



UEFA Elite Club Injury Study

# 2015/16 season report

## Team X

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## 1 Participating clubs

This season report contains results from July to June of the 2015/16 season for the 29 clubs that provided complete data for at least five months. Those clubs are: AFC Ajax, Arsenal FC, AS Roma, Borussia Dortmund, Chelsea FC, Club Atlético de Madrid, FC Barcelona, FC Basel 1893, FC Porto, FC Schalke 04, FC Shakhtar Donetsk, FC Zenit, Galatasaray AŞ, Juventus, LOSC Lille, Maccabi Tel-Aviv FC, Malmö FF, Manchester City FC, Manchester United FC, NK Maribor, Olympique Lyonnais, Paris Saint-Germain, PSV Eindhoven, Real Madrid CF, SL Benfica, Southampton FC, Sporting Clube de Portugal, Tottenham Hotspur FC and Valencia CF.

## 2 Presentation

The report is divided into different sections on general injury patterns, such as data on exposure, training injuries, match injuries, severe injuries, muscle injuries, ligament injuries, re-injuries, and player attendance/availability and absence. Each injury section is split into four sub-sections:

- **Injury patterns:** the number of injuries of this type over the season and their relative distribution as a percentage of the total number of injuries, looking at injury location, type, mechanism, overuse/trauma, contact/non-contact, severity, re-injury rate, monthly distribution and injury occasion.
- **Injury rate:** the number of injuries of this type relative to exposure time, allowing the individual injury rate to be evaluated. Injury rate is expressed as the number of injuries for every 1,000 hours of exposure.
- **Days' absence:** total number of days lost because of specific injuries and the minimum, maximum and average period of absence for such injuries.
- **Injury burden:** a combined measure of the frequency (injury rate) and severity (days' absence) of injuries giving the burden of injury for the player and the consequences for the team. Injury burden is expressed as the number of days' absence for every 1,000 hours of exposure. Example: Team A with 10 injuries in 5,000 hours, each resulting in an absence of 10 days on average, has an injury burden of 20 days for every 1,000 hours. Team B with 20 injuries in 5,000 hours, each resulting in an absence of 5 days on average, also has an injury burden of 20 days for every 1,000 hours.

### 3 Interpretation of results

When comparing your club's results with those of other participating clubs, please bear the following in mind:

- Because of the limited amounts of data collected over one season, the injury rates presented are sometimes based on just a few actual injuries. This means that some results should be interpreted with caution.
- The overall number of injuries varies between clubs, mainly because of the number of minor injuries. It is therefore important to look not only at the overall injury rate, but also at the data on severe injuries and squad availability, as these variables may have a greater impact on the club.
- Only months where full data has been provided are included in this analysis. The number of months of data may therefore differ between teams, and this may influence the injury statistics in the report.
- In the case of players who were still injured at the end of the season, we have used either the club's estimated return date or an approximation of severity based on the mean absence for this particular injury. Some data on the number of days' absence and injury risk presented in the report could therefore be based on approximate values/estimates.

We hope that you will find this report useful in your daily work treating and preventing injuries at your club. Please do not hesitate to contact the Football Research Group (FRG), using the contact details at the start of this report, if you have any questions about how to interpret the results.



## 4 Exposure

In total, 215,000 hours of exposure were recorded during the 2015/16 season, with approximately 183,000 training hours (85%) and 32,000 match hours (15%). Team x reported xx hours of total exposure, with xx training hours (xx%) and xx match hours (xx%).

On average, teams reported 218 training sessions and 59 matches over the reporting period. Since the reporting period differed between teams, we have also calculated a monthly training and match load. On average, teams had 20 training sessions and 5.4 matches each month, giving an average training-to-match exposure ratio of 5.6 hours of training for each hour of match play.

Figure 1. Number of training sessions per month

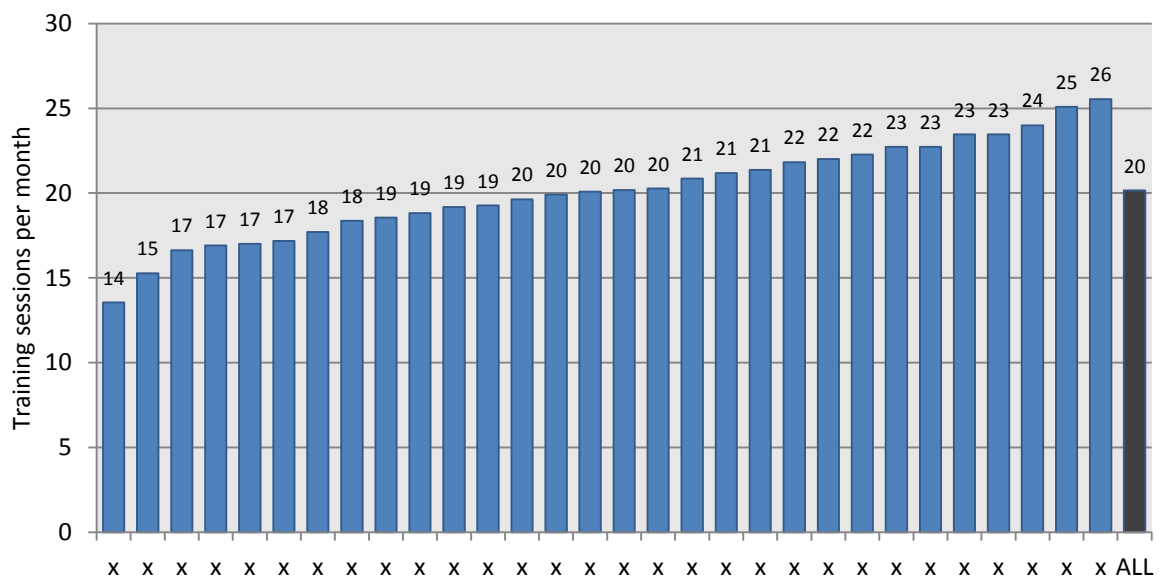


Figure 2. Number of matches per month

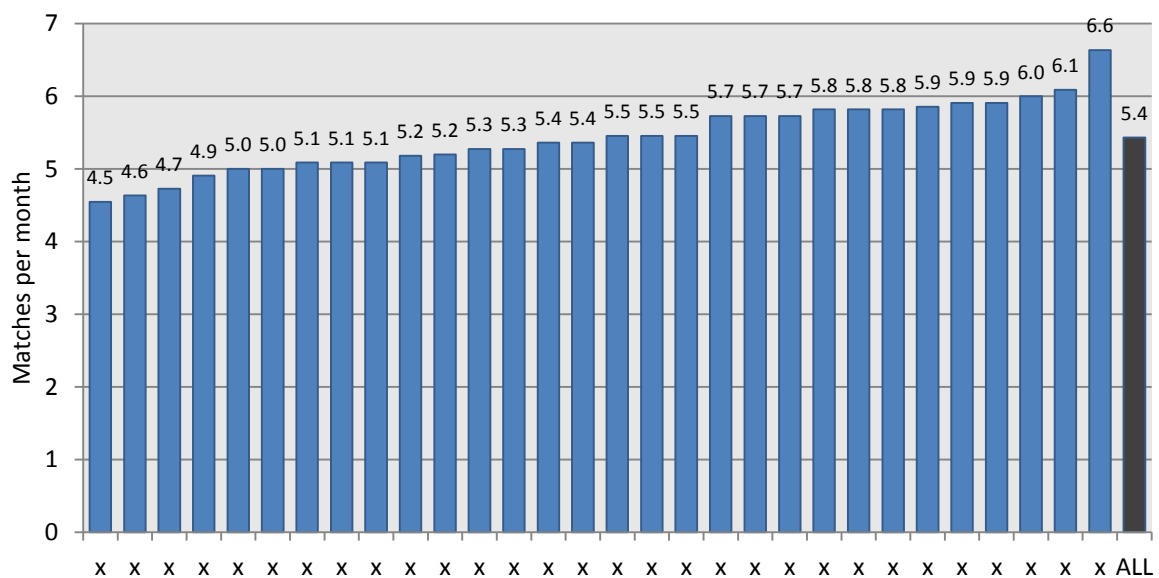


Figure 3. Ratio of training hours to match hours

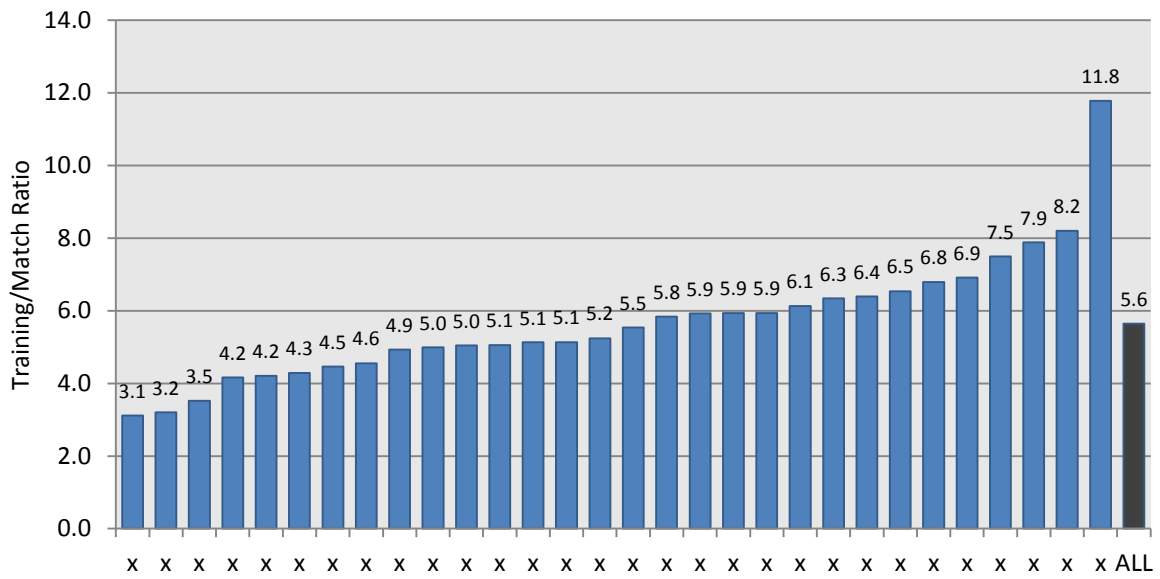
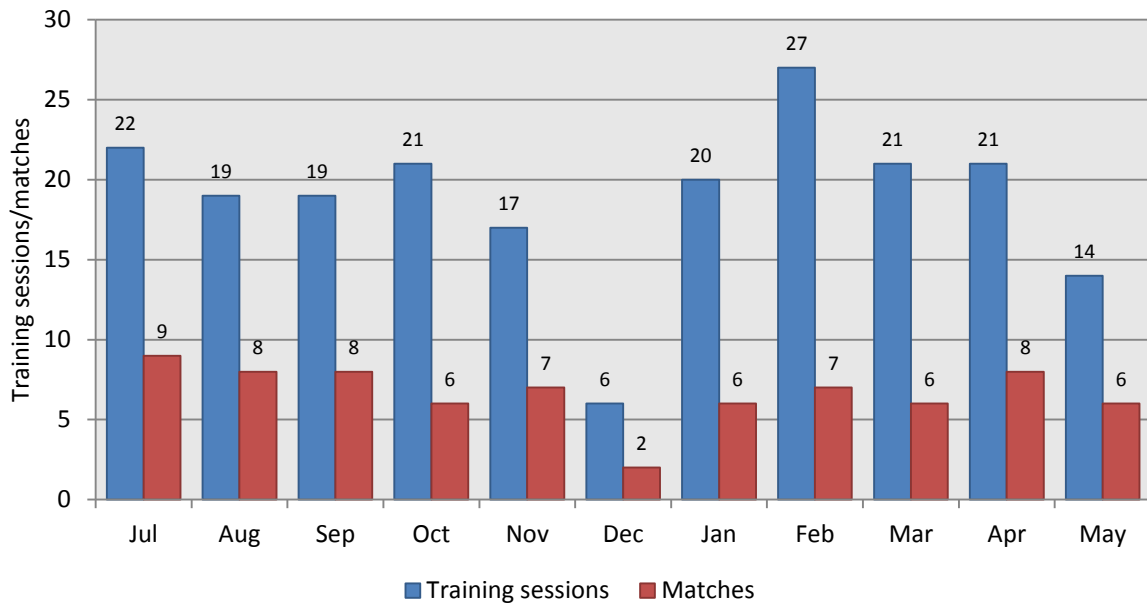


Figure 4. Number of training sessions (blue bars) and matches (red bars) for Team X over the season



## 5 General injury patterns

The tables below show the number (N) and relative distribution (%) of different injuries. In total, 1,200 injuries were reported, with 530 training injuries (44%) and 670 match injuries (56%). There were 228 severe injuries (19%), 540 muscle injuries (45%) and 182 ligament injuries (15%).

Team x reported xx injuries (xx training injuries; xx match injuries) during the season, including xx severe injuries, xx muscle injuries and xx ligament injuries.

Table 1. Injury location

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Head/face	0	0,0	5	1,0	0	0,0	21	3,2	0	0,0	26	2,2
Neck/cervical spine	0	0,0	5	1,0	0	0,0	2	,3	0	0,0	7	,6
Shoulder/clavicula	0	0,0	6	1,2	0	0,0	15	2,3	0	0,0	21	1,8
Upper arm	0	0,0	1	,2	0	0,0	0	0,0	0	0,0	1	,1
Elbow	0	0,0	2	,4	0	0,0	0	0,0	0	0,0	2	,2
Forearm	0	0,0	1	,2	0	0,0	1	,2	0	0,0	2	,2
Wrist	0	0,0	2	,4	0	0,0	2	,3	0	0,0	4	,3
Hand/finger/thumb	0	0,0	4	,8	0	0,0	5	,8	0	0,0	9	,8
Sternum/ribs/upper back	1	7,7	4	,8	0	0,0	6	,9	1	3,2	10	,9
Abdomen	0	0,0	4	,8	0	0,0	6	,9	0	0,0	10	,9
Lower back/pelvis/sacrum	0	0,0	32	6,2	0	0,0	12	1,9	0	0,0	44	3,8
Hip/groin	4	30,8	85	16,4	3	16,7	84	13,0	7	22,6	169	14,5
Thigh	3	23,1	134	25,9	11	61,1	215	33,2	14	45,2	349	30,0
Knee	0	0,0	82	15,9	1	5,6	90	13,9	1	3,2	172	14,8
Lower leg/Achilles tendon	2	15,4	66	12,8	2	11,1	86	13,3	4	12,9	152	13,0
Ankle	3	23,1	56	10,8	1	5,6	80	12,3	4	12,9	136	11,7
Foot/toe	0	0,0	28	5,4	0	0,0	23	3,5	0	0,0	51	4,4
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>648</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1165</b>	<b>100,0</b>

Table 2. Injury type

	Training				Match play				Total			
	Team X		Other		Team X		Other		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Fracture	2	15,4	10	1,9	0	0,0	25	3,9	2	6,5	35	3,0
Other bone injury	1	7,7	2	,4	0	0,0	2	,3	1	3,2	4	,3
Dislocation/subluxation	0	0,0	3	,6	0	0,0	2	,3	0	0,0	5	,4
Sprain/ligament injury	2	15,4	62	12,0	2	11,1	116	17,9	4	12,9	178	15,3
Meniscus/cartilage	0	0,0	20	3,9	0	0,0	23	3,5	0	0,0	43	3,7
Muscle rupture/strain/cramps	8	61,5	218	42,2	14	77,8	300	46,3	22	71,0	518	44,5
Tendon	0	0,0	52	10,1	1	5,6	29	4,5	1	3,2	81	7,0
Haematoma/contusion/bruise	0	0,0	63	12,2	1	5,6	88	13,6	1	3,2	151	13,0
Laceration	0	0,0	1	,2	0	0,0	8	1,2	0	0,0	9	,8
Concussion	0	0,0	2	,4	0	0,0	8	1,2	0	0,0	10	,9
Nerve injury	0	0,0	6	1,2	0	0,0	2	,3	0	0,0	8	,7
Synovitis/effusion	0	0,0	16	3,1	0	0,0	13	2,0	0	0,0	29	2,5
Overuse unspec	0	0,0	49	9,5	0	0,0	23	3,5	0	0,0	72	6,2
Other injury	0	0,0	13	2,5	0	0,0	9	1,4	0	0,0	22	1,9
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>648</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1165</b>	<b>100,0</b>



Table 3. Injury mechanism

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Running/sprinting	3	25,0	75	17,7	9	52,9	153	25,7	12	41,4	228	22,4
Twisting/turning	0	0,0	40	9,5	1	5,9	44	7,4	1	3,4	84	8,2
Shooting	4	33,3	49	11,6	3	17,6	19	3,2	7	24,1	68	6,7
Passing/crossing	0	0,0	21	5,0	1	5,9	25	4,2	1	3,4	46	4,5
Dribbling	0	0,0	7	1,7	1	5,9	10	1,7	1	3,4	17	1,7
Jumping/landing	0	0,0	18	4,3	0	0,0	35	5,9	0	0,0	53	5,2
Falling/diving	0	0,0	12	2,8	0	0,0	12	2,0	0	0,0	24	2,4
Stretching	0	0,0	11	2,6	0	0,0	15	2,5	0	0,0	26	2,6
Sliding	0	0,0	13	3,1	0	0,0	5	,8	0	0,0	18	1,8
Overuse	1	8,3	78	18,4	0	0,0	55	9,2	1	3,4	133	13,1
Hit by ball	0	0,0	9	2,1	0	0,0	4	,7	0	0,0	13	1,3
Collision	0	0,0	5	1,2	0	0,0	31	5,2	0	0,0	36	3,5
Heading	0	0,0	2	,5	0	0,0	6	1,0	0	0,0	8	,8
Tackled	1	8,3	30	7,1	2	11,8	84	14,1	3	10,3	114	11,2
Tackling	3	25,0	10	2,4	0	0,0	20	3,4	3	10,3	30	2,9
Kicked	0	0,0	25	5,9	0	0,0	60	10,1	0	0,0	85	8,3
Blocked	0	0,0	4	,9	0	0,0	4	,7	0	0,0	8	,8
Use of arm/elbow	0	0,0	0	0,0	0	0,0	4	,7	0	0,0	4	,4
Other acute mechanism	0	0,0	14	3,3	0	0,0	10	1,7	0	0,0	24	2,4
<b>Total</b>	<b>12</b>	<b>100,0</b>	<b>423</b>	<b>100,0</b>	<b>17</b>	<b>100,0</b>	<b>596</b>	<b>100,0</b>	<b>29</b>	<b>100,0</b>	<b>1019</b>	<b>100,0</b>

Table 4. Overuse/trauma distribution

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Overuse	10	76,9	243	47,0	15	83,3	191	29,4	25	80,6	434	37,2
Trauma	3	23,1	274	53,0	3	16,7	459	70,6	6	19,4	733	62,8
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>650</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1167</b>	<b>100,0</b>

Table 5. Contact/non-contact distribution

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Non-contact	9	69,2	418	80,9	16	88,9	415	64,0	25	80,6	833	71,5
Contact player	4	30,8	91	17,6	2	11,1	224	34,6	6	19,4	315	27,0
Contact object	0	0,0	8	1,5	0	0,0	9	1,4	0	0,0	17	1,5
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>648</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1165</b>	<b>100,0</b>

Table 6. Injury severity

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
Slight [0 days]	0	0,0	5	1,0	0	0,0	3	,5	0	0,0	8	,7
Minimal [1-3 days]	0	0,0	116	22,4	0	0,0	68	10,4	0	0,0	184	15,7
Mild [4-7 days]	0	0,0	133	25,7	2	11,1	133	20,4	2	6,5	266	22,8
Moderate [8-28 days]	8	61,5	182	35,2	11	61,1	311	47,7	19	61,3	493	42,2
Severe [>28 days]	5	38,5	81	15,7	5	27,8	137	21,0	10	32,3	218	18,6
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>652</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1169</b>	<b>100,0</b>

Table 7. Re-injury rate

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
No re-injury	9	69,2	457	88,4	18	100,0	599	91,9	27	87,1	1056	90,3
Re-injury	4	30,8	60	11,6	0	0,0	49	7,5	4	12,9	109	9,3
Unknown	0	0,0	0	0,0	0	0,0	4	,6	0	0,0	4	,3
<b>Total</b>	<b>13</b>	<b>100,0</b>	<b>517</b>	<b>100,0</b>	<b>18</b>	<b>100,0</b>	<b>652</b>	<b>100,0</b>	<b>31</b>	<b>100,0</b>	<b>1169</b>	<b>100,0</b>

Table 8. Monthly distribution of injuries

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
July	3	9,7	53	10,6	2	6,9	33	5,1	5	8,3	86	7,5
August	3	9,7	46	9,2	1	3,4	44	6,9	4	6,7	90	7,9
September	4	12,9	52	10,4	3	10,3	70	10,9	7	11,7	122	10,7
October	2	6,5	44	8,8	5	17,2	79	12,3	7	11,7	123	10,8
November	3	9,7	32	6,4	2	6,9	76	11,9	5	8,3	108	9,5
December	6	19,4	44	8,8	3	10,3	53	8,3	9	15,0	97	8,5
January	2	6,5	65	13,0	3	10,3	59	9,2	5	8,3	124	10,9
February	2	6,5	46	9,2	4	13,8	79	12,3	6	10,0	125	11,0
March	2	6,5	44	8,8	3	10,3	60	9,4	5	8,3	104	9,1
April	3	9,7	44	8,8	2	6,9	58	9,0	5	8,3	102	8,9
May	1	3,2	29	5,8	1	3,4	30	4,7	2	3,3	59	5,2
June	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
<b>Total</b>	<b>31</b>	<b>100,0</b>	<b>499</b>	<b>100,0</b>	<b>29</b>	<b>100,0</b>	<b>641</b>	<b>100,0</b>	<b>60</b>	<b>100,0</b>	<b>1140</b>	<b>100,0</b>

Table 9. Injury occasion

	Training				Match play				Total			
	Team X		Other teams		Team X		Other teams		Team X		Other teams	
	N	%	N	%	N	%	N	%	N	%	N	%
First team	20	90,9	405	95,3	27	93,1	524	87,9	47	92,2	929	91,0
Reserve team	0	0,0	1	,2	0	0,0	30	5,0	0	0,0	31	3,0
National team	2	9,1	19	4,5	2	6,9	42	7,0	4	7,8	61	6,0
<b>Total</b>	<b>22</b>	<b>100,0</b>	<b>425</b>	<b>100,0</b>	<b>29</b>	<b>100,0</b>	<b>596</b>	<b>100,0</b>	<b>51</b>	<b>100,0</b>	<b>1021</b>	<b>100,0</b>

## 5.1 Training injury patterns

### 5.1.1 Training injury rate

The mean training injury rate for all teams was 2.9 injuries for every 1,000 training hours, with individual rates ranging from 0.4 to 8.6 at the various clubs.

Figure 5. Training injury rate

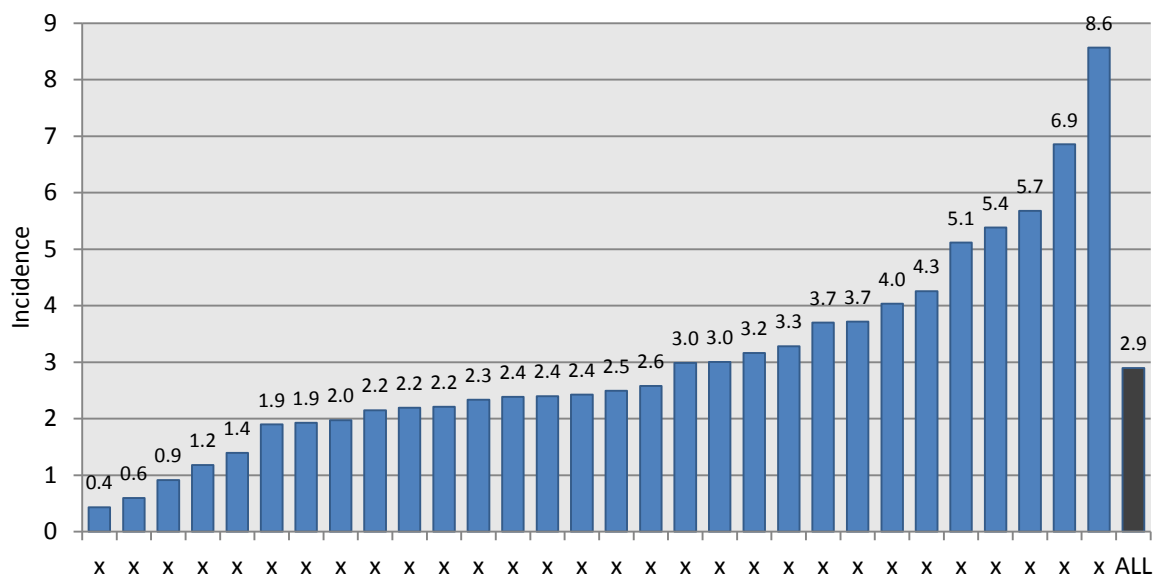
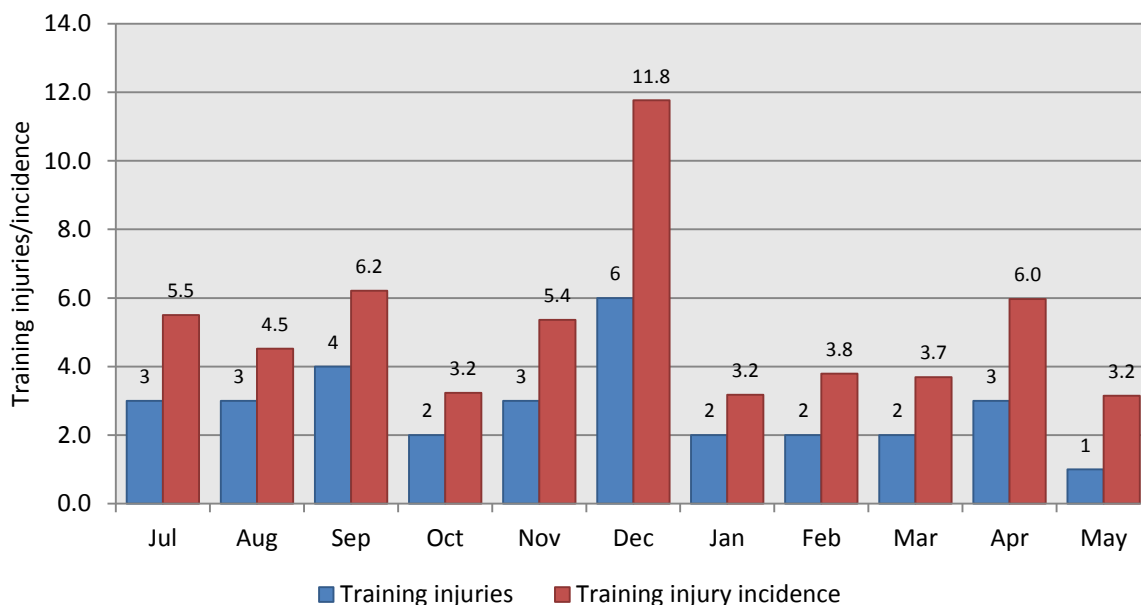


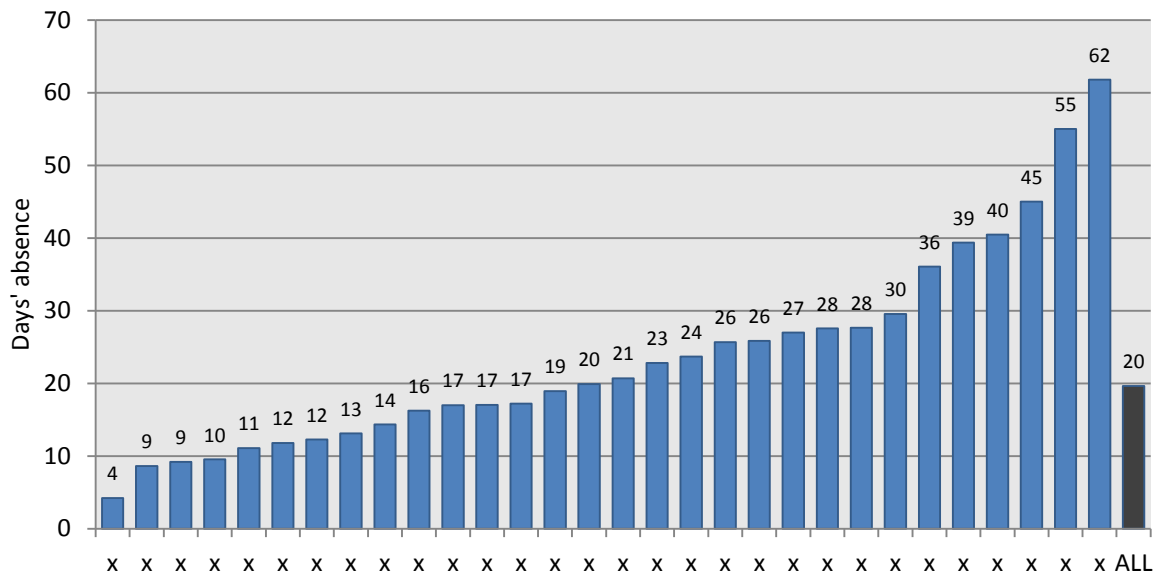
Figure 6. Monthly distribution of training injuries (blue bars) and training injury rates (red bars) for Team X across the season



### 5.1.2 Days' absence for training injuries

The average absence for training injuries for all teams was 20 days, with individual amounts ranging from 4 to 62 days at the various clubs.

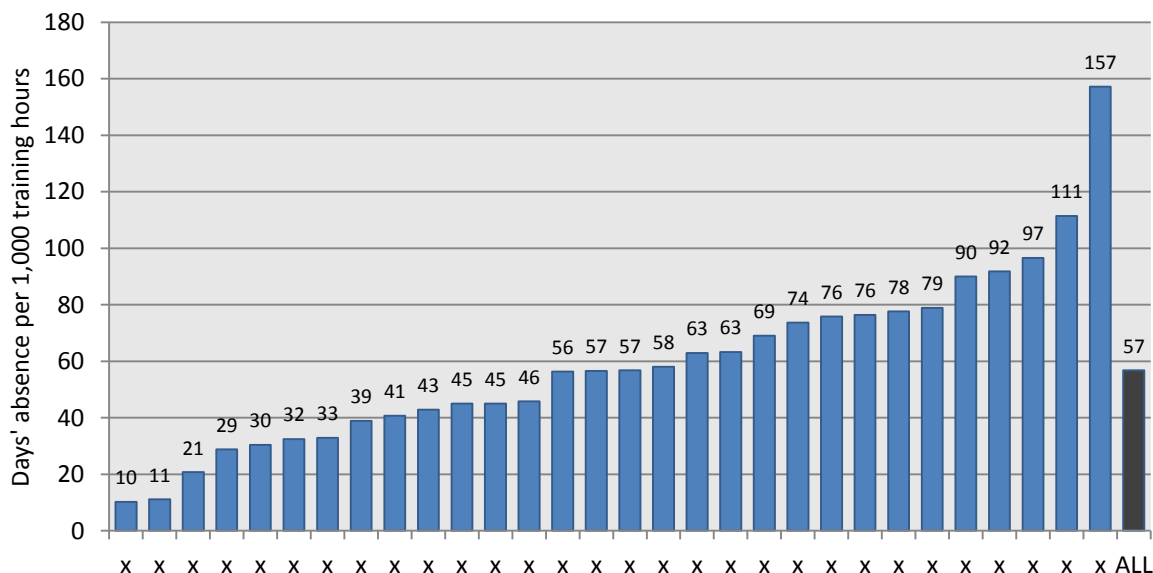
Figure 7. Days' absence for training injuries



### 5.1.3 Burden of training injuries

The mean injury burden in training was 57 days' absence for every 1,000 hours, with individual amounts ranging from 10 to 157 at the various clubs.

Figure 8. Training injury burden



## 5.2 Match injury patterns

### 5.2.1 Match injury rate

The mean match injury rate for all teams was 20.6 injuries for every 1,000 match hours, with individual rates ranging from 7.8 to 45.1 at the various clubs.

Figure 9. Match injury rate

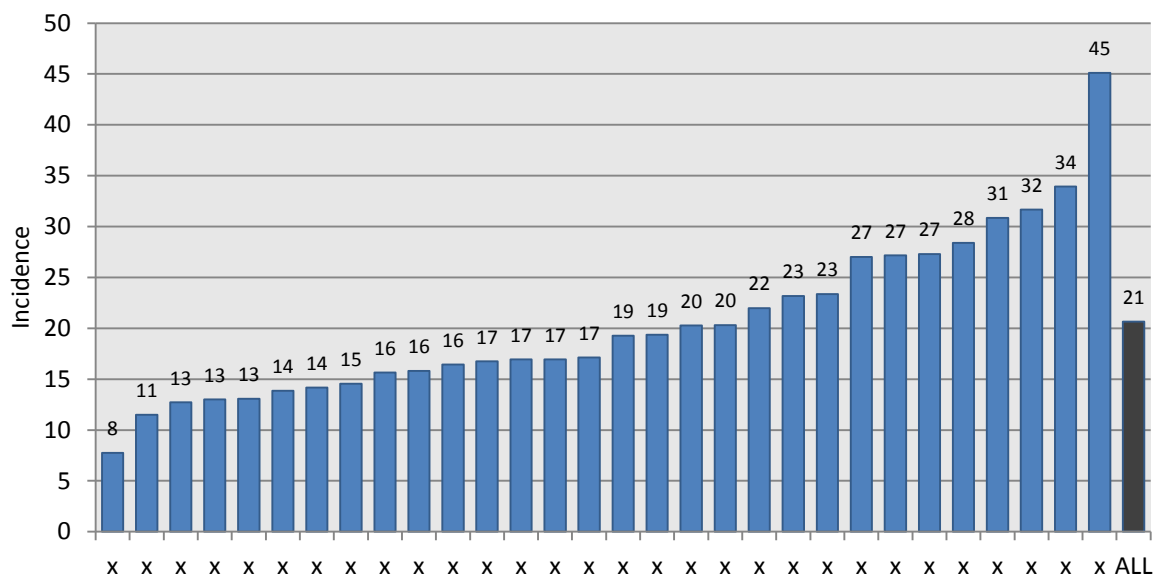
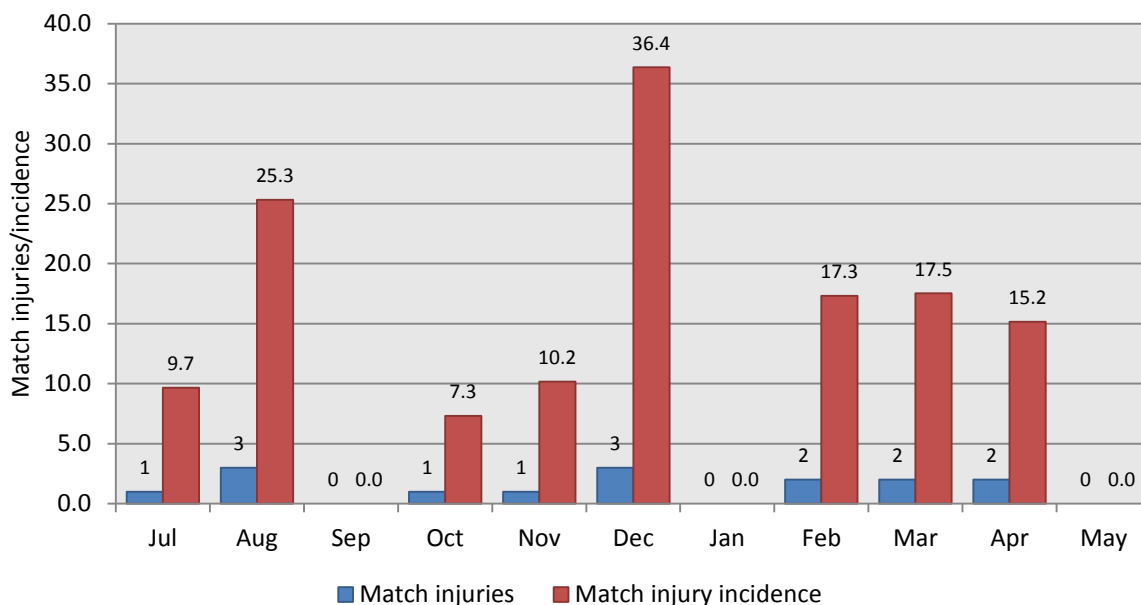


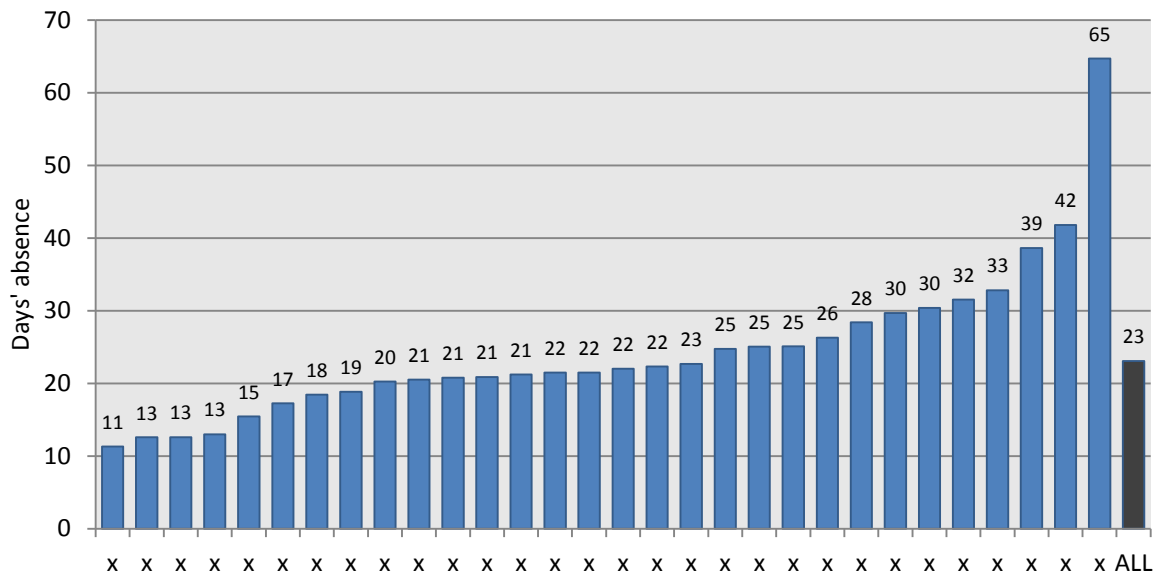
Figure 10. Monthly distribution of match injuries (blue bars) and match injury rates (red bars) for Team X across the season



5.2.2 Days' absence for match injuries

The average absence for match injuries for all teams was 23 days, with individual amounts ranging from 11 to 65 days at the various clubs.

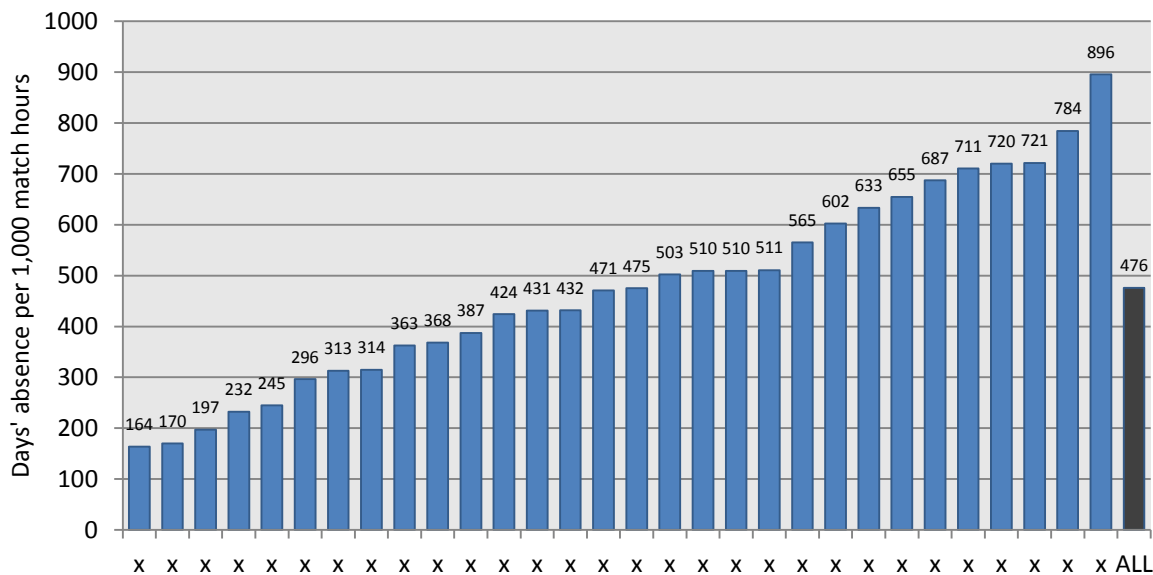
Figure 11. Days' absence for match injuries



5.2.3 Burden of match injuries

The mean injury burden in match play was 476 days' absence for every 1,000 hours, with individual amounts ranging from 164 to 896 at the various clubs.

Figure 12. Match injury burden



### 5.3 Severe injury patterns

Injuries resulting in more than four weeks' absence are classified as severe injuries.

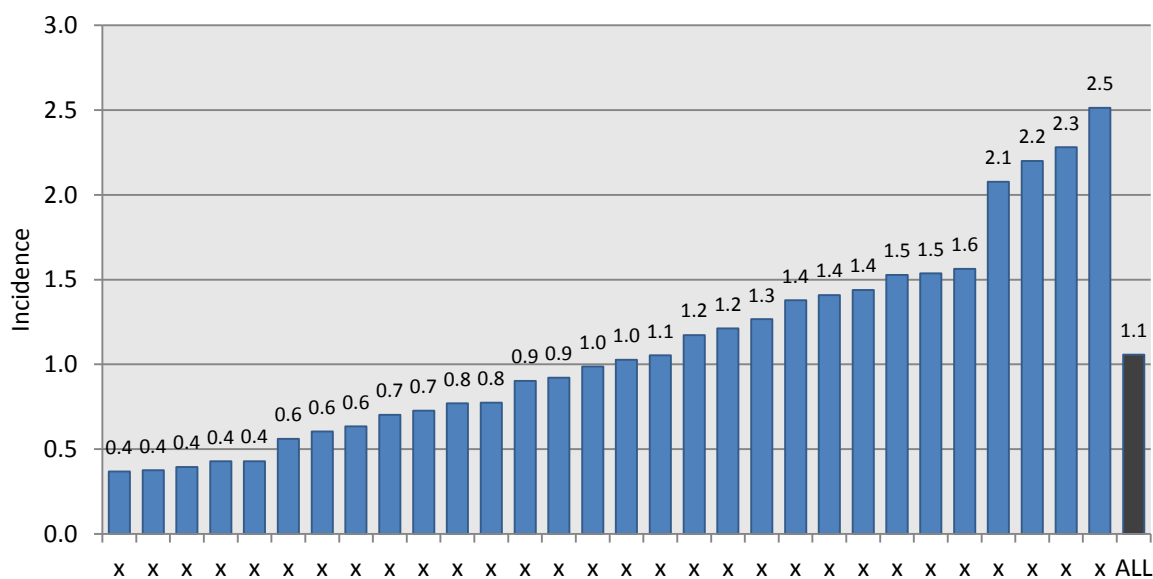
Table 10. Severe injury diagnoses

Diagnosis description	Team X		Other teams	
	N	%	N	%
[GTHS] Sportsman's hernia	1	25,0	0	0,0
[KJAX] Acute ACL injury	1	25,0	8	3,6
[KAXX] Knee Osteoarthritis	1	25,0	0	0,0
[QFTX] Fractured Midshaft Tibia +/- Fibula	1	25,0	0	0,0

#### 5.3.1 Severe injury rate

The mean severe injury rate for all teams was 1.1 severe injuries for every 1,000 hours, with individual rates ranging from 0.4 to 2.5 at the various clubs. Please note that since total absences are unknown where players were still injured at the time of writing, the true figures may differ slightly from those presented here.

Figure 13. Severe injury rate



## 5.4 Ligament injury patterns

Table 11. Ligament injury diagnoses

Diagnosis description	Team X		Other teams	
	N	%	N	%
[KJMB] Grade 2 MCL tear knee	1	16,7	7	4,0
[KJLL] LCL strain/rupture	1	16,7	8	4,6
[AJXX] Ankle Sprains	1	16,7	34	19,4
[AJLX] Ankle lateral ligament sprain	1	16,7	14	8,0
[KJMX] MCL injury knee	2	33,3	15	8,6
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>175</b>	<b>100,0</b>

Table 12. Mechanism of ligament injuries

	Total			
	Team X		Other teams	
	N	%	N	%
Running/sprinting	0	0,0	1	,6
Twisting/turning	1	16,7	31	17,8
Shooting	2	33,3	6	3,4
Passing/crossing	0	0,0	2	1,1
Dribbling	0	0,0	7	4,0
Jumping/landing	0	0,0	14	8,0
Falling/diving	0	0,0	3	1,7
Stretching	0	0,0	2	1,1
Sliding	0	0,0	6	3,4
Overuse	0	0,0	2	1,1
Hit by ball	1	16,7	4	2,3
Collision	1	16,7	4	2,3
Tackled	1	16,7	50	28,7
Tackling	0	0,0	18	10,3
Kicked	0	0,0	8	4,6
Blocked	0	0,0	5	2,9
Other acute mechanism	0	0,0	11	6,3
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>174</b>	<b>100,0</b>

Table 13. Contact/non-contact ligament injuries

	Total			
	Team X		Other teams	
	N	%	N	%
Non-contact	1	16,7	73	41,5
Contact player	3	50,0	98	55,7
Contact object	2	33,3	5	2,8
N/A	0	0,0	0	0,0
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>176</b>	<b>100,0</b>



Table 14. Severity of ligament injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Slight [0 days]	0	0,0	0	0,0
Minimal [1-3 days]	0	0,0	19	10,8
Mild [4-7 days]	1	16,7	37	21,0
Moderate [8-28 days]	4	66,7	67	38,1
Severe [>28 days]	1	16,7	53	30,1
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>176</b>	<b>100,0</b>

Table 15. Re-injury rate for ligament injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
No re-injury	6	100,0	163	92,6
Re-injury	0	0,0	13	7,4
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>176</b>	<b>100,0</b>

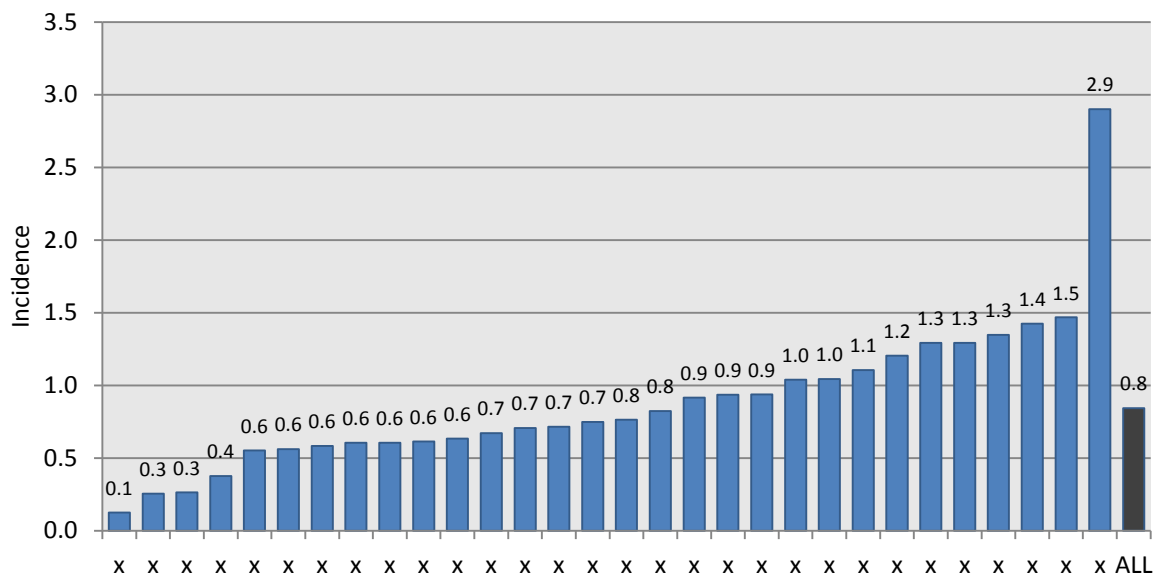
Table 16. Monthly distribution of ligament injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
July	1	16,7	15	8,5
August	1	16,7	16	9,1
September	0	0,0	23	13,1
October	1	16,7	23	13,1
November	1	16,7	19	10,8
December	0	0,0	12	6,8
January	1	16,7	14	8,0
February	0	0,0	19	10,8
March	0	0,0	13	7,4
April	1	16,7	18	10,2
May	0	0,0	4	2,3
June	0	0,0	0	0,0
<b>Total</b>	<b>6</b>	<b>100,0</b>	<b>176</b>	<b>100,0</b>

### 5.4.1 Ligament injury rate

The mean ligament injury rate for all teams was 0.8 injuries for every 1,000 hours, with individual rates ranging from 0.1 to 2.9 at the various clubs.

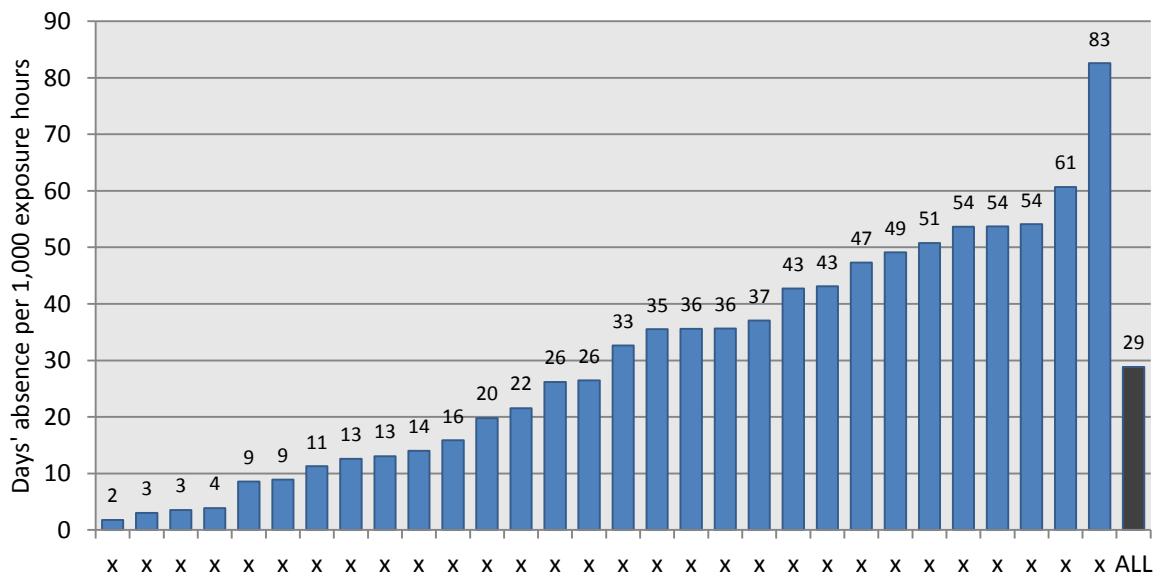
Figure 14. Ligament injury rate



### 5.4.2 Burden of ligament injuries

The mean ligament injury burden was 29 days' absence for every 1,000 hours, with individual amounts ranging from 2 to 83 at the various clubs.

Figure 15. Ligament injury burden



5.4.3 Days' absence for ligament injuries

Table 17. Days' absence for ligament injuries

Diagnosis description	Ligament injuries											
	Team X						Other teams					
	N	Sum	Mean	Med	Min	Max	N	Sum	Mean	Med	Min	Max
[KJMB] Grade 2 MCL tear knee	1	17	17,0	17,0	17	17	7	239	34,1	31,0	8	65
[KJLL] LCL strain/rupture	1	19	19,0	19,0	19	19	8	271	33,9	17,5	5	141
[AJXX] Ankle Sprains	1	33	33,0	33,0	33	33	34	532	15,6	9,0	1	145
[AJLX] Ankle lateral ligament sprain	1	27	27,0	27,0	27	27	14	261	18,6	15,0	1	51
[KJMX] MCL injury knee	2	21	10,5	10,5	4	17	15	220	14,7	10,0	2	63
<b>Total</b>	<b>6</b>	<b>117</b>	<b>19,5</b>	<b>18,0</b>	<b>4</b>	<b>33</b>	<b>175</b>	<b>6095</b>	<b>34,8</b>	<b>15,0</b>	<b>1</b>	<b>227</b>



## 5.5 Muscle injury patterns

Table 18. Muscle injury diagnoses

Diagnosis description	Team X		Other teams	
	N	%	N	%
[NMYX] Neck muscle spasm/trigger points	1	20,0	1	,2
[TMHS] Semimembranosus/tendinosis strain, grade 1 - 2	1	20,0	25	4,7
[TMQS] Rectus femoris strain	1	20,0	35	6,5
[TMHB] Biceps femoris strain, grade 1 - 2	2	40,0	139	26,0
<b>Total</b>	<b>5</b>	<b>100,0</b>	<b>535</b>	<b>100,0</b>

Table 19. Mechanism of muscle injuries

	Total			
	Team X		Other teams	
	N	%	N	%
Running/sprinting	1	25,0	210	44,2
Twisting/turning	1	25,0	32	6,7
Shooting	1	25,0	58	12,2
Passing/crossing	0	0,0	41	8,6
Dribbling	0	0,0	4	,8
Jumping/landing	0	0,0	20	4,2
Falling/diving	1	25,0	2	,4
Stretching	0	0,0	20	4,2
Sliding	0	0,0	6	1,3
Overuse	0	0,0	57	12,0
Hit by ball	0	0,0	1	,2
Collision	0	0,0	1	,2
Heading	0	0,0	1	,2
Tackled	0	0,0	7	1,5
Tackling	0	0,0	4	,8
Kicked	0	0,0	2	,4
Other acute mechanism	0	0,0	9	1,9
<b>Total</b>	<b>4</b>	<b>100,0</b>	<b>475</b>	<b>100,0</b>

Table 20. Contact/non-contact muscle injuries

	Total			
	Team X		Other teams	
	N	%	N	%
Non-contact	5	100,0	521	97,4
Contact player	0	0,0	13	2,4
Contact object	0	0,0	1	,2
N/A	0	0,0	0	0,0
<b>Total</b>	<b>5</b>	<b>100,0</b>	<b>535</b>	<b>100,0</b>

Table 21. Severity of muscle injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Slight [0 days]	0	0,0	1	,2
Minimal [1-3 days]	0	0,0	55	10,3
Mild [4-7 days]	2	40,0	98	18,3
Moderate [8-28 days]	3	60,0	297	55,5
Severe [>28 days]	0	0,0	84	15,7
<b>Total</b>	<b>5</b>	<b>100,0</b>	<b>535</b>	<b>100,0</b>

Table 22. Re-injury rate for muscle injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
No re-injury	5	100,0	487	91,0
Re-injury	0	0,0	48	9,0
<b>Total</b>	<b>5</b>	<b>100,0</b>	<b>535</b>	<b>100,0</b>

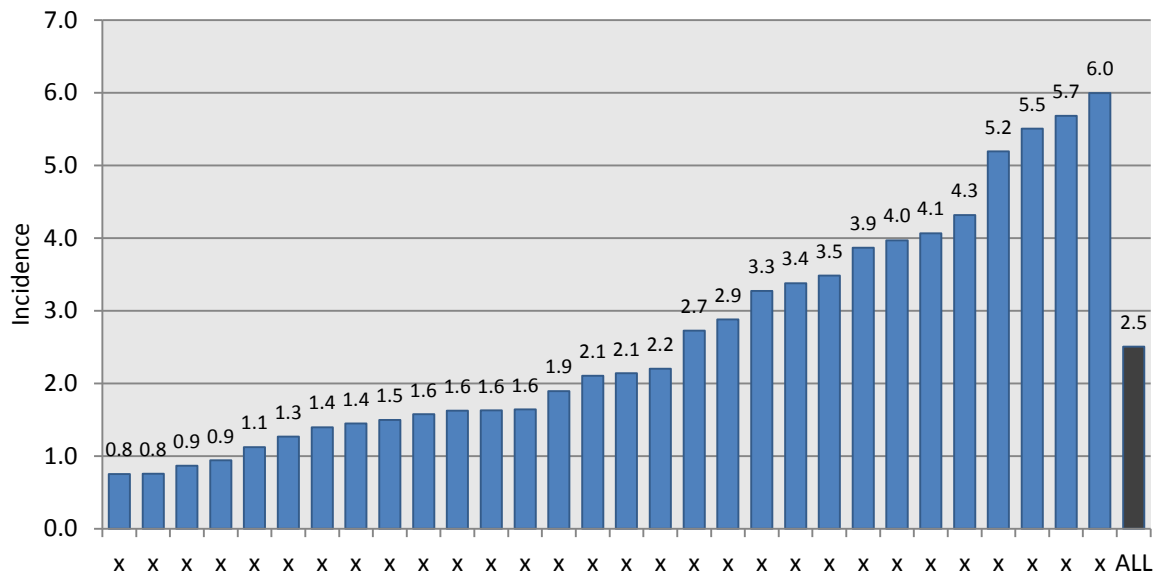
Table 23. Monthly distribution of muscle injuries

	<b>Total</b>			
	<b>Team X</b>		<b>Other teams</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
July	1	6,7	26	5,0
August	2	13,3	33	6,3
September	1	6,7	60	11,4
October	0	0,0	54	10,3
November	1	6,7	53	10,1
December	2	13,3	46	8,8
January	2	13,3	56	10,7
February	1	6,7	63	12,0
March	0	0,0	54	10,3
April	4	26,7	48	9,1
May	1	6,7	32	6,1
June	0	0,0	0	0,0
<b>Total</b>	<b>15</b>	<b>100,0</b>	<b>525</b>	<b>100,0</b>

5.5.1 Muscle injury rate

The mean muscle injury rate for all teams was 2.5 injuries for every 1,000 hours, with individual rates ranging from 0.8 to 6.0 at the various clubs.

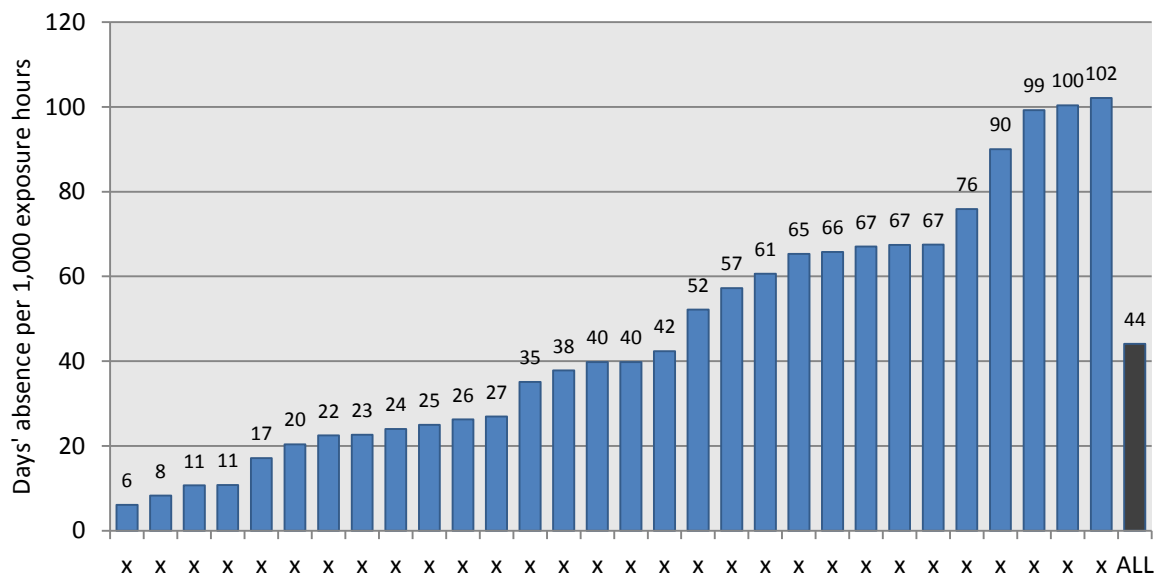
Figure 16. Muscle injury rate



### 5.5.2 Burden of muscle injuries

The mean muscle injury burden was 44 days' absence for every 1,000 hours, with individual amounts ranging from 6 to 102 at the various clubs.

Figure 17. Muscle injury burden



### 5.5.3 Days' absence for muscle injuries

Table 24. Days' absence for muscle injuries

Diagnosis description	Muscle injuries											
	Team X						Other teams					
	N	Sum	Mean	Med	Min	Max	N	Sum	Mean	Med	Min	Max
[NMYX] Neck muscle spasm/trigger points	1	4	4,0	4,0	4	4	1	3	3,0	3,0	3	3
[TMHS] Semimembranosus/tendinosis strain	1	17,0	17,0	17,0	17	17	25	455	18,2	17,0	1	87
[TMQS] Rectus femoris strain	1	15	15,0	15,0	15	15	35	766	21,9	17,0	2	69
[TMHB] Biceps femoris strain, grade 1 - 2	2	19	9,5	9,5	4	15	139	3045	21,9	17,0	2	103
<b>Total</b>	<b>5</b>	<b>55</b>	<b>11,0</b>	<b>15,0</b>	<b>4</b>	<b>17</b>	<b>535</b>	<b>9450</b>	<b>17,7</b>	<b>13,0</b>	<b>0</b>	<b>189</b>

N = number of injuries within each category

Sum = total number of days lost because of injury (consequences for the team)

Mean= average number of days' absence per injury (expected recovery time)

Med = median days' absence for all injuries within the category (expected recovery time)

Min = shortest absence for an injury

Max = longest absence for an injury

## 5.6 Re-injury patterns

Table 25. Re-injury diagnoses

Diagnosis description	Team X		Other teams	
	N	%	N	%
[RFUX] Fractured ulna midshaft	1	50,0	0	0,0
[TMXX] Thigh Muscle strain/Spasm/Trigger Points	1	50,0	1	,9
<b>Total</b>	<b>2</b>	<b>100,0</b>	<b>111</b>	<b>100,0</b>

Table 26. Severity of re-injuries

	Total			
	Team X		Other teams	
	N	%	N	%
Slight [0 days]	0	0,0	0	0,0
Minimal [1-3 days]	1	50,0	9	8,1
Mild [4-7 days]	0	0,0	11	9,9
Moderate [8-28 days]	0	0,0	44	39,6
Severe [>28 days]	1	50,0	47	42,3
<b>Total</b>	<b>2</b>	<b>100,0</b>	<b>111</b>	<b>100,0</b>

### 5.6.1 Re-injury rate (%)

On average, 9% of injuries sustained were re-injuries, with individual rates ranging from 0% to 28% at the various clubs.

Figure 18. Re-injury rate

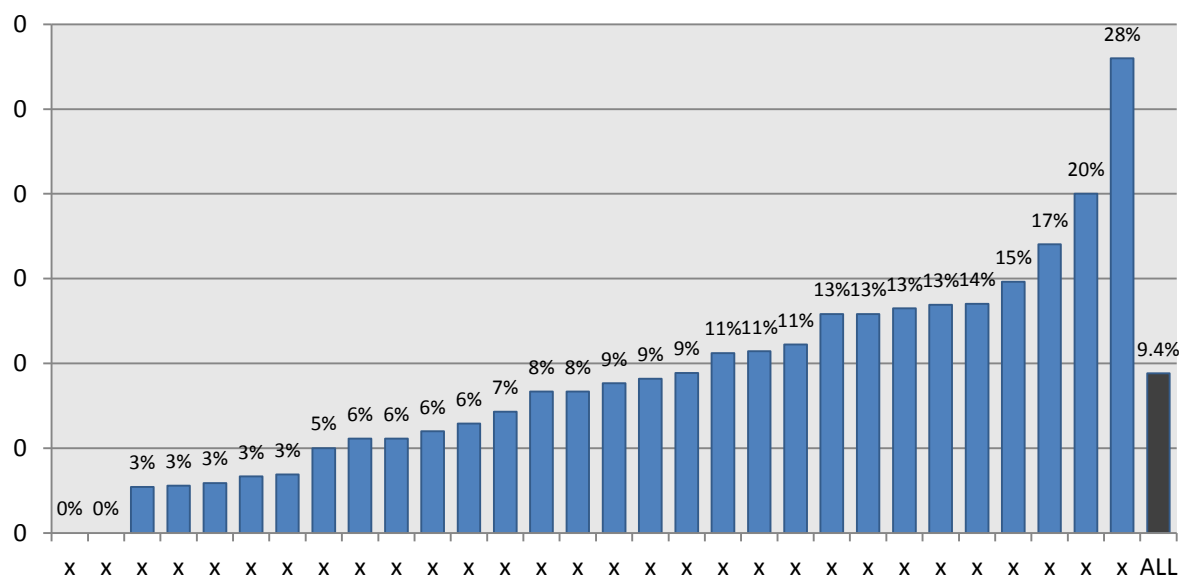
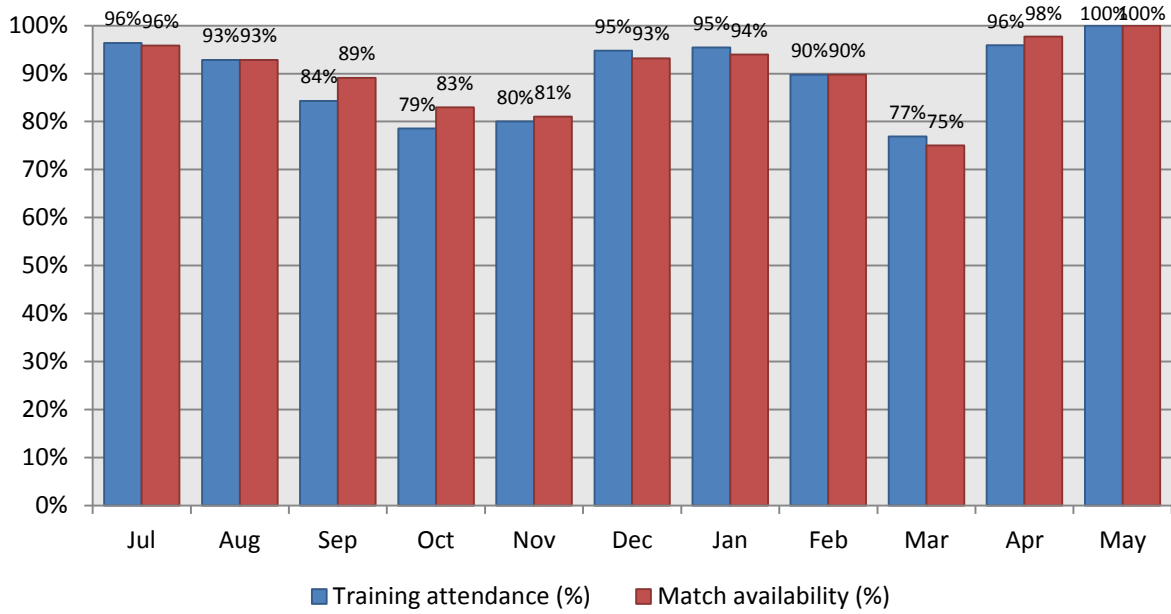






Figure 21. Team X's overall squad attendance in training (blue bars) and availability for matches (red bars) over the season



## 6.2 Squad absences

The charts below break players' absences down by reason.

Figure 22. Reasons for absence from training sessions

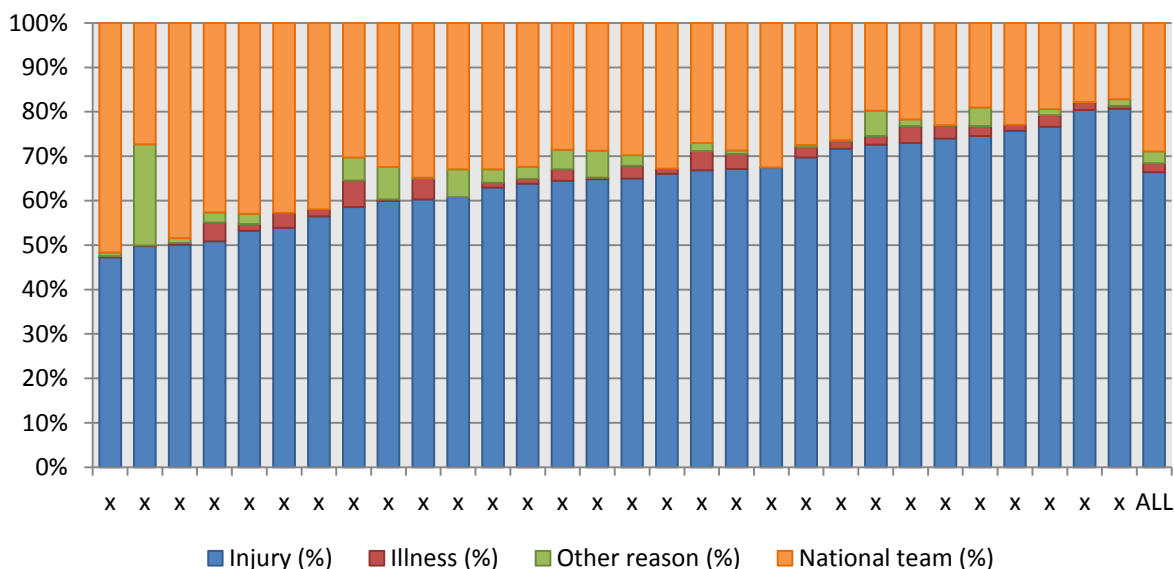


Figure 23. Reasons for absence from matches

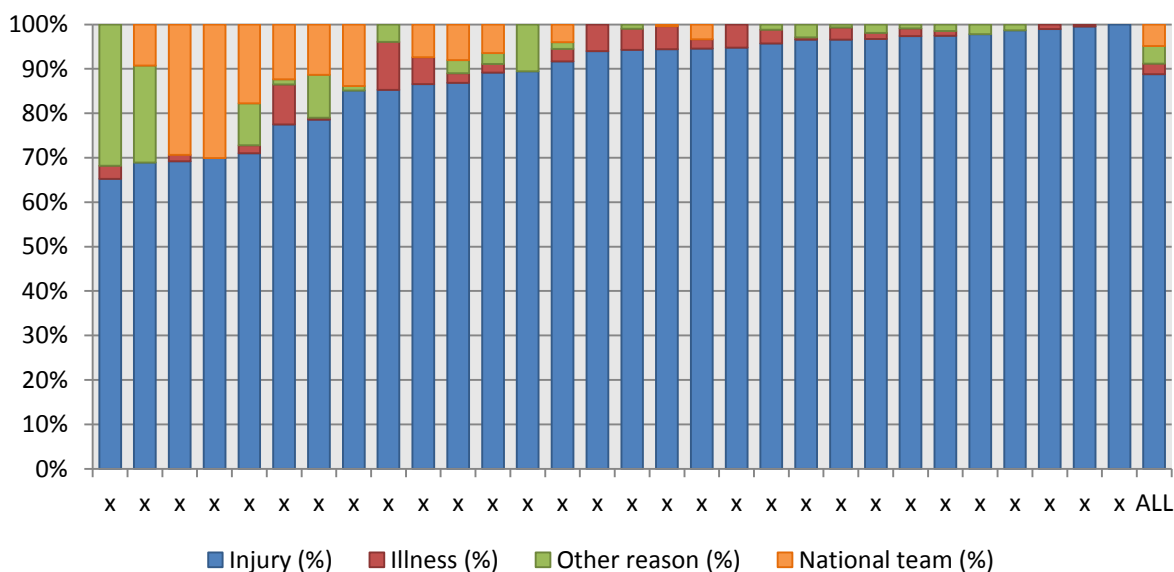


Figure 24. Reasons for absence from training sessions in **Team X** over the season

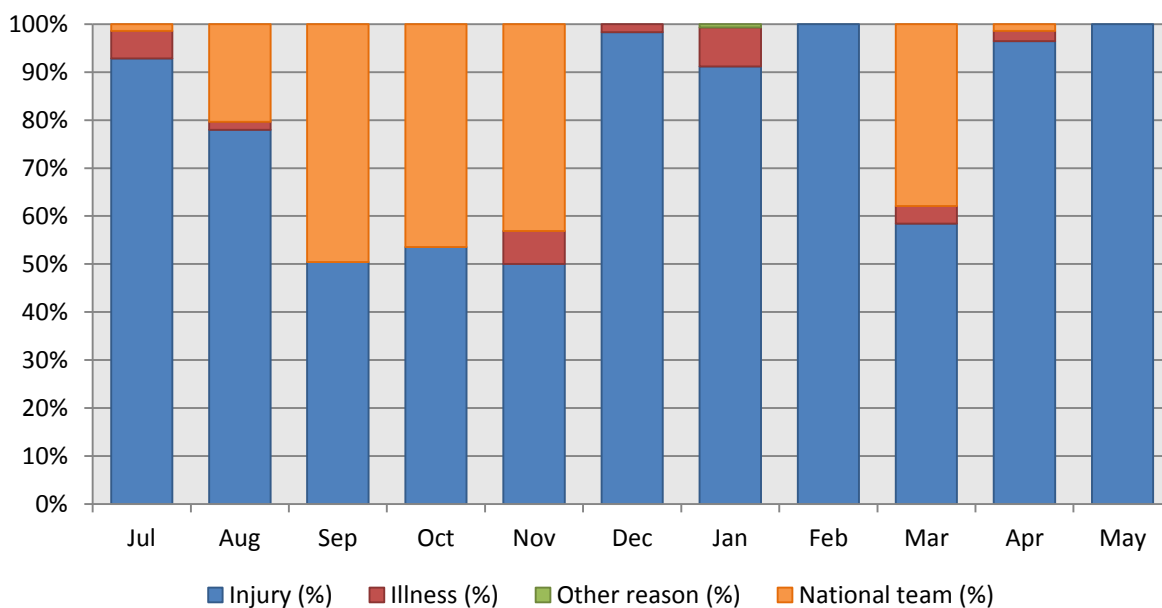
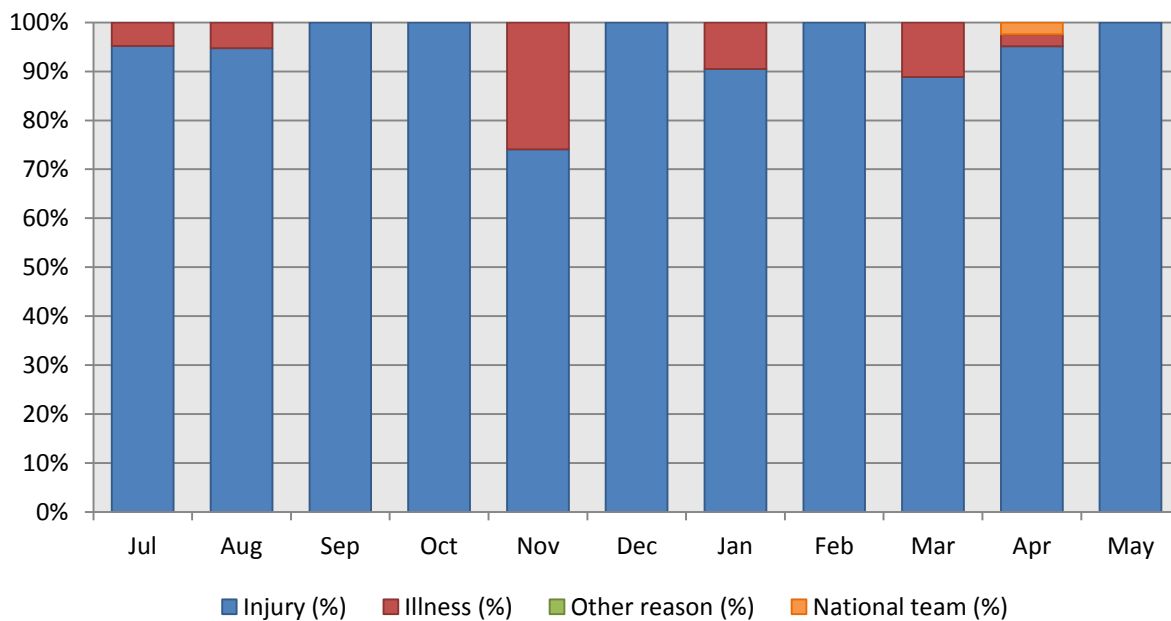


Figure 25. Reasons for absence from matches in **Team X** over the season



### 6.3 Number of training sessions/matches missed because of injury

The consequences of injuries have also been assessed in terms of the number of training sessions and matches that players missed during the reporting period. On average, across all clubs, each player missed 2.1 training sessions and 0.6 matches each month because of injury. Data specific to each club is presented below.

Figure 26. Number of training sessions missed per player per month owing to injury

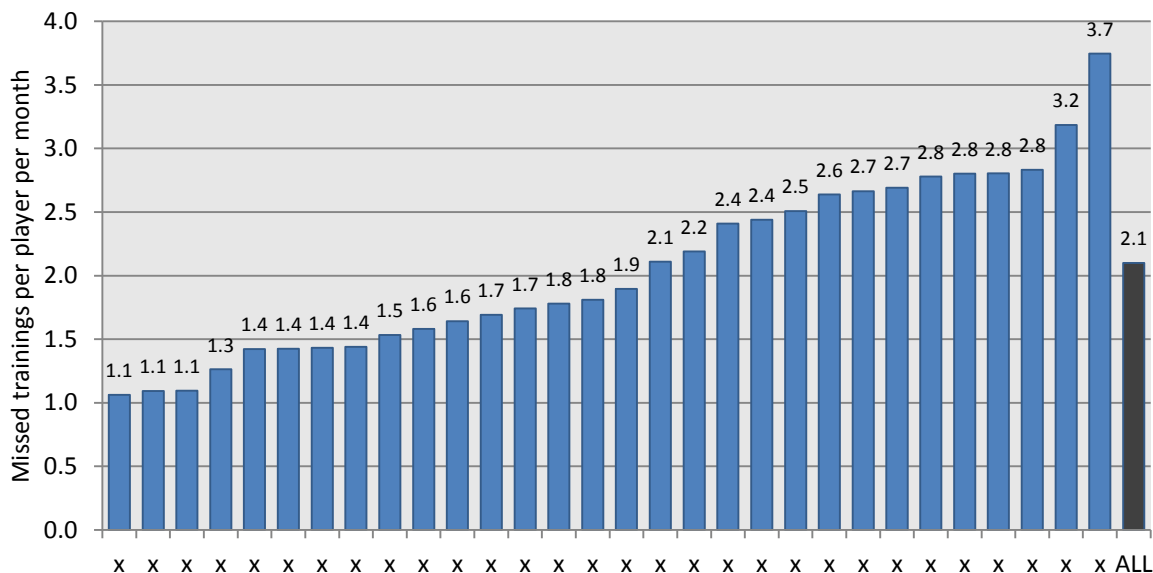
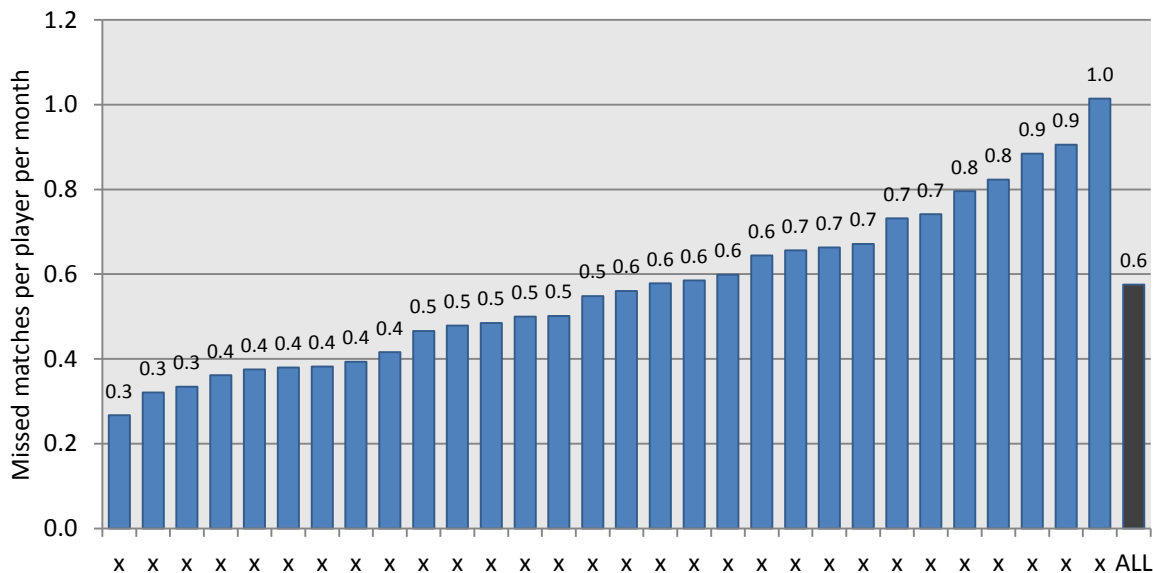


Figure 27. Number of matches missed per player per month owing to injury



## 7 Analyses over 15 seasons

UEFA's injury study has now recorded approximately 13,000 injuries and 1,800,000 exposure hours over 15 seasons. Close to 50 teams from 18 different countries have participated at some point during these 15 seasons. This section contains results based on data from all seasons of the study.

### 7.1 Injury rates over 15 seasons

The injury rate each season (blue bars) is shown for your own club, together with the mean injury rate for all teams (red line), for the purposes of comparison.

Figure 28. Training injury rate [15 seasons]

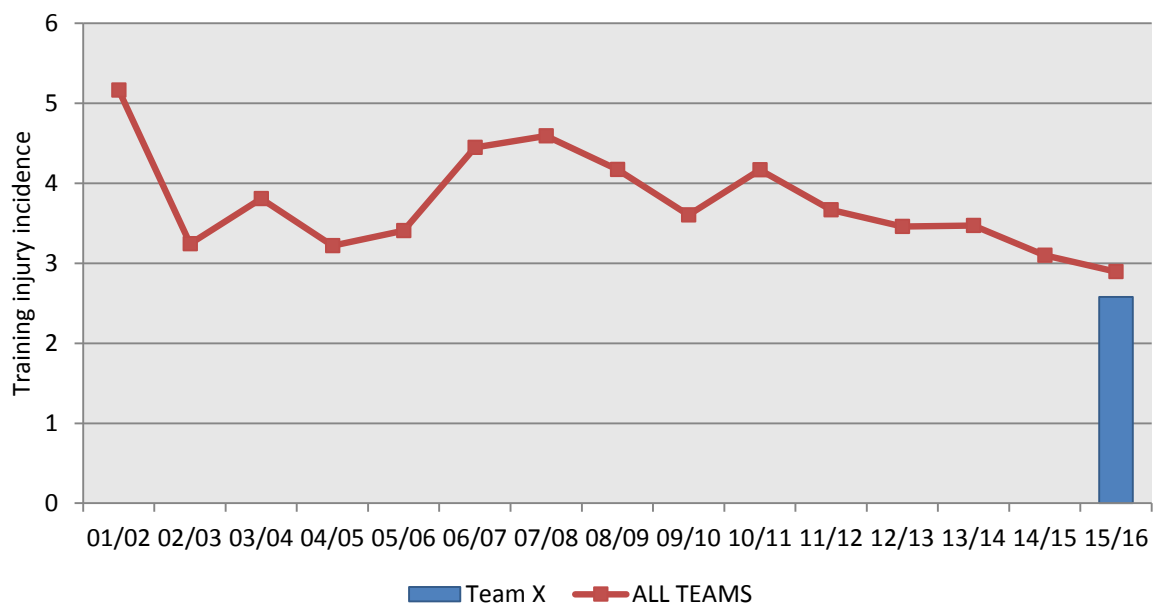


Figure 29. Match injury rate [15 seasons]

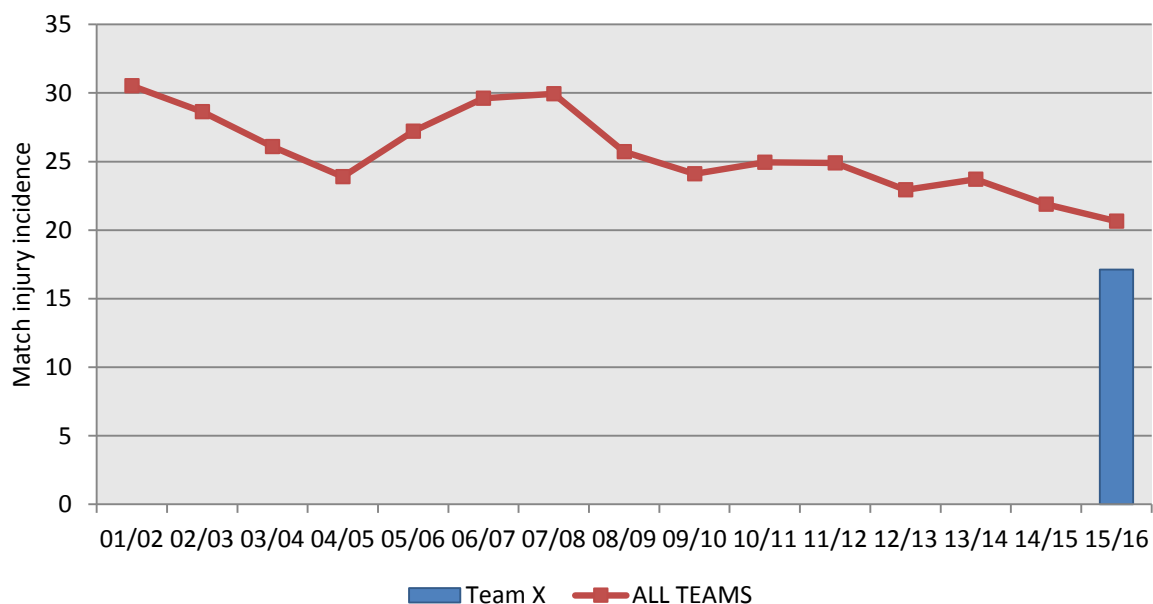


Figure 30. Total injury rate [15 seasons]

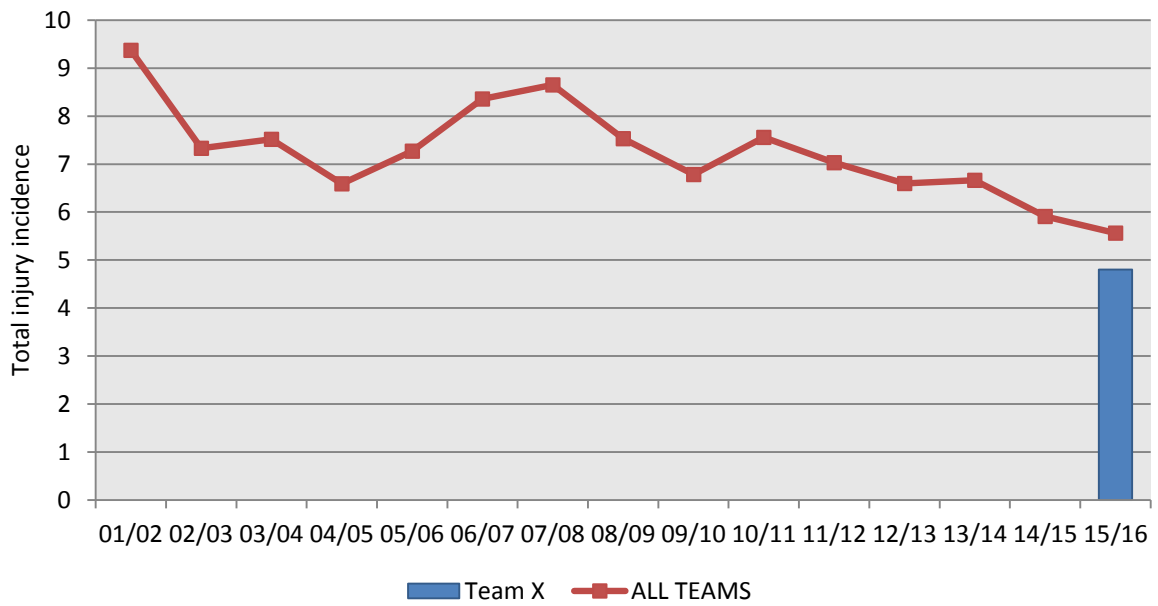


Figure 31. Severe injury rate (>4 weeks' absence) [15 seasons]

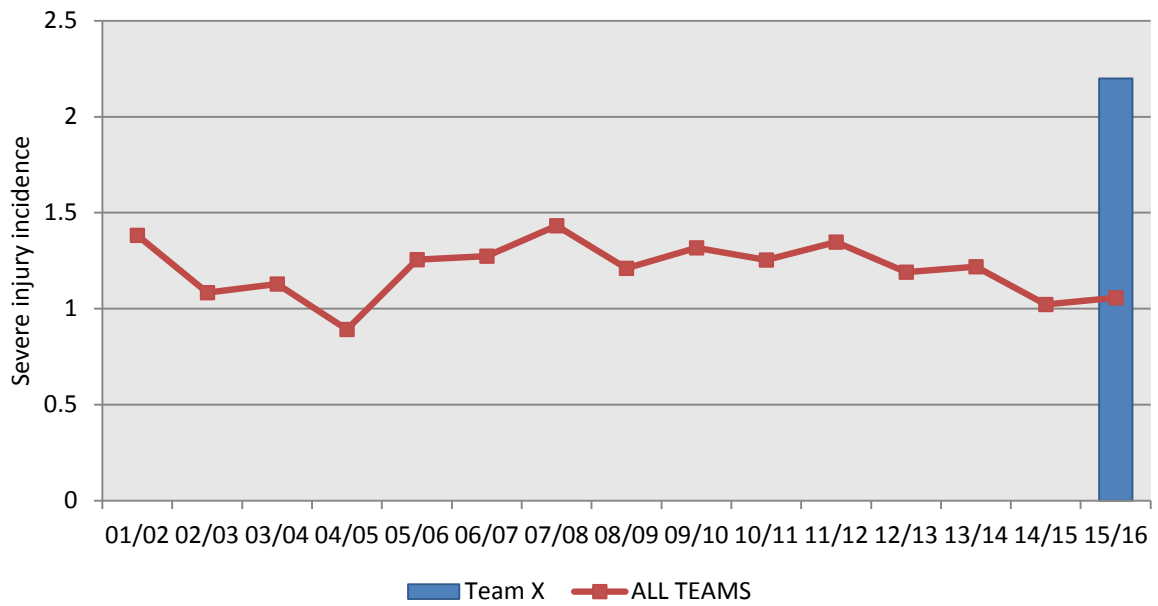


Figure 32. Muscle injury rate [15 seasons]

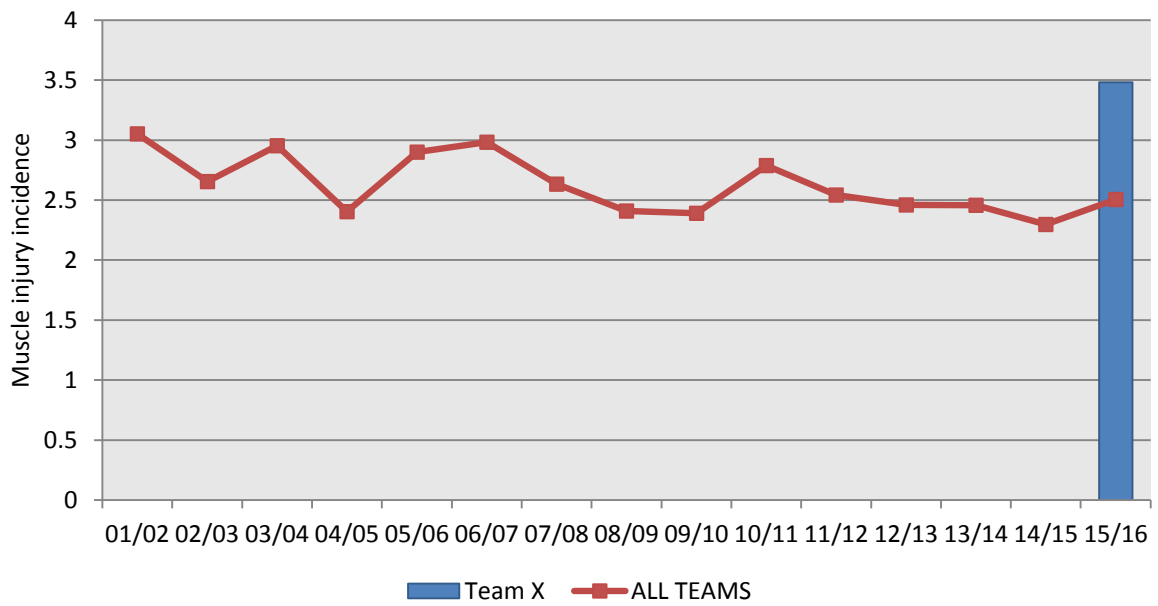


Figure 33. Ligament injury rate [15 seasons]

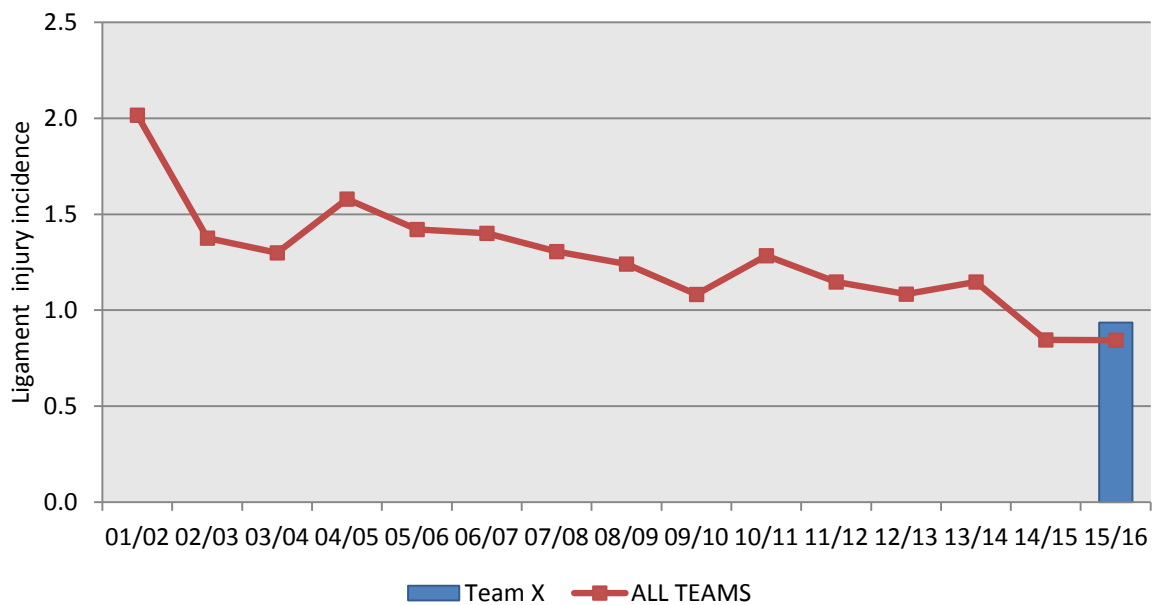
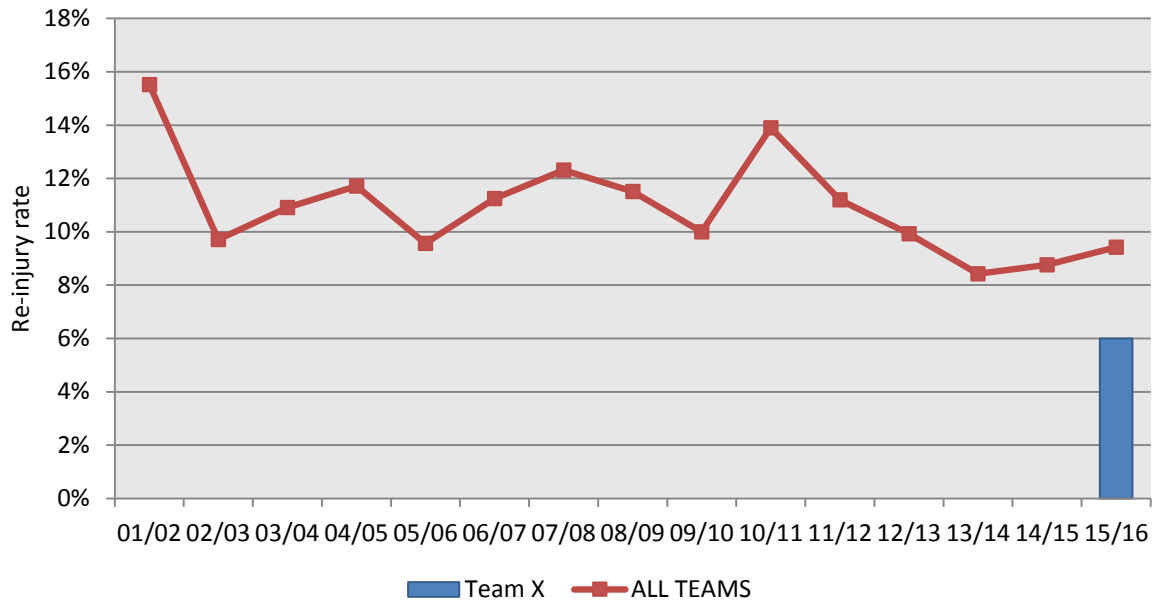




Figure 34. Re-injury rate [15 seasons]



## 7.2 Squad attendance/availability and absences over 15 seasons

Squad attendance/availability and absences due to injury each season is shown for your own club (blue bars), together with the mean attendance/availability for all teams (red line), for the purposes of comparison.

Figure 35. Squad attendance rates for training [15 seasons]

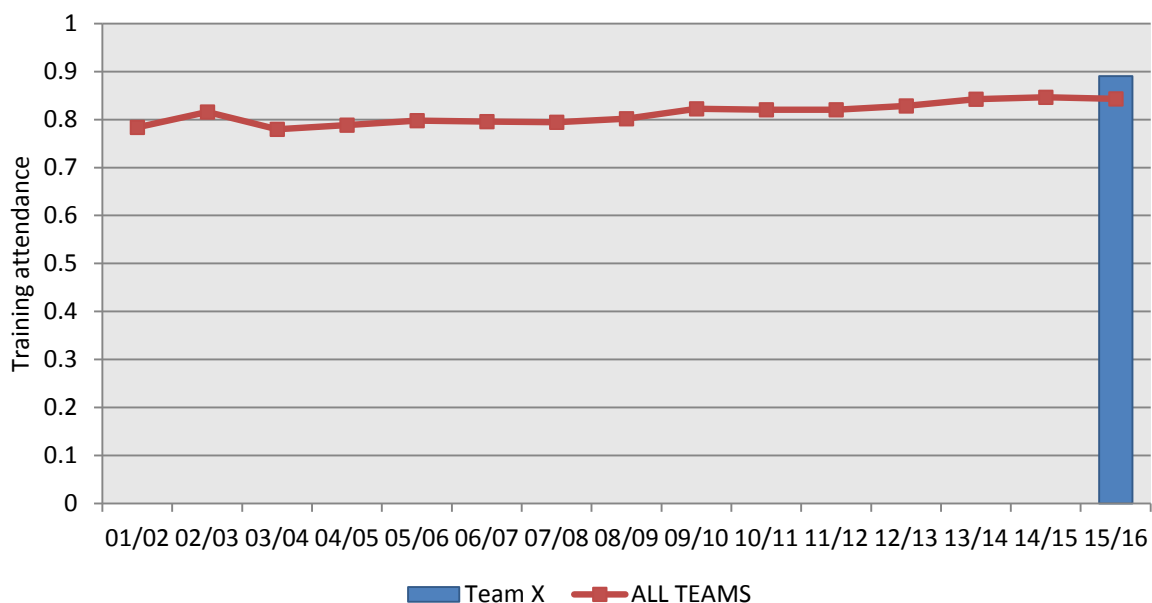


Figure 36. Squad availability rates for matches [15 seasons]

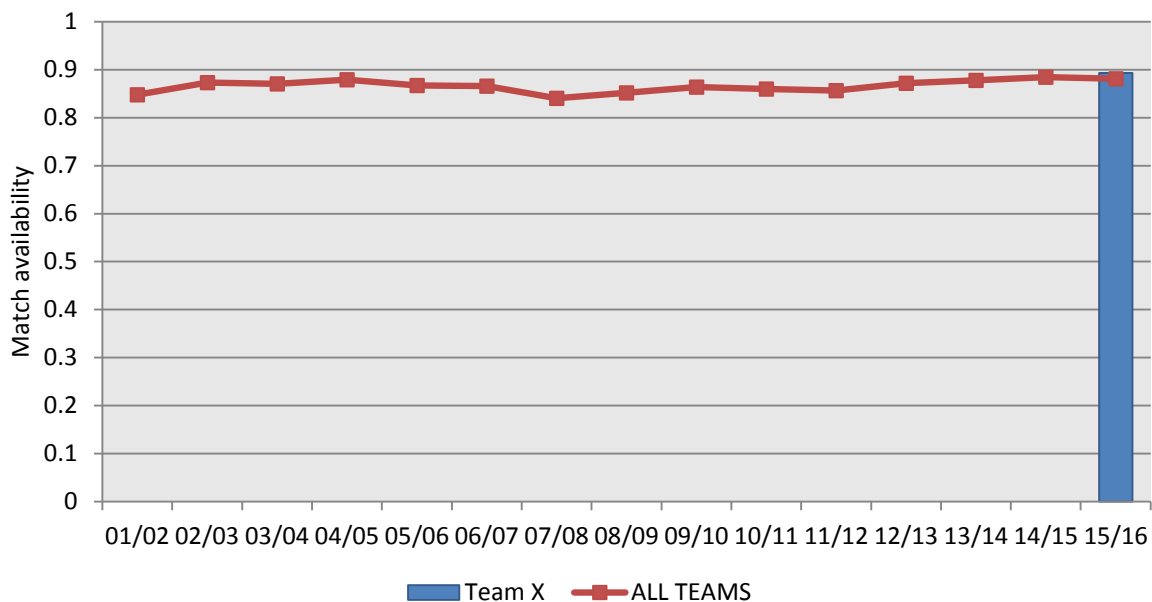


Figure 37. Squad absences from training due to injury [15 seasons]

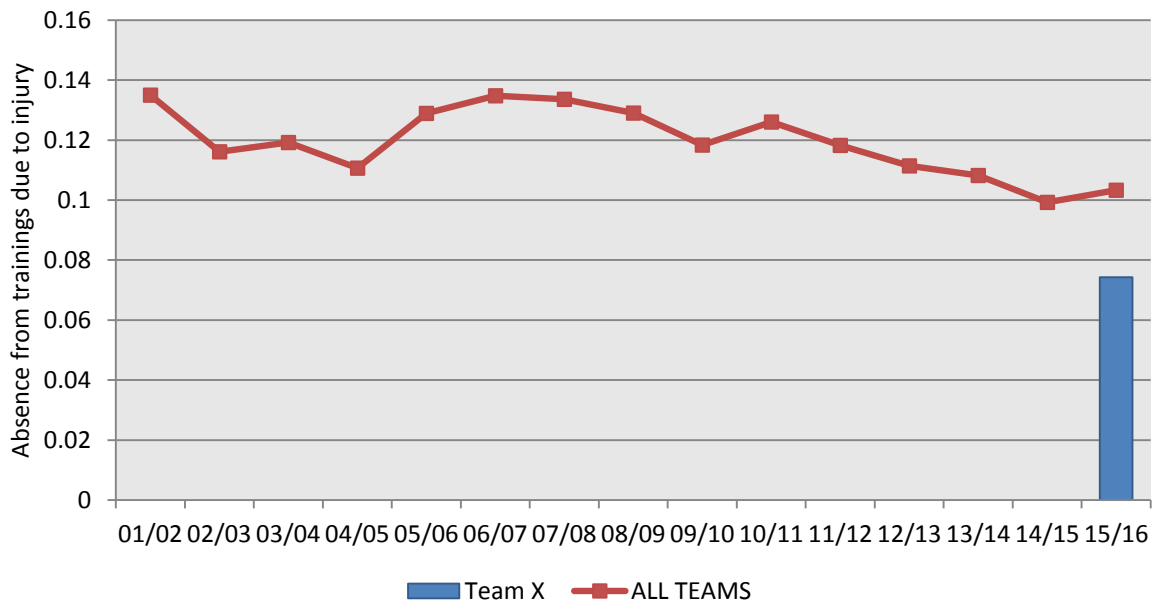


Figure 38. Squad absences from matches due to injury [15 seasons]

