PRELIMINARY REPORT — SPORTS INJURY CLINIC

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IN the past 30 years there has been an increasingly scientific approach to sporting activities of all types, and athletes and their advisers have begun to ask for a number of specialist services. With this in mind it was decided to open a sports injury clinic, initially as a pilot scheme, in the accident and emergency department of the Belfast City Hospital. All acute or serious sporting injuries referred to this hospital are treated in the accident and emergency department in the first instance, but this clinic was started with the main objective of following up these acute injuries more closely and treating the more chronic injuries. Through the goodwill of other departments particularly physiotherapy, the clinic provides the facilities and expertise to deal with these problems. This paper reviews the work carried out by the clinic during its first 2½ years.

PATIENTS AND METHODS

The clinic takes place on Monday afternoons in the accident and emergency department. In one session I see all the new patients including some acute injuries from the weekend. A second session is devoted to reviews and consultation with the physiptherapist. Initially the clinic was "open to all" but soon, due to rapidly increasing numbers, this immediate facility had to be curtailed and a referral system adopted. Patients are now referred by either their general practitioners, the university student health centre, or coaches.

Investigations, apart from radiographs, have been minimal, and the clinic has not placed an unreasonable burden upon supporting services. Treatment provided consists of physiotherapy, supportive measures, drugs and advice. Close liaison is maintained with the physiotherapist who may treat a proportion of the patients, after clinical assessment, on the day of their initial visit and then continue on a regular out-patient basis. The physiotherapeutic techniques available include ultra-sound, infra-red, faradism, massage, friction, weight training, supervised exercise, stretch/mobilisation, and general advice on training. Supportive treatment consists of wool and crêpe bandages, plaster of Paris, tubular supports and various conventional splints. The drugs mainly used are analgesics and anti-inflammatory agents. Local steroid injections are given when necessary.

RESULTS

A total of 1058 patients have been seen during the first 2½ years. There were 885 males and 173 females and the average age was 25 years. 64 were athletes of excellence (international standard). The anatomical classification of the injuries is shown in Table I. Two-thirds of the injuries involved the lower limb, 30 per cent knee, 19 per cent ankle, 16 per cent lower leg and calf, 5 per cent foot.

TABLE I

Distribution of injuries by anatomical site

	Number of injuries	*Percentage*
Neck	12	1.1
Spine	68	6.4
Thorax and Abdomen	4	0.4
Shoulder	51	4.8
Arm and Elbow	20	2.9
Wrist and Hand	90	7.6
Thigh and Groin	63	5.9
Knee	320	30.2
Leg and Calf	173	16.4
Ankle	203	19.2
Foot	54	5.1
TOTAL	1058	100

The pathological causes of the injuries are shown in Table II. Of these the vast majority were soft tissue injuries, only 3.5 per cent being fractures and 1.2 per cent dislocations or subluxations. Ligamentous injuries were responsible for 34 per cent and injuries to muscle or tendon occurred in 31 per cent of patients.

TABLE II

Distribution of injuries by pathological cause

	Number of injuries	*Percentage*
Ligament (strain etc)	360	34
Muscle and tendon (acute strain, chronic strain, rupture)	327	31
Miscellaneous soft tissue (contusion, haematoma, fascial compartment syndrome)	175	16.5
Miscellaneous joint (meniscus, capsulitis, synovitis, patella chondromalacia)	111	10.5
Fracture	37	3.5
Stress fracture	35	3.3
Dislocation/subluxation	13	1.2
TOTAL	1058	100

The sports responsible for the injuries are listed in Table III. More than half occurred in runners and footballers.

TABLE III

Distribution of injuries according to sport

	Number of injuries	*Percentage*
Running	450	43
Football	302	28
Rugby	113	11
Athletics	84	8
Racquet games	29	2.6
Basketball/volleyball	25	2.4
Martial arts	15	1.4
Hockey/hurley/camogie	17	1.6
Swimming/diving	5	4
Ballet/gymnastics	6	5
Weight lifting	5	5
Water ski-ing	1	1
Golf	3	2
Horse riding	3	3
TOTAL	1058	100

83 patients were referred for specialists orthopaedic opinion, 26 requiring surgery and 57 resolving with conservative therapy. By far the commonest problem requiring referral was the injured knee (39 patients), the majority having symptoms suggestive of a torn meniscus or collateral ligament damage. Six patients had torn cruciate ligaments in association with meniscus or collateral ligament injury. One patient required pinning for osteochondritis dessicans. There were five cases of persistent back ache, two in weight lifters and three in long distance runners; two of these had symptoms and clinical findings consistent with nerve root compression which settled following a period of spinal traction.

One rugby player and one badminton player were found to have un-united fractures of the scaphoid when they presented at the clinic. Neither had sought medical advice at the time of the injury several weeks earlier, but eventually did so because of the persistent pain and weakness of the wrist. One healed satisfactorily following 18 weeks in plaster of Paris, the other is as yet only partially united after 16 weeks immobilisation and may require surgery. The two golfers with persistent wrist pain had de Quervain's tenosynovitis and responded to steroid injection. One hockey player required internal fixation with insertion of a K wire for an unstable fracture involving the proximal interphalangeal joint of the left index finger. Three patients sustained injuries to the thumb on the dry ski slope at Craigavon. One had complete rupture of the ulnar collateral ligament, requiring repair, one had an unstable fracture of the base of the first metacarpal requiring pinning and the third suffered a severe sprain which was simply strapped.

One patient ruptured his right achilles tendon while playing golf on a Sunday afternoon and was referred for assessment by his general practitioner the following Monday. He was admitted that evening for surgical repair. One somewhat unusual cause of severe forefoot pain in a middle distance runner, was found at exploration to be due to a digital neuroma — this is known as Morton's Toe. Following excision of the neuroma he made an excellent recovery. The various surgical procedures carried out are shown in Table IV.

TABLE IV

Surgical procedures

Arthroscopy	15
Ligamentous repair of knee	5
Repair of Achilles tendon	1
Repair of ulnar collateral ligament of thumb	1
Internal fixation of fracture	2
Tibial compartment syndrome release	1
Removal of digital neuroma	1
TOTAL	26

DISCUSSION

Trauma is the major component of the work of any large accident and emergency department, and professional or recreational sporting activity is the cause of a sizeable proportion of the injuries seen. The incidence and nature of these sporting injuries and the demands that they put upon the resources of the National Health Service were examined by Sleet and Dornan[1] at Southampton General Hospital. They found that sporting injuries produced more attendances than road traffic accidents in males in the 10-34 age group, and this would also be my experience in Belfast. They estimated that about 500 patients a year could be referred to their sports medicine clinic which would compare with the number of patients seen at the Belfast City Hospital sports injury clinic. Kirby[2] has discussed whether it is necessary to run a sports injury service separate from the normal hospital accident and emergency services. Speryn and Williams[3] confirm that prompt treatment, after medical referral, of any sporting soft tissue injury, will facilitate not only return to the sport but also to work. While most of the injuries could be managed with existing facilities in health centres and hospital accident and emergency departments, effective resolution in many cases demands a particular understanding by the clinician of sport-specific biomechanics and physio-pathology. Stanexu[4] has pointed out that special interest and experience is required if such injuries are to receive the particular care and attention they need. There is also the need to make available specialist facilities within 48 hours of the acute trauma, and this is not always readily available in some existing out-patient hospital facilities.

SUMMARY

Between March 1981 and September 1983, 1058 patients were seen at the sports injury clinic. Runners and footballers accounted for over half of the attendances. Most of the injuries (92 per cent) were soft tissue and over two-thirds (70 per cent) involved the lower limb. 83 patients were referred for specialist orthopaedic opinion and 26 of these required operative surgery.

There is a place for a sports medicine clinic within a general hospital, with benefit to the athlete and to the general public. This clinic provides a valuable clinical and social need, involves interesting and satisfactory work for the medical personnel involved and does not divert medical, investigative or therapeutic services from what others may consider more important and deserving cases.

REFERENCES

1 Sleet R, Dornan S. Sports Injuries — the view of one hospital accident and emergency department. *Medisport* 1979; **6**: 26-27.

2 Kirby RL. Sports injuries clinics. *Br Med J* 1975; **3**: 488.

3 Speryn PN, Williams JGP. Why sports injuries clinics? *Br Med J* 1975; **3**: 364.

4 Stanexu N. *Br J Sports Med* 1970; **5**: 82.