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Obituary

William Eldon Tucker, CVO, TD, FRCS

The recent death of 'Bill' Tucker at the age of 87 years has taken from the British Association of Sport and Medicine one of its last remaining founder members.

William Eldon Tucker was born on 6 August 1903. The son of Dr W. E. Tucker, England rugby international, he successfully followed in his father's footsteps. Educated at Sherbourne and Gonville and Caius College, Cambridge, where he captained the University team in 1925 and later won three England caps between 1926 and 1930, he turned out regularly for Blackheath. He studied clinical medicine at St. George's Hospital and embarked on a career in orthopaedics.

He became Director of the Park Street Clinic in 1936 and ran this until 1980. His interest in sporting injuries may have arisen from the numerous traumas he suffered himself on the sporting field, and he wrote *Sportsmen and their Injuries* with his second wife, Molly Castle, the journalist.

He served in the Royal Army Medical Corps as a Major in the second World War and was taken prisoner at Dunkirk

and did sterling work for British POWs. He later joined the Territorial Army Medical Corps and served as Colonel in Charge of the 17th General Hospital.

He had a pioneering spirit and imported the first arthroscope into Britain. Amongst his most famous patients was Denis Compton, whose knee he operated upon at regular intervals, eventually doing away with the joint by arthrodesis. He finally returned to Bermuda – the island where his ancestors were sugar growers and whose main town is named Tuckersville. He saw his days out at his beautiful home on Trunk Island in Harrington Sound, in which he entertained many of his orthopaedic colleagues. It was only in recent years that his friends missed receiving at Christmas time the account of the year's activities written in rhyming doggerel.

A large, genial, always generous man with a kind, friendly and gentle manner, he will be missed by his many friends and patients.

Basil Helal

Last chance!

BASM's forthcoming Annual congress at Low Wood Hotel, Windermere in the heart of the English Lake District; includes the FIMS NW Europe Chapter, academic sessions of BASM and ACPSM and plenty of sport, including 10 km run.

A few places may still be available — minimum day fee from £20: board and food according to demand.

Urgent applications: Congress Organiser, Mr John Clegg JP LDS
Birch Lea
67 Springfield Lane
Eccleston, St. Helens
Merseyside WA10 5HB
Tel: (0744) 28198

Sports medicine current awareness service



Prepared by Kathryn Walter and Nancy Laurenson at the London Sports Medicine Institute (LSMI) Library

The following summaries are taken from a selection of recent journals indexed in the LSMI 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 Copyright Law) from the Library, LSMI, c/o Medical College of St. Bartholomew's Hospital, Charterhouse Square, London EC1M 6BQ, UK. (Tel. 071-251 0583).

Rib fractures are the most common serious injury of the chest and are discussed by J. Miles and G. Barrett (**Rib fractures in athletes** *Sports Medicine* 1991; 12: 66-9). They occur most commonly in the middle and lower ribs with blunt trauma, with direct force to a small area of the chest wall, and with violent muscle contractions. Diagnosis is generally not difficult and should be confirmed by chest X-ray. Treatment is generally straightforward and consists of ice, NSAIDs, analgesics and a rib belt or tape; however, attention to the underlying structures is critical. Two types of fracture are unique to sports. Floating rib fractures have been reported in baseball pitchers and batters, and are avulsion fractures of the attachments of the external oblique muscle. A sudden vigorous contraction with different directions of pull is thought to be the cause. First rib fractures have been reported in tennis, baseball, surfing, windsurfing, football, rowers and basketball players, and occur as a result of direct external trauma, indirect trauma and fatigue or stress fractures.

A supplement to the Summer 1991 issue of *Journal of Sports Sciences* is devoted to **Foods Nutrition and Sports Performance Proceedings of an International Scientific Consensus** held 4-6 February 1991, Lausanne. Eminent international contributors presented papers on a range of topics, including energy turnover and balance, carbohydrate intake, protein and fat requirements, vitamin supplementation and fluid-electrolyte balance. P. M. Clarkson examined the

issue of **Minerals: exercise performance and supplementation in athletes** (*Journal of Sports Sciences* 1991; 9 (special): 91-116). Macrominerals (calcium, magnesium and phosphorus) and trace minerals (zinc, copper, selenium, chromium and iron) are discussed. The status of most minerals is adequate for athletes, with the possible exceptions of zinc (deficiency caused by poor diet and loss of zinc in sweat and urine), chromium (deficiency caused by low dietary intake and increased urinary excretion) and, in many athletes, iron depletion (resulting from poor diet, loss in sweat and exercise stress). Mineral supplementation may be important to ensure good health; however, few studies have definitively documented any beneficial effect on performance. Acute 'phosphate loading' has been shown to enhance performance in some studies, and iron supplements have improved performance in cases of iron-deficiency anaemia.

D. S. Conley and colleagues have conducted a recent study (**Validation of the 12-min swim as a field test of peak aerobic power in young men**, *Medicine and Science in Sports and Exercise* 1991; 23: 766-73) to determine the validity of the 12-min swim as a field test of $\dot{V}O_2$ peak and to compare its validity with that of the 12-min run test. As the effects of swim training on $\dot{V}O_2$ peak are, in part, specific to swimming, logically any assessment should be done using an exercise swim test. One might also assume that $\dot{V}O_2$ peak assessed during swimming would be more accurately predicted from a distance swim performance (field test) than a distance run performance. Thirty-six recreationally trained young men completed the four tests of 12-min swim, 12-min run, tethered swimming to determine $\dot{V}O_2$ peak, and treadmill running $\dot{V}O_2$ peak. It was found that the 12-min swim has a relatively low validity as a field test of peak aerobic power in young male recreational swimmers, due in part to the variability in swimming skill or economy. Its validity is also poorer than that of the 12-min run test,

regardless of whether $\dot{V}O_2$ peak is assessed during swimming or running.

A 1-year prospective study of injury patterns in 12-18-year-old soccer players revealed a relatively low injury incidence of 3.7 injuries per 1000 h of soccer per player (**Injuries among young soccer players** Schmidt-Olsen S, Jørgensen U, Kaalund S and Sørensen J, *American Journal of Sports Medicine* 1991; 19: 273-5). The incidence increased with age, and at the higher ages within the youth players, approached the injury rate of senior players (age ≥ 18 years). Seventy per cent of the injuries were located in the lower extremities, particularly the knee (26%) and ankle (23%). Back pain occurred in 14% of players. Fractures, which accounted for 4% of injuries, were most often in the upper extremities.

Juvenile obesity: the importance of exercise - and getting children to do it (Parker DF and Bar-Or O, *Physician and Sportsmedicine* 1991; 19: 113-25). It is estimated that up to 25% of children in the USA are obese, although data on the prevalence of obesity vary among reports, depending on criteria, sampling and methods of assessing adiposity. Regardless, the high prevalence and high risks make juvenile obesity a major public health issue; prevention and management are of paramount importance. Like adults, obese children tend to have higher blood pressure than non-obese children; they also exhibit abnormal serum lipid profiles, decreased glucose tolerance, high metabolic cost of breathing and major psychosocial disturbances. So, what is the best intervention for juvenile obesity? The authors state that exercise is by far the most flexible component of the energy balance equation; exercise prescription is reviewed from its physiologically induced changes involving training intensity, appetite suppression and programme design. Caution must be exercised when prescribing a low calorie diet with no concomitant exercise programme to a child. Extreme diets may result in the loss of fat-free

mass and a negative nitrogen balance. This catabolic effect, if continued over a long period, may impair physical growth. The crucial challenge for physicians is to prescribe fun activities with which a child will comply, taking into account both physical and psychological profiles. Certainly this article raises many questions concerning our approach to the problem of juvenile obesity as well as the need for further research.

Collectively, β -blockers are the most commonly used drugs in the treatment of cardiovascular diseases in the western industrialized nations. At the same time, exercise training too has emerged as an important therapeutic modality in the management of patients with cardiovascular disease, especially those with hypertension or coronary artery disease (CAD). In **Effect of beta-blockers on exercise physiology: implications for exercise training** (Gordon NF and Duncan JJ, *Medicine and Science in Sports and Exercise* 1991; 23: 668-76), the authors have presented results from clinical studies aimed at investigating the physiological effects of prescribed β -blockers on patients with hypertension or CAD who exercise regularly. Five major issues and concerns are addressed: (1) the effect of β -blockers on exercise tolerance; (2) the impact of β -blockers on the ability to derive a physiological training effect; (3) the prescription of exercise intensity for patients treated with β -blockers; (4) the lipid-related benefits of exercise training during chronic β -blocker therapy; and (5) the potentially adverse effects of β -blockers on exercise thermoregulation.

The hospitalization of young Prince William, who was (accidentally) knocked on the head with a golf club wielded by an unfortunate classmate, drew public attention to the potential dangers of this popular pastime. As a recent article in the *British Medical Journal* points out, golf is the commonest cause of serious sports-related head injuries in children (**Golf related head injuries in children** Smith RA, Ling S and Alexander FW, *British Medical Journal* 1991; 302: 1505-6). In this study, 232 children with head injuries were admitted to Newcastle General Hospital in a 1-year period. Twenty-seven of the injuries were sports-related and, of these, 11 were associated with golf. Nine of the children injured while playing golf suffered skull fractures. Most of the children were injured when standing behind another child swinging a club; the head was struck in either the backswing or the follow-through. The authors recommend that children

should be supervised at all times when playing with golf clubs.

'Closed kinetic chain exercise' is touted as the best way to rehabilitate an injured lower limb, i.e. torn anterior cruciate ligament (ACL), but what is it? R. A. Palmitier and colleagues attempt to clarify the concept and verify theoretically the effect such exercises have on the knee in **Kinetic chain exercise in knee rehabilitation** (*Sports Medicine* 1991; 11: 402-13). The hip, knee and ankle joints, when taken together, comprise the lower extremity kinetic chain. A closed kinetic chain exists whenever the foot (for instance) meets resistance as found when rising from a squat. A true closed kinetic chain only exists during isometric exercise. Kinetic chain exercises like the squat recruit all three links in unison, while exercises such as seated quadriceps extensions isolate one link of the chain. It appears that ACL strain is reduced during kinetic chain exercise by virtue of the axial orientation of the applied load and muscular co-contraction. In addition, this form of exercise through recruitment of the hip, knee and ankle extensors, in synchrony, takes advantage of the specificity of training principles. A further description of closed kinetic chain exercises is reported in **The closed kinetic chain in strength training** (Panariello RA, *National Strength and Conditioning Association Journal* 1991; 13: 29-33). In this article, the importance of planning a strength training programme with an awareness of the principles of the closed kinetic chain is emphasized. Movement is defined from a functional assessment of lower leg work.

A rare combination of injuries in an elite marathon runner with persistent groin pain is reported by Fields KB *et al.* in **Osteitis pubis and pelvic stress fracture in an elite female distance runner** (*Clinical Sports Medicine* 1990; 2: 173-8). Radiographic evaluation revealed a combination of osteitis pubis and a stress fracture of the superior pubic ramus. Treatment consisted of 10 weeks of substituted activity, including cycling and swimming. Light weight exercises were prescribed for all muscle groups of the thigh and hip flexors, extensors and rotators. A therapeutic dosage of ibuprofen was taken during the first 2 weeks. Eleven weeks after treatment, an 8-week retraining programme was started which led to full resumption of training and competition.

In **Swimming and the older athlete**, Richardson AB and Miller JW (*Clinics in Sports Medicine* 1991; 10: 301-19) give a thorough review of this sport with a particular emphasis aimed at

the competitive older (master-level) swimmer. A concise training programme is outlined as well as a discussion concerning the factors which affect training such as aerobic/anaerobic profiles, technique, and strength and power. Finally, orthopaedic aspects are presented, including a discussion on injuries and their management. This paper forms one chapter in a volume devoted to *Sports Medicine in the Older Athlete*, which examines several specific sports as well as subjects such as 'arthritis and athletics', and 'psychology and the aging athlete'. Have a look!

Special problems of athletes with an eating disorder are discussed in a series of five articles in the Summer 1991 issue of *Athletic Training*. Emphasis is on education of medical personnel and other professionals about the presence of these disorders to facilitate early detection and intervention. In one of the papers John Stephenson examines the **Medical consequences and complications of anorexia nervosa and bulimia nervosa in female athletes** (*Athletic Training* 1991; 26: 130-5). Eating disorders are often well concealed and may present as vague medical complaints, muscle fatigue, dehydration and the more obvious excessive weight loss. Bulimic or anorexic athletes suffer double jeopardy when complications such as reduction of bone density, cardiac damage and electrolyte disturbances occur. Such athletes may be resistant to reasonable therapeutic guidelines, and more intensified medical management and referral to an eating disorders programme may become necessary.

Trends in the pattern of eye injury in the UK demonstrate an increase in the proportion of sports-related injury: sport is now indisputably the commonest cause of serious eye injury (**Eye injuries in racquet sports** MacEwen CJ and Jones NP, *British Medical Journal* 1991; 302: 1414-16). Penetrating injury is rare and is usually associated with the inappropriate use of glass spectacles. Severe blunt injury caused by a blow from a ball, racquet, fist or elbow resulting in intraocular haemorrhage is more typical. Although reports have established the effectiveness of eye protectors, very few players actually wear them. The British Standards Institution is currently considering a proper standard for eye protectors in squash and badminton (the cause of an appreciable proportion of eye injuries). The authors stress the need to educate players about the possible dangers of eye injury and coach safer play wherever possible.

BASM Education Programme

BASM's current annual programme of Sports Medicine courses includes two introductory courses following the FIMS basic course outline and six advanced courses in physiology (cardiorespiratory), physiology (musculoskeletal), injury (head, neck, back and trunk), injury (lower limb), injury (upper limb), and advanced medicine of PE and sport.

All details from: BASM Education Officer, c/o LSMI, St. Bartholomew's Medical College, Charterhouse Square, London EC1M 6BQ, UK. Tel: 071-253 3244; Fax: 071-251 0774

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April 26-May 1	BASM (FIMS) Introductory Course	Lilleshall
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**LSMI Open Lectures, 7.15pm Wednesday evenings in term.
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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

Original papers (not normally over 3000 words, full length accounts of original research)

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, P.N. *SpoA and Medicine* Butterworths, UK 1983

22 Ellitsgaard, N. and Warburg, F. Movements causing ankle fractures in parachuting. *Br J. Sports Med* 1989, 23, 27–29

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