QUEENSLAND INJURY SURVEILLANCE UNIT

INJURY BULLETIN

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Football Injuries

Summary

- 1358 football related injuries reported in 1997.
- Half of all sports injuries relate to football.
- Footballers make up less than 20% of all sport participants aged 15 years and over in Queensland.
- Dominated by males (>90%) except for touch (70%) and soccer (85%).
- Half of the rugby league and union injuries are aged less than 15 years.
- Touch players are much older than for the other codes (50% aged 25 years or over).
- 20% relate to falls.
- 63% relate to being struck by or collision with an object or person.
- Rugby (league and union) have a higher proportion of upper body injuries (head, neck, face and shoulder), while soccer and touch have more lower limb injuries (knee and ankle).
- Two thirds of injuries are musculo-skeletal (fractures, dislocations, sprains and strains) in nature.
- Injuries to the neck are more common in rugby league and rugby union, particularly at younger ages.
- Forty percent of football injuries are admitted to hospital. (Similar to all sporting injuries.)

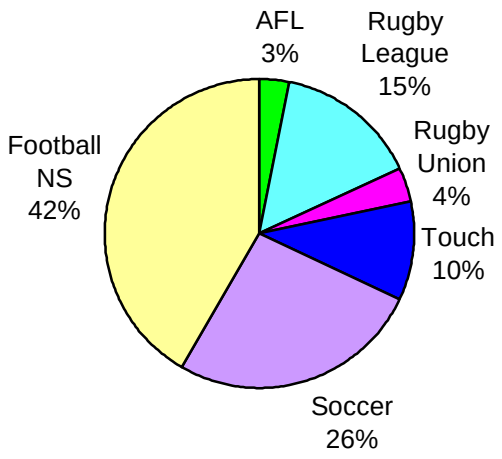

Figure 1 Football injuries by code
QISU Emergency Department presentations, 1997

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- Peak months April May (start of season).

Introduction

During 1997 QISU collected data on 1358 hospital emergency department injury presentations relating to football. Around 40% of these injuries resulted in admission to hospital.

While football injuries make up half of *all sporting injuries* and 11% of *all injuries* collected, it is estimated that footballers make up only 20% of all sports participants in Queensland.

Given the physical nature of football, particularly rugby league and union, it is not surprising that it results in such a high number of injuries. The question is how can the number and severity of these injuries be minimised. Without first knowing the nature and magnitude of football injuries in Queensland it is not possible to come up with any meaningful strategy for prevention. This bulletin should go some way to providing this basic information.

Football Code

Figure 1 shows the distribution of football injuries by code. Although the largest single group other than 'Football Not Specified' is soccer (26%), it is assumed because of the pattern of injuries in the 'Football NS' group that it is made up largely of rugby league and to a lesser extent rugby union players.

Age and Gender

As would be expected football is dominated by males in all codes, although touch and soccer have a higher proportion of female players (41% and 19% respectively)[1]. This is reflected in the percentage of injuries to females in these codes being 28% of the touch and 15% of the soccer injuries.

Half of all injuries to rugby players (league and union) are aged less than 15 years, while more than half of the touch players injured were aged 25 years or older (Table 1).

External Cause

The majority of injuries in all football codes are reported to be the result of falls (20%) and being struck by or collision with an object or person (63%). Due to the prevalence of tackling in rugby (league and

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Football Code	**5-14 years** % Injuries	**15-24 years** % Injuries	**25+ years** % Injuries	Total
AFL	44%	49%	7%	100%
Rugby League	50%	37%	13%	100%
Rugby Union	50%	37%	13%	100%
Touch	9%	40%	51%	100%
Soccer	39%	38%	23%	100%
Football Not Specified	26%	52%	22%	100%
Total Football	33%	44%	23%	100%
Other Sports	35%	37%	28%	100%
Total Sport	34%	40%	26%	100%

Table 1 Football injury by age and code
QISU Emergency Department presentations, 1997

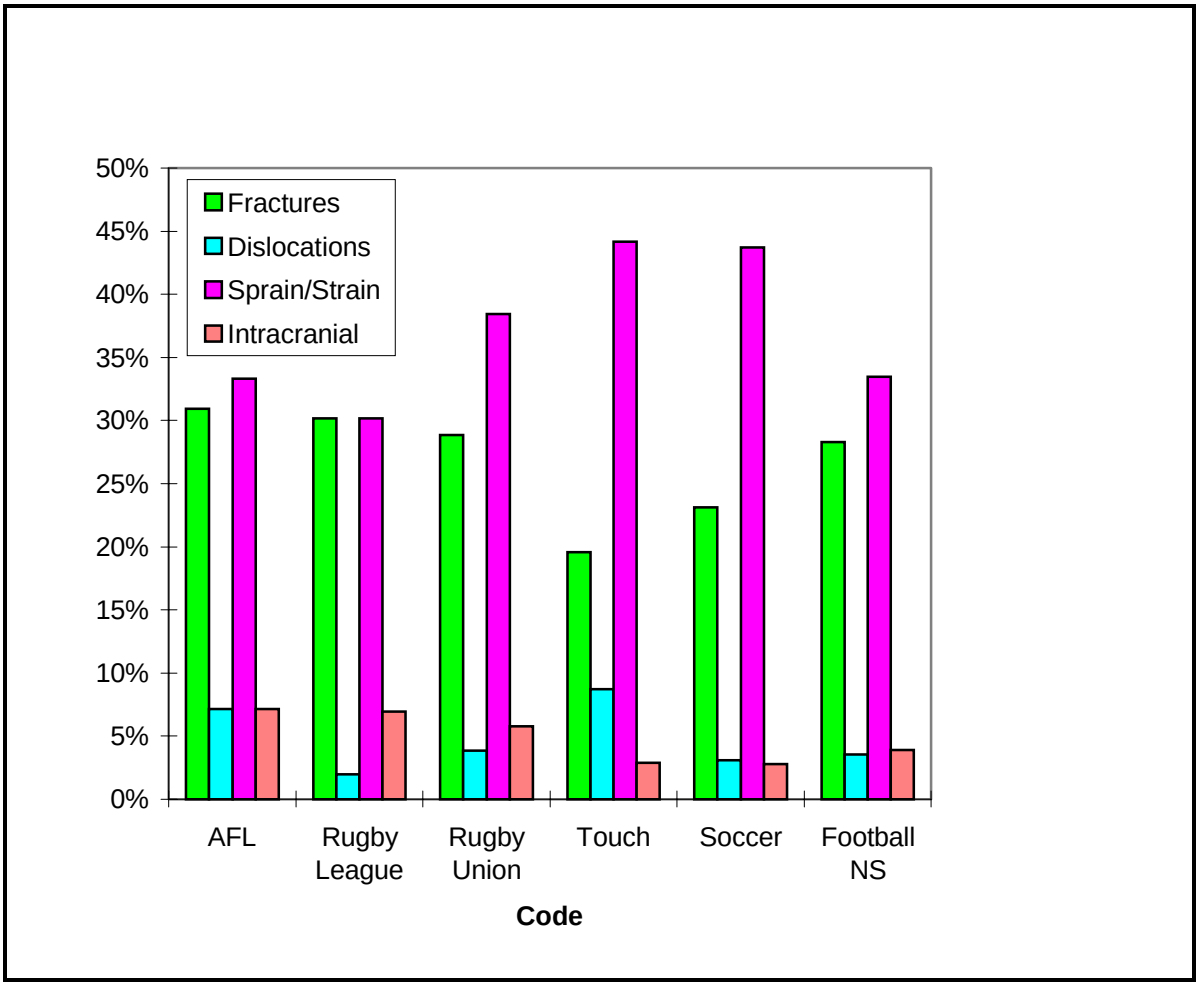

Figure 2 Football injuries by code and nature of injury
QISU Emergency Department presentations, 1997

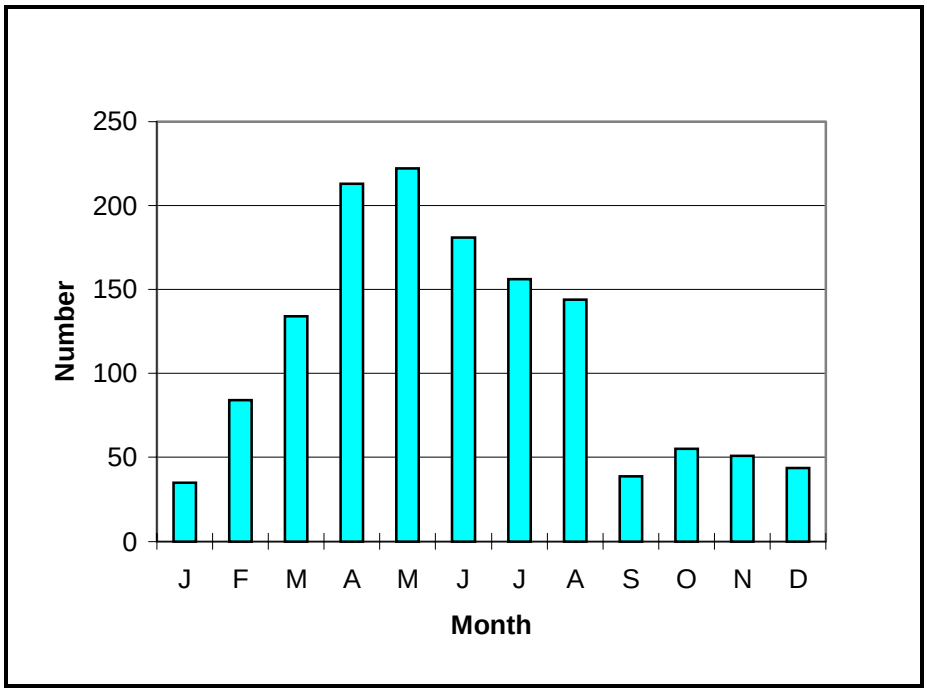

Figure 3 Football injuries by month
QISU Emergency Department presentations, 1997

	Neck % injuries	Head % injuries	Face % injuries	Shoulder % injuries	Hand % injuries	Knee % injuries	Ankle % injuries
AFL	2%	0%	10%	7%	31%	5%	5%
Rugby League	5%	4%	11%	12%	14%	7%	8%
Rugby Union	6%	6%	12%	19%	8%	4%	10%
Touch	1%	1%	9%	12%	19%	12%	23%
Soccer	1%	3%	6%	4%	11%	14%	19%
Football not spec.	2%	4%	11%	12%	16%	7%	10%
Total Football	2%	3%	10%	10%	15%	9%	13%
Other Sports	1%	3%	8%	4%	17%	10%	20%
Total Sport	2%	3%	9%	7%	16%	10%	17%

Table 2 Football injuries, 1997, by body location

union) there is a higher proportion of injuries sustained through being struck (70%) in this code, while touch and soccer have more injuries resulting from falls (30%).

Body location

Rugby league and union players have a higher proportion of upper body (head, neck, face and shoulder) injuries (35%), while touch and soccer players have more injuries to the lower limbs (35% and 33%) (See Table 2 and Figure 4). It also appears that injuries to the neck amongst rugby (league and union) players is more prevalent among players aged under 15 years (8.6%).

Nature of Injury

Two thirds of all football injuries are musculoskeletal (fractures, dislocations, sprains and strains) in nature (See Figure 2). There are more fractures and intracranial injuries amongst rugby league and union players than touch and soccer (30% and 7% versus 22% and 3%).

Time of year

Most football injuries occur near the start of the season (April-May) with the number falling off as the season progresses (Figure 3).

Discussion

Compared to other sports football, particularly rugby (league and union), results in a disproportionate number of injuries resulting in attendance at emergency departments and often admission to hospital.

The nature of injuries received while playing rugby (league and union) are consistent with the nature of the sport which involves a large degree of bodily contact and collisions mainly through

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tackling. These injuries range in severity from simple strains and sprains through to more serious spinal and intracranial injuries.
Most previous studies of rugby (league and union) injuries have concentrated on the more serious spinal injuries which through changes in the rules have appeared to decline in some countries[23].

The injuries reported in this report, although including some of these types of injuries, show that most football injuries are of a less serious nature, but still have the potential to result in long term incapacity and loss of earning potential.

A study in Scotland of 1169 rugby union players (of whom 361 sustained 584 injuries) found that a player can expect to be injured every 2.7 seasons and be out of the game for nearly 6 weeks[4]. In 28% of the injury episodes players lost an average of 18 days from work or education. Although we are unable to easily determine the exact mechanism, other studies of rugby league and union injuries have shown that most are sustained through collision with other players during tackling[45]. The upper body injuries reported here are consistent with those reported in the other studies.

Although there has been a reported decline in intracranial and spinal injuries amongst rugby union players in recent years, it still remains that nearly 7% of rugby league and union injuries are of this type. What is more concerning is the apparent higher incidence of neck injuries in schoolboy rugby league and rugby union.

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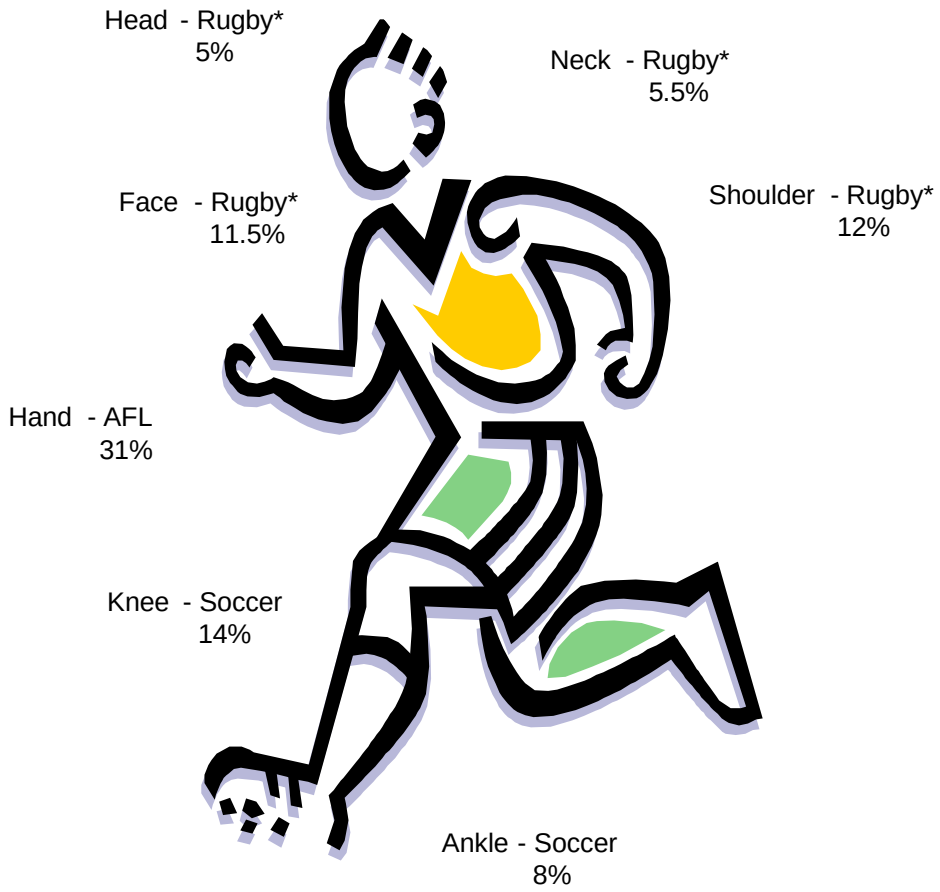

Figure 4 The highest proportion of injuries for individual bodily locations, by major football codes (rugby league and union combined, soccer, AFL)
QISU Emergency Department presentations, 1997

Prevention

The prevalence and effectiveness of protective equipment in football is largely unknown. In a recent National Health and Medical Research Council report entitled *Football Injuries to the Head and Neck* it was stated that no available head protection has been scientifically shown to protect players from brain injury[6]. It recommended further research into the design of protective head gear with regard to its effectiveness and potential to cause injury.

The NH&MRC report also recommends the use of mouth guards; the effectiveness of which is now widely accepted. Although shoulder pads have been worn in rugby league for some time they have only just been approved for use in rugby union.

The effectiveness of these devices in reducing injury are yet unknown, although a study of rugby league injuries in Brisbane found only 18% of players sustaining shoulder injuries were wearing pads[5].

The high incidence of injuries near the start of the season indicate that more attention needs to be made to pre-season preparation. It has also been reported elsewhere that a high proportion of players start the season with either a current or chronic injury[6].

Recommendations

References

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4. Garraway M, Macleod D. *Epidemiology of football injuries*. Lancet Jun 10,1995:345(8963):1485-1487.

5. Knowles M. Sports Medicine Australia - Rugby league injury surveillance. (personal communication), 1998

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