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# Injury risk in academy level rugby league match play: a single season prospective cohort study

Dr. Jason Tee, Prof. Kevin Till and Prof. Ben Jones



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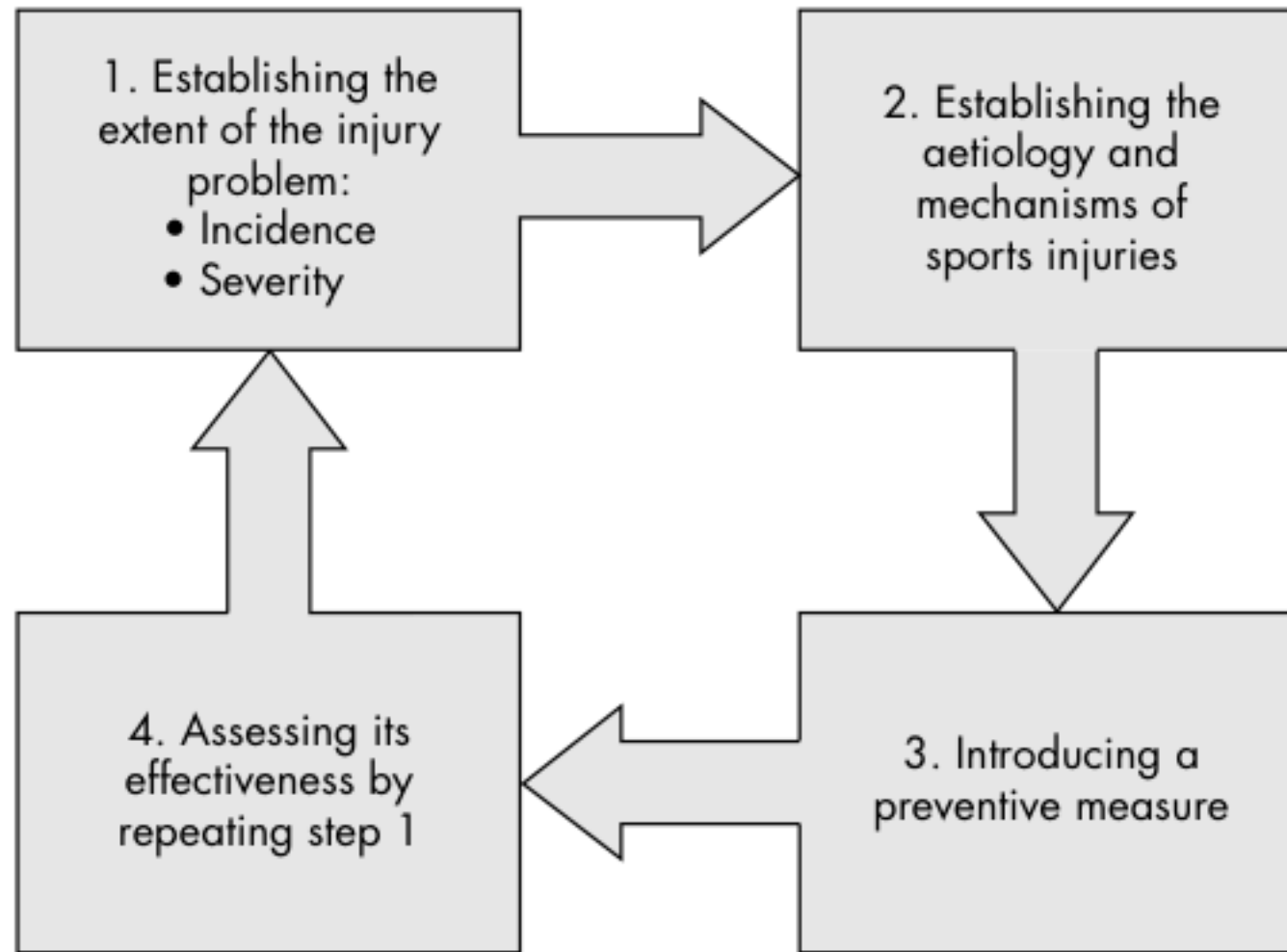
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# Rational

- The safety governing
- Currently, level rugby

the sport's  
academy



**Figure 1** Four step sequence of injury prevention research.

# Methods

## Data collection

- Team physiotherapists from three academies collected injury data one season
- Physiotherapists were paid for services as “club injury surveillance officers”

## Injury Definition

*“Any physical complaint, that was sustained by a player during a rugby match or rugby training, that results in a player being unable to take a full part in future rugby training or match play for a period of >24 hours.”*

Fuller et. al., (2007) IRB consensus statement. BJSM

# Participants

- 81 academy level rugby league players
- Age  $17.8 \pm 0.8$  years
- Stature  $108 \pm 6$
- Body mass  $87.5 \pm 11.3$  kg
- Exposure 1022 hours of match play



# Competition Demands

Season - February to August

20 matches in 27 weeks  
(plus play off matches)

## Matches

- High-speed running and sprinting
- short bouts of standing, walking and jogging
- Frequent collisions and wrestling bouts

Johnston et al., Sports Med 2014

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# Injury outcomes

## **Injury incidence:**

85 injuries/1000 h (95%CI 67-103)

## **Mean severity:**

22 ± 19 days

## **Injury burden:**

1870 days per 1000 h match play



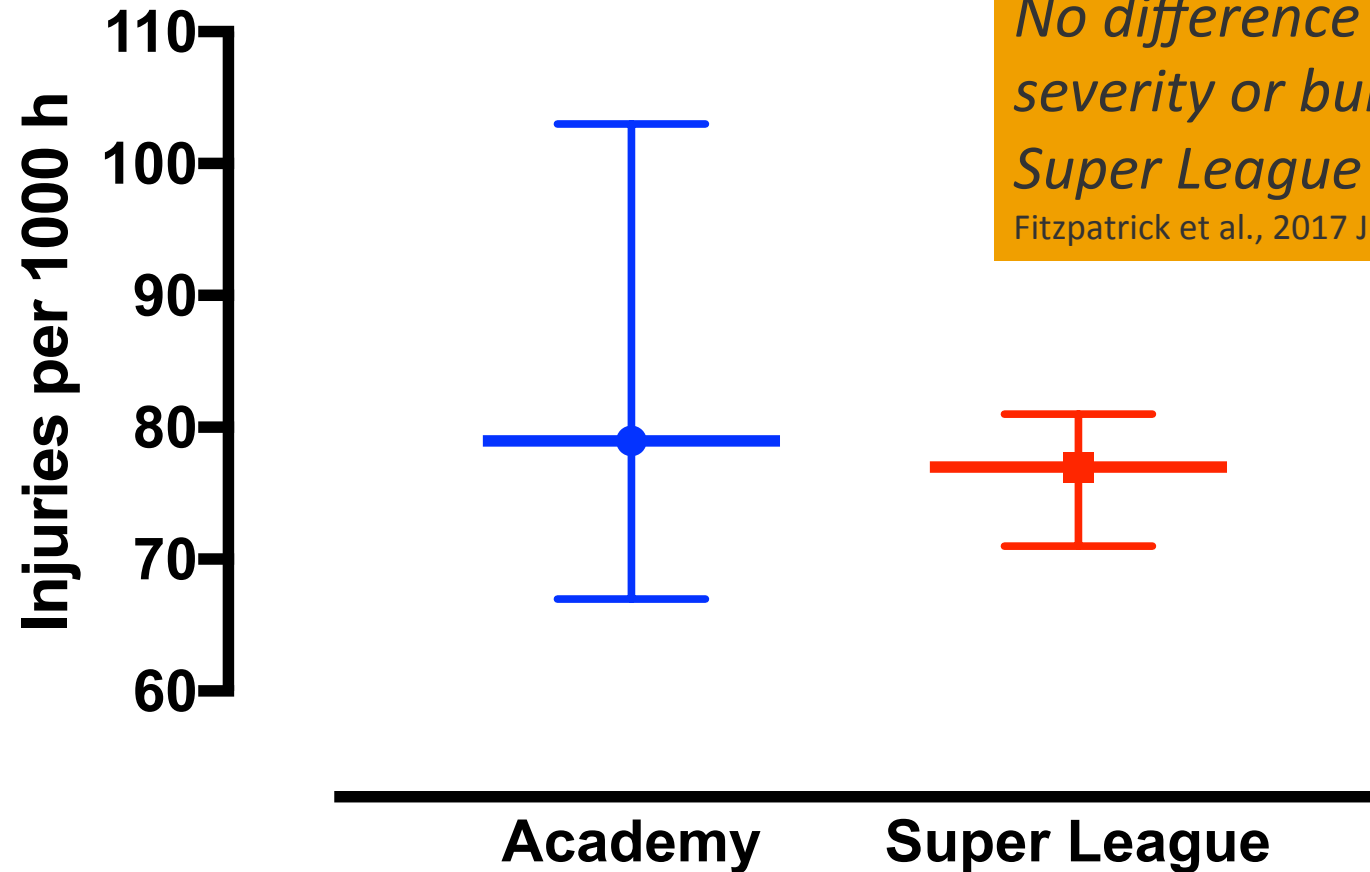
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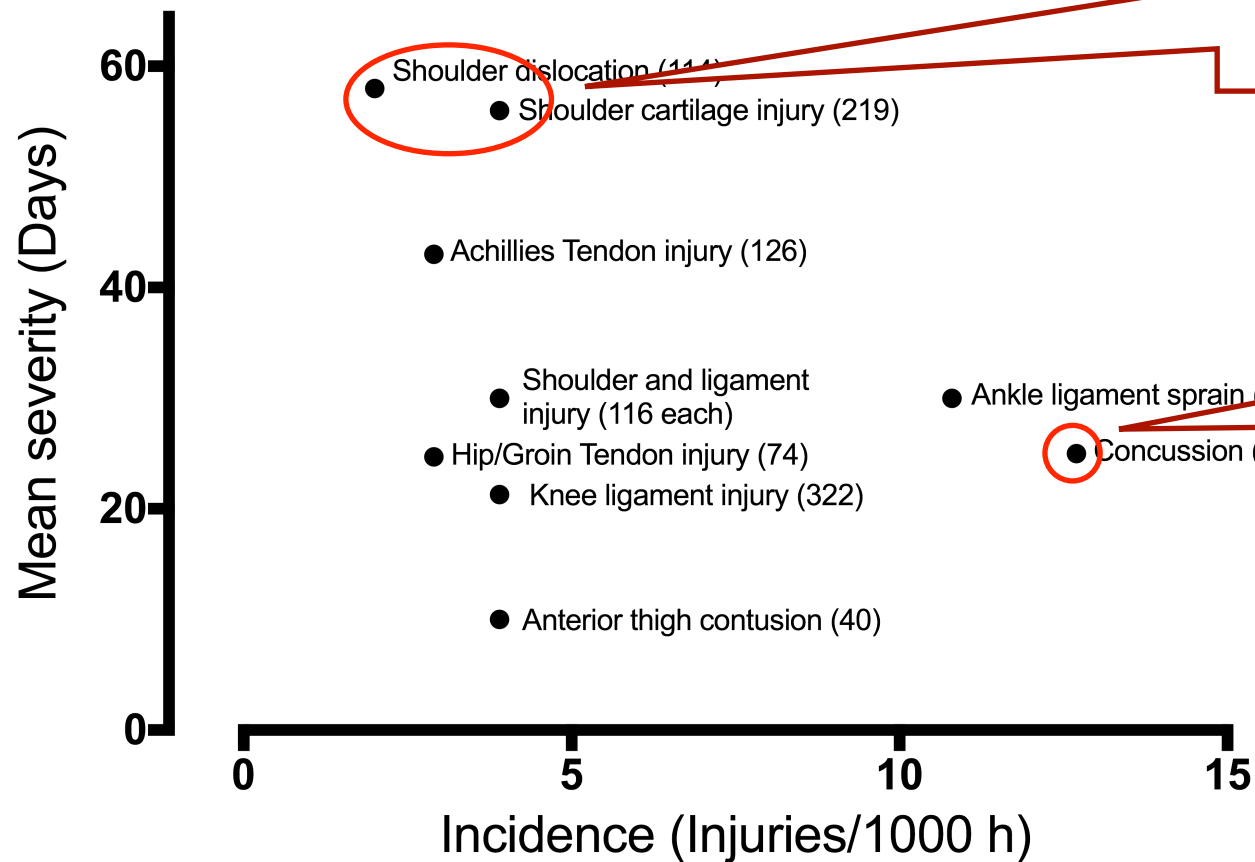
# Comparison with professional competition



*No difference in incidence, severity or burden European Super League*

Fitzpatrick et al., 2017 J Sci Med Sport

# Most costly injuries



Shoulder injuries account of 28% of total injury burden

Concussion occurring more frequently than professional rugby league





# Injury burden comparison

## Academy Rugby League

Concussion  
**316 days/1000 h**

Shoulder  
**525 days/1000 h**

Hamstring  
29 days /1000 h

Knee  
261 days /1000 h

Ankle  
322 /1000 h

## European Super League

Concussion  
55 days/1000 h

Shoulder  
276 /1000 h

Hamstring  
**101 /1000 h**

Knee  
**470 /1000 h**

Ankle  
256 /1000 h



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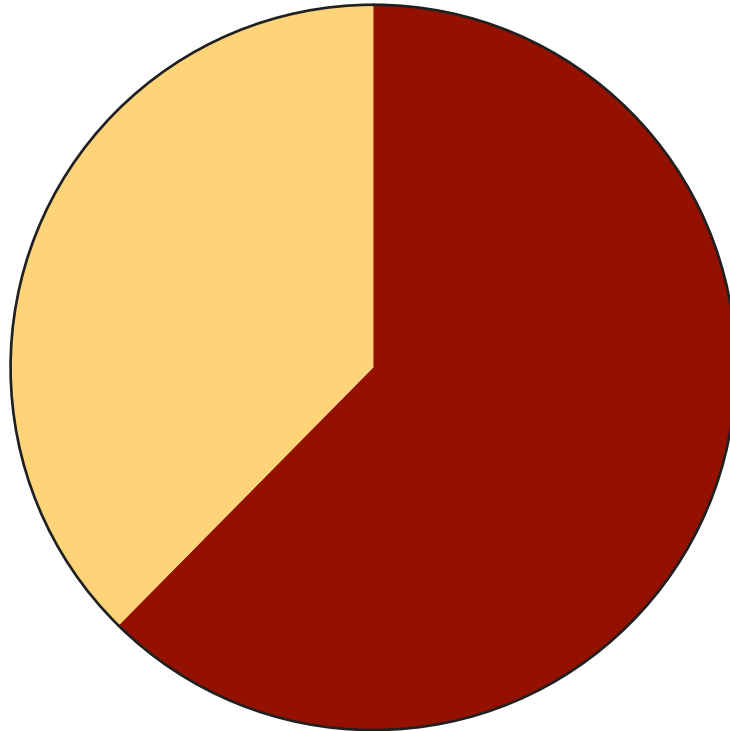


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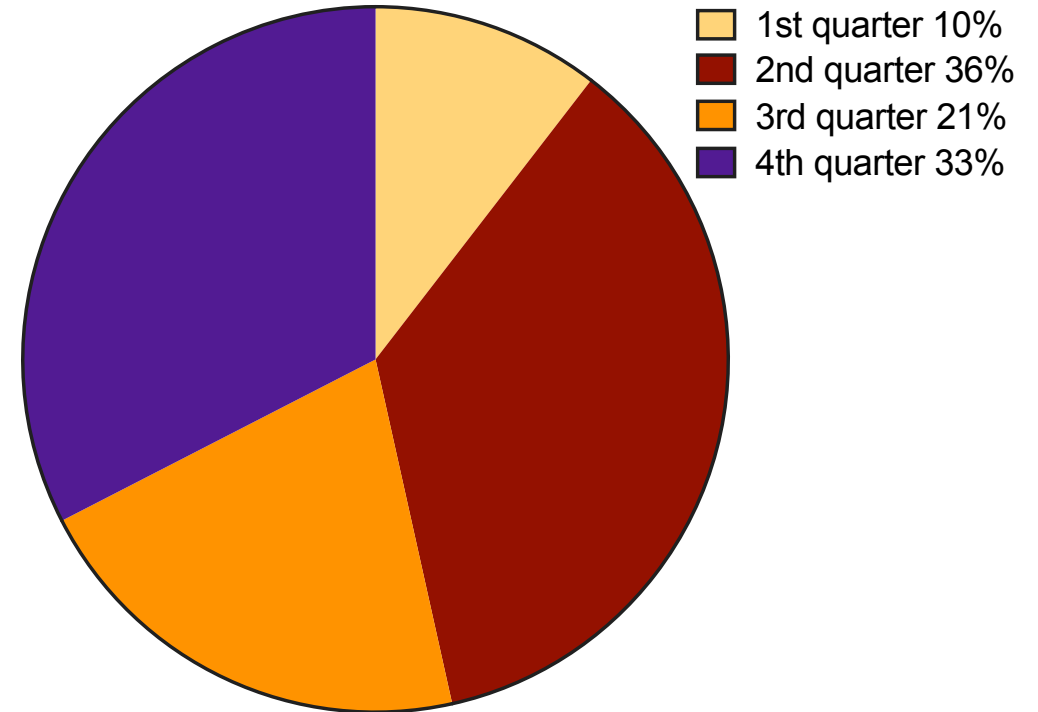
# Injury risk factors

## Backs vs. forwards



■ 63% Forwards  
■ 37% Backs

## Time in match



% of total injury burden



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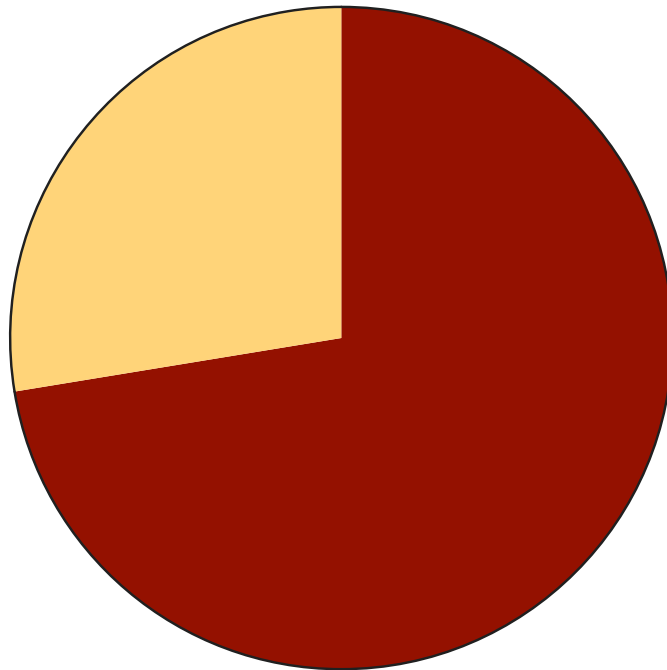
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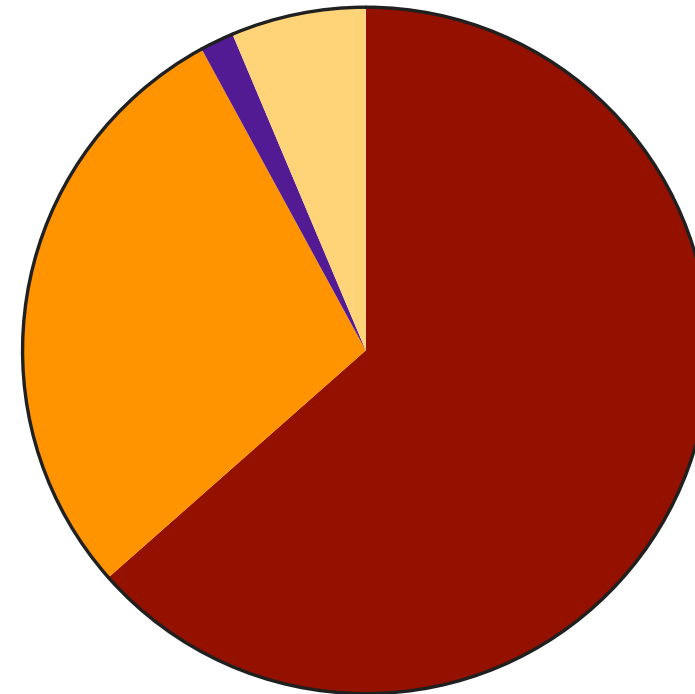
# Injury risk factors

## Contact vs. Non-contact



■ 72% Contact  
■ 28% Non-contact

## Contact event



■ 63% Tackled  
■ 29% Tackler  
■ 2% Collision  
■ 6% Ruck area involvement

% of total injury burden



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# Summary

- First research to document the injury risk of Academy level rugby league in the UK.
- The injury risk and burden is the same in RFL Academy rugby league and European Super League rugby competitions.
- Teams can expect to lose 32 player days to injury per match played.
- On average, teams will have 4 players (15% squad) unavailable for selection each week due to injury.
- Forwards are at a much higher injury risk than backs
- The majority of injuries are the result of tackle events with the tackled player injured more often than the tackler.

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# Call to action!

## What next?

Injury intervention focusing on

- Tackle technique
- Shoulder strength and stability
- Ankle strength and stability

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