RISK FACTORS IN RUGBY UNION FOOTBALL *

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INTRODUCTION

Few observers dispute that there are risks inherent in playing Rugby. However, the element of risk can be reduced or intensified by the application of techniques involved, by manipulation of the laws, and by the inculcation of attitudes in the participants.

A study of player behaviour demonstrates that more players are at risk for longer periods of time in rugby than in most other field invasive games. In addition exposure to risk is immediate due to the prescribed method of starting the game.

Minor injuries occur regularly and neglect of these can sometimes have serious long term repercussions. Neglect in this instance may depend upon such factors as:

- a) the quality of first aid available
- b) the attitude of the coach/captain
- c) the attitude of the player (Tooth, 1974).

RISK ACCORDING TO PLAYING POSITION

Risk factors according to playing positions have been studied by Roy (1974) and Durkin (1977). Their findings are summarised in Table I.

TABLE I
Players at risk according to playing position

Rank order of risk	ROY (1974) Playing Position	DURKIN (1977) Playing Position
1	No. 8	Full Back
2	Wing forward	Centre
3	Lock	No. 8
4	Hooker	Wing Three Quarter
5	Wing Three Quarter	Wing forward
6	Full back	Stand off
7	Centre	Prop
8	Prop	Hooker
9	Stand off	Scrum Half
10	Scrum Half	Lock

The data in Table I together with the controlling definitions of an injury used in the investigations indicate that backs are injured more seriously whilst forwards suffer more frequently. Definitions used were (a) the player requested private medical treatment (Roy, 1974) (b) the player was unfit for selection for two consecutive weeks (Durkin, 1977).

*This material was presented as a demonstration in an indoor Gymnasium.

SITING OF INJURIES

The reports seem to agree with regard to the type and siting of injury and the risk hierarchy in which they may be placed. These are summarised in Table II.

TABLE II
Hierarchy and type of injury and bodily sites

Type of Injury		Bodily Sites
1. Lacerations/concussion	—	Head and face (incl. scalp)
2. Fractures, soft tissue damage and ligament injury	—	Knee and ankle
3. Dislocations	—	Mainly acromioclavicular and finger (phalangeal displacement)
4. Muscle contusions (from direct blow)	—	Quadriceps haematoma most common

It appears that some injuries are common to forwards and others to backs but this provides no indemnification. The nature of the games ensures that all players are vulnerable most of the time and are involved in most of the high risk situations which arise.

Almost 70% of injuries appears to occur 'in the tackle' with or without the ball (Roy, 1974). Damage to backs in this phase of the game seems to be more severe due to velocity at the moment of impact. Poor technique in tackling is also responsible for damage to the tackler as well as the recipient.

There are two further areas of risk which tend to be monopolised by backs. Running and swerving produce injuries which invite questions concerning the state of preparedness of players, the design of boots, and stud length, the state of the weather and the overall condition of the playing area. Finally, the necessity to field high balls seems to fall proportionately more often to backs, an inherently dangerous manouvre.

INJURIES IN SELECTED GAME PHASES

Some examples of game phases likely to produce traumata include:—

Kick-off:— the side *receiving* the kick-off is exposed to a full frontal charge.

Line-out:— the contestants for the ball engage in elbowing their opponents resulting in facial and upper-torso injuries. In addition, dumping or up-ending of a player who is airborne results in shoulder damage when making contact with the ground.

Scrummage:— injuries in this phase of the game result from:

1. the collapse of the scrum, with the front rows particularly exposed to serious neck and spinal damage.
2. opposing front rows charging into one another at the commencement of a scrum with ensuing head and facial damage.
3. wheeling of the scrum can produce tension of the neck and trunk and injuries associated with the collapsed scrummage may be experienced.
4. due to the necessity of binding, the ears of the back five players often develop haematomata or "cauliflower ear". In addition the aggression associated with front row play often produces exchanges of punches.

Ruck and maul:— second phase play is a component of the game in which the incidence of maliciously induced injuries is high.

1. Ruck — in an endeavour to get possession of the ball, players on the ground are walked on. In addition, they are often scraped or raked out of the ruck away from the ball as well as being stamped upon, if they interfere with efficient retrieval of the ball.

2. Maul — in the process of wrestling the ball from opposing players fingers may be damaged. Eye gauging and mouth-ripping sometimes occur, as do the equally illegal practices of charging into mauls and pulling opponents from mauls.

Tackling:— injuries are sustained by both the tackler, due to incorrect technique, and the tackled person, due to severity of the tackle or subsequent landing.

Tackling from, the front, side and rear can produce facial injuries if the tacklers head is incorrectly positioned. The tackled player often suffers injuries to the menisci of the knee and the ligaments of the ankle and knee. Osteoarthritis may be a long term effect. In addition incorrect landing techniques frequently produce fractures and dislocations in the acromioclavicular and sternoclavicular articulations.

Crash tackles in which two opponents meet head-on can result in a multiplicity of facial and upper torso injuries. The dangerous and illegal stiff-arm tackle produces similar results although confined to neck and facial areas.

Running, side-stepping and swerving:— although no inter-personal contact is involved, these skills practised mainly by backs can damage the knee and ankle joints. The likelihood of injury is increased by the traction afforded by a firm pitch and by the length (and thus traction) of studs and the low (and thus supportive) sides of boots. Such injuries which result from rapid tension, flexion and extension of the hip, knee and ankle joints may be obviated by modifications to equipment and the playing surface.

Fielding the high-ball:— The full back is exposed more than any other position in catching a high kick from the opposition in the face of advancing opponents. This partially explains the high risk nature of the position. Upon being hit by several of his opponents whilst attempting to simultaneously watch the opposition and catch the ball, the full back is liable to suffer any one of numerous injuries.

CONCLUSION

Only a selection of situations which generate risk within the game of Rugby Union Football were selected to be demonstrated. No attempt was made here to describe the numerous situations which may arise outside of set game phases and which may intensify risk.

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