

# PostScript

## LETTERS

### START is not the best triage strategy

I read with interest the article of Delaney and Drummond<sup>1</sup> in the April issue, and found it both useful and informative. However, I must disagree that in mass casualty situations "Most experts agree that START (simple triage and rapid treatment) . . . is the best strategy".

This recommendation should only be made if the system is the easiest to use for the people undertaking the triage process, or is the most accurate at triaging patients.

Three triage systems are currently in common use in the developed world: START, Careflight, and the Triage Sieve and Sort.

START was devised in the mid 1990s in the United States, and has since been modified. It bases triage around walking, breathing, presence or absence of a radial pulse, and the ability to follow commands, and categorises patients for immediate or delayed care, or as unsalvageable.

Careflight is used in many parts of Australia, and also uses walking as the first discriminator. It then relies on the ability to follow commands, presence of a radial pulse, and presence of breathing to assign an appropriate category. Patients are immediate, urgent, delayed, or dead.

The UK system, Triage Sieve and Sort, uses the same four triage categories. The Sieve is used for primary triage, at the scene, and patients are retriaged using the Sort at the casualty clearing station.

The Sieve first uses a walking filter, and then presence of breathing, respiration rate, and capillary refill time or heart rate to categorise patients. The Sort uses the triage revised trauma score, to which may be added anatomical information.

In terms of ease of use, the algorithm chosen must fulfil two criteria. The first is that it is simple to use: all three algorithms fulfil this requirement. The second is that users should be familiar with it. The triage Sort will be familiar to most UK pre-hospital personnel, as it is the system used by most UK ambulance services on a day to day basis. The Sieve will be familiar to all those who have attended the Major Incident Medical Management and Support (MIMMS) course<sup>2</sup> or the shorter one day version.

As increasing numbers of doctors, nurses, ambulance personnel, and other emergency services are now attending MIMMS courses, the Triage Sieve and Sort will become more familiar. The course is now taught in Sweden, Holland, Australia, Cyprus, and has recently been accepted by NATO. It is being considered in South Africa.

With regard to the accuracy of the algorithm, a recent article in the *Annals of Emergency Medicine*<sup>3</sup> retrospectively compared START, Careflight, and the Triage Sieve. The authors found that START had the same sensitivity and a lower specificity than Careflight for identifying critically ill patients. The use of Triage Sieve alone rather than Sieve and Sort makes interpretation of their results with regard to that system unreliable.

Many mass casualty situations involve children, and a triage algorithm that relies on walking or adult physiological values will over-triage many children. The Triage Sieve offers an alternative in the Paediatric Triage Tape, which is currently being prospectively validated in South Africa.

This combination of factors—familiarity to UK pre-hospital providers, accuracy, and accommodating injured children—should lead to the recommendation that, for mass casualty situations in the United Kingdom, the Triage Sieve and Sort should be the triage algorithm of choice.

Furthermore, all those providing medical care at mass gatherings such as sporting events should have attended a MIMMS course, which provides an excellent system in the unlikely event of a mass casualty situation.

L Wallis

Dunstone Farm Barns, Shaugh Prior, Plymouth PL17 5EH; lee.wallis@mweb.co.za

### References

- 1 Delaney JS, Drummond R. Mass casualties and triage at a sporting event. *Br J Sports Med* 2002;36:85-8.
- 2 Advanced Life Support Group. *Advanced paediatric life support: the practical approach*. 2nd ed. London: BMJ Publishing Group, 1997.
- 3 Garner A, Lee, A, Harrison K, et al. Comparative analysis of multiple casualty incident triage algorithms. *Ann Emerg Med* 2001;38:541-8.

### Computer based screening in concussion management: use versus abuse

As reviewed by Schnirring,<sup>1</sup> a number of user friendly, computer based systems for concussion management have been developed, including CogSport in Australia and HeadMinder and ImpACT in America. Important cautionary comments have been made about the appropriate use of such programmes (versus potential for their misuse),<sup>1,2</sup> which from a neuropsychological perspective warrant further elaboration. The computer based technology in question falls within the specialist field of the clinical neuropsychologist, whose area of expertise encompasses the development and use of psychometric tests for screening for brain damage. The problem to emphasise here is that there is the potential for malpractice when such computer based tests become separated from their professional—that is, neuropsychological—source.

There is a growing consensus that computerised test platforms such as referred to above have substantial practical advantages over conventional neuropsychological tests for use in the sports arena.<sup>1-4</sup> They offer automated assessment which can be conducted on groups of individuals, and they can be administered by a trained team doctor or school coach, or be web based, without the presence of a neuropsychologist. However, it is precisely herein—that is, the apparent ease with which these computer based systems can be applied—that the potential for misuse lies.

As Schnirring<sup>1</sup> points out, neuropsychologists are not in a position to evaluate

the various programmes being marketed. Developing this point further, there is a real danger that non-psychologists may fall into the trap of construing that the scores derived from such programmes can be used, in and of themselves, as a type of "litmus paper" for making decisions about the presence or absence of cerebral dysfunction in the individual case. This type of misconception occurred in the early days of neuropsychological test development, and has been a chronic source of inadequate practice in the discipline.<sup>3,6</sup> Accordingly, in modern neuropsychology the attribution of this type of diagnostic power in respect of a single neuropsychological test, or any set of tests in isolation—that is, in the absence of clinical and collateral data—goes against fundamental practice principles and is vehemently opposed.<sup>3,6</sup> In keeping with this, it is encouraging that top medical professionals involved in concussion management (as cited in Schnirring's article) have emphasised the following: computer based test results should be viewed as only one aspect of an assessment, together with the individual neurological examination, careful analysis of symptom presentation, possible imaging tests, and/or a more detailed neuropsychological examination.

From a neuropsychological perspective, such cautionary comments on computer based screening batteries cannot be too strongly endorsed. In practical terms this amounts to the following: return to play decisions should not be made on the basis of computer based test outcome alone in the absence of access to a clinical assessment of the individual, and importantly, nor should test results be interpreted by a practitioner without neuropsychological expertise. In the event of a medicolegal claim, such non-specialist use of computer based programmes is unlikely to be upheld as ethical practice. Due respect for the complexities involved in neurological interpretations of psychometric test results—that is, the professional terrain of the neuropsychologist—will ensure that the apparent ease of computer based testing does not result in its misuse.

A B Shuttleworth-Edwards, M A Border

National Sports Concussion Initiative (NSCI), Rhodes University, Grahamstown, South Africa; A.Edwards@ru.ac.za

### References

- 1 Schnirring L. How effective is computerized concussion management? *Physician and Sports Medicine* 2001;29:11-16.
- 2 Collie A, Darby O, Maruff P. Computerised cognitive assessment of athletes with sports related head injury. *Br J Sports Med* 2001;35:297-302.
- 3 Aubry M, Cantu R, Dvorak J, et al. Summary and agreement statement of the 1st international symposium on concussion in sport, Vienna 2001. *Clin J Sports Med* 2002;12:6-11.
- 4 Makdissi M, Collie A, Maruff P, et al. Computerised cognitive assessment of concussed Australian Rules footballers. *Br J Sports Med* 2001;35:354-60.
- 5 Lezak M. *Neuropsychological assessment*. 3rd ed. Oxford: Oxford University Press, 1995.
- 6 Walsh K. *Understanding brain damage: a primer of neuropsychological evaluation*. 2nd ed. Melbourne: Churchill-Livingstone, 1991.

## BOOK REVIEW

### The musician's hand

Ian Winspur, Christopher Wynn Parry. Martin Dunitz Publishers, 1998, £49.95. ISBN 1 85317 492 0

This sounds an intriguing title for a book to be reviewed in this journal. In clinical sports medicine practice, it is not uncommon to be consulted by musicians with a variety of soft tissue or other problems. This is partly because of the lack of specific medical care available for this group of people.

There is also an overlap between the problems of sports men and women and musicians that suggests that each group has much to offer the other. This book by two hand surgeons from London is a fascinating addition to the literature but ultimately disappoints both the sports physician and the performing arts physician.

Clearly the strength of two surgeons as authors is their diagnostic approach to musician's hand problems and their obvious surgical skills in this region. Where they stray into topics outside their own expertise, there is both a lack of understanding and a lack of perspective of the injuries discussed. For example, the discussion of "tendinitis" and "tennis elbow" would send shivers down the spine of any reader of the *British Journal of Sports Medicine*. The terminology in these areas and the pathological basis of the conditions has been extensively reviewed in recent times. This is again reflected in the chapters on nerve compression syndromes and focal or task specific dystonias where a neurological input would have given far more perspective into the current thinking in this interesting and stimulating field.

There are also far too many examples of "cross referencing" of the co-author's work rather than a true review of the published literature, which would have added so much more to this book. A prime example of this is in the nerve chapter again, where the electrodiagnostic techniques are references to a 1981 publication of the co-author rather than any of the wide range of neurological reference books on this subject.

This book has many strengths however. It has a "chatty" style which reads well and contains many anecdotal observations by leading musicians and conductors on performance technique that give a fascinating insight into the minds of these gifted individuals. There is, however, a lack of critical appraisal of their comments and how the experience of leading concert performers may be extrapolated into assisting the problems of "non-elite" instrumentalists. The surgical discussions are concise and elaborate many of the critical issues in planning surgical intervention in this group. Any surgeon contemplating operating on the hand of a musician at any level would certainly benefit by reviewing this important information.

One of the problems of any book with multiple contributors is editing the various sections to achieve balance and avoid repetition. This is not well achieved and the repeated reference throughout the text to a "Joan Dixon, the doyenne of cello pedagogues" is enough to drive the reader barmy. It is never explained who this person is. Ms Dixon is not listed in the contributors nor in the chapter references. From the frequent mention of her name, I could have assumed

that she could have written the chapter on cello technique by herself!

As I said, there are some real strengths in this book that makes it a useful addition for hand surgery practice, but it could have been so much more. If the authors had utilised expertise from outside the small world of "musician's medicine", a far deeper understanding of the problems could have resulted. There are so many overlaps with sports medicine that it is scary.

For the clinician who wants a better overview of this whole area (rather than just hand problems), then the book *Performing arts medicine* (2nd ed) by Sataloff, Brandfonbrenner, and Lederman (Singular Publishing Group, San Diego, 1998, ISBN 1 56593 982 4) is a much better option as a starting point. There is also a US based performing arts medicine society, which publishes a regular newsletter in this field, as well as the British Association of Performing Arts Medicine.

**P McCrory**

PO Box 93, Shoreham, Melbourne, Victoria, Australia; pmccrory@compuserve.com

## CALENDAR OF EVENTS

### Skills Course in Musculoskeletal Ultrasound

6-8 January 2003, Oxford, UK

*Further details:* Alison Davies, Department of Radiology, Nuffield Orthopaedic Centre, Headington, Oxford, OX3 7LD, UK; tel: +44 (0)1865 227765; fax: +44(0)1865 227347; email: alison.davies@noc.anglox.nhs.uk

### BASICS Refresher course

28-29 November 2002, Madingley Hall, Cambridge, UK

This two day course is directed at previous participants on the pre-hospital emergency care and immediate care courses. The aim is to maintain and update skills, incorporating the latest developments in pre-hospital care.

*Further details:* BASICS Education Ltd; tel: +44 (0) 870 165 4999; fax: +44 (0)870 165 4949; email: educ@basics.org.uk  
Web site: www.basics.org.uk

### Athletes Heart Symposium

17 December 2002, University College London, UK

An international multidisciplinary symposium for physiologists, cardiologists, sports scientists, and physicians in associations with the Physiological Society.

*Further details:* Lynn Coombs, Cardiac Department, Homerton University Hospital, Homerton Row, London E9 6SR, UK; email: ahsymp@btinternet.com

### 2nd World Congress of Science and Medicine in Cricket

4-7 February 2003, University of Port Elizabeth, South Africa

*Further details:* Dr Richard Stretch, University of Port Elizabeth, PO Box 1600, Port Elizabeth 6000, South Africa; tel: +27 41 5042584; fax: +27 41 5832605; email: sparas@upe.ac.za

### The 2003 NSW Conference of Science and Medicine in Sport

1 March 2003, AJC Convention Centre, Alison Road, Randwick, NSW, Australia

Keynote speaker: Professor Nikolai Bogduk, University of Newcastle.

*Further details:* www.smasw.com.au or email smasw@dsr.nsw.gov.au

### SMX 2003

22-23 March 2003, University of Melbourne, Victoria, Australia.

The Victorian Conference of Science and Medicine in Sport and Exercise in conjunction with The Gastrolyte VIS International Science and Football Symposium.

*Further details:* members@vic.sma.org.au

### Sports Medicine Seminar at the Hong Kong Sevens

27 March 2003, Hong Kong

This will be the first of an annual conference on Sports Medicine to coincide with the premier 7s event. Please visit the website [www.droid.cuhk.edu.hk/events/sms.htm](http://www.droid.cuhk.edu.hk/events/sms.htm)

*Further details:* Iain Stewart, National Diagnostic Imaging, Woden, ACT 2606, Australia; tel: +61 2 6282 2888; email: ncdi@ozemail.com.au

### 5th World Congress on Science & Football

April 2003, Lisbon, Portugal

*Further details:* Dr J Cabri; email: Jcabri@fmh.utl.pt

Web site: <http://www.fmh.utl.pt/wesf>

### 2003 SMA Queensland State Conference (Australia)

3-4 May 2003, Nara SeaWorld Resort, Gold Coast.

Speakers: Dr John Best, Medical Director for the 2003 Rugby World Cup; Associate Professor Kim Bennell, Director, Centre for Sports Medicine Research and Education, (School of Physiotherapy), University of Melbourne, Victoria, Australia.

*Further details:* [www.sportsmedicine.com.au](http://www.sportsmedicine.com.au)

### 3rd Québec International Symposium on Cardiopulmonary Rehabilitation Evidence Based Interventions: Science to the Art of Cardiopulmonary Rehabilitation

11-13 May 2003, Québec City Convention Center, Québec, Canada

Call for abstracts deadline is 1 November 2002. The abstract submission form and complete programme can be printed from the web site.

*Further details:* email: Jean.Jobin@med.ulaval.ca

Web site: [www.ulaval.ca/symp-rehab](http://www.ulaval.ca/symp-rehab)

### The 6th STMS World Congress on Medicine and Science in Tennis in conjunction with the LTA 2004 Sports Science, Sports Medicine and Performance Coaching Conference

19-20 June 2004, London, UK

Keynote speakers include Professor Per Rensstrom (SWE), Professor Peter Jokl (USA), Professor Savio Woo (USA), Dr Carol Otis (USA), Dr Mark Safran (USA), Dr Ben Kibler (USA), Prof Bruce Elliott (AUS), and Professor Ron Maughan (UK).

*Further details:* Dr Michael Turner, The Lawn Tennis Association, The Queen's Club, London W14 9EG, United Kingdom; email: michael.turner@LTA.org.uk

International XVII Puijo Symposium  
25–28 June 2003, Kuopio, Finland  
This symposium "Physical activity and Health—Gender Differences Across the Lifespan."

*Further information:* Ms Auli Korhonen, Project Secretary, Kuopio Research Institute of Exercise Medicine, Puijo Symposium Secretariat, Haapaniementie 16, 70100 Kuopio, Finland; tel: +358 17 288 4422; fax: +358 17 288 4488; email: puijo.symposium@uku.fi

## NOTES AND NEWS

### Winners of the annual BASEM Prizes

Dr Eileen Mackie (Clopidogrel inhibits platelet activation and exercise induced ischaemia in stable coronary artery disease) and Mrs Eleanor Curry (Role of exercise in multiple sclerosis) (joint winners).

The poster prize was won by Dr Stuart Reid (Injury patterns and injury prevention strategies in the winter sports population attending the English medical centre in Val D'Isere).

### Diploma in Sport and Exercise Medicine for Great Britain and Ireland

Details for the above exam can be found on the Royal College of Surgeons of Edinburgh Website at <http://www.rcsed.ac.uk> alternative applicants can write to: The Royal College of Surgeons of Edinburgh, Eligibilities Section, Careers Information Services, 3 Hill Place, Edinburgh; tel: +44 (0)131 668 9222 or Mrs Yvonne Gilbert, Intercollegiate Academic Board for Sport and Exercise Medicine, Royal College of Surgeons of Edinburgh, Nicolson Street, Edinburgh EH8 9DW; tel: +44 (0)131 527 3409; email: y.gilbert@rcsed.ac.uk

### Intercollegiate Academic Board of Sport and Exercise Medicine Diploma Exam

The following were successful diplomates in the Intercollegiate Academic Board of Sport and Exercise Medicine Diploma Exam:

7 July 2000

- Dr Prabodh C Agarwal
- Dr Robert Bleakney
- Dr Trevor W Fleet

8 November 2000

- Dr James P Robson
- Dr Samantha L Fee
- Dr David C Watkins
- Dr RS Prabu

For further information contact: Donald AD Macleod, Chairman, Intercollegiate Academic Board of Sport and Exercise Medicine

### www.basem.co.uk

The British Association of Sport and Exercise Medicine has launched its new website—[www.basem.co.uk](http://www.basem.co.uk). The site provides information about the educational opportunities in sport and exercise medicine and advice to those wishing to become involved in this area.

### Interested in Sports Medicine? Gain a higher degree from Australia's leading University

The Centre for Sports Medicine Research and Education is a multidisciplinary Centre located in the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne, Australia. It combines world-class researchers and clinicians working in the area of sports medicine.

#### Research Higher Degrees

The Centre offers Doctor of Philosophy (PhD), Master of Sports Medicine, Master of Physiotherapy, Master of Science, and Doctor of Medicine degrees. These are available to graduates of health and medical science courses such as physical therapy, medicine and human movement.

#### Educational programme

The Centre offers a one month full time Postgraduate Certificate in Sports Physiotherapy: spine, pelvis, and lower limb. Instructors are leading clinical experts and researchers in the multidisciplinary approach to sports medicine. The Certificate will run from Nov 4–29 in 2002.

Please contact: A/Professor Peter Brukner: [p.brukner@unimelb.edu.au](mailto:p.brukner@unimelb.edu.au) (Research Degrees), A/Professor Kim Bennell: [k.bennell@unimelb.edu.au](mailto:k.bennell@unimelb.edu.au) (Research Degrees), Mr Henry Wajswelner: [h.wajswelner@unimelb.edu.au](mailto:h.wajswelner@unimelb.edu.au) (Certificate Courses).

[www.physioth.unimelb.edu.au/csmre](http://www.physioth.unimelb.edu.au/csmre)

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*Further details:* Sports Medicine Programs, UNSW Sydney 2052, Australia; tel: +612 9385 2557; fax: +612 9313 8629; email: [sportsmed@unsw.edu.au](mailto:sportsmed@unsw.edu.au)

Web site: [www.med.unsw.edu.au/sportsmed](http://www.med.unsw.edu.au/sportsmed)

### NCPAD NEWS

A monthly publication of the National Center on Physical Activity and Disability. NCPAD is the leading source for information about organisations, programmes, and facilities nationwide providing accessible physical activity and recreation. NCPAD also has a large and growing online library of fact sheets, monographs, and contact information on physical activity and recreation for people with disabilities.

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### Study Sports Physiotherapy in Australia's sporting capital at The University of Melbourne

Qualified physiotherapists may now apply for the Master of Physiotherapy by Coursework (Sports Physiotherapy), the Postgraduate Certificate in Physiotherapy (Sports Physiotherapy of the Spine, Pelvis and Lower Limb) or the Postgraduate Certificate in Physiotherapy (Sports Physiotherapy of the Spine, Shoulder and Upper Limb).

The School of Physiotherapy at the University of Melbourne now has approval for these courses and applications are open to international students for full time study.

- Applications for the Master of Physiotherapy by Coursework (Sports Physiotherapy) close **1 October 2002**.
- Applications for the Postgraduate Certificate in Physiotherapy (Sports Physiotherapy of the Spine, Pelvis and Lower Limb) close **1 November 2002**.
- Applications for the Postgraduate Certificate in Physiotherapy (Sports Physiotherapy of the Spine, Shoulder and Upper Limb) close **1 April 2003**.

Please check the website for updates and information about the courses: [www.physioth.unimelb.edu.au/postgrad.html](http://www.physioth.unimelb.edu.au/postgrad.html)