Effects of fatigue on ankle stability and proprioception in university sportspersons

Objectives
To assess the effect of fatigue from sporting activity on ankle stability and proprioception in university sportspersons. A wide range of sporting activity was included from taekwon-do to indoor football.

Methods
Subjects were recruited from Southampton University Sports facilities. They agreed to perform two dynamic tests before and after their typical training. (1) A horizontal hop test starting and finishing on the same foot. The best distance from three attempts was recorded. (2) A hexagonal hop test: the subjects hopped around a hexagon marked on the ground in either a clockwise or anticlockwise direction as quickly as possible. The quickest attempt out of three was recorded.

Results
The means before and after exercise were compared using a Student’s t-test. Both tests were set at the 5% significance level.

Hexagonal hop test (n = 40)
A Student’s t-test was used to compare the best time for the hexagonal hop test before and after exercise. The t value was 3.95, indicating a significant improvement in hop time after exercise.

Horizontal hop test (n = 25)
At the 5% level, the data are insignificant, with a t value of 0.1107. A general trend of increased distance after exercise (fatigue) was observed (mean of 1.746m before against 1.775m after).

Conclusions
The results show that the subjects made significant improvements in hexagonal hop times with no difference in the distance hopped. This leads to the conclusion that, despite muscular fatigue, ankles appear to be more stable after exercise. Does exercise induce an increase in afferent/efferent nerve impulses to and from muscle spindles around the ankle leading to improved joint position sense?

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References

Intense training in elite female athletes: evidence of reduced growth and delayed maturation?

In their recent article Intensive training in elite young female athletes, Baxter-Jones and Maffulli reviewed 18 studies and concluded "training does not appear to affect growth and maturation." We have two concerns about this conclusion. Firstly, we agree that analyses of cross sectional and cohort data in this population are confounded by sampling bias; gymnasts who are successful at an elite level are likely to be self selected by their small stature and delayed maturation. Furthermore, data from cross sectional and cohort studies are often averaged. This "group" approach provides little information about individual growth patterns. Thus, in the reviews of Baxter-Jones and Maffulli, and the literature at large, an important basic question has been overlooked: is there any evidence that growth and/or maturation are adversely affected in some athletes and if so, what is the frequency of this condition?

Secondly, in contrast with their findings, our analysis of over 35 clinical reports (cross sectional, historical, and prospective cohort studies) indicates that elite level gymnasts may be at risk of adverse effects on growth. We reported that the increased magnitude of the delay in skeletal maturation with training in the cohort of total female gymnasts compared with the occurrence of catch up growth during periods of reduced training or retirement, provides evidence that growth and maturation may be affected in some instances. Furthermore, in contrast with the interpretation made by Baxter-Jones and Maffulli that gymnasts, we did report an association between reduced growth and years of gymnastic training, and that the deficits were greater at the growth peak than at the end of training.

We agree with Baxter-Jones and Maffulli that a cause-effect relation between gymnastics training and inadequate growth of girls has not been shown; there have been no randomised controlled trials. However, this does not mean there is "no evidence for inadequate growth among female gymnasts." Instead, the data are coerced by group means and ignore variability about the mean, then gymnasts who are at increased risk of reduced growth may be overlooked. We recommend that the growth of all young elite female gymnasts should be monitored regularly. Any gymnast who falls behind in growth—that is, across two major centiles of the growth chart—should undergo a complete evaluation for underlying pathology, even when height is not below the fifth centile. This may be normal short stature, but the clinical criterion warrants assessment.

References
Spoilsports (understanding and preventing sexual exploitation in sport)


The book is targeted at everyone involved in sport: coaches, doctors, scientists, administrators, parents, and participants.

Celia Brackenridge is internationally acclaimed for her work in uncovering the story of sexual exploitation in sport and offering explanations about why it occurs. She is uniquely qualified by her professional expertise as a scholar in the sociology of sport and by her own experience as coach and athlete at elite level in the sport of lacrosse. It is very brave to pursue a line of research that almost always creates immediate resistance from the audience (“... that can’t be happening in our sport/profession”). It is also personally harrowing to investigate this issue with the victims and to find support to cope with what is heard. The production of this book is therefore a culmination of several years of difficult research. It is clear to me that all of us involved in sport must read this book and be aware of the issues. Those of us in higher education must also put this book on the reading list for “ethical issues” topics in curricula for all sport related degrees.

The title is great. Sport should be fun and run within a set of rules that are clear to all. But sexual exploitation within sport is a breach of rules and most certainly will spoil sport (and lives) for many (and who knows how many) individuals. The first two parts of the book provide evidence for the complex issue of sexual exploitation in sport and reasoning about why it may occur. If anyone reads this and continues to think that sexual exploitation cannot be happening in their sport or profession because there are no specific examples, then they must think again. Evidence suggests that exploitation will be happening in all areas of sport, and Brackenridge challenges us to become aware of that and then to take steps to prevent it. The third and fourth parts of the book offer a chance to change the way sport is managed and how researchers can assist in this change in order that sexual exploitation is dealt with. This book is a brilliant example of “building bridges between theory and practice” (page 236) and utilises the feminist perspective of “praxis”. (A definition of feminist praxis is ... the coming together of theory and practice in action, and in the reflecting upon these processes to generate new ideas and ways of working”). The major message is that gender/power relations need to be examined in sport, and an empowerment based approach to sports leadership promoted.

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Web site: www.basem.co.uk

Reference
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

The 5th Asian Federation of Sports Medicine Congress
24–27 October 2002, Seoul, South Korea
Further details: AFSMC 2002 Seoul Secretariat, Hanlim Travel Service Co Ltd, (c/o Young CHANG) Marine Center New Bldg 5th Fl, #51, Sogong-dong, Chung-gu, Seoul 100–770, South Korea; tel: + 822 726 5555; fax: + 822 778 2514; email: ychang@kaltour.com
Web site: http://www.afsmc2002.or.kr

Australian College of Sports Physicians (ACSP) 2002 Conference in conjunction with the New Zealand Sports Medicine Conference
30 October–3 November 2002, Christchurch, NZ
Key note speaker will be Assistant Professor Karim Khan from Vancouver, Canada.
Further details: Rob Campbell; email: rcampbel@sportsmed-nz.co.nz
Web site: www.acsp.com.au

Skills Course in Musculoskeletal Ultrasound
6–8 January 2003, Oxford, UK
Further details: Alison Davies, Department of Radiology, Nuffield Orthopaedic Centre, Headington, Oxford, OX 3 7LD, UK; tel: + 44 (0)1865 227765; fax: + 44 (0)1865 227347; email: alison.davies@noc.anglox.nhs.uk
Web site: www.basics.org.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.
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Web site: www.basics.org.uk

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

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

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
Keynote speakers include Professor Per Rennstrom (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

NOTES AND NEWS

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: ygilbert@rcsed.ac.uk

www.basem.co.uk
The British Association of Sport and Exercise Medicine has launched its new website—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.

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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.

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