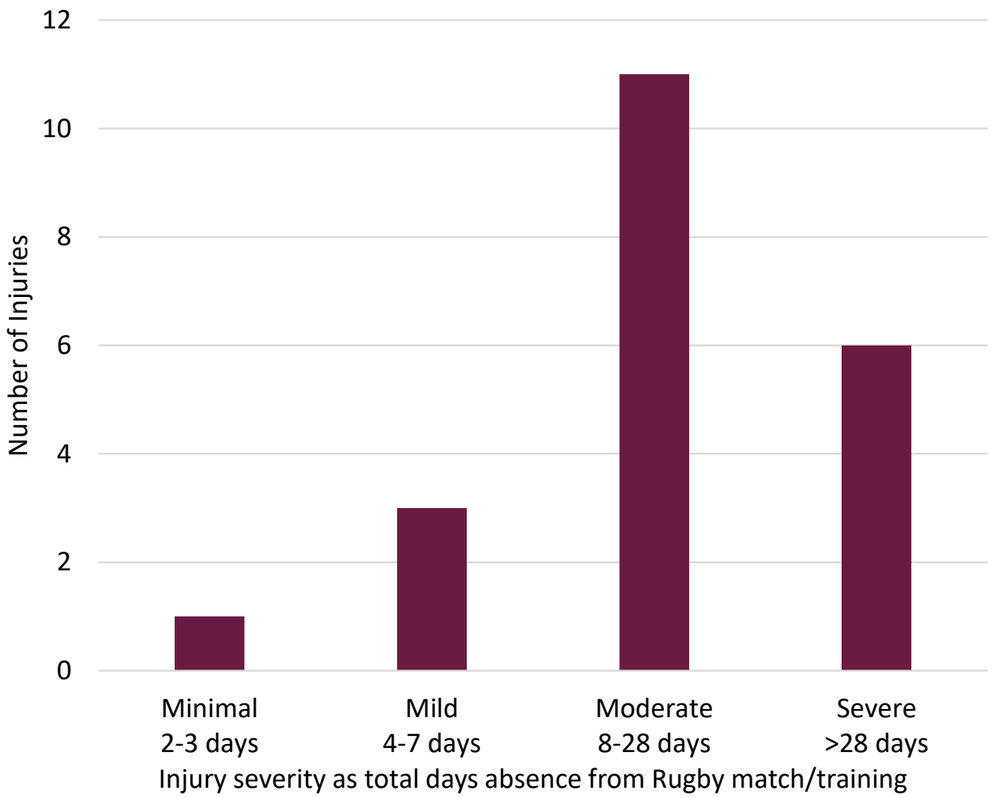

Figure 10: Injury severity (number of injuries)

[10] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

4.7 Training Injury Burden (number of injuries x time lost per injury)

The burden of an injury assesses the frequency of an injury in relation to the severity of the injury (measured as the number of days absence).
Knee ligament sprains and ankle sprains each accounted for 33% of all severe training injuries (>28 days absence) in the School Senior Cup teams and resulted in an average of 50 days absence and 46 days absence respectively from Rugby match or training activities.

Table 8:[11] Injury Burden (% frequency of training injuries), average TDO (total days off)

	Injury Burden	Average Total Days Off
Senior Cup	Ankle Sprains 2 (33%)	46
	Knee Ligament Sprains 2 (33%)	50
	Neck Strain 1 (17%)	32
	Upper Arm Haematoma 1 (17%)	41

[11] An 'Ankle sprain' is a tear of the ligament located on the outside (lateral) or inside (medial) of the ankle joint.
A 'knee ligament sprain' refers to the tearing of one or more ligaments of the knee joint.
A 'neck strain' refers to a tear of one of the muscles of the cervical spine (neck).
An 'upper arm haematoma' refers to a contusion injury or bruising of the upper arm, usually occurring from impact.

4.8 Medical Attention Training Injuries (slight injuries)

Any injury resulting in 0-1 days absent from Rugby match or training is considered a slight, or 'medical attention' injury and therefore were excluded from the analysis of time-loss injuries, as per best international practice.[12]

During the 2018/2019 season there were no injuries reported from training that resulted in less than 1 days absence.

[12] Fuller, C. W., Molloy, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory, P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.
Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Med, 43, 1043-55.

5.0 Future Directions

For the 2019-2020 season, the IRIS Project will begin collecting injury data from the Junior Cup level to provide crucial age, mass and developing player information. There will also be collaboration with RISUS (Rugby Injury Surveillance in Ulster Schools) to add Northern Ireland schools' data.

Following a successful first season of the IRISweb system in club Rugby, the IRIS project expanded and recruited additional clubs for the 2018-2019 season. Recruitment continued in the Men's AIL across both Division One and Division Two. Recruitment expanded beyond the Women's AIL to the first league division in each province in order to recruit more women's teams. There were 1,154 players involved this season.

For the 2019-2020 season, the IRIS Project aims to maintain compliance across all the men's clubs (n=25) and to recruit additional women's clubs in an effort to better document the intricacies of the women's game.

In the next season (2019-2020), the IRIS Project will be collecting training load data from a select number of men's clubs, in addition to the injury data already being collected.

6.0 Publications and Conferences

6.1 Journal Publications

Leahy T.M., Kenny I.C., Campbell M.J., Warrington G.D., Cahalan R., Harrison A.J., Hayes K., Lyons M., Glynn L.G., & Comyns T.M. (2019). Injury Surveillance in School Rugby: A Systematic Review of Injury Epidemiology & Surveillance Practices. Physical Therapy in Sport. 38, 170-78.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, T.M. (2019). The Design, Development, Implementation and Evaluation of IRISweb; A Rugby-specific Injury Surveillance System. Physical Therapy in Sport, 35, 79-88.

Yeomans, C., Comyns, T. M., Cahalan, R., Warrington, G. D., Harrison, A. J., Hayes, K., Lyons, M., Campbell, M.J & Kenny, I. C. (2018). Current Injury Monitoring and Player Education Practices in Irish Amateur Rugby Union. Physical Therapy in Sport, 33, 27-32.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J & Comyns, T.M. (2018) 'The Incidence of Injury in Amateur Male Rugby Union: a Systematic Review and Meta-analysis'. Sports Medicine, 48(4), 837-848

6.2 Conference Communications

Warrington, G.D., Yeomans, C., Comyns, T.M., Cahalan, R., Glynn, L.G., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J. & Kenny, I.C (2019) Developing a Rugby-specific Injury Surveillance System. 66th ACSM American College of Sports Medicine Annual Congress 2019, 28 May-1 June 2019, Orlando, USA.

Comyns, T.M., Yeomans, C., Cahalan, R., Warrington, G.D., Glynn, L.G., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J. & Kenny I.C. (2019) Injury Surveillance in Amateur Rugby in Ireland. 66th ACSM American College of Sports Medicine Annual Congress 2019, 28 May-1 June 2019, Orlando, USA.

Kenny, I.C., Yeomans, C., Cahalan, R., Warrington, G.D., Glynn, L.G., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J. & Comyns, T.M. (2019) Comparison of Injury in Male and Female Amateur Rugby Union. 66th ACSM American College of Sports Medicine Annual Congress 2019, 28 May-1 June 2019, Orlando, USA.

Yeomans, C., Kenny, I.C., Cahalan, R., Costello, V., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, TM (2019) Relationship between Physical and Wellness Baseline Screening Measures and Seasonal Amateur Rugby Injury. 66th ACSM American College of Sports Medicine Annual Congress 2019, 28 May-1 June 2019, Orlando, USA.

Griffin, A., Kenny, I.C., Comyns, T.M. & Lyons, M. (2019). A Comparison of the Rolling Average and Exponentially Weighted Moving Average Models for calculating the Acute:Chronic Workload Ratio: a Systematic Review. 2019 All Ireland Postgraduate Conference in Sport Science, Physical Activity and Physical Education, 10 May 2019, Athlone, Ireland.

Leahy T.M., Kenny I.C., Campbell M.J., Warrington G.D., Cahalan R., Harrison A.J., Lyons M., Glynn L.G., & Comyns T.M. (2019). A Systematic Review of Injury Epidemiology and Surveillance Practices in School's Rugby. 2019 All Ireland Postgraduate Conference in Sport Science, Physical Activity and Physical Education, 10 May 2019, Athlone, Ireland.

Yeomans, C., Comyns, T.M., Cahalan, R., Warrington, G.D., Glynn, L.G., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J. & Kenny, I.C. (2019) Injury Risk Profiling in Irish Amateur Rugby Union. 2019 All Ireland Postgraduate Conference in Sport Science, Physical Activity and Physical Education, 10 May 2019, Athlone, Ireland.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, T.M. (2019) Injuries in Amateur Rugby Union in Ireland. Annual Scientific Meeting of the the Association of University Department of General Practice in Ireland (AUDGPI), 28 February-1 March 2019, Dublin, Ireland.

Leahy, T.M., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, T.M. (2019) IRIS Schools Methods and Aims. Irish Rugby Football Union – Irish Rugby Injury Surveillance Schools' Injury Surveillance and Prevention Workshop 2019. 17 January 2019, Limerick, Ireland.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, T.M. (2019) Irish Rugby Injury Surveillance Season 2017/18 Results. Irish Rugby Football Union – Irish Rugby Injury Surveillance Schools' Injury Surveillance and Prevention Workshop 2019. 17 January 2019, Limerick, Ireland.

Kenny, I.C., Comyns, T.M., Yeomans, C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., & Glynn, L.G. (2019) Irish Rugby Injury Surveillance. Irish Rugby Football Union – Irish Rugby Injury Surveillance Schools' Injury Surveillance and Prevention Workshop 2019. 17 January 2019, Limerick, Ireland.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G. & Comyns, TM (2018). The Epidemiology of Match Injury in Irish Amateur Rugby Union. Health Research Institute Research Symposia. 5 December 2018, Limerick, Ireland.

Kenny, I.C. & Comyns T.M. Invited plenary speakers. Kenny, I.C., Yeomans, C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., Glynn, L.G., & Comyns, T.M. (2018) 'Injury Surveillance in Irish Rugby 'The Irish Rugby Injury Surveillance (IRIS) Project'. 6th World Congress of Sports & Exercise Medicine. 3-4 November 2018, Dublin, Ireland.

Yeomans, C., Comyns, T.M., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., & Kenny, I.C. 'Injury Monitoring and Player Education: a Survey of Current Practices in Irish Amateur Rugby Union'. 65th ACSM American College of Sports Medicine Annual Congress. 28 May-2 June 2018, Minneapolis U.S.A.

Yeomans, C., Comyns, T.M., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., & Kenny, I.C. 'Injury Surveillance in Irish Rugby, 'The Irish Rugby Injury Surveillance (IRIS) Project'. Faculty of Sports and Exercise Medicine FSEM [RCPI & RCSI] Spring Study Day. 23 March 2018, University of Limerick, Ireland.

Yeomans, C., Cahalan, R., Kenny, I.C., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J. & Comyns, T.M. 'The Irish Rugby Injury Surveillance (IRIS) Project: a Meta-Analysis of Global Injury Incidence and a Survey of Irish Injury Surveillance and Prevention Strategies'. Health Research Symposium. 17 November 2017, Limerick, Ireland.

Yeomans, C., Kenny, I.C., Cahalan, R., Warrington, G.D., Harrison, A.J., Hayes, K., Lyons, M., Campbell, M.J., & Comyns, T.M. 'The Incidence of Injury in Amateur Rugby Union: a Systematic Review and Meta-analysis'. All-Ireland Postgraduate Conference, 21 April 2017. Carlow, Ireland.

7.0 References

Fuller, C. W., Molly, M. G., Bagate, C., Bahr, R., Brooks, J. H., Donson, H., Kemp, S. P., McCrory P., McIntosh, A. S., Meeuwisse, W. H., Quarrie, K. L., Raftery, M. & Wiley, P. 2007. Consensus statement on injury definitions and data collection procedures for studies of injuries in Rugby Union. Br J Sports Med, 41, 328-31.

Williams, S., Trewartha, G., Kemp, S. & Stokes, K. 2013. A meta-analysis of injuries in senior men's professional Rugby Union. Sports Medicine, 43, 1043-55.

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