The Irish Rugby Injury Surveillance Project

All-Ireland League Amateur Club Rugby

2024 - 2025

Season Report

IRFU

UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

The IRIS Team

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Irish Rugby Football Union Foreword

The Irish Rugby Football Union welcome the latest injury surveillance report from the Irish Rugby Injury Surveillance (IRIS) Project. We are encouraged to see increased recruitment across both the men's and women's clubs showing the Domestic Game's commitment to player performance and welfare. The IRIS Project is now one of the longest running injury surveillance systems in amateur women's rugby worldwide, a fantastic achievement in a rapidly growing side of the game.

We are one of few Unions participating in the World Rugby Global Tackle Height Trial with the ability to accurately compare injury trends before the legal tackle height was lowered to now, two years following the law change. Preliminary findings from this trial are positive and we will continue to use these reports to better understand the impact of lowering the tackle height going forward. These data also provide us with an opportunity to address the influence of tackle technique and player robustness on injury trends. Injury surveillance is important in helping shape the game from both a safety and performance perspective.

The ongoing support from our clubs working with the IRIS Project is truly inspiring. To each and every club, data collector, volunteer, player and researcher that is part of this project – Thank You. Your continued support is a fundamental component of how we support player health and wellbeing across all levels of play.

Medical Director, IRFU
Dr. Rod McLoughlin

Irish Rugby Injury Surveillance Foreword

The IRIS project has involved the research, design and implementation of an online injury recording platform, IRISweb, enabling the collection and reporting of both seasonal and now long-term injury trends in amateur and schoolboy Rugby. Comprehensive injury surveillance systems in amateur Rugby Union are needed to enhance player welfare and this innovative project to date has provided essential and accurate data for all those involved in the game to help inform training, recovery, and game policy. Collection has now been completed of a seventh season's data and this 2024-2025 season report documents our collaborative work with the IRFU, and also with 21 men's and 9 women's clubs.

This season represents 607 matches, 1083 players, and support from dedicated data injury recorders, coaches, doctors, physiotherapists, managers, and ancillary staff within clubs: thank you. The IRIS project includes the addition of the underage schoolboy senior cup match and training surveillance (reported separately). Crucially the adult amateur game in Ireland in 2023/24 and 2024/25 has been involved, like the school's game, in the World Rugby Global Tackle Height Trial, and IRIS's and IRFU's long term injury surveillance programme will provide accurate pre-trial and trial data on how lowering the legal tackle height impacts injury prevalence and characteristics at the amateur club level.

IRIS involves research stemming from ongoing injury reduction and sports performance 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, biomedical engineering, mathematics and statistics, physiotherapy, physiology, sport psychology, and strength and conditioning as well as post-doctoral and doctoral researchers. The holistic approach to injury surveillance and prevention is central to the project.

IRIS Principal Investigators
Professor Tom Comyns, PhD
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1.0 Executive Summary

1.1 Match Injury

Starting in September 2024, the Irish Rugby Injury Surveillance (IRIS) project collected injury data across 617 matches from 30 men's and women's amateur Rugby clubs.

Men's AIL

- There were 21 men's clubs involved in the IRIS project (10 Division One, 11 Division Two clubs).
- There were a total of 839 male players registered in the IRIS project (451 Division One, 388 Division Two players).
- The overall match time-loss injury incidence rate for males was 44.1/1,000 player hours.
- This is higher than the overall match time-loss injury incidence rate for males during the 2023-2024 season (36.3/1,000 player hours).
- The match time-loss injury incidence rate for Division One males was 37.0/1,000 player hours.
- The match time-loss injury incidence rate for Division Two males was 50.5/1,000 player hours.
- A single male player would have to play, on average, 17 matches to sustain one injury.
- Concussions are no longer the most common injury diagnosis for males. The three most common are hamstring strain (12%), concussion (11%), and ankle sprain (9%).

Women's AIL

- There were 9 women's clubs involved in the IRIS project in 2024-2025 (7 from the AIL and 2 from Provincial Division 1 Leagues*), an increase from 4 AIL clubs in the 2023-2024 season.
- There were a total of 244 female players registered in the IRIS project.
- The overall match time-loss injury incidence rate for women was 25.2/1,000 player hours.
- This is higher than the overall match time-loss injury incidence rate for females during the 2023-2024 season (22.8/1,000 player hours).
- A single female player would have to play, on average, 30 matches to sustain one injury.

* All injuries which occurred in both Women's AIL (WAIL) and Division 1 were analysed as one

1.2 Training Injury

There were a total of 97 training injuries reported in the men's clubs.

- This is higher than the total number of training injuries reported in the 2023-2024 season (79 injuries).
- There was a total of 57 training injuries in Division One men's clubs.
- There was a total of 40 training injuries in Division Two men's clubs.

There was a total of 17 training injuries reported in the women's clubs.

- This is higher than 2023-2024 (7 injuries).

1.3 Injury Occurrence

The most commonly reported match injuries for the men's clubs were hamstring strains (12%), followed by concussion (11%). Hamstring strains resulted in an average of 38 days' absence from Rugby match or training activities, while concussion resulted in an average of 28 days' absence.

The most commonly reported match injuries for the women's clubs were concussion (18%), followed by ankle ligament sprains (16%). Concussion resulted in an average of 27 days' absence from Rugby match or training activities, ankle ligament sprains averaged a slightly higher amount of days' absence (30).

***Note**: Reported concussion incidence includes suspected concussions as per IRFU recognise and remove protocol. The Graduated Return to Play (GRTP) protocol requires a minimum of 21 days absence from play for adults and 23 days for players under 20 years of age.*

1.4 Injury Event

The tackle event accounted for the majority of match injuries, with 55% of all injuries happening during the tackle in the men's clubs, and 54% in the women's clubs. Within the tackle event, in contrast to previous reports, for the women's clubs, the ball carrier (63%) sustained more injuries compared to the tackler (37%). In the men's clubs, also in contrast to previous reports, the tackler (51%) sustained slightly more injuries than the ball carrier (49%).

1.5 Playing Position

Of all match injuries recorded in the men's clubs, 54% were to the 'forwards' (position no. 1-8), while 46% were to the 'backs' (position no. 9-15). By position, the blindside flanker (no. 6) accounted for the most injuries at 10%, followed by the inside centre (no. 12) at 9% and the tighthead prop (no. 3), left wing (no. 11), left lock (no. 4), and full back (no.15) all at 8%.

Of all match injuries recorded in the women's clubs, 60% were to the forwards (position no. 1-8), while 40% were to the backs (position no. 9-15). The loosehead prop (no. 1) and outhalf (no. 10) each accounted for 11% of match injuries each while both the left second row (no. 4) and hooker (no. 2) accounted for 10%.

1.6 Injury Burden

The burden of an injury assesses the incidence rate of an injury in relation to the average severity of the injury (measured as the number of days absent).[1]

Knee sprain carried the greatest burden of all match injuries for the men's clubs (285 days absence/1,000 player hours) with an average severity of 138 days per knee sprain. In the 2023-2024 season shoulder dislocation/subluxation was the greatest at 144 days absence/1,000 player hours for men's clubs. For women's clubs, similar to the 2023-2024 season, knee sprains carried the greatest injury burden (227 days/1,000 player hours) with an average severity of 142 days per sprain.

1.7 New & Recurrent Injury

The majority of all injuries were ‘New’ compared to ‘Recurring’. For time-loss injuries reported in the men’s clubs, new injuries accounted for 95% of all injuries, with 94% in the women’s clubs recorded as new. For all medical attention injuries across the men’s and women’s clubs, 100% were new injuries, with no recurrent injuries reported.

2.0 Introduction

2.1 The IRIS Project

The Irish Rugby Injury Surveillance (IRIS) Project developed and implemented a Rugby Union specific injury surveillance system in 2017. This was adapted for schools and implemented in 2018 and is the first long-term surveillance system within amateur Rugby Union in Ireland. This system monitors the incidence, 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 continued development and implementation of evidence-based injury reduction strategies in order to minimise injury risk and enhance player welfare.

IRIS Aims:

- To develop and implement an injury surveillance system for 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 reduction 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'[2] and the International Olympic Committee (IOC) consensus statement: methods for recording and reporting of epidemiological data on illness and injury in sport 2020 (including STROBE Extension for Sport Injury and Illness Surveillance (STROBE-SIIS)).[3]

An injury is 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 after the player has made a full return to match play following the original injury.

A dual injury is one of multiple diagnoses resulting from one injury event. Dual injuries were analysed as one injury event for the purposes of calculating overall incidence and overall injury severity. However, when analysing injury location and nature dual injuries were separated as per international best practice.[2,3]

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 days' absence from match or training activities is classed as a time-loss injury and categorised according to injury severity. Only time-loss injuries were included in injury incidence rate calculations.[2,3]

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, for a team, the following calculation was used:

Match injury incidence rate (IR):

$$IR = \frac{\text{number of injuries}}{\text{number of matches x number of players (15) x match duration (1.33)}} \times 1{,}000$$

Injury definitions are listed in Section 6.0 Glossary of Terms, page 38.

2.3 Recruitment

At the beginning of the 2024-2025 season, the IRIS team successfully recruited 30 clubs from the men's and women's All-Ireland League (AIL) and the women's Division 1. The Men's AIL is split into two divisions; Division One (Men's AIL 1) and Division Two (Men's AIL 2). In the 2024-2025 season 9 women's clubs were recruited (7 from the Women's AIL and 2 from the Provincial Division 1 Leagues), more than in all previous seasons.

The IRIS project had an 94% compliance rate (30/32 teams recruited) for the 2024-2025 season in comparison to 96% in the 2023-2024 season. These clubs are shown in Table 1.

Table 1: The IRIS club recruitment 2023-2024

	Men's AIL	Women's AIL
Number of clubs	*21* *(AIL 1 = 10; AIL 2 = 11)*	9
Number of players	*839* *(AIL 1 = 451; AIL 2 = 388)*	244

Each club nominated an 'injury recorder', who was trained on use of the IRIS system during the pre-season training of the 2023-2024 season. In the majority of men's clubs (86%), the physiotherapist or physical therapist to the Senior 1XV acted as the injury recorder. For the women's clubs just under half (44%) of the injury recorders were the physiotherapist or physical therapist of the Senior 1XV. In those cases where the injury recorder was not the physiotherapist or physical therapist of the Senior 1XV, injury data were provided by a match day physiotherapist or physical therapist to the injury recorder. Recorded injuries are followed up via weekly audits by the IRIS researcher team to ensure accuracy of initial diagnosis and severity. Each injury recorder was given a secure and confidential login to their own club's home-page on the IRIS system. Each club registered all players involved with the Senior 1XV on the IRIS system. Beginning with the start of the Rugby season in Autumn 2024, the injury recorder documented all injuries occurring to the Senior 1VX men's or women's team. The injury recorders also reported when a player returned to play so that injury severity data could be calculated.

3.0 Match Injury

3.1 Overall Time-loss Match Injury

For the 2024-2025 season, injury data from 30 clubs across 617 matches were collected.

A total of 484 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 classified as 'medical attention injuries' and were not included in the analysis of time-loss injuries, as per international best practice.[1]

The overall team match time-loss injury incidence rates:

- Men's teams – 44.1/1,000 player hours.
- Women's teams – 25.2/1,000 player hours.
- These incidence rates approximate to 1 time-loss injury every game for the men's teams and 1 time-loss injury every 2 games for the women's teams.
- A male player would have to play approximately 17 matches in order to suffer one time-loss injury.
- A female player would have to play approximately 30 matches in order to suffer one time-loss injury.

Table 2 shows the overall team match time-loss injury incidence rate for the Division One men's clubs (Men's AIL 1), the Division Two men's clubs (Men's AIL 2) and the women's clubs.

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

Division	No. Clubs	No. Players	No. Matches	Exposure Hours	No. Injuries	IR*
Men's AIL 1	10	451	218	4349	161	37.0
Men's AIL 2	11	388	242	4828	244	50.1
Overall Men's Clubs	**21**	**839**	**460**	**9177**	**405**	**44.1**
Women's Clubs	9	244	157	3132	79	25.2
Overall Women's Clubs	**9**	**244**	**157**	**3132**	**79**	**25.2**

*IR – Incidence rate per 1,000 player hours

- 48% of match time-loss injuries required medical imaging (X-Ray, MRI, Ultrasound etc).

3.2 Match Injury Classification

The injury diagnosis refers to the specific body location and nature of the injury.

The most common injury diagnoses for the men's clubs were hamstring strains, followed by concussion, accounting for 12% and 11% of all time-loss match injuries respectively.
For the women's clubs, the most common time-loss match injury diagnoses were concussion (18%) and ankle sprains (16%).

Tables 3 and 4 show the three most common match time-loss injury diagnoses for all the men's and women's clubs for the current season (2024-2025). For the men's clubs the second lowest incidence rate and lowest percentage for concussions was reported when comparing to prior four seasons (2023-2024, 2022-2023, 2021-2022, 2019-2020). ** For women's clubs the second highest incidence rate and highest percentage for concussions was reported when comparing to prior four seasons (2023-2024, 2022-2023, 2021-2022, 2019-2020). **

Table 3: Overall most common injury diagnoses for the men's clubs
(IR/1,000 player hours, % of injuries)*

Men's Clubs				
2024-25	2023-24	2022-23	2021-22	2019-20
Hamstring strain 5.2 (12%)	Concussion 4.4 (12%)	Concussion 9.1 (20%)	Concussion 7.6 (13%)	Concussion 7.1 (14%)
Concussion 4.7 (11%)	Ankle sprain 3.4 (9%)	Ankle sprain 5.0 (11%)	Ankle sprain 5.3 (9%)	Ankle sprain 4.5 (9%)
Ankle sprain 4.0 (9%)	Hamstring strain 3.0 (8%)	Hamstring strain 4.7 (10%)	Hamstring strain 4.6 (8%)	Hamstring strain 2.9 (6%)

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Table 4: Overall most common injury diagnoses for the women's clubs
(IR/1,000 player hours, % of injuries)*

Women's Clubs				
2024-25	2023-24	2022-23	2021-22	2019-20
Concussion 4.5 (18%)	Knee sprain 2.6 (11%)	Ankle sprain 4.3 (14%)	Concussion 3.6 (10%)	Concussion 5.6 (16%)
Ankle sprain 4.2 (16%)	Ankle sprain 2.6 (11%)	Knee sprain 3.7 (12%)	Ankle sprain 2.9 (8%)	Ankle sprain 4.8 (14%)
Knee sprain 1.6 (6%)	Concussion 2.0 (9%)	Concussion 2.5 (8%)	Finger sprain 2.9 (8%)	Knee sprain 4.0 (11%)

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Table 5 shows the three most common match time-loss injury diagnoses for each of the men's divisions (AIL 1 and AIL 2) during the 2024-2025 season.

Table 5: Most common injury diagnoses for each men's Division One and Division Two (IR/1,000 player hours, % of injuries)*

Men's AIL 1	Men's AIL 2
Concussion 4.6 (12%)	Hamstring strain 6.4 (13%)
Hamstring strain 3.9 (11%)	Ankle sprain 5.2 (10%)
Knee sprain 3.0 (8%)	Concussion 4.8 (9%)

*accounts for separation of dual injuries and mathematical rounding

The shoulder was the most commonly injured body location in the men's clubs, accounting for 15% of all injuries in 2024-2025. This is similar to the 2023-24 season when the shoulder was the most injured location with 16% of all injuries.

For the women's clubs in 2024-2025, the most commonly injured body location was the ankle accounting for 23% of all injuries. This is higher when compared to the 2023-2024 season when the ankle was the most commonly injured site with 17% of all injuries.

Tables 6 and 7 show the most common diagnoses for each commonly injured body location.

Table 6: Men's Clubs: Most common injury diagnoses with regards bodily location (IR/1,000 player hours, % of injuries)

Location	Diagnosis
Shoulder 6.8 (15%)	Ligament sprain 2.1 Dislocation/Subluxation 1.5 Haematoma/Contusion 1.1
Head 5.7 (13%)	Concussion 4.8 Laceration 0.7 Other 0.2
Posterior thigh 5.3 (12%)	Strain 5.2 Other 0.1

*accounts for separation of dual injuries and mathematical rounding

Table 7: Women's Clubs: Most common injury diagnoses with regards bodily location (IR/1,000 player hours, % of injuries)

Location	Diagnosis
Ankle 5.8 (23%)	Ligament sprain 4.2 Fracture 1.3 Muscle strain 0.6
Head 4.8 (19%)	Concussion 4.5 Lacerations 0.3 Haematoma/Contusion 0.3
Shoulder 3.5 (14%)	Sprain 1.3 Dislocation/Subluxation 1.3

*accounts for separation of dual injuries and mathematical rounding

3.3 Timing of Match Injury

The majority of injuries occurred in the 2nd half in both the men's (60%) and women's (55%) clubs.

Similar to the 2023-2024 and 2017-2018 season, there was a 3rd quarter peak. Whereas in the other seasons there was a rise in injuries from 1st quarter to 4th quarter. Figure 1(a) shows the timing of match injury for the men's clubs comparing this season (2024-2025) to the previous six seasons.

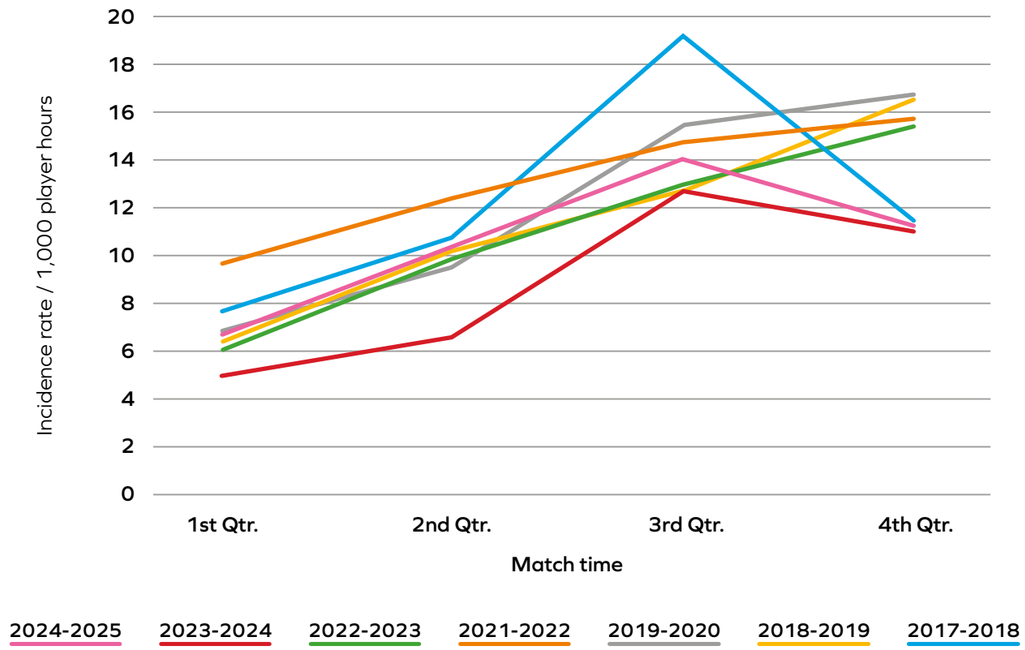

Figure 1(a): Timing of injury during match play for the men's clubs (IR/1,000 player hours)

The women's 2024-2025 season showed an increase in injuries between the 1st and 2nd quarter followed by a slight drop-off in the 3rd and 4th quarter. Whereas in the 2023-2024 season women's match injuries showed a decrease in injuries between the 1st and 2nd quarter followed by a steady rise towards the 4th quarter. During the 2022-2023 season, the women's clubs saw a steady rise from the 1st quarter to the 4th quarter, similar to that of the 2018-2019 season. Figure 1(b) shows the timing of match injury for the women's clubs comparing this season (2024-2025) to the previous six seasons.

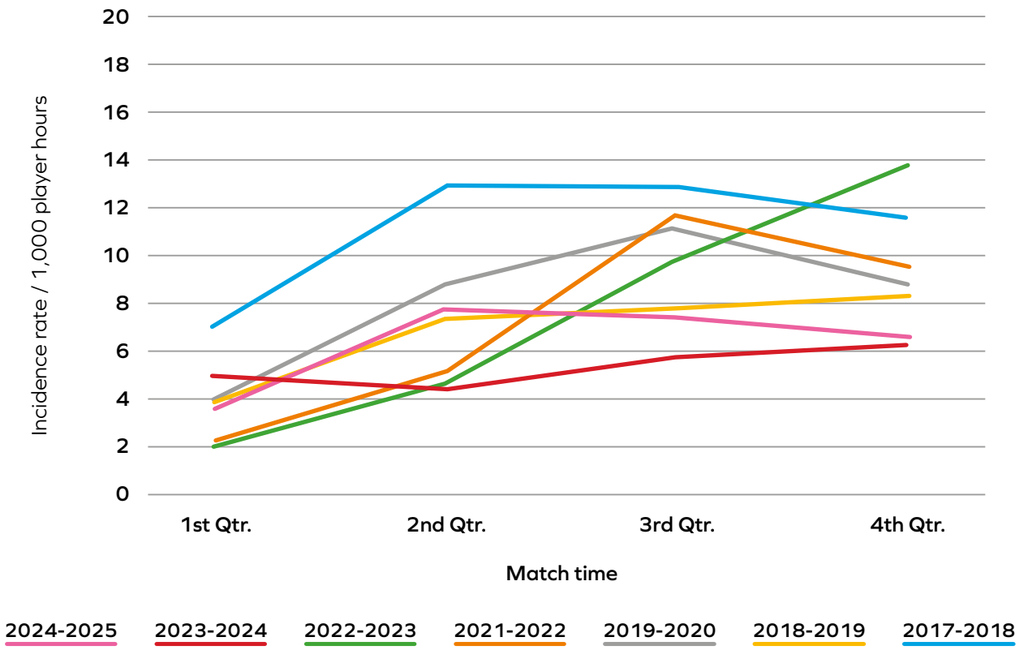

Figure 1(b): Timing of injury during match play for the women's clubs (IR/1,000 player hours)

3.4 Match Injury Event

Figure 2 shows the event surrounding the occurrence of an injury (i.e. mechanism).

The tackle event has accounted for the majority of injuries across both the men's and women's clubs for seven seasons in a row. For the women's clubs the ball carrier has commonly reported higher injuries than the tackler (i.e. tackling) which is similar to all previous seasons except the 2023-2024 season.

The tackler (51%) had higher injury rates than the ball carrier (49%) this season in the men's clubs, similar to the 2022-2023, 2019-2020 and 2018-2019 seasons. In the 2023-2024 and 2017-2018 season the ball carrier had higher injury rates than the tackler while in 2021-2022 injury rates between the two were similar.

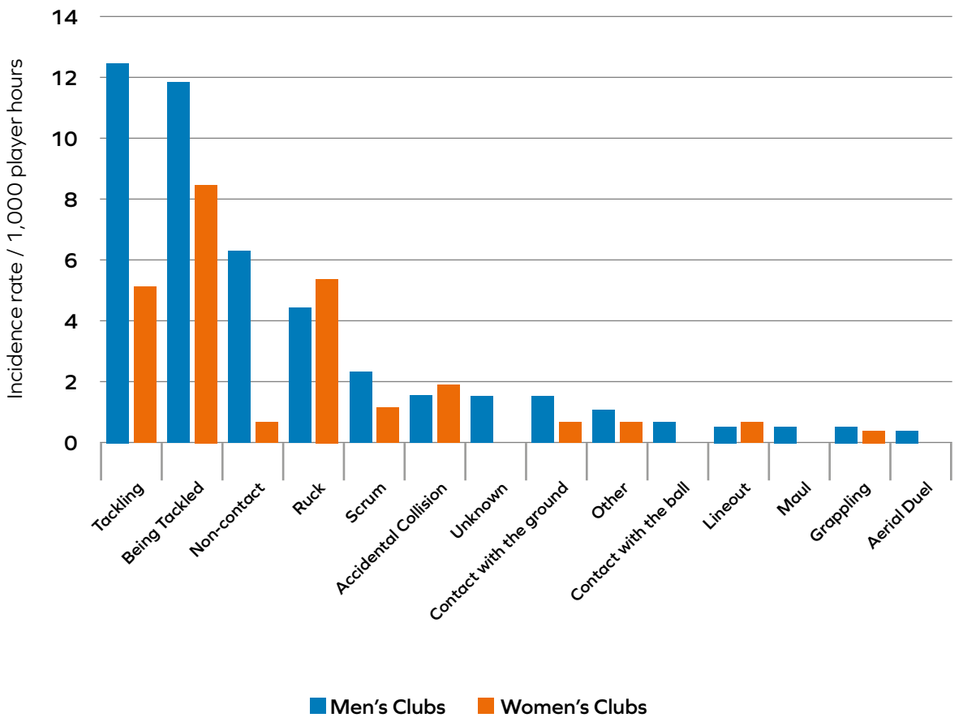

Figure 2: Injury event (IR/1,000 player hours)

3.5 Nature of Match Injury

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

Strains (referring to muscle or tendon tears) were the most common injury type for the men's clubs, followed by sprains (referring to ligament tears). Strains and sprains have been the two most common types of injury in every season so far for the men's clubs. The women's clubs have reported more sprains in every season since 2017-2018.

The column labelled 'Other' refers to a small proportion of reported injuries including; joint fluid, hernia, or vascular injuries. Other injuries accounted for 4.9% of all men's and 1.3% of all women's injuries.

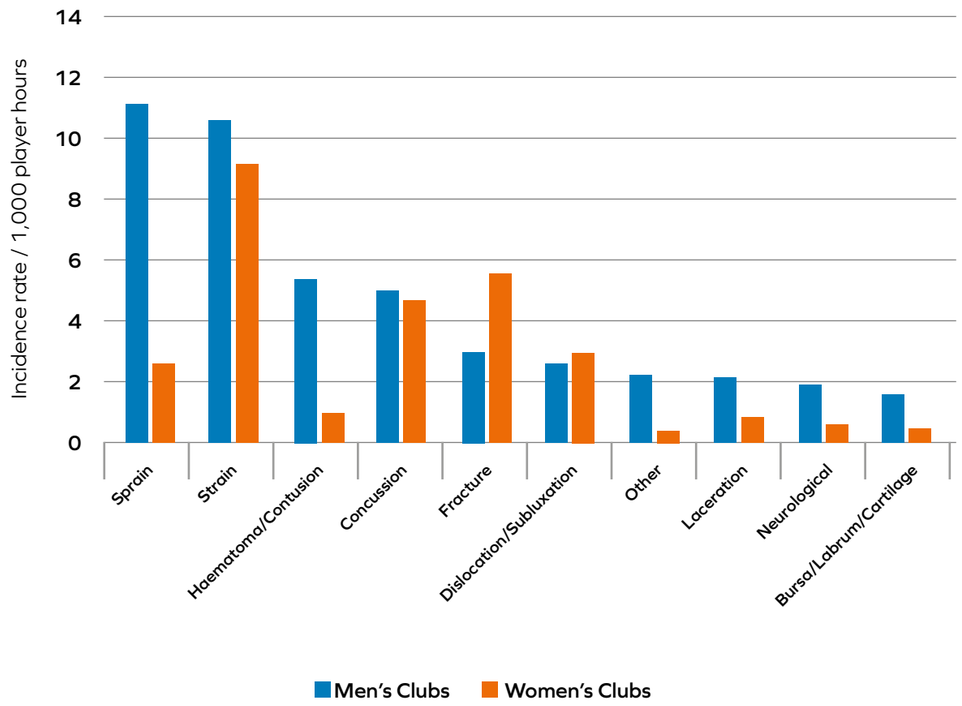

Figure 3: Nature of injury (IR/1,000 player hours)

3.6 Body Location of Match Injury

The shoulder was the most commonly injured body area in the men's clubs this season (2024-2025) accounting for 15% of injuries. The head was ranked second this season at 13% and the posterior thigh third at 12% of all injuries. The head and shoulder have consistently been amongst the three most common injury sites in each season to date.

In 2024-2025, at 5.3/1,000 player hours, the posterior thigh reached its highest ever incidence rate compared to previous seasons reported in the men's clubs to date (2023-2024: 3.3; 2022-2023: 4.9; 2021-2022: 4.6; 2019-2020: 3.1; 2018-2019: 3.8; 2017-2018: 4.6/1,000 player hours).

Figure 4(a) shows the incidence of injury according to body location for the men's clubs.

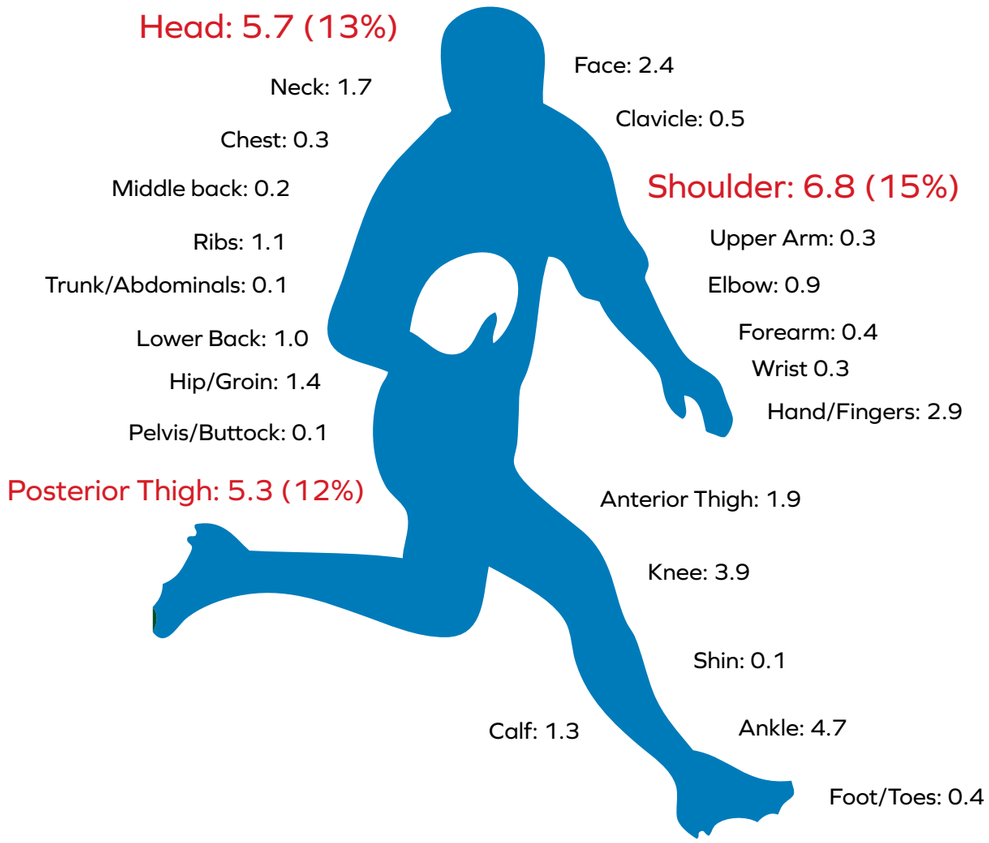

Figure 4(a): Location of injury for the men's clubs (IR/1,000 player hours)*

*accounts for separation of dual injuries and mathematical rounding

The ankle (23%) followed by the head (19%) and the shoulder (14%) were the most commonly injured areas in the women's clubs this season.

The ankle has been in the three most common injured locations in each season, the 2024-2025 season had the third highest rate since 2017 with 5.8/1,000 player hours (2023-2024: 3.9; 2022-2023: 6.8; 2021-2022: 5.1; 2019-2020: 4.8; 2018-2019: 3.9; 2017-2018: 6.4/1,000 player hours).

Figure 4(b) shows the incidence of injury according to body location for the women's clubs.

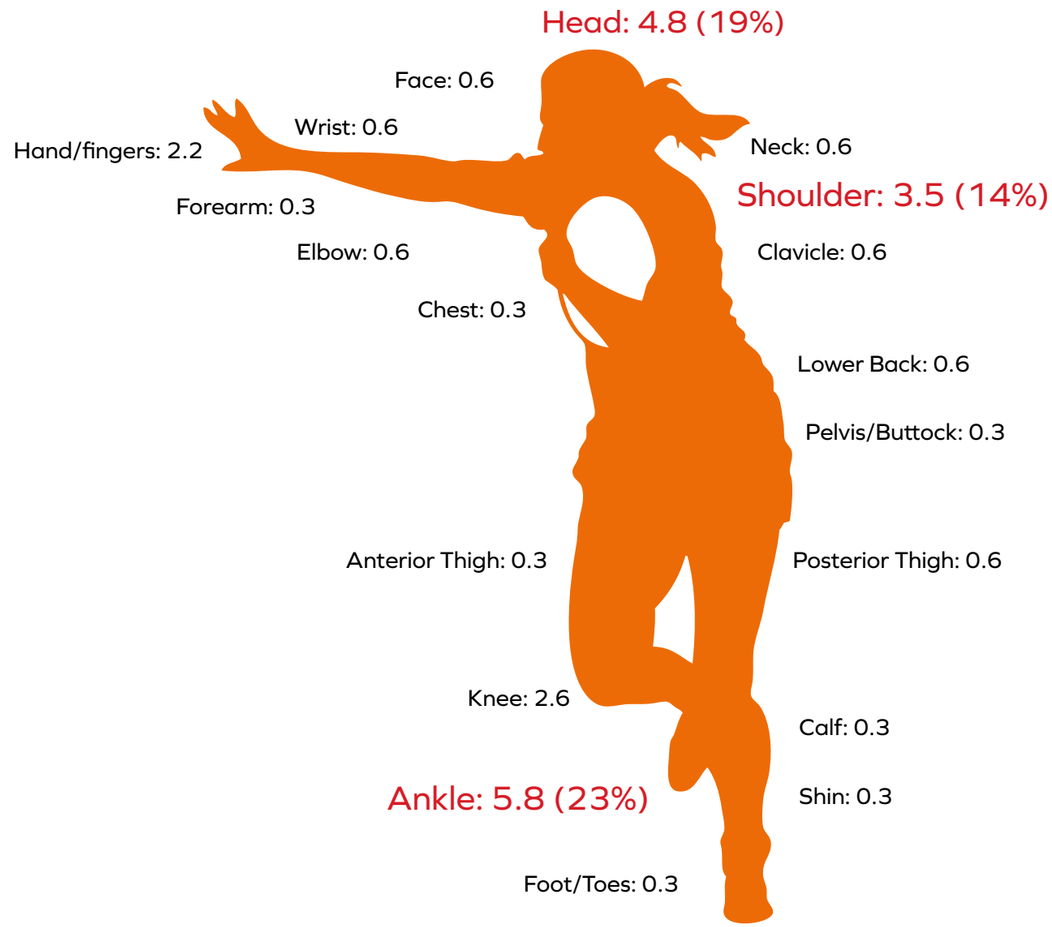

Figure 4(b): Location of injury for the women's clubs (IR/1,000 player hours)

*accounts for separation of dual injuries and mathematical rounding

3.7 Playing Position of Match Injury

Rugby player positions are split into 'forwards' (position no. 1-8) and 'backs' (position no. 9-15). In men's clubs, forwards sustained more reported injuries (54%) than the backs (46%) in the 2024-2025 season, in-line with the prior six seasons.

By position, the blindside flanker (no. 6) reported the most injuries, accounting for 10% of all match time-loss injuries for the men's clubs. The inside centre (no. 12) accounted for the second most injuries with 9% of all time-loss injuries. The tighthead prop (no. 3), left wing (no. 11), left second row (no. 4), and full back (no.15) each accounted for 8% of injuries respectively as seen in Figure 5(a).

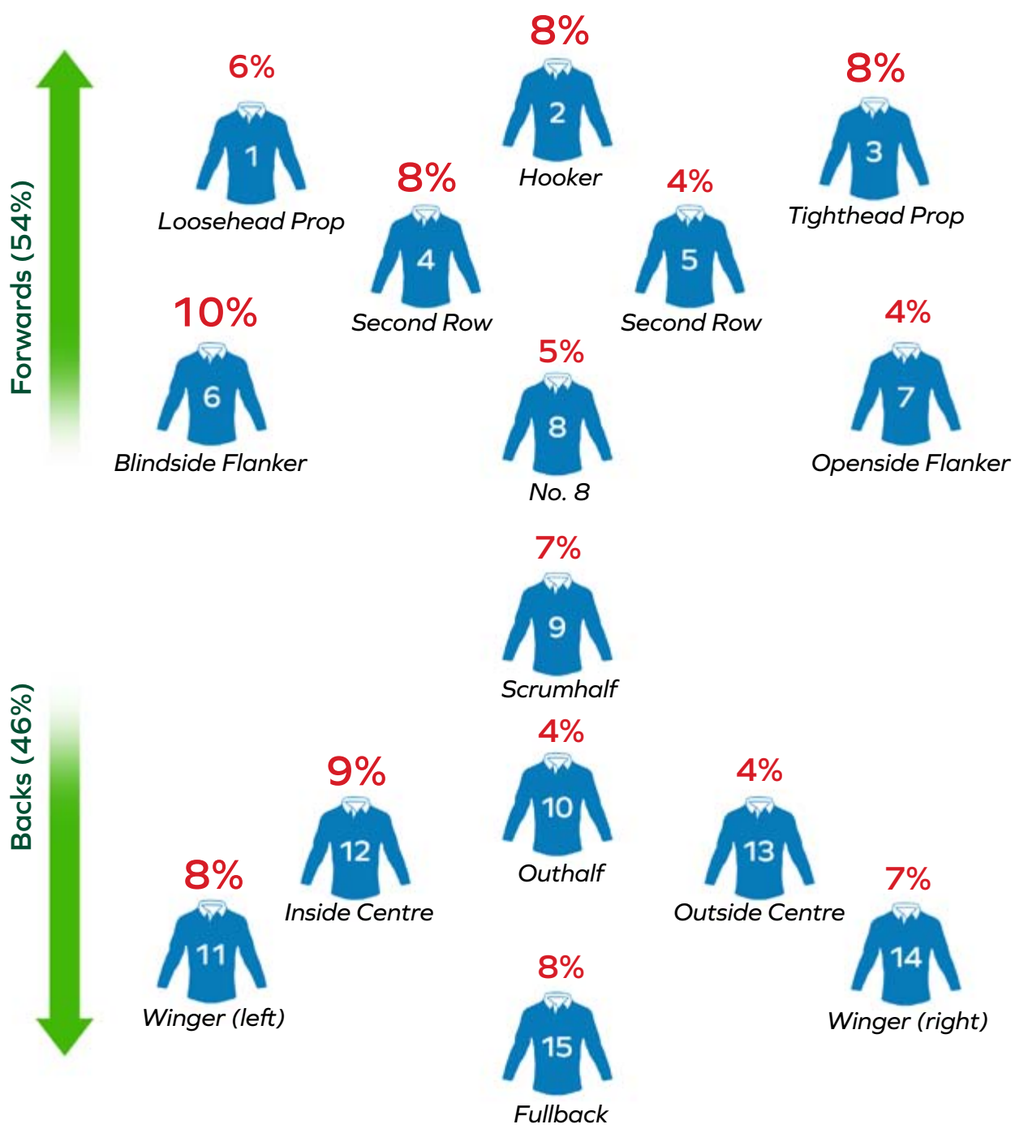

Figure 5(a): Percentage of injuries occurring per playing position in the men's clubs

Overall for the women's clubs, forwards sustained 60% of the injuries during the 2024-2025 season, a decrease compared to the previous 2023-2024 season (73%).

The two positions that sustained the most injuries were the loosehead prop (no. 1) and outhalf (no. 10) with 11% each, closely followed by both hooker (no.2) and the left second row (no.4) with 10% each. In the 2023-2024 season the three positions that sustained the most injuries were the loosehead prop (no. 1), tighthead prop (no. 3) and left second row (no. 4) in the women's clubs with 14% of all reported injuries each and accounting for 42% of all injuries overall.

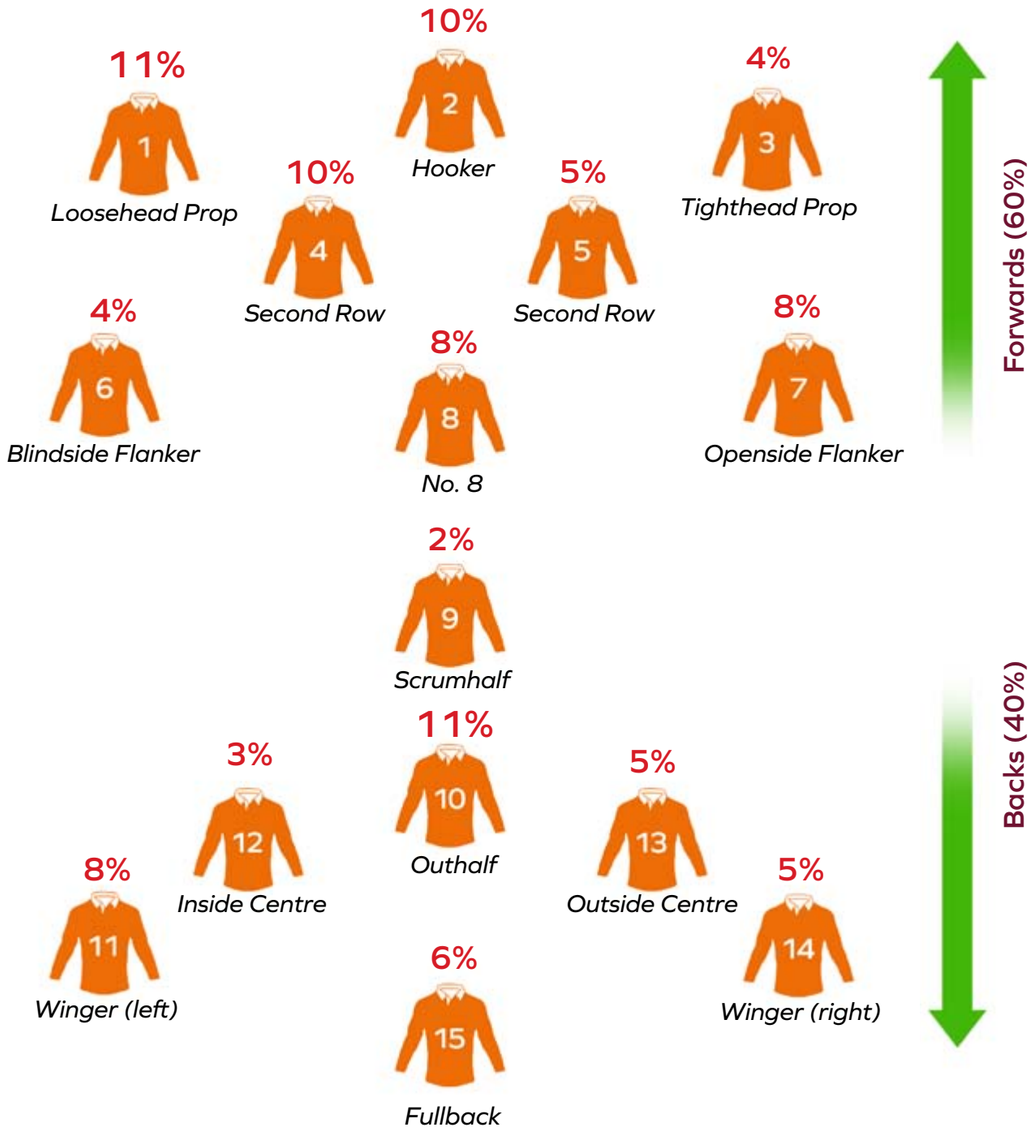

Figure 5(b): Percentage of injuries occurring per playing position in the women's clubs

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.[2] In line with the previous 4 seasons, most injuries had 'moderate' or 'severe' time-loss for both men's and women's clubs, 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.[2] Slight injuries are discussed in more detail in sub-section 3.10.

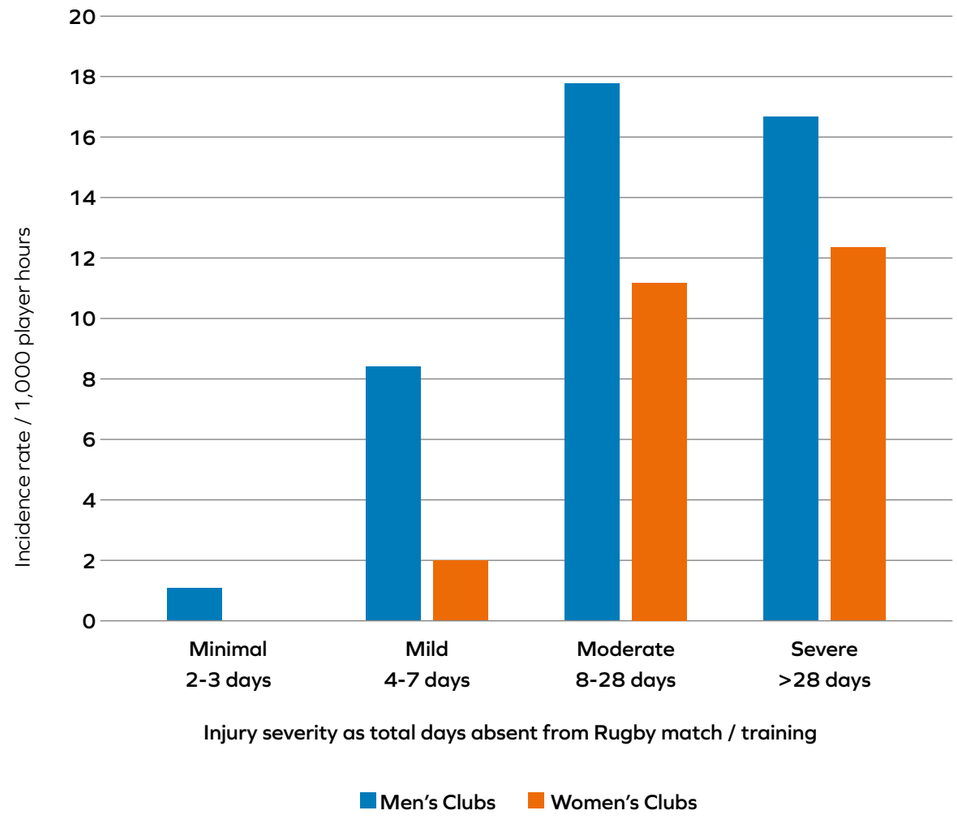

Figure 6: Injury severity of time-loss injuries (IR/1,000 player hours)

* Two complicated injuries sustained by male players were excluded for both severity and burden due to as yet unknown return to play date, where predicted RTP date would be inaccurate. These two injuries will be included in IRIS longitudinal data at a later stage.

3.9 Match Injury Burden

The burden of an injury assesses the incidence rate of an injury in relation to the average severity of the injury ([IR] x [average number of days' absence]).

Knee sprains carried the greatest burden of all match injuries for the men's clubs (with 285 days/1,000 player hours) in 2024 -2025 compared to dislocation/subluxation carrying the greatest burden in 2023-2024 (144 days/1,000 player hours). For women's clubs, similar to the previous report, knee sprains carried the greatest injury burden (227 days/1,000 player hours) but were less burdensome compared to 2023-2024 (657 days/1,000 player hours).

Hamstring strains had the second greatest injury burden this season for men's clubs, with a rate of 197 days/1,000 player hours. For women's clubs, ankle sprains had the second greatest injury burden with a rate of 114 days/1,000 player hours.

For the men's clubs, concussions resulted in an average of 28 days' absence from Rugby match or training in 2024-2025 which is similar to 27 days' absence in 2021-2020, slightly less than in the 2023-2024 season with 30 days' absence, and 10 days less when compared to the 2019-2020 season (average of 38 days' absence).

Table 8 shows the highest injury burden and average total days off (severity) for all the men's and women's clubs.

Table 8: Diagnosis, Injury Burden (days absence/1,000 player hours), average TDO (total days off)

	Diagnosis	Injury Burden	Average TDO
Men's Clubs	Knee sprain	285	138
	Hamstring strain	197	38
	Ankle sprain	142	37
Women's Clubs	Knee sprain	227	142
	Ankle sprain	114	30
	Concussion	111	27

3.10 Medical Attention Match Injury (slight injury)

Any injuries resulting in 0-1 days' absence from Rugby match or training are considered as slight or 'medical attention' injuries, therefore were excluded from the analysis of time-loss injuries as per international best practice.[2]

During the 2024-2025 season, 4 medical attention injuries were recorded in the men's clubs, with none recorded for the women's clubs.

The overall team match medical attention injury incidence rates:

- Men's AIL clubs – 0.4/1,000 player hours
- Women's AIL clubs – 0.0/1,000 player hours

Table 9: Match medical attention injuries (slight injuries) per division

Division	No. Clubs	No. Players	No. Matches	Exposure Hours	No. Injuries	IR*
Men's AIL 1	10	451	218	4349	1	0.2
Men's AIL 2	11	388	242	4828	3	0.6
Overall Men's Clubs	**21**	**839**	**460**	**9177**	**4**	**0.4**
Women's Clubs	9	244	157	3132	0	0.0
Overall Women's Clubs	**9**	**244**	**157**	**3132**	**0**	**0.0**

**Incidence rate per 1,000 player hours*

For the men's clubs, 50% of medical attention injuries were to the neck and face.

The tackle event accounted for 50% of medical attention injuries in the men's clubs (0.2/1,000 player hours) the with one medical attention injury happening to the tackler and one to the ball carrier.

3.11 New & Recurrent Injury

The majority of all injuries were 'New' compared to 'Recurring'. For all medical attention injuries across the men's and women's clubs, 100% were new injuries. For time-loss injuries reported in the men's clubs, new injuries accounted for 95%, with 94% in the women's clubs recorded as new.

3.12 Other Match-day Related Injury

A small proportion of injuries occurred during the match warm-up and these were not included in the analysis of the match injury incidence, as only injuries occurring during the match play counted as match injuries.

In the men's clubs, 16 warm-up injuries were reported, of which all were time-loss. Of these 16, 3 were from tackle events, 6 non-contact, 2 rucks, 2 accidental collisions, 2 lineouts and 1 was an unknown mechanism. Contact mechanisms, tackle events, and rucks, were most responsible for warm-up injuries in the men's clubs (31%).

For the women's clubs, no warm-up injuries were reported.

4.0 Training Injury

4.1 Overall Time-loss Training Injury

For the 2024-2025 season, training injury data from the 30 clubs (21 men's and 9 women's) were also collected. For operational reasons, as the frequency and duration of training sessions were not recorded, training injury incidence rates are not available. Therefore, the total number of training injuries that occurred are reported.

Any injuries resulting in 0-1 days absence from Rugby match or training activities were considered to be medical attention injuries and are not included in the analysis of time-loss injuries, as per international best practice.[2]

The overall number of training injuries for the men's clubs was 97, while the overall number of training injuries for the women's clubs was 17.

Table 10 shows the overall number of training injuries for the Division One men's clubs (Men's AIL 1), the Division Two men's clubs (Men's AIL 2) and the women's clubs (Women's AIL).

Table 10: Training time-loss injuries (excluding slight injuries)

Division	No. Clubs	No. Players	No. Injuries
Men's AIL 1	10	451	57
Men's AIL 2	11	388	40
Overall Men's Clubs	**21**	**839**	**97**
Women's Clubs	9	244	17
Overall Women's Clubs	**9**	**244**	**17**

4.2 Training Injury Classification

The injury diagnosis refers to the specific body location and nature of the injury.

The most common injury diagnosis for the men's clubs was hamstring strains, accounting for 18% of all training time-loss injuries. This was followed by ankle sprains, accounting for 11%, and calf strains which accounted for 7% of training injuries.

Table 11 and 12 show the three common specific training time-loss injury diagnoses for both the men's and women's clubs over the past five seasons.

Table 11: Overall most common training injury diagnoses for the men's clubs (% of injuries)*

Men's Clubs				
2024-25	2023-24	2022-23	2021-22	2019-20
Hamstring strain (18%)	Hamstring strain (20%)	Hamstring strain (18%)	Ankle sprain (20%)	Hamstring strain (23%)
Ankle sprain (11%)	Ankle sprain (10%)	Ankle sprain (11%)	Hamstring strain (16%)	Ankle sprain (13%)
Calf strain (7%)	Calf strain (8%)	Concussion (6%)	Groin strain (7%)	Calf strain (6%)
-	-	-	-	Knee tendon strain (6%)
-	-	-	-	Quadriceps contusions (6%)

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Table 12: Overall most common training injury diagnoses for the women's clubs (% of injuries)*

Women's Clubs				
2024-25	2023-24*	2023-23	2021-22	2019-20
Ankle sprain (24%)	Foot/toe strain (14%)	Shoulder strain (18%)	Ankle sprain (22%)	Finger fracture (29%)
Wrist sprain (12%)	Shin fracture (14%)	Ankle sprain (12%)	Hamstring strain (22%)	Sternoclavicular sprain (14%)
Hamstring strain (12%)	Clavicle sprain (14%)	Foot/Toe sprain (12%)	-	Neck strain (14%)
Knee sprain (12%)	Low-back strain (14%)	-	-	Wrist strain (14%)
Calf strain (6%)	Shoulder dislocation/ subluxation (14%)	-	-	Lumbar herniation (14%)
Anterior thigh strain (6%)	Chest sprain (14%)	-	-	Finger nerve damage (14%)
Wrist fractures (6%)	Knee sprain (14%)	-	-	-

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Table 13 shows the top three most common specific training time-loss injury diagnoses for each of the men's divisions (Division 1 and Division 2).

Table 13: Most common training injury diagnoses for each men's Division 1 and Division 2 (% of injuries)

Men's AIL 1	Men's AIL 2
Hamstring strain (18%)	Hamstring strain (18%)
Ankle sprain (18%)	Calf strain (13%)
Anterior thigh strain (7%)	Ankle sprain (5%)
Ankle strain (7%)	Knee sprain (5%)
Concussion (5%)	Knee strain (5%)

4.3 Body Location of Training Injury

Overall, the posterior thigh (19%) was the most common injury site in the men's clubs, followed by the ankle (18%). The 2023-2024 season's report showed similar results with the posterior thigh (20%) ranked first followed by the ankle (13%).

Figure 7(a) shows the incidences of training injury according to body location for the men's clubs

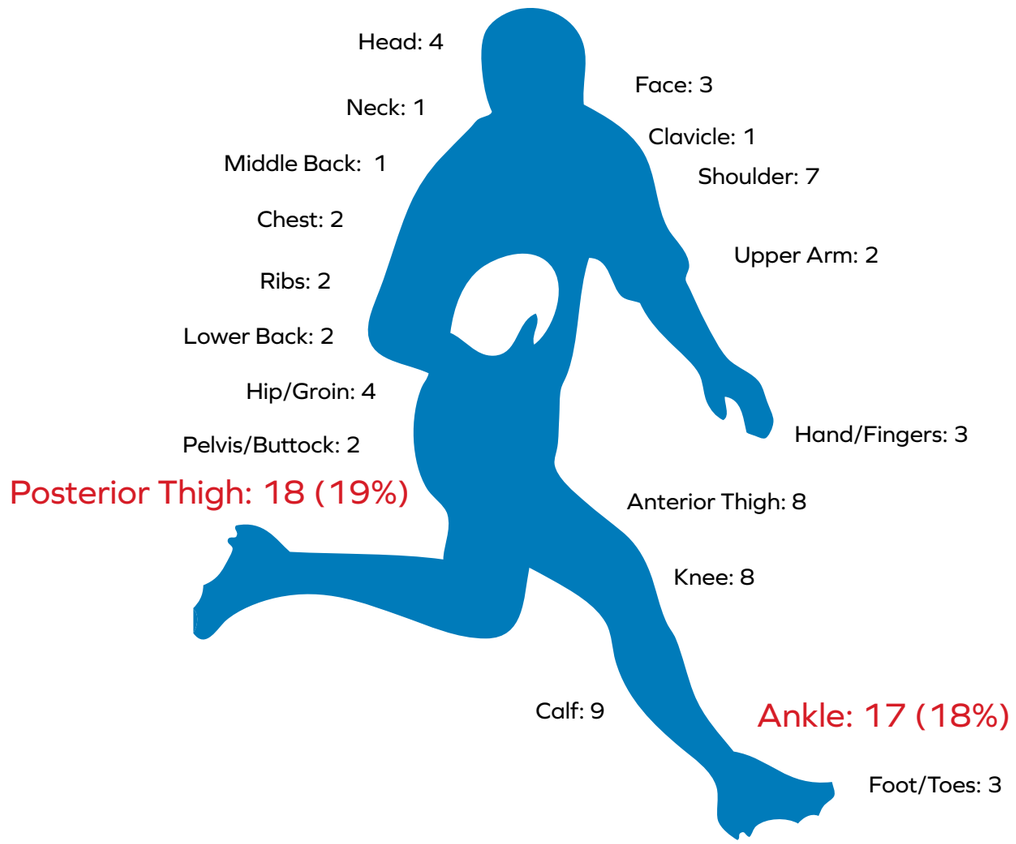

Figure 7(a): Location of training injury for the men's clubs (number of injuries)

Overall, the ankle (24%) was the most common injury site in the women's clubs, followed by both the wrist (18%) and knee (18%).

Figure 7(b) shows the incidences of injury according to bodily location for the women's clubs.

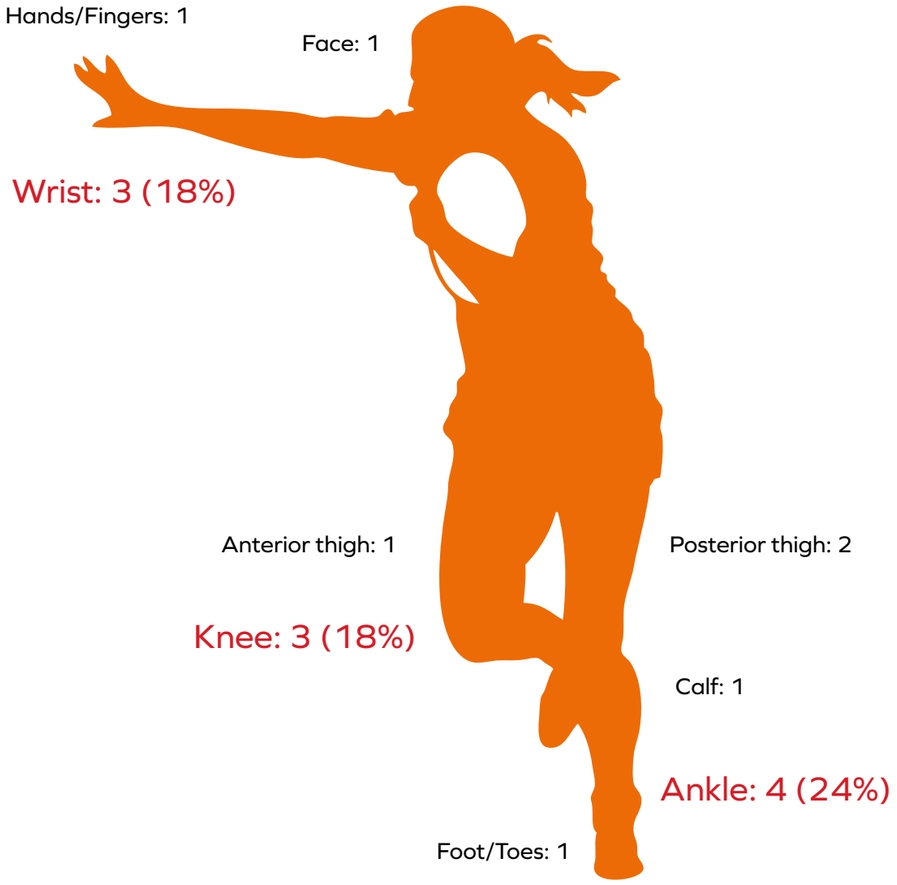

Figure 7(b): Location of training injury for the women's clubs (number of injuries)

4.4 Nature of Training Injury

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

In all seven seasons to date, sprains (referring to ligament injuries) and strains (referring to muscle or tendon injuries) have been responsible for the majority of training injuries in the men's clubs. In 2024-2025, similar to 2023-2024 and 2022-2023, sprains and strains were the most common injury nature, with other seasons more evenly distributed across natures. Figure 8 represents data from this season.

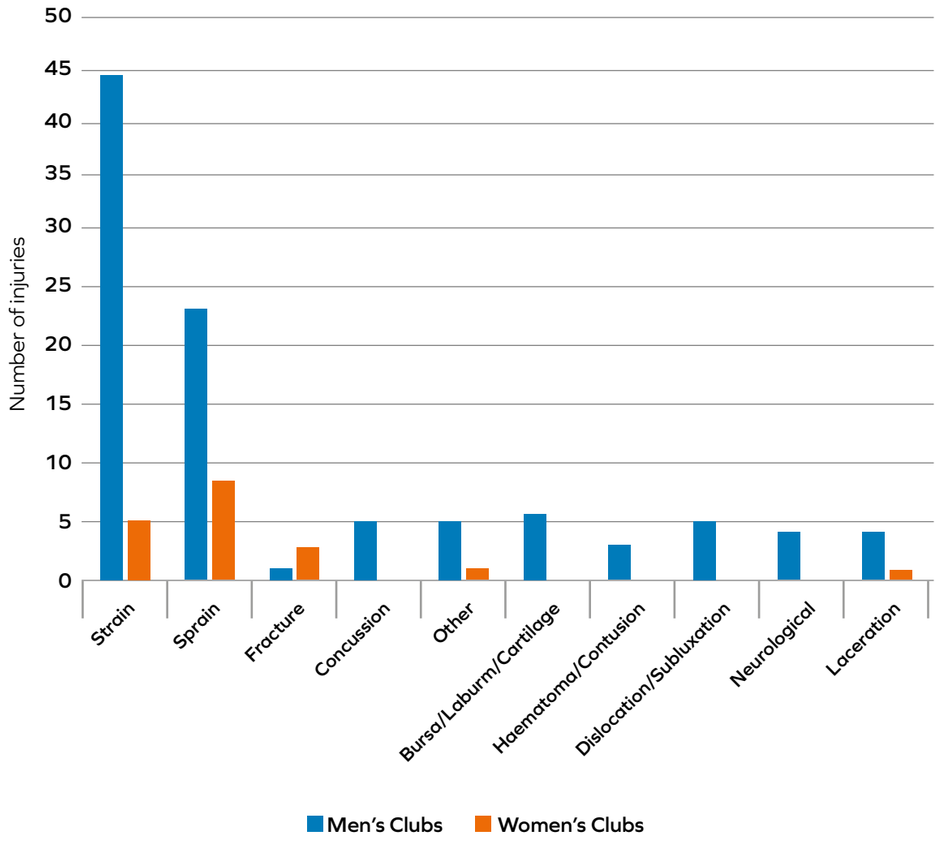

Figure 8: Nature of training injury (number of injuries)

4.5 Training Injury Event

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

The training event responsible for the most men's injuries this season, similar to 2023-2024, was non-contact mechanisms, accounting for 35%. The tackle event was second most common, with the ball carrier sustaining 12% and the tackler 9% of all injuries. For women's clubs non-contact mechanisms, accounted for 41% of the injuries. The tackle event also accounted for 41% while being tackled was responsible for 57% of tackle-related training injuries. Figure 9 represents the data from this season.

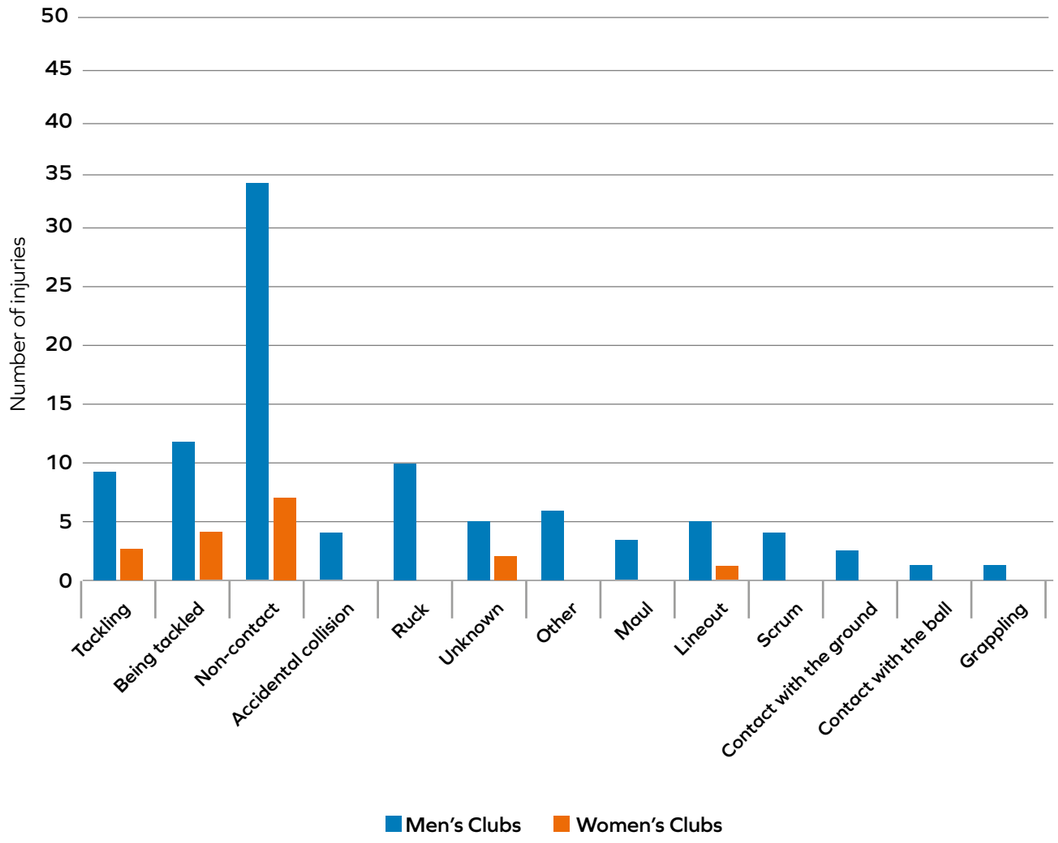

Figure 9: Training injury event (number of injuries)

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.[1] The majority of training injuries were moderate or severe, as shown in Figure 10. This is a similar distribution to the data from 2023-2024, 2022-2023 and 2021-2022.

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.[2] Slight injuries are discussed in more detail in sub-section 4.7.

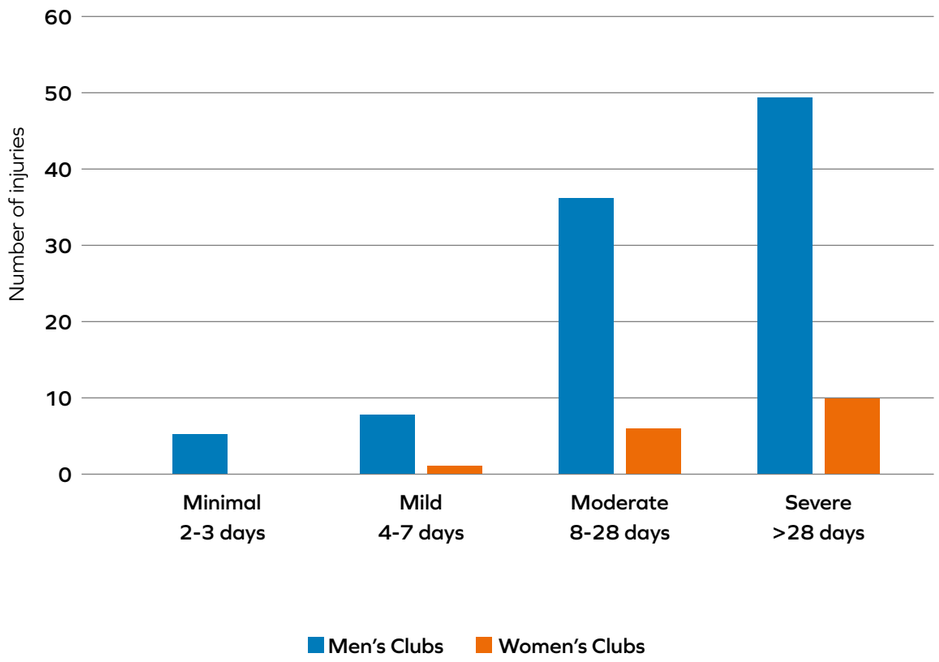

Figure 10: Training injury severity (number of injuries)

The burden of an injury assesses the incidence rate of an injury in relation to the average severity of the injury ([IR] x [average number of days' absence]). Exposure was not measured in relation to training injuries, therefore 'days lost per 1,000 hours' could not be calculated. However, frequency of training injuries along with average total days off are reported in Table 14.

For training injuries reported in the men's clubs, hamstring strains represented the highest frequency of diagnosis (18%) and had an average days' absence of 41 days. For the women's clubs ankle sprains (24%) had an average days' absence of 49 days.

Table 14: Diagnosis, number of training injuries, average total days off (TDO)

	Diagnosis	Number of Injuries	Average TDO
Men's Clubs	Hamstring strain	17	41
	Ankle sprain	11	34
	Calf strain	7	41
Women's Clubs	Ankle sprain	4	49
	Hamstring strain	2	25
	Wrist sprain	2	23

4.7 Medical Attention Training Injury (slight injury)

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.[2]

During the 2024-2025 season, no medical attention injuries were reported from training activities from the men's or the women's clubs. Slight injuries reported from training continue to be low similar to previous seasons, with the 2023-2024 season reporting 5, 2022-2023 season reporting 3 and the 2021-2022 season reporting only 1 from men's clubs. The 2019-2020 season reported 1 injury each for both men and women, and the 2018-2019 season reported 4 injuries for the men's clubs and 0 for the women's clubs.

Table 15: Training medical attention injuries

Division	No. Clubs	No. Players	No. Injuries
Men's Clubs	21	839	0
Women's Clubs	9	244	0

5.0 Future Directions of the IRIS Project

Following six successful seasons of the IRISweb system, the IRIS project continued and completed its' seventh season of data collection during the 2024-2025 campaign. Recruitment continued in the men's AIL across both Division One and Division Two, expanding a greater reach across Ulster and Connacht. Recruitment in the women's clubs expanded across the women's AIL and also recruited high performing clubs within the first division of the Provincial Leagues. The Irish Rugby Football Union opted in to the World Rugby Global Tackle Height Law Trial that has run for two years across adult amateur and also age-grade (schools) Rugby, and this will be reported on separately. The IRIS Project data have been essential for the IRFU to assess the effectiveness of the Tackle Height Law Trial on injuries. The IRIS Project is also exploring stakeholder feedback on the implications of the IRFU Tackle Behaviours Trial.

The IRIS Project began a study in the senior amateur club 2021-2022 season measuring injury epidemiology and programme adherence for an intervention programme called ENGAGE. ENGAGE is a bespoke Rugby readiness and robustness programme which aims to improve overall player performance and reduce injury risk. Through a structured and progressive 3-phase programme, ENGAGE prepares players for the immediate training ahead and duration of the competitive matches across the season. The programme was found to be appropriate, highly acceptable, and feasible among the clubs adopting it, and the feasibility study resulted in moderate injuries, severe injuries, and concussion falling by 24%, 32%, and 40% respectively. IRIS has explored this programme in the underage school's game, with a heightened focus on coach support for programme delivery.

The IRIS project has also commenced surveillance into contact-related breast injuries and exercise-induced breast pain in adult female players in Ireland and internationally. This information will help inform all involved in the women's game regarding the prevalence of breast pain and injury and raise knowledge and awareness. In the 2024/25 season, IRIS added 'breast' as a distinct injury location and will monitor this prospectively over the coming seasons to gain a better understanding of the incidence, severity and burden of breast-related injury.

Relative Energy Deficiency (REDs) in the women's and men's populations is also now being explored, examining awareness, prevalence, and education.

In 2024 IRIS also commenced a collaboration with UPMC Ireland (University of Pittsburgh Medical Centre) to further explore concussion symptoms, recovery duration and treatment. This collaborative project aligns to the work of IRIS and will over the coming years enhance our understanding of concussion treatments within the Irish amateur Rugby context.

6.0 Glossary of Terms

Ankle sprains are ligament tears (sprains) of any ligament in the ankle joint, inclusive of lateral (outside of joint), medial (inside of joint) and syndesmosis sprains (also called high ankle sprains). ATFL sprain (anterior talo-fibular ligament sprain) refers to a tear of the ligament located on the outside of the ankle joint. It is also called an inversion sprain or lateral ligament sprain.

Calf/Achilles strain refers to a tear of one or more of the muscle groups located on the posterior aspect (back) of the lower leg.

Finger nerve damage refers to an injury to any nerve(s) located in the fingers.

Finger sprain refers to a tear of the ligaments that connect the bones of the finger joints.

Foot/toe sprain refers to a tear of the ligaments that connect the bones of the foot joints.

Fracture refers to a partial or complete break in the continuity of bone.

Groin strain refers to a tear of primarily the iliopsoas or adductor muscle group.

Haematoma/contusion refers to a bruise located anywhere in the body.

Hamstring strain refers to a tear of the muscle group located on the posterior aspect (back) of the thigh.

Knee sprains are inclusive of tears to any ligament of the knee joint (inclusive of anterior cruciate ligament or ACL, posterior cruciate ligament or PCL, medial collateral ligament or MCL, and lateral collateral ligament or LCL).

Knee tendon strain is a tear to one of the two tendons in the knee joint (patellofemoral or quadriceps tendon).

Laceration refers to a cut or tear in the skin.

Lumbar herniation refers to damage to the discs that are located between each of bones in the lower back. The most common type of injury to the lumbar discs are tearing or bulging.

Neck strain is a tear to one of the muscles or tendons in the neck region.

Quadriceps contusion is a deep bruise in the muscle group at the front of the thigh.

Shoulder dislocation/subluxation refers to either partial or complete separation of the humerus (upper arm bone) from the glenoid fossa (shoulder socket).

Shoulder sprain refers to a tear in one of the ligaments in the glenohumeral (shoulder) joint.

7.0 Publications and Conferences

7.1 Journal Publications

Guilfoyle L., Leahy T.M., Kenny I.C., O'Sullivan K. and Comyns T.M. (2025) The Incidence, Burden and Impact of Tackle Injuries in Schoolboy Rugby Union. Journal of Science and Medicine in Sport. Xx(xx), xxxx-xxxx [in press]

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Griffin, A., Kenny, I.C., Comyns, T.M., Purtill H., Tiernan C., O'Shaughnessy E. and Lyons, M. (2021). Training load monitoring in team sports: A practical approach to addressing missing data. Journal of Sports Sciences. 39(19), 2161-2171. https://doi.org/10.1080/02640414.2021.1923205

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9.0 Appendix

Appendix Table 1: Seasonal summary of incidence rate per 1000 player hours, number of teams and players participating and overall compliance (IR/1,000 player hours)*

	2024-25	2023-24	2022-23	2021-22	2019-20	2018-19	2017-18
Men's Clubs							
Men teams	21	19	22	17	20	25	15
Men players	839	854	878	709	929	959	479
Men match injury rate	44.1	36.3	43.3	55	49.1	47.2	49.7
Women's Clubs							
Women teams	9	4	4	4	5	7	4
Women players	244	145	139	129	196	195	129
Women match injury rate	25.2	22.8	30.3	29.8	34.9	27.7	46.2
Overall compliance	94%	96%	93%	83%	89%	90%	90%

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Appendix Table 2: Overall most common injury diagnoses for the men's clubs over seven seasons (IR/1,000 player hours, % of injuries)*

Men's Clubs						
2024-25	2023-24	2022-23	2021-22	2019-20	2018-19	2017-18
Hamstring strain 5.2 (12%)	Concussion 4.4 (12%)	Concussion 9.1 (20%)	Concussion 7.6 (13%)	Concussion 7.1 (14%)	Concussion 5.3 (11%)	Concussion 6.1 (12%)
Concussion 4.7 (11%)	Ankle sprain 3.4 (9%)	Ankle sprain 5.0 (11%)	Ankle sprain 5.3 (9%)	Ankle sprain 4.5 (9%)	ATFL sprain 4.1 (9%)	ATFL sprain 5.7 (11%)
Ankle sprain 4.0 (9%)	Hamstring strain 3.0 (8%)	Hamstring strain 4.7 (10%)	Hamstring strain 4.6 (8%)	Hamstring strain 2.9 (6%)	Hamstring strain 3.9 (8%)	Hamstring strain 4.1 (8%)

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Appendix Table 3: Overall most common injury diagnoses for the women's clubs over seven seasons (IR/1,000 player hours, % of injuries)*

Women's Clubs						
2024-25	2023-24	2022-23	2021-22	2019-20	2018-19	2017-18
Concussion 4.5 (18%)	Knee sprain 2.6 (11%)	Ankle sprain 4.3 (14%)	Concussion 3.6 (10%)	Concussion 5.6 (16%)	Concussion 5.3 (19%)	Concussion 5.1 (11%)
Ankle sprain 4.2 (16%)	Ankle sprain 2.6 (11%)	Knee sprain 3.7 (12%)	Ankle sprain 2.9 (8%)	Ankle sprain 4.8 (14%)	ATFL sprain 3.4 (12%)	ATFL sprain 5.1 (11%)
Knee sprain 1.6 (6%)	Concussion 2.0 (9%)	Concussion 2.5 (8%)	Finger sprain 2.9 (8%)	Knee sprain 4.0 (11%)	Knee MCL sprain 2.9 (11%)	Rotator Cuff strain 3.2 (7%)

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Appendix Table 4: Overall most common training injury diagnoses for the men's clubs over seven seasons (% of injuries)*

Men's Clubs						
2024-25	2023-24	2022-23	2021-22	2019-20	2018-19	2017-18
Hamstring strain (18%)	Hamstring strain (20%)	Hamstring strain (18%)	Ankle sprain (20%)	Hamstring strain (23%)	Hamstring strain (13%)	Hamstring strain (12%)
Ankle sprain (11%)	Ankle sprain (10%)	Ankle sprain (11%)	Hamstring strain (16%)	Ankle sprain (13%)	Ankle sprain (12%)	Ankle sprain (11%)
Calf strain (7%)	Calf strain (8%)	Concussion (6%)	Groin strain (7%)	Calf strain (6%)	Calf/Achilles strain (10%)	Groin strain (11%)
-	-	-	-	Knee tendon strain (6%)	-	-
-	-	-	-	Quadriceps contusion (6%)	-	-

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

Appendix Table 5: Overall most common training injury diagnoses for the women's clubs over seven seasons (% of injuries)*

Women's Clubs						
2024-25	2023-24	2022-23	2021-22	2019-20	2018-19	2017-18
Ankle sprain (24%)	Foot/toe strain (14%)	Shoulder strain (18%)	Ankle sprain (22%)	Finger fracture (29%)	Hamstring strain (18%)	Ankle sprain (19%)
Wrist sprain (12%)	Shin fracture (14%)	Ankle sprain (12%)	Hamstring strain (22%)	Sternoclavicular sprain (14%)	Concussion (18%)	Hamstring strain (13%)
Hamstring strain (12%)	Clavicle sprain (14%)	Foot/Toe sprain (12%)	-	Neck strain (14%)	-	Lumbar spine strain (13%)
Knee sprain (12%)	Low-back strain (14%)	-	-	Wrist strain (14%)	-	-
Calf strain (6%)	Shoulder dislocation/ subluxation (14%)	-	-	Lumbar herniation (14%)	-	-
Anterior thigh strain (6%)	Chest sprain (14%)	-	-	Finger nerve damage (14%)	-	-
Wrist fracture (6%)	Knee sprain (14%)	-	-	-	-	-

* accounts for separation of dual injuries and mathematical rounding
** IRIS did not collect full season data during 2020-2021 due to training and match curtailment as a result of the COVID-19 pandemic. For 2019-20 approximately 120 matches missed due to a shortened competitive season therefore reduced exposure.

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