



# Injury Surveillance Report

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based on the 2024-2025 Season – U18 Championship (Men)

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## 1. INTRODUCTION

Understanding the incidence and nature of the injuries sustained during the practice of rugby is key in order to clarify the risks posed to players. Due to its nature as a contact sport, rugby, as well as ice hockey, lacrosse, and American football, has a higher injury incidence than non-contact sports. Through Injury Surveillance Studies in various competitions, it is possible to gain an understanding of how, where and when injuries happen, which is a fundamental requirement to advance player welfare standards across all ages and levels of the game.

Several Injury Surveillance Studies have been implemented previously in World Rugby Competitions<sup>[1-4]</sup>, as well as in Rugby Europe Championship and U20 Tournaments<sup>[5]</sup>.

Rugby Europe is committed to implementing injury surveillance studies at all major Rugby Europe tournaments and to disseminate the results within the Rugby community.

The aims of these studies are:

- To record and analyze injuries sustained at Rugby Europe Competitions.
- To identify injury trends in Rugby 7s and Rugby 15s.
- To bring injury-related areas of concern to the attention of Rugby Europe's Chief Medical Officer and when appropriate to World Rugby's Chief Medical Officer.

This report continues the on-going study of Rugby Europe competitions by reporting injuries sustained during the Men's Rugby Europe U18 Championship.

## 2. METHODS

This study was conducted in accordance with the definitions and protocols described in the World Rugby approved consensus statement on definitions and procedures for injury surveillance studies in Rugby<sup>[6]</sup>.

The definition of injury was: ‘Any injury sustained during the 2024 Men’s Rugby Europe U18 Championship matches that prevents a player from taking a full part in all normal training activities and/or match play for more than one day following the day of injury’. A recurrent injury was defined as ‘An injury (as defined above) of the same type and at the same site as an index injury and which occurs after a player’s return to full participation from the index injury’.

Specific injuries were classified using the OSICS 10 coding system<sup>[7]</sup>. The study also recorded the injury location, type and cause together with the event leading to the injury.

The injury severity was determined by the number of days a player was injured: a player was deemed to be injured until he/she could undertake full, normal training and be available for match selection whether he/she was actually selected. Medical staff were informed to make an informed clinical judgment about a player’s fitness to train/play on those days when players were not scheduled to train or play. Injured players were followed up after each tournament to obtain their return-to-play date: the return-to-play dates for players with injuries that remained unresolved 3 months after the final Tournament in the Rugby Europe U18 Championship were defined on the basis of the player’s medical staff’s judgment and prognosis. The complete lists of categories and sub-categories used for categorizing injury location and injury types are provided in the Rugby consensus publication<sup>[6]</sup>.

Only match injuries resulting in > 1 day of absence from training or match play were recorded in this study. The rest of the injuries that were not included in this definition were not recorded.

### 3. DATA COLLECTION

Prior to the tournament, the purpose of the epidemiological study was outlined to each participating team. The player’s anthropometric information was recorded: (playing position [back, forward]; date of birth); players joining a country’s squad at a later date were added to the list of players and the anthropometric data recorded at the time the player joined the squad.

Medical staff prospectively recorded injuries sustained during each match. Detailed information about each injury (date of injury, date of return to play, location and type of injury, cause of injury,

event leading to injury) was also recorded by a member of each team medical staff. The injury was understood as finish when an injured player’s return-to-play date.

Belgium, Czech Republic, Georgia, Germany, Netherlands, Portugal, Romania and Spain were involved in the Men’s U18 Rugby Europe Championship 2024.

## 4. RESULTS

All participating teams reported data in accordance with the definitions and protocols described in the World Rugby approved consensus statement on definitions and procedures for injury surveillance studies in Rugby<sup>[6]</sup>.

### 4.1. Players’ anthropometric data

Table 1 summarises the numbers and anthropometric data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024. The total sample population involved in the study was 211 players.

The total sample population for the study was 211 players (98 backs; 113 forwards). The mean age was 18,2 years (backs: 18,2 years; forwards: 18,2 years; p=0,979).

Table 1. Players’ anthropometric data			
Measure	Mean (± standard deviation)		
	Backs	Forwards	All players
Players (n)	98	113	211
Age (years)	18,2 (0,5)	18,2 (0,5)	18,2 (0,5)

## 4.2. Match injuries

### 4.2.1. Injury incidence

Table 2 summarises the match injury frequency and incidence and match exposure data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

The total number of injuries sustained was 24 (backs: 9; forwards: 6) and the total match exposure was 960,0 player-hours (backs: 448; forwards: 512). The overall match incidence was 15,6 injuries/1000 match hours (backs: 20,1; forwards: 11,7).

Table 2. Match injury frequency, match exposure volume, and match injury incidence			
Measure	Backs	Forwards	All players
Injuries (n)	9	6	15
Match Exposure (player-match-hours)	448	512	960
Incidence (95% confidence interval)	20,1 (7,1-33,1)	11,7 (2,4-21,0)	15,6 (7,8-23,5)

### 4.2.2. Injury severity

Table 3 summarises the mean and median match injury severity data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

The mean severity of the study was 26,3 days missed. Backs missed 31,7 days, while forwards missed 18,2 days due to injuries. The median severity was 20,0 days for all players and between positions, being 28,0 days for backs and 18,0 days for forwards. There were no significant differences between backs and forwards for either the mean ( $p=0,309$ ) or median severities ( $p=0,261$ ).

Table 3. Mean and median match injury severity (days lost)			
Measure	Severity (95% Confidence interval), days		
	Backs	Forwards	All players
Mean (95% confidence interval)	31,7 (8,8-54,6)	18,2 (7,5-28,8)	26,3 (12,8-39,7)
Median (95% confidence interval)	28,0 (20,0-36,0)	18,0 (14,0-26,0)	20,0 (16,0-28,0)

Table 4 summarises the proportion of match injuries by time-loss data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

Moderate severity (8-28 days) was the most common representing 53,3% of all injuries, followed by severe (29-90 days) and minor (2-7 days) with 20,0%. Major severity (> 90 days) had a frequency of 6.7%. Forwards suffered more moderate injuries than backs, whilst backs presented more minor, severe and major injuries than forwards.

Table 4. Proportion of match injuries by time-loss category			
Measure	Backs	Forwards	All players
Minor (2-7 days)	22,2%	16,7%	20,0%
Moderate (8-28 days)	44,4%	66,7%	53,3%
Severe (29-90 days)	22,2%	16,7%	20,0%
Major (>90 days)	11,1%	0,0%	6,7%

#### 4.2.3. Injury burden

The total days-absence resulting from match injuries sustained during the Men’s U18 Rugby Europe Championship 2024 was 394 days-absence (backs: 285; forwards: 109).

Injury burden, which is equal to injury incidence x mean severity, is an important ISS output measure, as it provides an overall indication of the risk of injury<sup>[8,9]</sup>.

The injury burden in the Men’s U18 Rugby Europe Championship 2024 was 410 days lost/1000 player-hours (backs: 213; forwards: 637 days lost).

#### 4.2.4. Injury location

Table 5 summarises the proportion of match injuries by injury location data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

The most common injury locations were the lower limb (46,7%) and head/neck (40,0).

Backs sustained more head/neck (44,4%) and lower limb injuries (44,4%), while forwards showed a higher proportion of lower limb (50,0%). Upper limb injuries (11,1%) were only reported among backs, while trunk injuries (16,7%) were only reported in forwards.

Head/face was the most frequent injury location among backs (44.4%), while forwards also sustained injuries in the same region (33.3%).

**Table 5. Proportion of match injuries by injury location**

Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
<b>Head / Neck</b>	<b>44,4 (12,0-76,9)</b>	<b>33,3 (0,0-71,1)</b>	<b>40,0 (15,2-64,8)</b>
Head/face	44,4 (12,0-76,9)	33,3 (0,0-71,1)	40,0 (15,2-64,8)
Neck/cervical spine	-	-	-
<b>Upper limb</b>	<b>11,1 (0,0-31,6)</b>	-	<b>6,7 (0,0-19,3)</b>
Shoulder/clavicle	11,1 (0,0-31,6)	-	6,7 (0,0-19,3)
Upper arm	-	-	-
Elbow	-	-	-
Forearm	-	-	-
Wrist/hand/fingers	-	-	-
<b>Trunk</b>	-	<b>16,7 (0,0-46,5)</b>	<b>6,7 (0,0-19,3)</b>
Ribs/upper back	-	-	-
Abdomen	-	-	-
Low back	-	16,7 (0,0-46,5)	6,7 (0,0-19,3)
Sacrum/pelvis	-	-	-
<b>Lower limb</b>	<b>44,4 (12,0-76,9)</b>	<b>50,0 (10,0-90,0)</b>	<b>46,7 (21,4-71,9)</b>
Hip/groin	-	-	-
Thigh, anterior	11,1 (0,0-31,6)	16,7 (0,0-46,5)	13,3 (0,0-30,5)
Thigh, posterior	11,1 (0,0-31,6)	-	6,7 (0,0-19,3)
Knee	11,1 (0,0-31,6)	-	6,7 (0,0-19,3)
Lower leg	-	16,7 (0,0-46,5)	6,7 (0,0-19,3)
Ankle	11,1 (0,0-31,6)	16,7 (0,0-46,5)	13,3 (0,0-30,5)
Foot/toe	-	-	-

#### 4.2.5. Injury type

Table 6 summarises the proportion of match injuries by injury type for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

The most common injury types were Central/Peripheral Nervous System (C/PNS) and muscle/tendon injuries, both accounting for 33,3%, followed by joint/ligament injuries (26,7%) and skin injuries (6,7%). C/PNS injuries were equally distributed between backs and forwards (33.3%). Backs sustained more joint/ligament injuries (33.3%) than forwards (16.7%), while forwards showed a higher proportion of muscle/tendon injuries (50.0%) compared to backs (22.2%). Skin injuries were only reported among backs (11.1%).

Concussion was equally reported by backs and forwards (33.3%). Forwards sustained more muscle strain/cramp injuries (50.0%) than backs (22.2%). Sprain/ligament injuries were slightly more frequent in backs (22.2%) than in forwards (16.7%). Dislocation/subluxation and laceration injuries were only observed in backs.

**Table 6. Proportion of match injuries by injury type**

Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
<b>Bone</b>	-	-	-
Fracture	-	-	-
Other bone injury	-	-	-
<b>C/PNS</b>	<b>33,3 (2,5–64,1)</b>	<b>33,3 (0,0–71,1)</b>	<b>33,3 (9,5–57,2)</b>
Concussion	33,3 (2,5–64,1)	33,3 (0,0–71,1)	33,3 (9,5–57,2)
Nerve injuries	-	-	-
<b>Joint (non-bone) / ligament</b>	<b>33,3 (2,5–64,1)</b>	<b>16,7 (0,0–46,5)</b>	<b>26,7 (4,3–49,0)</b>
Dislocation / Subluxation	11,1 (0,0–31,6)	-	6,7 (0,0–19,3)
Meniscus / Disc Injury	-	-	-
Sprain / Ligament	22,2 (0,0–49,4)	16,7 (0,0–46,5)	20,0 (0,0–40,2)
Other	-	-	-
<b>Muscle / tendon</b>	<b>22,2 (0,0–49,4)</b>	<b>50,0 (10,0–90,0)</b>	<b>33,3 (9,5–57,2)</b>
Haematoma / bruise	-	-	-
Muscle strain / cramp	22,2 (0,0–49,4)	50,0 (10,0–90,0)	33,3 (9,5–57,2)
Tendon injury / tendinopathy	-	-	-
Other	-	-	-
<b>Skin</b>	<b>11,1 (0,0–31,6)</b>	-	<b>6,7 (0,0–19,3)</b>
Abrasion	-	-	-
Laceration	11,1 (0,0–31,6)	-	6,7 (0,0–19,3)
<b>Other types</b>	-	-	-
Visceral	-	-	-
Other	-	-	-

*C(PNS: Central and Peripheral Nervous System*

#### 4.2.6. Most common and highest risk injuries

Table 7 identifies the most common match injuries by injury diagnosis for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

In both groups, backs and forwards, concussion was the most frequently reported injury, accounting for 33.3% in each. All other injury types were reported only once per group.

Table 7. The four most common injury diagnoses reported for backs, forwards and all players (% of all reported match injuries)					
Backs		Forwards		All players	
Injury	%	Injury	%	Injury	%
Concussion	33,3	Concussion	33,3	Concussion	33,3
ACL rupture	11,1	Adductor magnus str.	16,7	ATF Ligament sprain	13,3
Hamstring strain	11,1	ATF Ligament sprain	16,7	ACL rupture	6,7
Anteroinferior shoulder subluxation	11,1	Medial gastrocnemius strain	16,7	Hamstring strain	6,7

*ATF: Anterior Talofibular Ligament - ACL: Anterior cruciate ligament*

Table 8 summarises the injuries with greatest burden for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

For all players, concussion (31,5%) and anterior cruciate ligament (ACL) rupture (28,6%) accounted for the highest injury burden. Among backs, the main contributors were ACL rupture (36,5%) and concussion (30,9%). For forwards, the greatest burden came from concussion (33,0%) and adductor strain (28,4%).

Table 8. The four injury diagnoses with greatest burden reported for backs, forwards and all players (% of all reported days lost to match injuries)					
Backs		Forwards		All players	
Injury	%	Injury	%	Injury	%
ACL rupture	36,5	Concussion	33,0	Concussion	31,5
Concussion	30,9	Adductor strain	28,4	ACL rupture	28,6
Hamstring strain	12,6	Lumbar muscle trigger points	23,8	Hamstring strain	9,1
Anteroinferior shoulder subluxation	9,8	Medial gastrocnemius strain	12,8	Anteroinferior shoulder subluxation	7,1

*ATF: Anterior Talofibular Ligament - ACL: Anterior cruciate ligament*

#### 4.2.7. Injury onset

Table 9 summarises the proportion of match injuries by nature of onset data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

Acute onset was the only cause of injury with 100,0%.

Table 9. Proportion of reported match injuries by nature of onset			
Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
Acute	100,0	100,0	100,0
Gradual	-	-	-

#### 4.2.8. Cause of injury onset

Table 10 summarises the proportion of match injuries by cause of onset data for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

Contact mechanism represented 80,0% of all injuries while non-contact was 20,0%. Contact injuries were more common for backs (88,9%) than forwards (66,7%).

Table 10. Proportion of reported match injuries by cause of onset			
Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
Contact	88,9 (68,4–100,0)	66,7 (28,9–100,0)	80,0 (59,8–100,0)
Non-contact	11,1 (0,0–31,6)	33,3 (0,0–71,1)	20,0 (0,0–40,2)

#### 4.2.9. Match events leading to injury

Table 11 summarises the match events causing the injuries suffered by players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

The most common causes of injury were being tackled and tackling, each accounting for 33.3%, followed by ruck (13,3%). Backs were most frequently injured when tackled (55,6%), while forwards had a more even distribution, with tackling (66,7%) as leading cause.

**Table 11. Proportion of reported match injuries by match event leading to injury**

Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
Collision	11,1 (0,0–31,6)	-	6,7 (0,0–19,3)
Kicking	-	-	-
Lineout	-	-	-
Maul	-	16,7 (0,0–46,5)	6,7 (0,0–19,3)
Ruck	11,1 (0,0–31,6)	16,7 (0,0–46,5)	13,3 (0,0–30,5)
Running	11,1 (0,0–31,6)	-	6,7 (0,0–19,3)
Scrum	-	-	-
Tackled	55,6 (23,1–88,0)	-	33,3 (9,5–57,2)
Tackling	11,1 (0,0–31,6)	66,7 (28,9–104,4)	33,3 (9,5–57,2)
Other (Not known)	-	-	-

#### 4.2.10. Time of injury

Table 12 summarises the proportion of reported match injuries by time during match for players, categorised as backs, forwards and all players, taking part in Men’s U18 Rugby Europe Championship 2024.

Most injuries occurred in the second half (66.7%), with both backs (55.6%) and forwards (83.3%) more affected in this period. Injuries were most frequent in the third quarter for both backs (33.3%) and forwards (50.0%).

**Table 12. Proportion of reported match injuries by time during match**

Measure	% (95% Confidence interval)		
	Backs	Forwards	All players
<b>First half</b>	<b>44,4 (12,0–76,9)</b>	<b>16,7 (0,0–46,5)</b>	<b>33,3 (9,5–57,2)</b>
First quarter	22,2 (0,0–49,4)	16,7 (0,0–46,5)	20,0 (0,0–40,2)
Second quarter	22,2 (0,0–49,4)	0,0	13,3 (0,0–30,5)
<b>Second half</b>	<b>55,6 (23,1–88,0)</b>	<b>83,3 (53,5–100,0)</b>	<b>66,7 (42,8–90,5)</b>
Third quarter	33,3 (2,5–64,1)	50,0 (10,0–90,0)	40,0 (15,2–64,8)
Fourth quarter	22,2 (0,0–49,4)	33,3 (0,0–71,1)	26,7 (4,3–49,0)

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### 6.1. Data Privacy, Consent, and Participant Information

As part of Rugby Europe's commitment to player welfare, an Injury Surveillance Study (ISS) was conducted during the 2025 Men's U18 Rugby Europe Championship 2024. This study aimed to monitor and assess injuries sustained by players to enhance player safety and develop improved injury prevention strategies.

All participating players, as well as their parents or legal guardians, provided informed consent prior to the commencement of the tournament. Players completed a pre-tournament health

questionnaire and were instructed to report any injuries to their team's medical staff promptly. Follow-up assessments were conducted as necessary.

Any injury sustained during the tournament was recorded by the team's medical personnel, following the ISS protocols. The data collected were anonymized and securely stored in an encrypted database, accessible only to authorized Rugby Europe medical and research personnel.

The information gathered will solely be used for research purposes to identify injury trends, evaluate the effectiveness of current safety protocols, and improve player welfare. Only aggregated and anonymized data will be included in reports, scientific publications, or presentations.

For any questions or concerns regarding data privacy, participants and their guardians can contact the following representatives:

Rugby Europe Contact: Antonio Cruz Ferreira; [injury@rugbyeurope.com](mailto:injury@rugbyeurope.com)

Research Centre Contact: Roberto Murias Lozano; [rmurias@ucjc.edu](mailto:rmurias@ucjc.edu)



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