RESEARCH LETTERS

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.

Methods
Subjects were recruited from Southampton University sports facilities. They agreed to perform two dynamic tests before and after they took part in sport. (1) A horizontal 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.

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

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/effferent nerve impulses to and from muscle spindles around the ankle leading to improved joint position sense?

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Centripetal skater’s manual oedema

This doctor’s indulgence in rigorous physical activity led to the realisation of a novel clinical entity. As an active sportsman and ex-ice hockey player, currently living in a hot climate, I have had to sublimate my sporting activities to infrequent inline roller skate street journeys. Recently, on a day of a very pressed schedule, I attempted to concentrate a week’s exercise into one concise session. After an hour and fifteen minutes of intense exertion, rapidly skating up and down hills and valleys, over good and not so good paved surfaces, I experienced an unexpected heaviness and tightness in the tips of my fingers. Later I noticed that the simple task of clenching my fists was not fully possible, and this was more accentuated in the right hand (the more dominant of the two). Within the course of a couple of hours the whole condition spontaneously subsided.

I had never previously suffered such events, no concurrent pathology existed in any body system, and I have remained healthy since.

The working hypothesis to explain this phenomenon must be that the rhythmic swaying and waving of the outstretched arms in a circular arc resulted in increased centripetal force of hydrostatic pressure in the distal parts of the upper limbs. This overwhelming pressure overcame the compensation mechanism of the lymphatic system to drain the hands. Axillary pressure from the straps of a backpack may have compounded the effect, although all it contained was a mobile telephone and a small bottle of water.

Bizarre and not always innocent diagnoses have been made in the pathogenesis of limb oedema. The resulting hydrostastic effects of physical exertion of the lower limbs are well documented. Possible reasons why this problem does not occur during ice skating are the fact that long distances without any stops are uncommon and the cold environment may provide protection through peripheral vasoconstriction.

Thus heavy roller skating is a thought to entertain a doctor’s mind when confronted with a patient with acute unexplained bilateral hand oedema.

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References

LETTER

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.”1 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 review by 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.2 We reported that the increased magnitude of the delay in skeletal maturation with training in adolescent female gymnasts coupled 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.3 Furthermore, in contrast with the interpretation made by Baxter-Jones and Maffulli of our data, we did report an association between reduced growth and years of gymnastic training, and that the deficits were greater at the growth rate than appendicular skeletal growth 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.

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References

www.bjsportmed.com
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 challenge 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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Kinesiology—New Perspectives.

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25–29 September 2002, Opatija, Croatia
Further details: Conference Office, Faculty of Kinesiology, 10,000 Zagreb, Horvacanski zavod 15, Croatia; tel: +385 1 3658 666; fax: +358 1 3634 146; email: natalija.babic@ffk.hr

Evening Tutorials II: The ankle, anatomy, examination, biomechanics, surgical procedures, and rehab, with practical sessions

Autumn 2002, Edinburgh
Further details: Dr Faith Gardner, 73a London Rd, Kilmarrock, Ayrshire; tel: (0)1563 537306

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BASEM Congress 2002

10–13 October 2002, The Low Wood Hotel and Conference Centre, Windermere, Cumbria, UK

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Professor Stuart M McGill (Canada), will lecture on “Low back exercise: the foundation for building the best programme” and present a workshop on "a programme to enhance spine stability". Assistant Professor Karin Khan (Canada), will lecture on “Better management of tendinopathies” and “Physical activity and bone health”. Other speakers include: Professor Dr Hans H Paessler (Germany) lecturing on “Current concepts in knee ligament reconstruction following sports injuries” and "Rehabilitation after cruciate liga-

ment reconstruction”; Mr Peter Hamlyn (United Kingdom), Chairman of the Government Ministerial Working Group. Report on

Saftey and Medicine in Sport, will open and Chai a discussion on progress one year on from the report.

A full programme is available on our web site www.bjsportmed.com.

Further details: Mrs Sue Roberts, BASEM Company Office, 12 Greenside Ave, Frodsham, Cheshire WA6 7SA, UK; tel/fax: +44 (0)1928 732 961; email: basemoffice@compuserve.com

Web site: www.basem.co.uk

Please visit our website for a full programme.

Sports Medicine Course

3–10 August 2002, Vancouver, Canada
Further details: Kathy M Means; tel: +1 608 263 6637; fax: +1 608 262 8421; email: cjmeans@facstaff.wisc.edu

XVI IEA World Congress of Epidemiology

18–22 August 2002, Montreal, Canada
Further details: Conference Secretariat, Events International Meeting Planners, 759 Square Victoria, Suite 300, Montreal, Quebec, H2Y 2J7, Canada; tel: +1 514 286 0855; fax: +1 514 286 6066; email: info@eventsintl.com

Web site: www.iea2002.com

Sports Medicine of Australia

2002 Australian Conference

12–16 October 2002, Carlton Crest Hotel, Melbourne, Australia

Keynote speakers include Dr Bill Evans, Professor Tom Rowland, and Dr Glenn Singleman.

Further details: Kate Gulliver, Sports Medicine Australia, PO Box 237, Dickson ACT 2602; tel: +02 6230 4650; fax: +02 6230 9580; email: sma.conf@sma.org.au; Carlton Crest Hotel contact details: 92 Queens Road, Melbourne VIC 3004, Australia; tel: +61 3 9526 7470; fax: +61 3 9526 7400.

Celebrating 50 years of Orthopaedics in Singapore

13–16 October 2002, Singapore

In conjunction with the 25th Singapore Orthopaedic Association Meeting, 22nd Asian Orthopaedic Association Meeting, 5th Combined Meeting of Spinal and Paediatric Sections—APOA, 7th Meeting of Sports Medicine Section—APOA, 3rd Meeting of Asia-Pacific Orthopaedic Society for Sports Medicine.

Further details: 2002 COM Secretariat, c/o Dept of Orthopaedic Surgery, National University Hospital, 5 Lower Kent Ridge Road, Singapore 119074, Republic of Singapore; tel: +65 772 4340; fax: +65 778 0720; email: secretariat@soa.org.sg


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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, 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

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.

Interested in Sports Medicine?
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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.

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Educational programme
The Centre offers a one month full time Postgraduate Certificate in Sports Physiology: 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: contact: A/Professor Peter Brukner: p.brukner@unimelb.edu.au (Research Degrees), A/Professor Kim Bennell: k.bennell@unimelb.edu.au (Research Degrees), Mr Henry Wajdowicz: h.wajdowicz@unimelb.edu.au (Certificate Courses). www.physiother.unimelb.edu.au/csmre

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Web site: 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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different patterns exerted more force, and therefore had a greater influence on muscle strength and stability. In a study that examined muscle activity in the lower extremities according to PNF combination patterns, Oh et al. reported that muscle activities of the rectus femoris and the vastus medialis muscles significantly increased. The effects of kinesio taping on proprioception at the ankle. J Sports Sci Med, 2004, 3: 1â€“7. 35) Williams S, Whatman C, Hume PA, et al.: Kinesio taping in treatment and prevention of sports injuries: a meta-analysis of the evidence for its effectiveness. Sports Med, 2012, 42: 153â€“164. [CrossRef] [Medline] 36) Jang JH: Effects of adaptation on the ability to balance taping kineshio therapy in hemiplegic patients. The proprioception test measured the angle of the knee joint with the subject blindfolded. The Berg Balance Scale (BBS) was used to measure balance ability. Results: For the proprioception test, there was no statistically significant difference. For the BBS measuring balance ability, there was a significant increase post-intervention (p<.05). Conclusion: During ankle strategy exercise, it is slightly more effective to apply visual feedback training in order to improve proprioception and balance ability. In is necessary for future studies to expand upon the topic of visual feedback.