UNIVERSITY OF MANCHESTER SPORTS INJURY CLINIC

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ABSTRACT

This paper reviews the work of the sports injury clinic based at the Student Health Centre, University of Manchester during its first eighteen months. A total of 852 patients including 46 Centre of Excellence athletes were treated. The results indicate that the establishment of such a specialised clinic is worthwhile, that the injured sportsmen should be treated by individuals trained and interested in the treatment of injured patients in general and that the commonest injuries are soft tissue injuries to the knee or ankle joint. A record card, designed for future computer analysis, is illustrated. It includes details of the sport, training, mechanism of injury, pathology and treatment.

INTRODUCTION

During the past few years the number of attendances at the Student Health Centre at the University of Manchester increased steadily, some of this increase being due to sports injuries. These patients were referred to Accident and Emergency Departments at local hospitals for treatment, but there were often long waiting lists for physiotherapy and orthopaedic consultations. To obviate delays it was decided to establish a sports injury clinic at the Student Health Centre. The Department of Health and Social Security has stated that it has no commitment to sports medicine or the funding of specialised sports injury clinics (Davies, 1979) and, therefore, it was necessary to look elsewhere for funding such a clinic.

With financial support from the Boots Company Ltd. the clinic was started in October 1978 as a joint venture between the Student Health Centre and the University Department of Orthopaedic Surgery. Four clinics a week are held in the Centre by members of the Orthopaedic Department. A full-time physiotherapist was appointed with an office in the Student Health Centre and a treatment room in the University indoor sports complex with access to a small gymnasium, multigym, large sports hall and swimming pool. From the onset, the efficient running of the service was due largely to the continuing interest and encouragement of the medical, nursing and secretarial staff of the Student Health Centre.

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The clinic was established primarily to treat students and staff of the University but now also treats members of some local clubs and sportsmen and sportswomen registered with the North West "Centre of Excellence".

The "Centre of Excellent Athletes" are athletes of county, national and international standard, who are helped by the North West Trust for the Development of Excellence in Sports. Throughout the North West, which has a population of just under 5 million, there are only 100 athletes on their list. The list is limited to the Olympic type sports and does not include professional sportsmen, nor does it include rugby union players.

The second aim of the clinic is to promote research into sports injuries. Although there appears to be an apparent tendency to give sportsmen preferential treatment, one of the aims of the clinic is to develop research projects investigating the management of soft tissue injuries and then to apply the results of these studies to patients with such injuries irrespective of whether they occurred on the sportsfield, in industry or at home. The value of carrying out these studies on sportsmen, is that they frequently demand greater function from their joints and limbs. This paper reviews the work carried out by the clinic during its first eighteen months.

PATIENTS AND METHODS

The four clinics each of 3½ hours duration were evenly distributed throughout the week. The physiotherapist attended all the clinics and treated the patients who required physiotherapy, thus providing continuity. Clinics were limited to approximately fifteen consultations to allow adequate time for discussion between the patients, doctor and physiotherapist.

Patients were referred by their coach, general practitioner or physicians in the Student Health Centre, but

self-referral also occurred. In all instances their general practitioners were informed. This applied both to University students and staff as well as to Centre of Excellence sportsmen. Radiological examination, when required, was carried out at the Manchester Royal Infirmary which is close to the Student Health Centre.

Treatment provided at the Centre consisted of physiotherapy, supportive measures and drugs. The physiotherapeutic techniques available included ultrasound, infra-red, massage, exercises, weight training and spinal mobilisation. Supportive treatment consisted of wool and crepe bandages, plaster of Paris, tubigrip supports and conventional splints such as mallet finger and wrist splints. The drugs mainly used were analgesics and anti-inflammatory agents. Local steroid injections were given when necessary. Patients requiring surgery were referred to the University Department of Orthopaedic Surgery at Hope Hospital, Salford.

In addition to routine case notes a comprehensive punch card was designed and used to allow easy retrieval of data (Figs. 1 and 2).

Physiotherapist and Dr. Bourne with patient.

RESULTS

A total of 852 patients were seen and treated in the first eighteen months. The anatomical classification of the injuries is shown in Table I. Two thirds of the injuries involved the lower limb, 24.2% the knee, 14.4% the ankle, 9.7% the lower leg and calf and 7.9% the foot.

The pathological causes of the injuries are shown in Table II. Of these the vast majority were soft tissue injuries, only 9% being fractures and 4% dislocations or subluxations. Ligamentous injuries were responsible for 33% and injuries to muscle or tendon occurred in 30% of patients. The commonest strain was to the medial collateral ligament of the knee joint.

Physiotherapist and Dr. Bourne with patient.

TABLE I

Anatomical distribution of injuries

	No.	%	
Head and Neck	39	4.6	
Spine	69	8.1	
Thorax and Abdomen	28	3.3	
Shoulder	65	7.6	
Arm and Elbow	23	2.7	
Wrist and Hand	69	8.1	
Thigh and Groin	80	9.4	
Knee	206	24.2	} lower limb = 65.6%
Leg and Calf	83	9.7	
Ankle	123	14.4	
Foot	67	7.9	
Total	852	100	

The sports responsible for the injuries are listed in Table III. More than half occurred at association and rugby football.

Forty-six Centre of Excellence sportsmen were treated, 16 requiring surgery and 30 settling with conservative therapy. The surgical procedures are shown in Table IV and subsequent achievement in Table V.

TABLE II

Pathological distribution of injuries

Ligamentous	33%
Muscle and Tendon (Acute strain, chronic strain, tendonitis, rupture)	30%
Miscellaneous soft tissue (Abrasion, haematoma)	14%
Fractures	9%
Dislocations and subluxations	4%
Patello-femoral pain	6%
Miscellaneous joint (Meniscal, synovitis, etc.)	4%
	100

TABLE III

Distribution of injuries according to sport

	No.	%
Association Football	257	30.2
Rugby Football	208	24.4
Athletics	90	10.6
Racquet games	82	9.6
Martial Arts	57	6.7
Others	158	18.5
Total	852	100

TABLE IV

Surgical procedures required in Centre of Excellence sportsmen

	No.
Arthroscopy	5
Compartment syndrome release	2
Achilles tendonitis release	2
Hamstring tendonitis release	1
Erector spinae release	1
Ligamentous repair of knee	1
Late repair of triceps tendon	1
Late repair of tendo Achilles	1
Repair of hernia	1
Mitchell osteotomy	1
Total	16

TABLE V

Results of surgery in Centre of Excellence sportsmen

World record	1
Full competition (including Olympics)	13
Light training	2
Total	16

DISCUSSION

It is debateable whether it is necessary to run a sports injury service separate from the National Health Service. However, our initial experience suggests that there are many advantages. First, the clinic is held on the University campus, thus the patients have ready access to early diagnosis and treatment. Secondly, they are all seen by members of the Orthopaedic Department, who have experience in treating injuries irrespective of how they were sustained. If the majority of patients had attended Accident and Emergency Departments they probably would have been referred to the Fracture or Orthopaedic Clinic and then for physiotherapy. Because of the shortage of physiotherapeutic services many students may have waited some weeks before treatment could be started. If the Health Service was adequately financed and staffed there would be no such delay but until adequate staffing is achieved, sports injury clinics will provide an essential service for the injured sportsman.

Our results have also shown that injured patients are best treated if seen by someone experienced in the management of trauma. This was demonstrated particularly in the Centre of Excellence sportsmen. This group included a weightlifter who had ruptured his triceps tendon and had received months of physiotherapy without improvement, during which time his ability to lift had deteriorated. Once the correct diagnosis was made, the tendon was reconstructed and he subsequently went on to break a World Record. Also included were an athlete whose tendo Achilles rupture had been missed when he first sought treatment, a hurdler with a hernia that had been treated with local hydrocortisone injections for an adductor strain and a 10,000 metre specialist who had been treated with hydrocortisone injections for a compartmental syndrome. Following decompression of the lower leg this last patient returned to high quality performance and competed in the 1980 Olympic Games.

Whereas slight loss of performance may not be noticed by the average individual it will certainly affect high calibre athletes of county, national or international standing. The clinic's results have indicated that injured sportsmen and women must be treated by staff who are experienced in the management of trauma, and not by individuals who are interested only in treating sportsmen but have no interest in treating other injured patients. Most of the bad reputation of sports clinics is derived from those centres which are run by individuals inadequately trained in the treatment of injuries in general.

The type of injury is somewhat different to that reported in other series. Weightman and Browne (1975) recorded the sports injuries which were treated in hospital over one year and found that fractures and dislocations were responsible for 35.4% whereas strains

and soft tissue injuries accounted for only 21.5%. The fact that this clinic is sited on the campus probably means that the patients attend with relatively minor injuries for which they would not seek hospital treatment and may give a more accurate analysis of the real incidence of sports injuries. However, patients with fractures, dislocations and other major injuries may have been taken directly to hospital, bypassing the clinic, and accounting for the relatively low incidence of such injuries.

The types of sports are similar to other series. Weightman and Browne (1975) calculated the number of injuries per 10,000 man hours of play and found that the commonest causes were association football in 36.5% and rugby football in 30.5%. However, athletics was not included in their list and this may reflect a difference in the number of participants. Muckle and

Shepherdson (1975) worked out the sports injury rate per hundred participants and found that the highest injury rate occurred in rugby (4.9%), ski-ing (4.9%) and football (3.2%). The ski-ing facilities in our region are very limited and this may explain the difference. During the summer vacation most of the students are out of the City and, therefore, probably the true incidence of injuries in summer sports such as cricket is not seen.

The results also show that the commonest injuries are ligamentous and tendon injuries in the region of the knee and ankle. These account for the greatest disability rates and research should probably be aimed at these areas.

As a result of the reduction in the University finances, it is probable that the clinic will have to close in August 1982.

REFERENCES

- Davies, J. E., 1979 "Sports injury clinic". *Medisport* 11: 13.
- Muckle, D. S. and Shepherdson, H., 1975. *Football fitness and injuries*. Pelham, London.
- Weightman, D. and Browne, R. C., 1975 "Injuries in eleven selected sports". *Brit.J.Sports Med.* 9: 136-141.

BOOK REVIEW

Title: SWIMMING FOR THE DISABLED
Editor: The Association of Swimming Therapy
Publisher: E.P. Publishing Limited
Price: £3.95

To those whose movements on land are unskilled, the joy of being able to perform with skill in the water is boundless. The Association of Swimming Therapy, founded many years ago by Mr. James McMillan, MBE, has been eminent in teaching the disabled to swim. It organises nationwide competition for its members, whilst its officers have by invitation lectured in many countries. It is not surprising that the Association has published a book dealing with its work.

The book introduces the subject of handling of the disabled, the emphasis being on the safety of the swimmer and the helper. Methods of entry and exit from the water are described and fully illustrated. The Halliwick method of teaching is then fully explained. This method depends upon a knowledge of the hydrodynamics of the body in water which is the basis of all good swimming and applies even to swimmers of International standard.

The disabilities likely to be discovered in a swimming group are defined, and the special problems for the teacher are mentioned. There is a chapter on the organisation of the swimming club and how to maintain the interest of the membership. The final pages deal with competition and the management of the swimming gala, duties of officials and the handicap system used by the Association. Water games are illustrated which should always be used during a teaching session for swimming must be fun. Finally, for those with interest in this facet of swimming, courses organised by the Association are outlined.

I have enjoyed reading this book which should be on the shelf, or in the pocket, of all swimming teachers.

Noel Bleasdale