RUGBY FOOTBALL INJURIES

I. D. ADAMS, M.D.

*Consultant Physician, Accident & Emergency Department,
St. James's Hospital, Leeds*

ABSTRACT

A review of one thousand injuries due to Rugby Football is reported. There is a high incidence of fracture (15.7%) and head injury of various types (14.0%) in this series although only four adults required immediate hospital admission for the head injury.

INTRODUCTION

There has been widespread comment on the apparently increased number of injuries in Rugby Football and in particular of the problem of head injury. There is little information on the type and incidence of injury within this sport in spite of its considerable involvement with the medical profession, and consequently this review was undertaken.

SUBJECTS & METHOD

One thousand Rugby Football injuries (the mean age of the patients being 22.3 years) are reported from two sources. Firstly, 647 patients (mean age 21.6 years) who attended an Accident & Emergency Department, these being consecutive injuries over a 13 month period ending April 1976. Secondly, 353 patients (mean age 23.7 years) who attended a Sports Medicine Clinic at the same hospital over a 30 month period. This second group of patients were referred by their general practitioners, new patients only being seen on a Monday to include injuries from the preceding weekend and others of greater duration.

This is a selected sample of Rugby injuries in that it does not show all the injuries from specific clubs over the whole of a playing season. Figures are reported from the two sources in order to obtain acute, sub-acute and chronic injuries.

RESULTS

The most common injuries within this survey (Table I) are ligamentous in origin and in these the knee joint is more often involved than the ankle. There were eight knee injuries in which there was a complete ligamentous rupture and two of these cases had O'Donoghue's Triad — tears of the medial ligament, medial meniscus and the anterior cruciate ligament.

There were 16 ligamentous injuries of the cervical spine, which reflect potentially very dangerous trauma.

The overall incidence of fracture is 15.7% and dislocation is 8.4% (Table II). However, the 34 fractures of facial bones include 23 of the nose, the 97 upper limb fractures include 59 of the hand and 23 of the clavicle. The 19 fractures of the leg included one of the femur, two of the patella and eight of the fibula alone.

Patients reported as "concussion" comprised 2.1% of the total but there were other injuries of the head. Muscular injuries only comprised 6.6%, three of which involved the arm, 23 the trunk and 40 the leg. Fifty-three of the 66 muscular injuries were reported from the Sports Clinic.

There were 27 meniscal tears which came to operation.

There were eight tendon injuries, one of which was a complete tear of the Achilles tendon. There were three cases of myositis ossificans, five cases of chondromalacia patellae and two cases of osteochondritis dissecans.

Twenty-three patients were acutely admitted to hospital as acute emergencies, nine with fractures; other causes were ruptured spleen, venous thrombosis, cervical ligament injury and abdominal contusion.

Ten head injuries were admitted to hospital, six were under the age of 18 years, nine were discharged next day and one was detained for treatment of a fractured malar bone.

DISCUSSION

Ligamentous injuries of the knee appear to be more common than ankle injuries in Rugby Football which is in contrast to the findings in Association Football (Bass, 1967; Phillips, 1968; Adams, 1973) and they appear to be of a more serious nature. This is probably due to the injuries in Association Football being caused by a blow from an opponent's leg whereas in rugby there is often the opponent's full body weight involved. There were

TABLE I
1000 Rugby Injuries

Injury	A/E N = 647	S/C N = 353	Total N = 1000
Ligamentous:—	(22.3%)	(37.1%)	(27.5%)
Cervical	9	7	16
Knee	37	76	113
Ankle	37	31	68
Other	61	17	78
Fractures & Dislocations	(27.8%)	(17.3%)	(24.1%)
	180	61	241
Contusions:—	(29.0%)	(4.0%)	(20.2%)
Head	28	0	28
Other	160	14	174
Lacerations:—	(12.2%)		(7.9%)
Head	57	0	57
Other	22	0	22
Concussion	(3.2%)	(2.1%)	(2.1%)
	21	0	21
Others	(5.4%)	(41.6%)	(18.2%)
	35	147	182

Accident & Emergency Department (A/E)
Sports Medicine Clinic (S/C)

only eight complete ligamentous tears whereas Roy (1974) in a survey of 300 rugby injuries in South Africa reported 43 ligamentous injuries of the knee of which fifteen (35%) were operated upon for complete tears. This may reflect a difference in injury, orthopaedic practice, playing surface or footwear.

There were other patients who had appreciable ligamentous laxity, apparently from recent injury, which in the long term is considered to predispose toward the development of osteoarthritis. These injuries should receive complete rehabilitation before the patient returns to rugby but it often proves difficult to restrain the player long enough to achieve this object.

Considering the injuries from the Accident & Emergency Department alone, excluding those from the Sports Clinic which are not truly acute, the incidence of concussion is 3.2%. This together with other injuries to the head which may be associated with disturbed cerebral function such as fractures of the facial bones, contusions and lacerations, gives an incidence of 21.6% for head injuries which is unacceptably high.

The overall incidence of concussion is 2.1% which may be compared with 2% reported from South Africa (Roy, 1974) and 1.1% from southern England (Walkden, 1975). The author (Adams, 1976) reported 23 cases of concussion from Rugby Football and 24 cases from Association Football at one centre during twelve months but personal enquiry showed that in the population at risk there were more than five times as many football as rugby matches.

The long term effects of minor head injury may not be as inconsequential as previously thought (Lancet Editorial, 1976) and a player who has been unconscious for a measurable period of time should very rarely be allowed back on the field of play. An episode of unconsciousness requires exclusion from rugby for at least one week and three episodes in a playing career possibly justifies permanent exclusion.

The legs are usually considered to be the most common site of injury but in this series 16.1% of the injuries were to the head and neck, 32.3% to the arm, 11.2% to the trunk and 40.4% to the leg. The incidence of fracture is high with only 12.7% of their total involving the leg. One group of injury — fracture and dislocation of the clavicle — is very high with a series incidence of 7.9% and would justify experimentation with shoulder pads as a means of prevention.

Rugby Football is a collision sport played with enjoyment by many men and, of necessity, injuries will occur but their incidence or sequelae can be reduced by the players themselves, by officials and by the medical profession.

TABLE II
Fractures and Dislocations

	A/E	S/C	Total
Fractures:—			
Facial	34	0	34
Clavicle	19	4	23
Upper Limb	15	0	15
Hand	49	10	59
Ribs	4	0	4
Vertebra	1	0	1
Lower Limb	14	5	19
Foot	1	0	1
Dislocations:—			
Gleno-humeral	6	5	11
Acromio-clavicular	26	27	53
Sterno-clavicular	0	3	3
Elbow	2	1	3
Finger	5	3	8
Hip	1	0	1
Patella	3	3	6

REFERENCES

- Adams, I. D., 1973. 'Osteoarthritis of the knee joint in sportsmen'. M.D. Thesis. University of Leeds.
- Adams, I. D., 1976. Letters to the Editor. 'Brain damage in sport'. *Lancet*. 1: 585.
- Bass, A. L., 1967. 'Injuries of the lower limb in Football'. Proceedings of the Royal Society of Medicine. 60: 527-530.
- Editorial. 1976. 'Brain damage in Sport'. *Lancet*. 1: 401-402.
- Phillips, U. N., 1968. 'Rehabilitation at a professional football club'. *British Journal of Sports Medicine*. 3: 197-203.
- Roy, S. P., 1974. 'The nature and frequency of rugby injuries'. *South African Medical Journal*. 48: 2321-2327.
- Walkden, L., 1975. 'The medical hazards of rugby football'. *Practitioner*. 215: 201-207.
-