# BRITISH JOURNAL OF SPORTS MEDICINE EDITORIAL BOARD

Joint Editors:

Dr. Adrianne E. Hardman, PhD, Department of Physical Education and Sports Science,

Loughborough University LE11 3TU

Dr. Wendy N. Dodds, MRCP, Marley Dene, West Scholes, Queensbury, West Yorkshire

Chairman:

Dr. Henry E. Robson, 39 Linkfield Road, Mountsorrel, Loughborough, Leicestershire LE12 7DJ

Members:

Prof. Arnold H. Beckett, DSc, PhD, FRIC, Chelsea College, London University

Dr. Ernest J. Hamley, PhD, Loughborough University
Mr. Basil Helal, MCh(Orth), FRCS, The London Hospital
F. M. Holliday, MA, DLC, FSS, Loughborough University
Mrs. Margaret John, MCSP, Studley, Warwickshire

Dr. John E. Kane, PhD, West London Institute of Higher Education

Surgeon Rear Admiral Stanley Miles, CB, MD, MSc, FRCP, FRCS, New Milton, Hampshire

Dr. P. N. Sperryn, FRCP, Hillingdon Hospital, Uxbridge, Middlesex Prof. Harry Thomason, PhD, DLC, Loughborough University

Dr. Dan Tunstall Pedoe, MA, DPhil, FRCP, St. Bartholomew's Hospital, London

Prof. Clyde Williams, PhD, Loughborough University

This Journal is published four times a year by

THE BRITISH ASSOCIATION OF SPORT AND MEDICINE

A registered company limited by guarantee. Registration Number 1962979.

Sometimes two numbers may be issued in a combined publication

Chairman:

Dr. D. S. Tunstall Pedoe

Hon. Secretary: Hon. Treasurer: Mr. D. P. Chapman, MCSP, Half Moon Place, Burwash Road, Heathfield, East Sussex Dr. Henry E. Robson, 39 Linkfield Road, Mountsorrel, Loughborough, Leicestershire

#### SUBSCRIPTIONS

The Journal is sent to all members of the British Association of Sport and Medicine, and included with the annual subscription.

FROM JANUARY 1st, 1987 EXTERNAL (NON-MEMBER) SUBSCRIBERS: £20 for subscribers in the United Kingdom, \$60 U.S. for overseas subscribers or £25 Sterling.

Subscriptions run from January to the end of the year. Single numbers: £6 or \$15. A limited number of back issues are available.

RENEWALS: These should be confirmed before the end of the year, or at the latest by the end of January in the current year. Late renewals involving restoration to the mailing list after deletion, may incur an additional administration charge.

MAILING is by second class mail to the U.K., and surface mail overseas.

ORDERS FOR THE JOURNAL should be sent to the Treasurer at the above address. Payment with order is preferred. Cancellations should be sent before the end of the year, or by the end of January at the latest.

APPLICATIONS FOR MEMBERSHIP of the British Association of Sport and Medicine should be sent to the Hon. Treasurer.

- Pipes, T. V., 1978 "Variable resistance versus constant resistance training in adult men". Europ.J.Appl.Physiol. 39 (1): 27-39.
- Reger, B., 1984 "Exercise, Post Exercise Metabolic Rate and Appetite". Doctoral Dissertation, West Virginia University.
- Stull, G. A. and Clarke, D. H., 1970 "High-resistance low repetition training as a determiner of strength and fatigability". Res.Quart. 41 (2): 189-193.
- Warner, J.G., Yeater, R., Sherwood, L. and Weber, K., 1986 "A hydrostatic weighing method using total lung capacity and a small tank". Br.J.Sports Med. 20 (1): 17-21.
- Westcott, W. and Howes, B., 1983 "Blood pressure responses during weight training exercises". National Strength Coaches J. Feb./Mar.: 67-71.
- Wilmore, J. H., 1974 "Alterations in strength, body composition and anthropometric measurements consequent to a ten week weight training program". Med.Sci.Sport 6 (2): 133-138.
- Wilmore, J. H. and Behnke, A. R., 1969 "An anthropometric estimation of body density and lean body weight in young men". J.Appl.Physiol. 27: 25-31

#### **ITEMS OF INTEREST**

Meetings of the North West division of BASM will be held on 28th April, at Blackburn Royal Infirmary, on 16th September at Bury General Hospital and on 18th Novemter at Withington Hospital. All meetings will assemble at 7.30 p.m. for an eight o'clock start. Further details from Mr. J. Sinclair, MCSP, Sports Injuries Clinic, 43 Hammerton Street, Burnley. Incorporated in the programme of the First World Congress of Science and Football (details in forward events) will be one day (16th April) with a special focus on "football medicine", convened by Dr. A. B. Stibbe, consultant to Ajax Amsterdam FC. The programme will culminate in a constitutional meeting of the European Society of Team Physicians in Soccer, to which any interested medical practitioner is invited. The meeting precedes the Congress Banquet and delegates may register on a one-day basis for the football medicine programme.

The National Coaching Foundation continues to promote courses for coaches on a variety of topics. A new venture is the inclusion of their courses in the Lancaster University Summer Programme, so that coaches can learn in the mornings and have the afternoons free to enjoy the nearby countryside or the leisure and sports facilities of the University. Alternative, more intensive courses will take place under the umbrella of the Loughborough University Summer School. Contact the NCF at 4 College Close, Beckett Park, Leeds LS6 3QH for more details.

The next Medical Olympics will be held in Casablanca, Morocco from 5th to 11th July. For an entry form, plus details of events and registration fees please send a *large* SAE to Dr. David Delvin, c/o General Practitioner, 30 Lancaster Gate, London W2 3LP.

Proceedings of the Sports Medicine Conference held by the Society of Community Medicine, in association with BASM, at UMIST last September will be available soon. Details of contents and price available from Dr. Peter Gardner of the Society of Community Medicine at 31 Battye Avenue, Huddersfield HD4 ?PW.

The attention of members is drawn to the half-page advertisement for the Sixth Congress of Sports Medicine of the A.Z.Sint-Jan to be held in Brugge, Belgium on 16th and 17th October, 1987. Two BASM members, Mr. Basil Helal and Dr. Peter Sperryn have been invited to contribute to the programme.

Mr. David Chapman, Secretary of BASM was taken ill in late February. He is back home now and I know that BASM members will join me in wishing him a full and rapid recovery.

### Foundation of the International Society for the Advancement of Kinanthropometry

This society was founded at Jordanhill in July, 1986. Kinanthropometry is defined in their constitution as a scientific specialisation including, but not limited to, "auxology, physical anthropometry, human biology, physical education, sport science and several medical specialisations including paediatrics, medical genetics and geriatrics". ISAK's purpose is to "create and maintain an international network of colleagues who represent the world community transcending geography, politics and the bounds of separate disciplines." An annual membership fee equivalent to ten pounds sterling has been decided upon and questions concerning membership or other aspects of ADKA can be addressed to the Secretary-General, James A. P. Day, Department of Physical Education, The University of Lethbridge, 4401 University Drive, Lethbridge, Alberta T1K 3M4, Canada.

#### **SECRETARY'S REPORT — WINTER 1986**

Members should by now have received notice of the first Annual General Meeting of the new Company, which will be held at 12 noon on Saturday, 9th May, 1987, in the Physiology Theatre, St. Bartholomew's Hospital Medical School, Charterhouse Square, London. Members are reminded that only those who have transferred to the new Company and paid the current subscription are entitled to attend and vote. The procedure for nominations is detailed in the notice convening the meeting, together with the Agenda. It is well at this point to clarify the present position concerning the new and old Association. The old Association is technically still in existence and although the last AGM mandated the Executive Committee who mandated the Executive Officers to wind up the old Association it was dependent upon satisfactory conclusion of negotiations with the Inland Revenue. Both the Treasurer and Secretary have corresponded on this but the matter has not been resolved.

The Executive Committee of the old Association has not met since 15th October, 1986. The new Association, which was incorporated on 21st November, 1985, held its first formal meeting on 12th July, 1986 and the Executive Officers were declared. The Executive of the new Company held its first meeting at Loughborough University on 14th December, 1986. Representatives of the Regions were invited to this meeting to discuss the administration of the Regions and relationships with Executive Committee.

It was agreed that:

- The Scottish Region has been delegated responsibility for BASM's interest in Scotland in accordance with Memorandas and Articles of Association.
- Regions are required under the Constitution to liaise with the Secretary and, with particular regard to finance, with the Treasurer. Regional Secretaries are required to send copies of Regional Committee Meeting Minutes to the Secretary.
- There will be a per capita finance to Regions on a percentage basis to be agreed at a time when the new Association's financial resources have been evaluated.
- There shall be additional financial arrangements for special events.

The Executive Committee also met in London on 28th January, 1987, when the principal item on the Agenda was the **Education Policy.** 

It was agreed that:

- The present Federation Internationale de Medecine Sportive (FIMS) style course be continued twice yearly if possible and that members be restricted to about 50 and that place availability should be biased in favour of the general medical practioners. Although the sports Scientists and physiotherapists now have their own education policies there was still a need to offer this unique type of course to these latter groups.
- 2. A part-time evening/weekend certificated course be promoted.
- The needs of the lay enthusiast at club level was acknowledged.

Consideration was also given to those other organisations, whose aims are similar or complementary to this Association, who might be invited to send representatives to the Council of the new Company. They are not listed here as approaches have yet to be made to them.

Although, constitutionally, this Council will have no executive powers, it has already been agreed that it would be a most unwise Executive Committee that ignored recommendations or went contrary to them. Amongst other functions the Council will be the meeting ground for all corporated or unincorporated bodies who have the medical, para-medical and scientific aspects of the athlete at heart and will be the only such table at which these organisations can regularly meet since the Sports Council's Liaison Committee has become time expired.

It has been pointed out that the two dates appear in the last Journal for the Annual General Meeting. May 9th supercedes 27th September at Liverpool, but time will be allocated at the Annual Congress for any urgent business or questions that the membership at large wish to discuss.

Members are reminded that if they have not already done so it is hoped that they will transfer to the new Company. Subscriptions at the old rate cannot continue indefinitely. The Executive Committee of the new Association are aware of its delicate financial position and are seeking ways of earning and raising money. Consideration is being given to the Appointment of an Honorary Commercial Secretary to co-ordinate and organise certain of the Association affairs. Negotiations are nearly completed to allow members to use the services of Avis Car Hire with substantial discounts on a worldwide basis.

Approaches have been made to the Sports Council for financial assistance to develop the educational programme. Core funding is no longer the policy of the Sports Council. The Federation Internationale de Medecine Sportive (FIMS) has invited the Association to nominate delegates to the four commissions, Scientific, Interfederal Medical, Education and Liaison. Dr. Peter Sperryn is already Chairman of the Education Commission and nominations will be made to the other three when candidates for election have agreed to be nominated.

The boom in sports medicine exhibitions and seminars has led to an increasing number of approaches for the Association's advice and participation, and it is becoming increasingly difficult for the Honorary Officers of the Association to meet the demands of an increasingly commercial environment.

David P. Chapman

**Honorary Secretary** 

The Secretary has a copy of the latest documentation re doping classes and methods of doping, issued by the Comité International Olympic under the signature of Prince Alexandre de Merode, Chairman IOC Medical Commission.

Copies are available from the Secretary, please enclose a large SAE.

# **FUTURE MEETINGS OF BASM AND OTHER ORGANISATIONS**

DATE 1987	ORGANISATION	VENUE	APPLICATIONS TO:
6-10 April	Ergonomics Society, Annual Conference Ergonomics Working for Society Abstracts by 26th September	University College of Swansea	Dr. E. Megaw, Department of Engineering Production, University of Birmingham, Birmingham. Tel. 021 472 1301 ext. 3516
11-12 April	Sports Medicine Conference The Chinese University of Hong Kong and The University of Pittsburgh, USA	Shatin, Hong Kong	1987 Sports Medicine Secretariat, Dr. K. M. Chan, Dept. of Orthopaedic & Traumatic Surgery, Faculty of Medicine, The Chinese University of Hong Kong, Shatin NT, Hong Kong
13-14 April	Repetitive Strain Injuries	University of Surrey	Peter Buckle, EMHRU, Robens Institute, University of Surrey, Guildford GU2 2NS
13-17 April	First World Congress of "Science & Football"	Liverpool Polytechnic	Drs. T. Reilly & A. Lees, Secretariat, World Congress of Science & Football, Department of Sport & Recreation Studies, Liverpool Polytechnic, Byrom Street, Liverpool L3 3AF
14-15 April	International Society of Prosthetics & Orthotics	University of York	Chailey Heritage Hospital, Lewes, Sussex
14-16 April	2nd Occupational Ergonomics Symposium Applied Methods in Ergonomics Abstracts by 30 September, 1986	Zadar, Yugoslavia	Dr. John Wilson, Dept. of Production Engineering & Production Management, University of Nottingham, University Park, Nottingham NG7 2RD Tel. 0602 506101 ext. 3557
27 April- 1 May	British Association of Sport & Medicine Introductory Course	Lilleshall Hall National Sports Centre	Dr. P. L. Thomas, The Health Centre, Loddon Hall Road, Twyford, Berks. RG10 9JA
2-10 May	Fifth Annual London Spring Seminar in Medical Diagnostic Imaging	London	Spring Seminar, 21915 Roscoe Blvd., Suite 222, Canoga Park, CA 91304, USA
4-9 May	"Ortopedia 87". 5th Cuban Congress on Orthopaedics and Traumatology Languages — Spanish, English, French & Russian	Havana, Cuba	Ortopedia '87, Hospital Ortopedico Docente "Frank Pais", Ave. 51, No. 19603, La Lisa, Cuba
19-22 May	2nd International Conference on Food Science and Technology Information, International Food Information Service	Berlin	International Food Information Service, Lyoner Strasse 44-48, ARABELLA-Center D-6000 Frankfurt am Main 71, Germany (by 15 Feb. 1987)
14-17 June	2nd International Back Pain Congress	Hong Kong-Peking	Congress Team International (UK) Ltd., 30 Deane Way, Ruislip, Middlesex HA4 8SX
21-25 June	6th International Symposium of Adapted Physical Activity Theme: Progress through innovation and refinement	Brisbane, Australia	Co-ordinator: 6th I.S.A.P., PO Box 216, RED HILL, Queensland 4059, Australia
4-11 July	A series of lectures, Imaging of Musculoskeletal Trauma	Alaska — Cruise the Inland Passage	Alaska 87, 21915 Roscoe Blvd., Suite 222, Canoga Park, CA 91304, USA
5-8 July	8th Scientific Symposium of Sports Med., with 8th World Games of Medicine	Casablanca, Morocco	M. F. Commandre, President, 8th International Scientific Symposium of Sports Medicine, 23 Bd Carabacel, Nice, 06000, France
17-19 July	Physiotherapy in Sport	College of Trinity and All Souls, Horsforth, Near Leeds	
17-19 August	11th Puijo Symposium "Prevention of Ischaemic Heart Disease"	Kuopio, Finland	Kuopio Research Institute of Exercise Medicine, Puiktokatu 20, 70100 Kuopio, Finland
17-21 August	Movement & Sport in Women's Life Multidisciplinary international conference	Jyvaskyla, Finland	Jyvaskyla Congress – on Movement & Sport in Women's Life, Faculty of Physical & Health Education, University of Jyvaskyla, Finland

DATE	ORGANISATION	VENUE	APPLICATIONS TO:
6-12 September	8th European Anatomical Congress	University of Antwerp	8th European Anatomical Congress, University of Antwerp, Institute of Histology & Microscopic Anatomy, Groenenborgerlaan 171, B-2020 Antwerp, Belgium
19-27 September	Third Annual Fall Ultrasound Meeting	London (20-23 September) Paris (23-26 September)	Annual Fall Ultrasound Meeting, Medical Seminars International, Inc., 21915 Roscoe Blvd., Suite 222, Canoga Park CA 91303, USA
25-27 September	BASM Congress '87	University of Liverpool	Dr. D. A. Brodie, Director of Physical Education, School of Physical Education & Recreation PO Box 147, Liverpool L69 3BX
6-10 October	20th Annual Meeting of the Canadian Association of Sport Sciences. Science in Winter Sports	University of Calgary, Canada	Mrs. Barbara Lees, Conference Secretary, Faculty of Physical Eduction, The University of Calgary, Alberta, Canada T2N 1N4
16-17 October	Sixth Congress of Sports Medicine of the A.Z.Sint-Jan Brugge	Brugge, Belgium	Secretariaat Sportgeneeskundige Dagen, Revalidatiecentrum, A.Z.Sint-Jan, Ruddershove 10, B-8000 Brugge
29 October- 1 November	National Scientific Conference of the Australian Sports Medicine Federation Theme: Controversial issues in Sports Medicine		A.S.M.F. (S.A. Branch inc.) 70 South Terrace, Adelaide, South Australia 5000
6-8 November	2nd Annual Conference of Sports Psychologists of India (Abstracts by September)	Patiala, India	Dr. D. N. Mathur, Dean of Faculty of Sports Sciences, Netaji Subhas National Institute of Sports, Patiala, India
26-27 November	Sport, Leisure and Ergonomics Ergonomics Society with co-sponsorship of British Association of Sport Sciences Leisure Studies Association World Commission on Sports Biomechanics	Burton Manor College, Burton, Wirral, Cheshire	Dr. T. Reilly, Ergonomics Conference, Dept. of Sport & Recreation Studies, Liverpool Polytechnic, Byrom Street, Liverpool L3 3AF
<b>1988</b> 29 May-3 June	International Conference on Exercise, Fitness and Health, Fitness Canada	Toronto, Canada	The International Conference on Exercise, Fitness and Health, c/o Ontario Fitness Office, 1220 Sheppard Avenue East, Toronto, Ontario, Canada M2K 2X1
<b>1990</b> 27-31 May	FIMS 24th World Congress on Sports Medicine	Amsterdam, The Netherlands	Not known

#### **NEW MEMBERS**

The following were elected to Membership of the new incorporated Association by the Board of Directors on 14th December, 19	986
ORDINARY MEMBERSHIP	Proposed by
Dr. K. C. Agarwal, MS(Ortho), 139 Manchester Road, Clifton, Swinton, MANCHESTER M27 2PM	H. E. Robson
Dr. H. J. N. Bethel, MRCP, MRCGP, Farringdon Hurst, ALTON, Hants. GU34 3DH	P. Thomas
Mr. G. R. Carter, MChS, 5 Pengwern Terrace, WALLASEY, Merseyside L45 1HR	S. Nickson
Mr. J. R. Cossins, BEd, 1A Airedale Avenue, Chiswick, LONDON W4	H. E. Robson
Dr. E. C. Collantes, MD, Sultan Qaboos Complex, Bausher, PO Box 6900, Ruwi, Oman	D. Chapman
Miss Kathleen Cracknell, DipPhysio, 11 Queens Gate Place Mews, S. Kensington, LONDON SW5	D. Chapman
Mr. S. J. Day, BSc(Stats), Dept. Clinical Epidemiology, London Hospital Medical College, LONDON E1 1BB	H. E. Robson
Prof. I. Macdonald, MD, PhD, DSc, Hillside, Fountain Drive, LONDON SE19 1UP (Joint member)	R. Macdonald
Mrs. Jennifer Francis, MCSP, 69 Deakin Leas, TONBRIDGE, Kent TN9 2JT	D. Chapman
Mrs. Vivienne H. Lancey, MCSP, 14 Llyswen Road, Cyncoed, CARDIFF CF2 6NG	M. Bottomley
Mr. C. Percival, F.Pod.A., The Surgery, Fountain House, Western Way, EXETER, Devon	R. Ashplant
Dr. P. Stevenson, FRCS, MRCGP, Ambrosden Surgery, Ambrosden, BICESTER, Oxon OX6 7BD	H. E. Robson
Miss Rosemary Thornhill, MCSP, Malthouse Cottage, Top Street, Northend, LEAMINGTON SPA, Warks. CV33 0TY	D. Chapman
Mrs. Hiliary Turnbull, MCSP, 6 South Lane, Netherton, WAKEFIELD, West Yorks. WF4 4SL	M. Moore
Dr. Jane Wilcock, 24 East Lynn Drive, Walkden, MANCHESTER M28 5WF	H. E. Robson
Dr. P. T. Williams, BUPA Medical Centre, 210 Pentonville Road, LONDON N1 9TA	D. Chapman
Dr. Priscilla Williams, Princess of Wales Hospital, Coity Road, BRIDGEND, Mid-Glamorgan (Joint member)	J. P. R. Williams
Mr. D. W. Wood, MCSP, 85 Epsom Road, GUILDFORD, Surrey GU3 3JR	D. Chapman
STUDENT MEMBERSHIP	
Mr. J. A. Green, 8 Queensbridge Park, Whitton Drive, ISLEWORTH, Middlesex TW7 7LY	T. Watson
(Physiotherapy Student, West Middlesex)	
Mr. G. L. Lord, 32 Victoria Place, Stoke, PLYMOUTH, Devon PL2 1BY	M. Calder
The following were elected by the Board of Directors on 28th January, 1987	
ORDINARY MEMBERSHIP	
Dr. R. Combe, The Health Centre, 35-37 High Street, Bonnyrigg, MIDLOTHIAN	C. Lutton
Mr. D. G. Downie, MCSP, 9 Craig Road, Cathcart, GLASGOW G44 3DW	J. MacGregor
Dr. Alison L. Franks, 8 Middlebank Crescent, DUNDEE DD2 1HY	J. MacGregor
Ms. Paula L. Hawtin, BSc, 10 West Newington Place, EDINBURGH EH9 1QT	J. MacGregor
Mr. J. D. A. Inglis, FRCS, The Willows, Nolt Loan Road, ARBROTH, Angus	J. MacGregor
Dr. P. D. Jackson, 19 Essex Road, Acton, LONDON W3	H. E. Robson
Mr. J. Joyce, MCSP, 15 Corran Gardens, Broughty Ferry, DUNDEE DD5 3EH	J. MacGregor
Mr. E. Kaczmarczyk, MChS, 147 Alexandra Road South, Choriton-cum-Hardy, MANCHESTER M21 2RF	P. Foxcroft
Mr. P. G. Kilvington, BA, MCSP, c/o Physiotherapy Dept., Q.E.M.H., Stadium Road, Woolwich, LONDON SE18 4QH	H. E. Robson

Dear Editor,

# HEAT STROKE IN MOTOR CAR RACING DRIVERS

The Grand Prix of Car Prototypes was held on the 3rd of August, 1986 at the Jerez's Speed Way (Spain). The race began at noon when the external temperature at the boxes and runway was 31°C (88°F) and the relative humidity was 53%. The cars were driven by two drivers alternating with the second one driving during the last 75 minutes of the race. Most of the drivers wore light clothes under the overall and an electric device that circulated cold water through tubes situated inside their crash helmets, to be able to endure the high temperature of the closed cockpits of the cars.

At the end of the race (360 km) two British drivers required admission to the Intensive Care Unit of the circuit because of severe symptoms of heat stroke. Both were confused and agitated, their central temperature was 41°C (106°F), systolic blood presssure 60-70 mmHg and heart rate was oscillating between 120-140 beats/min, sinus rhythm. Blood samples showed hypernatremia (153 and 150 mmol/I, respectively) and metabolic acidosis (pH 7.20). With vigorous external cooling using iced water and rapid intravenous infusion of cooled Ringer Lactate, the drivers improved and after 20 minutes their central temperatures fell below 38°C (100°F). They were transferred to a nearby hospital, where subsequent blood analyses showed no

abnormalities in muscle enzyme levels, coagulation tests or renal function.

Recovery was uneventful and they were discharged home the following day.

We would like to alert readers to the risk of thermal stress in motor car prototype racing drivers particularly when the race is performed in places with high temperatures when the closed cockpits can achieve temperatures as high as 75°C (167°F).

The strenuous exercise in long races, lack of acclimatisation and poor heat exchange due to the special clothes that drivers wear, gives rise to the risk of heat related syndromes in these kind of drivers. If the problem occurs it should be treated as rapidly as possible to avoid the serious consequences of heat stroke.

Yours faithfully,

A. JAREÑO
J. L. DE LA SERNA
A. CERCAS
A. LOBATO
A. UYÁ
Intensive Care Unit
Hospital of Jerez
11405 (Cádiz)
Spain

#### **BRITISH JOURNAL OF SPORTS MEDICINE**

## **GUIDANCE FOR CONTRIBUTORS**

Several types of communications will be considered for publication by the Editorial Board.

- 1. ORIGINAL ARTICLES, reporting research, experimental work, innovations in therapeutic procedures, etc.

  2. REVIEW ARTICLES on special topics, which should include
- an adequate but not necessarily an exhaustive bibliography.
- 3. ABSTRACTS of verbal communications given at scientific meetings. These may be published as 'Proceedings' of meetings, and sometimes the author might be invited to submit a fuller edited text of his talk, together with illustrations.
- ANNOTATIONS, case reports, preliminary reports of re-search, and of pilot studies, usually not exceeding 400 words.
- CORRESPONDENCE, 'letters to the Editor'.
  CONFERENCE REPORTS from Area organisations of B.A.S.M., or of other meetings with direct relevance to the work and interests of B.A.S.M. members.
- NOTICES of forthcoming events relevant to Sports Medicine.
- OBITUARY NOTICES concerning B.A.S.M. members and others distinguished in Sports Medicine.

#### **SUBMISSION OF MANUSCRIPTS**

These should be sent to the Joint Editors, Dr. A. E. HARDMAN and Dr. W. N. DODDS, c/o Dr. H. E. ROBSON, 39 Linkfield Road, Mountsorrel, LOUGHBOROUGH, Leics. LE12 7DJ.

© The submission of a paper implies that it is unpublished, and has not been submitted for publication elsewhere. The copyright of articles is held jointly by the British Association of Sport and Medicine, who publishes the Journal, and by the author(s). No articles from this journal should be reprinted, in English or translation, without permission from both publisher and author(s), but no objection is made to a single photocopy being made for educational or research purposes.

Two copies of each manuscript should be submitted. They should be typewritten, double spaced, on one side of the paper only, in English, with conventional British spelling.

The title of the paper should be typed in capitals, with the me and principal qualifications of the author(s), e.g. "FRCS", name and principal qualifications of the author(s), e.g. "FRCS", "DipPE, PhD", "MSc(Psych)", "MB, BS, PhD" or "MCSP", then the appointment held, the department and the institution in which the work was carried out. If the author has moved since the work was performed, his present address should be added as

In general, manuscripts should be prepared in accordance with the recommendations of the International Steering Committee of Medical Editors, the "Montreal Agreement". A booklet is obtainable from the Editor, British Medical Journal (50 pence), or Annals of Internal Medicine, 4200 Pine St., Philadelphia for U.S. authors.

AN ABSTRACT not exceeding 150 words should follow the heading of a long paper. This should include the chief points made in the paper, and the main conclusions drawn or suggested. Only very essential references are included here. On the advice of the Editorial Board, a communication may be published in abstract only. Following the Abstract, some three to six KEY WORDS should be inserted to assist with indexing.

NOMENCLATURE. Drugs should be specified by their official name, followed by the trade name and manufacturer's name in brackets if well known and widely prescribed under its trade name. Doses should be in metric measurements, S.I. units should be used, except for measurements of blood pressure, which should be in mm. Hg. Conversions from one system of measure ments to another should be rounded off, and in all tables unnecessary decimal places should be avoided, as they are usually due to the mechanics of the computer, and not to accurate scientific measurement.

REFERENCES mentioned in the text should give the name of the author, or first author followed by 'et al' for multi-author papers, with the date of publication in brackets, e.g. "Wright, et al (1976)". In the reference section, the authors" names should be arranged in alphabetical order, followed by year of publication, title of paper, journal, volume number, and first and last pages, e.g. "WRIGHT, G., CLARKE, J., NINIMAA, V. & SHEPHARD, R. J. 1976 'Some reactions to a dry-land training programme for dinghy sailors' Brit.Journ. Sports Med. 10: 4-10". For text-book references, the author, editor, year, title of chapter, title of book, edition number, publisher, and city of publication should be given. Our retention of the "Harvard System" of references is our only major deviation from the recommendations of the Montreal Agreement.

ILLUSTRATIONS should preferably be drawn on card in indian ink, with labelling lightly in pencil, or written or typed well clear of the actual drawing or graph. Good quality half-tone photographs may be used if suitable for reduction to fit the space allocated. Coloured photographs will only be reproduced in half-tone and X-ray plates and transparencies cannot be guaranteed to give adequate reproduction. If necessary, a second photograph with arrows or lettering should be included, as a guide to the block-maker. Figures are numbered in Arabic numbers.

Authors are reminded that they are responsible for clearing copyright on any figures, tables or other matter already published elsewhere, and the Editor may require written authorisation to the author from the copyright holder. He may also require signatures on the letter accompanying MSS from ALL the contributors of multi-author papers.

PROOFS:- It is the responsibility of the author/s to check proofs carefully and return them to the Editor without delay. Any extensive re-setting of type because of an author's "second thoughts" could be charged to the author.

#### REPRINTS

It is regretted that we cannot supply authors with the customary 50 free reprints that certain other journals offer. Orders for reprints should be made on submission of the manuscript, or when returning the proofs. The exact cost cannot be given accurately until publication, but as a guide we are currently charging

ging, ioi ioo	US	
1 page	£ 17	\$ 36
2 pages	£ 26	\$ 40
4 pages	£ 36	\$ 60
8 pages	£ 65	\$ 95
12 pages	£124	\$170

These prices exclude postage, packing; not bank clearance charges on cheques from overseas, which are included.

Preferred method of payment from overseas, Bank Drafts in Sterling.

A "Contributor's Copy" is sent gratis to each author and co-

THE EDITORIAL BOARD reserve the right to accept, reject, edit or otherwise correct any manuscript submitted. The opinions expressed in articles, book reviews or letters are those of the author, and do not necessarily agree with those of the editor, editorial board, or executive committee of the British Association of Sport and Medicine.

In common with most other scientific journals, because of limitations of space and the large number of manuscripts submitted, we ask authors, where possible, to limit the length of articles to some five pages of typescript, plus one page of tables, and one page of figures. In most circumstances, six or up to ten references usually suffice.