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Sports medicine current awareness service

Prepared by Kathryn Walter and Jayne Makepeace at the National Sports Medicine Institute (NSMI) Library

The following summaries are taken from a selection of recent journals indexed in the NSMI database. A full listing is published monthly in *Sports Medicine Bulletin*.

Copies of the complete articles are available (price 15 pence per sheet subject to the Copyright, Designs and Patents Act, 1988) from the Library, NSMI, c/o Medical College of St Bartholomew's Hospital, Charterhouse Square, London EC1M 6BQ, UK. (Tel: 071 251 0583).

The ideal training program achieves optimal adaptations without the athlete succumbing to an overtrained state. Recent research has focused on plasma uric acid as a possible measure for diagnosing training states. This research and its metabolic rationale is reviewed by David Pyne in *Uric acid as indicator of training stress* (*Sport Health* 1993; 11: 26-7). The value of uric acid monitoring depends on regular testing and comparison on an individual basis. Measurement of uric acid, at rest and after intensive training, two to three times per week, is necessary to provide beneficial information. Microsampling of blood from the finger or ear lobe and the use of portable analysers could be effective in monitoring athletes during periods of heavy training.

Iliotibial band (ITB) syndrome, an overuse injury resulting from recurrent impingement of the ITB tendon on the lateral femoral epicondyle, has historically been considered an injury indigenous to runners. However, a recent paper by James C Holmes *et al.* (*Iliotibial band syndrome in cyclists*, *American Journal of Sports Medicine* 1993; 21: 419-24) reports 61 cases of ITB syndrome in cyclists of all levels over a period of 6 years. Nonoperative treatment of ITB includes stretching, icing, rest and oral NSAID. Additional measures specific to cyclists consist of bicycle adjustments which should be directed toward correcting misalignments between the cyclist and bicycle and training modifications, including

a reduction in mileage. For cyclists requiring operative intervention, the authors describe a new surgical technique for excising or releasing the distal ITB. This involves excision of an elliptical piece of the distal posterior band off the lateral femoral epicondyle.

The treatment of ITB syndrome is also described by John G. Aronen and others in *Practical, conservative management of iliotibial band syndrome* (*Physician and Sportsmedicine* 1993; 21(6): 59-69). A two-phase conservative regimen is advocated: Phase I is aimed at treating initial symptoms and involves NSAIDs, icing, stretching and using a knee immobilizer and crutches; Phase II focuses on return to activity - the patient continues the stretches and runs to the point of feeling ITB tightness but not pain.

An exploratory study of the motives of British adults to participate in sport and exercise is reported by Basil Ashford and others in *Participants in community sports centres: motives and predictors of enjoyment* (*Journal of Sports Sciences* 1993; 11: 249-56). A questionnaire interview (336 respondents) was conducted in six community sports centres in Leicester. Subjects were presented with 15 motives for sports participation and asked to indicate their level of agreement on a 5-point scale. The three most commonly endorsed motives were to maintain health, develop physical fitness and aid relaxation. Factor analysis revealed a set of factors associated with performance (assertive achievement and sports mastery and performance) and well-being (physical and sociopsychological well-being). Analysis of results revealed significant gender and age differences in these factors: men showed greater motivation than women in respect of performance whilst age differences were revealed mainly in terms of sociopsychological well-being. Further research in this area is needed to aid promotion of community-based programmes and optimize participation levels.

Robert D. Kersey reports the extent of *Anabolic-adrogenic steroid use by private health club/gym athletes* in a

recent issue of *Journal of Strength and Conditioning Research* (1993; 7: 118-26). A 22-item questionnaire focusing on strength training habits, AAS knowledge/use and demographic information was administered to 185 anonymous subjects at five health clubs/gyms in the southwestern United States. Results indicated that about 15% have used or are using AAS - a lower rate than described in previous studies. Of the AAS users, the primary source for the drugs was through a friend/coach, the most commonly used drugs included Testosterone, Dianabol, Anadrol, Deca-durabolin and Winstrol and the most common motive for their use was "to get bigger".

A major British study from the Centre for Research on Drugs & Health Behaviour (*Anabolic steroid use in Great Britain: an exploratory investigation*, Pirkko Korkia and Gerry Stimson, March 1993) revealed that 7.7% of 1669 questionnaire respondents in 21 British gyms reported anabolic steroid use at some time. Again, most were introduced to AS by their friends and the primary motives for use were to increase muscle mass and size, to increase strength and to be able to train harder and longer.

The emerging popularity of weight training as a conditioning technique, competitive sport and recreational activity among children and adolescents has significant implications for the occurrence of musculoskeletal injuries such as fractures, dislocations, spondylolysis, spondylolisthesis, intervertebral disk herniation and meniscal injuries of the knee. (*Weight training injuries: common injuries and preventative methods*, Mazur L. J. *et al.*, *Sports Medicine* 1993; 16: 57-63). Although injuries can occur during the use of weight machines, most appear to happen during the aggressive use of free weights in such exercises as the dead lift and bench press. Prepubescent and older athletes who are well trained and supervised have low injury rates in strength training programmes. Important preventive measures include maintenance of equipment, warm-up routines and proper techniques.

Recent Olympic games have been held in cities notorious for air pollution, a problem which was perhaps most evident in Los Angeles, the host city of the 1984 Games. Rod Cedaro reviews the potential hazards encountered by athletes when training and competing under adverse atmospheric conditions in **Environmental factors and exercise performance: a review. II. Air pollution** (Excel 1992; 8(3): 161-6). The four air pollutants which appear to have the most pronounced adverse effects on optimal athletic performance are carbon monoxide, ozone, sulphur dioxide and particulate pollutants and these are discussed in detail. The effects of inhalation depend on factors such as the dosage, concentration of pollutant in the inspired air, temperature and humidity of the ambient air and the rate of inspiration. The author makes a number of recommendations centred around timing, location, intensity and duration of training to decrease the effect of air pollution on performance.

Two consecutive papers in a recent issue of *Journal of Orthopaedic and Sports Physical Therapy* (JOSPT) focus on elbow problems encountered by the throwing athlete. In the first James R. Andrews and others discuss the differential diagnosis of specific pathologies (*Physical examination of the thrower's elbow*, JOSPT 1993; 17: 296-304). An extensive knowledge of functional anatomy is necessary for physical examination of the elbow. The components of an elbow examination include inspection/observation, palpation of bony and soft tissues, ROM assessment, resisted muscle testing, neurologic testing and special tests such as the Tinel test, tennis elbow sign, ulnar

collateral ligament stability testing, valgus extension overload test and radiocapitalla chondromalacia test. Other tests include radiographic examination, such as CT arthrogram and MRI testing. In the second paper the rehabilitative process for various injuries is described. Progressive phases include (I) immediate motion (to re-establish pain free ROM, decrease pain and inflammation and retard muscular atrophy); (II) intermediate exercise (to improve mobility, strength and endurance and neuromuscular control of the elbow complex); (III) advanced strengthening activities (e.g. plyometrics, eccentric contractions) and (IV) return to activity. (Wilk K. *et al.*, **Rehabilitation of the elbow in the throwing athlete**, JOSPT 1993; 17: 305-17).

A lack of agreement among professional sports nutritionists was exposed in a recent questionnaire survey by Ann Grandjean (**Practices and recommendations of sports nutritionists**, *International Journal of Sport Nutrition* 1993; 3: 232-42). Although subjects were in broad agreement on topics of water and electrolytes, their opinions on protein requirements and simple sugars varied; this could be due in part to the lack of or relative recency of scientific data.

Wenche Rasch and Michael Cabanac have found that wearing headgear during exercise can reduce head heat loss and hinder the body's selective brain cooling (SBC) mechanism (**Selective brain cooling is affected by wearing headgear during exercise**, *Journal of Applied Physiology*, 1993; 74: 1229-33). They performed two experiments, the first to measure effects of headgear on head heat loss and the

second the effects on general temperature regulation. For each experiment, four subjects had two sessions on a cycle ergometer, the first without headgear and the second wearing either a headband or a woollen cap. From the first experiment it was found that caps significantly reduce head heat loss, whereas headbands do not. By measuring head skin temperatures it was found that both forms of headgear hinder the selective brain cooling mechanism. The results of the second experiment indicated that peripheral heat loss does not increase to compensate for the reduction in heat loss from the brain whilst wearing headgear.

Previous studies on the effects of life stressors on athletic performance have been concerned with endurance and strength performance, whereas a recent study by Gary Felsten and Kathy Wilcox (**Relationships between life stress and performance in sports: much theory, but very little data**, *Journal of Sport Behavior*, 1993; 16(2): 99-110) shows the effects of life stress on mental concentration and precision movements in figure skaters. In the study 15 figure skaters aged 8-17 years were assessed weekly for four weeks. Both daily hassles and skating stressors were evaluated using questionnaires. Skating performance was rated by each student's coach rather than being evaluated by performance in a competitive situation, thus competition stress was eliminated. The results show that higher daily stress, skating stress and total stress were each associated with poorer performance. The limited data gained from this study are consistent with theoretical expectations.

URGENT ANNOUNCEMENT

The London office of BJSM is closed. ALL communications should now be addressed to:

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BASM Education Programme



The British Association of Sport and Medicine (BASM) was formed in 1952, by Sir Adolphe Abrahams and Lord Porritt as the professional representative body in this field of medicine. One of the objectives of the organization is to provide education for member professionals.

BASM education is the responsibility of an Education sub-committee. In order to encourage development of the regional programme the committee includes representatives from each region. The employment of a professional full-time Education Officer, made possible 5 years ago by a grant from the Sports Council, has allowed a greatly expanded and improved Education programme. The Education Officer is responsible for coordinating the National and Regional programmes.

At National level, the courses form an integrated programme approved by the Society of Apothecaries for entry to their examination for a Diploma in Sports Medicine. The courses are also of great help to those doctors aiming to sit the Combined Royal Colleges of Scotland Diploma.

The first Introductory course in Sports Medicine was held in Loughborough as a one-week residential course in 1975. Introductory courses are now established as twice yearly events at the National Sports Centre, Lilleshall, Shropshire. The Introductory course has expanded and improved so that it is now a very general digest of sports medicine covering aspects of physiology, nutrition, fitness testing, sports psychology, practical demonstrations of stretching and warm-up, and resuscitation. This is in addition to the management of sports trauma. The lectures are pitched at providing not just an introduction but leading to broader knowledge. The Introductory courses have been hugely successful, and have an active social agenda.

The Intermediate course is a more recent addition to the timetable. It is also a week long residential course and has twofold aims. The principle of managing a sporting injury depends not only on treating the injury, but also on searching for the aetiology of the injury from the sport itself. The physician must have a working knowledge of the training and technical aspects of the sport in which his patient participates. The Intermediate course includes lectures from leading coaches who discuss the role they play and methods of prevention of injury. Doctors and physiotherapists who are involved with caring for a variety of sports talk on injuries and rehabilitation related to that sport. The course then goes on to focus upon a joint and improve examination techniques using the delegates as subjects. This was found to be necessary following experience gained in running the advanced injury module courses, where some delegates had difficulty in demonstrating examination techniques and eliciting some clinical signs.

The Advanced Sports Medicine courses were organized following the development of the Apothecaries Diploma, in which prominent BASM members played a large part. These courses have been developed on a modular concept, running over six weekends a year at venues around the country. The injury modules include lower limb, upper limb, and trunk and spine. The programme includes lectures on advanced examination technique, and provides carefully selected patients with clinical signs for delegates to develop hands-on experience. The injury lectures provide a greater depth of knowledge of treatment of sporting injury than the Introductory course. The physiology weekends are separate cardiovascular and musculo-skeletal modules. There are lectures, and modules also include practical demonstrations and discussion of physiological testing techniques. The advanced medicine course deals with 'medical' aspects of sports medicine such as disorders of the cardiovascular, respiratory and other organ systems.

The latest addition to the schedule is the La Santa hands-on course; this course develops the practical sporting theme of the Intermediate course. Many of our national teams use the facilities at the La Santa sports complex on Lanzarote (one of the Canary Islands) for pre-season training. The hands-on course makes use of coaching staff from the complex to gain practical skills and knowledge of a number of different sports. The course includes lectures, formal coaching sessions and some leisure time!

BASM regions cover the nation, and provide contact at local level and are an essential part of the Association. The regions are becoming increasingly active, holding regular evening or weekend clinical meetings. In the last year the East Midlands, West Midlands, London and South-East, and Yorkshire have been established. Addresses of the Regional Chairman were published in the June 1993 issue of the *British Journal of Sports Medicine*. The regions take turns in hosting the BASM Annual Congress and Annual General Meeting.

There is a waiting list for the Introductory courses and we hope to expand the number offered. Further expansion of our programme will require employment of more people. There has been a problem with the Advanced courses, with people having to travel long distances for an intensive weekend, particularly when many of the courses have been held in the South of England. The recent Advanced physiology modules have both been held in the North to balance this, and BASM Scotland have offered to hold a lower limb module next year. There are now a number of centres offering courses and qualifications, and an increasing number of doctors and physiotherapists taking them. Closer liaison with other bodies providing education is a means of reducing some of the fragmentation of sports medicine in the country. One of our tasks for the future will be to provide continuing education for those who have gained diplomas. A Diploma in Sports Medicine should not be seen as the ultimate objective, any more than the Fellowship or Membership of one of the Royal Colleges is in another specialist career. Australian sports medicine specialists have now established a separate College of Sports Physicians (ACSP). The ACSP sets its own fellowship which comes at the end of a training programme. We have a long way to go.

Roger Hackney FRCS, Hon. Secretary
Graham Holloway FRCS, Asst. Hon. Secretary

See overleaf for details of 1993 courses

For applications and enquiries concerning courses and membership please contact: BASM Education Officer, c/o National Sports Medicine Institute, St Bartholomew's Medical College, Charterhouse Square, London EC1M 6BQ, UK. Tel: 071-253 3244 or 071-251 0583; Fax: 071-251 0774

Current Programme for 1993

<i>Date</i>	<i>Course</i>	<i>Venue</i>
January 22-24	Advanced Physiology: cardio-respiratory physiology	Bradford Royal Infirmary
March 12-14	Advanced Physiology: musculoskeletal system	Liverpool John Moores University
April 2-4	Advanced Injury: Acute and Chronic Injuries to the Upper Limb	RAF Wroughton (Swindon)
April 25-30	BASM Introductory Sports Medicine Course	Lilleshall Hall NSC (Shropshire)
September 3-5	Advanced Injury: Acute and Chronic Injuries to the Head, Neck, Spine and Pelvis	Milton Keynes General Hospital
September 26 - October 1	BASM Introductory Sports Medicine Course	Lilleshall Hall NSC (Shropshire)
October 29-31	Advanced Injury: Acute and Chronic Injuries to the Lower Limb	RAF Wroughton (Swindon)
November 19-21	BASM Congress (Eastern Region)	Cambridge
November	Courses planned for 1993 Intermediate Sports Medicine Course	

CORRECTION

There was an error in the BASM News section of the June 1993 issue of the *British Journal of Sports Medicine*.

The address given for Dr M Read, the Chairman of the London and South East Region should have read:

Dr M Read
London Bridge Clinic
1 St Thomas Street
London
SE1 2PR

Notes for Authors

Scope

The British Journal of Sports Medicine covers all aspects of sports medicine and science – the management of sports injuries; all clinical aspects of exercise, health and sport; exercise physiology and biophysical investigation of sports performance; sports psychology; physiotherapy and rehabilitation in sport; and medical and scientific support of the sports coach.

Types of Paper

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Review articles (up to 4000 words, providing concise in-depth reviews of traditional and new areas in sports medicine)

Case reports (up to 1000 words, describing clinical case histories with a message).

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21 Sperryn PN. *Sport and Medicine*. London: Butterworths, 1983.

22 Ellitsgaard N and Warburg E. Movements causing ankle fractures in parachuting. *Br J Sports Med* 1989; 23: 27–9.

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