Physical training is generally considered to influence serum HDL-C levels. However, whether exhaustive training influences serum HDL-C levels remains unknown. Intense exercise increases oxygen consumption and free radical formation, and induces oxidation of low density lipoprotein (LDL). HDL plays an important protective role in LDL oxidation. An imbalance between free radical production and antioxidants is considered to lead to oxidation of LDL and subsequent alterations in serum HDL metabolism. This study investigates changes in serum urate, which is the most important intrinsic antioxidant, and serum lipids in male athletes after three weeks of exhaustive training.

We measured fasting serum lipids and urate in 11 male athletes (mean (SD) age 21.2 (2.2) years; height 168.3 (4.2) cm; body weight 65.4 (3.7) kg) before and after three weeks of exhaustive training. All the subjects performed the same intensity exercise, which consisted of a 20 (3) km run and isometric training for two hours every day for three weeks. The daily diet provided 9802 (209) kJ and consisted of about 12–15% protein, 55–65% carbohydrate, and 25–30% fat over the study period. None were taking drugs known to affect lipid and lipoprotein metabolism. Special care was taken to exclude athletes using anabolic drugs, vitamins, or other antioxidants or who were smokers. Serum lipids were measured by automated enzymatic means using Determiner TC (Kyowa Medex Co, Tokyo, Japan) for total cholesterol, AutoSera S TG-N (Daiichi Pure Chemicals, Tokyo, Japan) for triglycerides, Determiner HDL-C (Kyowa Medex) for HDL-C, and Cholestest LDL (Daiichi Pure Chemicals) for LDL-C. Serum urate was measured using the uricase calorimetric method (Fuji Co, Tokyo, Japan).

After three weeks of training, serum HDL-C levels increased in six subjects, and decreased in five (fig 1A). As expected, the changes in serum LDL-C levels were inversely associated with the change in serum HDL-C levels (data not shown). However, serum triglyceride levels were not significantly different after training in all participants (data not shown). Unexpectedly, serum urate levels increased in all subjects with increased HDL-C levels, but decreased in all with decreased HDL-C levels (fig 1B). The change in serum urate levels correlated significantly and inversely with the change in serum HDL-C levels (fig 2).

Physical activity is a widely accepted means of increasing serum HDL-C levels, and it represents a metabolic adaptation that contributes to a reduced risk of coronary heart disease. However, the influence of exhaustive training on serum HDL-C levels remains obscure. Our data show that the effect of the same conditioned exhaustive training on serum HDL-C levels varies greatly among individuals.

Furthermore, we identified a significant inverse correlation between the changes in serum urate, which is the most important intrinsic antioxidant, and HDL-C levels, indicating the close association between urate and HDL metabolism during exhaustive training. However, we should mention that the number of participants was limited and the detailed mechanisms underlying this phenomenon remain to be elucidated.

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References

Are Reliable Change (RC) calculations appropriate for determining the extent of cognitive change in concussed athletes?

Reliable Change (RC) indices are a group of statistical techniques used in many areas of psychology to determine the extent of change that is considered to be reliable. They are particularly useful in situations where the magnitude of change is important, such as in the assessment of cognitive functioning in athletes who have sustained head injuries.

In the context of this research, it is important to consider the reliability of the measures used to assess cognitive function in athletes. Reliable Change (RC) indices can be used to determine whether the observed changes in cognitive function are statistically significant or simply due to measurement error. By using RC indices, researchers can establish the extent to which changes in cognitive function are reliable and can be attributed to the training intervention.

In conclusion, the use of Reliable Change (RC) indices can provide valuable insights into the effects of training on cognitive function in athletes. This approach can help to determine whether the observed changes are statistically significant and can be attributed to the training intervention. Further research is needed to investigate the use of Reliable Change (RC) indices in the assessment of cognitive function in athletes, particularly in the context of head injuries and sporting activities.
Step 3: Calculate the RC score

This has led to the description itself and the related regression to the mean.

Step 2: Calculate the standard error of difference (SEdiff)

\[ SE_{diff} = \sqrt{\frac{S_1^2(1 - r_{12})}{N}} \]

Step 3: Calculate the RC score

\[ RC = \frac{x_1 - x_2}{SE_{diff}} \]

Clinicians, neuropsychologists, and statisticians working with RC techniques soon realised that "true" changes in test scores could be obscured by performance changes due to practice—that is, prior exposure to a test leads to improved performance on a subsequent assessment—and also by statistical phenomena such as the reliability of the test itself and the related regression to the mean. This has led to the description' and application' of several variants of the basic RC index. These variants have sought to provide more accurate guidance to decisions about change caused by an event by incorporating corrections for practice effects, test reliability, and regression to the mean.

The RC analyses may be interpreted statistically as a z score, with changes greater than 1.96 indicating that true change has occurred. In sport medicine, the z score is typically used to determine when an injury or intervention had taken place. These and subsequent authors' proposed that the most efficient way of determining whether an individual's performance on a specific cognitive measure had changed was to express the magnitude of change—that is, a change score—as a function of the normal variation found for that measure. Normal variation in performance on the cognitive measure was estimated from a group of similar subjects in whom no injury or intervention had occurred. Mathematically, the individual's change in performance on that measure is expressed in the numerator, and the normal variation in performance on that measure is expressed in the denominator as follows.

Step 1: Calculate the standard error of measurement (S)

\[ S = \sqrt{\frac{N}{N - 1}} \]

Step 2: Calculate the standard error of difference (SEdiff)

\[ SE_{diff} = \sqrt{\frac{S_1^2}{N}} \]

Step 3: Calculate the RC score

\[ RC = \frac{x_1 - x_2}{SE_{diff}} \]

Some minor alterations to previous RC calculations produce an RC calculation that is mathematically and theoretically correct, yet retains all the virtues of previously proposed RC calculation. The alterations are as follows.

Step 1: Calculate the difference scores for each individual in a control group assessed at an appropriate test-retest interval.

\[ A_{\text{diff}} = (A - A_0) \]

Step 2: Calculate the sum of the squared differences between the mean difference score and the control group data rather than using inappropriate estimates of variation. In fact, many researchers have obtained serial data for inclusion in RC calculations as corrections for the effects of practice observed in normal populations, including some working in sports concussion. Such serially acquired data are adequate for directly estimating the SDdiff, rather than directly calculating the SDdiff for inclusion in the RC calculation.

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Accessory nerve injury during amateur wrestling: silent but not overlooked

A 17 year old youth presented complaining of vague chest and back pain. His medical history was unremarkable except for a sports injury three to four months previously. The injury occurred during wrestling when his opponent had fallen on his chest and neck region. On physical examination, we noted an asymmetric neckline on the right, the result of an ipsilateral type C cervical root lesion. Radiographic examination produced no findings. We next performed electromyography (EMG), the likely diagnosis being an injury to the right accessory nerve. The needle EMG was consistent with an almost completely regenerated upper trapezius muscle compared with an almost completely regenerated upper mastoid muscle or during right shoulder elevation. The superficial course of the spinal accessory nerve from the posterior cervical triangle makes it susceptible to injuries. The most common cause is an iatrogenic injury during surgery. Donner et al.1 in a series of 83 patients with extracranial spinal accessory nerve injuries, reported the underlying causes to be lymph node biopsy in 42 cases, tumour excision in 14 cases, and carotid endarterectomy, face lift surgery, and irradiation (one case each). They also summarised the other causes as: traumatic, 13; stretch/contusion, 6; mononeuropathy, 3.

The accessory nerve is a motor nerve which innervates the trapezius and the sternocleidomastoid muscles. Interestingly, injury to this nerve does not usually result in functional loss of the latter muscle. This is usually attributed to the fact that the nerve is usually injured in the posterior triangle after it has innervated the muscle and/or the observation that the muscle receives dual input from the accessory nerve and the cervical roots. Consequently, patients present with an ipsilateral lateral trapezius palsy—that is, an asymmetric neckline, a drooping shoulder, winging of the scapula, and weakness of forward elevation—immediately after or within one week of the trauma.

Patient evaluation entails electrodiagnostic studies in addition to the clinical findings. EMG often showing an increase in polyphasic waves and decreased recruitment.2 Ultra-sonography has recently been proposed as an adjunct in the diagnosis.3 Because of un-ward consequences in chronic cases, surgery is recommended if patients fail to improve after one year of conservative treatment.1,2 We consider this case to be noteworthy in certain aspects. Firstly, the patient did not present with a trapezius palsy; it was a late silent physical finding that we uncovered. Secondly, as in a few of the cases in the above series,3 only the upper trapezius atrophy was present which did not preclude shoulder function. This is usually because there are other innervation sources or because of the presence of a divided accessory nerve.4 Thirdly, we believe that our case implies the likelihood of a relatively benign course in younger patients. Lastly, together with another case report of a wrestler,5 the possibility of this type of injury occurring during sporting activity is highlighted. We therefore alert sports physicians to such a clinical scenario, for which prompt evaluation and management should always be the prerequi-site.

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References

Applying elite research to the general population

We are writing in response to the letter by Dr Webborn about our cindradian research on competition swimmers.1 His first comment, namely that the media may wrongly slant a “take home message”, is understandable. Had we read our message more carefully, we would have seen that we noted that early morning sessions should: “perhaps be avoided by those returning to training after injury or illness, those close to periods of important competition (which are more asso-ciated with the underperformance syndrome) and possibly those at altitude, which itself imposes a degree of immunosuppression”. All very carefully displayed in the take home message. We three authors have been involved in the preparation of elite competitors collec-tively for many years, and we stand by those cautionary statements.

Dr Webborn is, importantly, interested in the potential health benefits of recreational exercise to an “active population”, and makes valid points about the potential of illness as might be investigated in elite athletes, should not deflect exercise for the vastly greater public good. However, our work was concerned with well trained competition swimmers, a point that we emphasised to the media. A major thrust of sports medicine is that it sometimes looks at clinically trivial conditions—for example, ankle or wrist sprains—which may be anything but trivial to the sports competitor. More specifically, modest levels of weekly exercise may be immuno-enhancing, whereas there is much evidence that elite levels of endurance training may be immunosuppressive,3 so one always has to be careful which message applies. It is also that we emphasised to the media.

In his second comment, Dr Webborn reasonably queries the hydration status of our subjects. Naturally, on working with salivary flow, we had considered this also, in terms of subjects’ daytime behaviour at 24, 12, and 8 hours before testing, as indicated in our experimental design. There were no “dry mouths”.

However, overall, Dr Webborn has a possible point about media misuse of take home messages, and perhaps the editorial board could discuss this, if it is felt to be an issue.

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References

Editor’s response

The role of the Journal’s “take home message” had been under review for some time before this correspondence. It has already been decided that it will be changed to a high-lighted box encapsulating “what is known about the topic” and “what this paper adds to the body of knowledge”. This will be similar to the current layout in the British Journal of Sports Medicine, and our technical editors have been developing a format to suit the Journal style. This correspondence has simply highlighted an important consideration of the Journal, namely how we deal with the media in a clear, concise, and appropriate way.

Response to “Berger in retrospect: effect of varied weight training programmes on strength”

I would not have believed in 1962 that my study would have created such a brouhaha in
Will the new field hockey rules lead to more injuries?

On 1 January 2003, the International Hockey Federation introduced a mandatory experimental amendment to the rules pertaining to the taking of short corners. The new rule now reads “Penalty corner; no shot at goal shall be made until the ball has travelled outside the circle.” This change means it will no longer be necessary for attackers to stop the ball before taking a shot at goal as was previously the case. The reason given for introducing the rule was to “simplify the game without altering the overall nature of something which is unique to hockey.”

Short corners present a good opportunity to score a goal and are practised routinely in training. The new ruling was introduced on 1 March 2003 by the Ulster Branch of the Irish Hockey Association in whose leagues I play. I have now played three games under the new ruling, and the danger of this rule has been brought sharply into focus. In two of the three games, players required hospital attention because of knee and ankle injuries as a result of defending the circle. If this had been done, there would not have been a critique of my study, nor a need for one. I must admit, though, that I made the same mistake as Dr Carpinelli in my study. In table 4 of my study, I erroneously made comparisons among subgroups of sets and repetitions. However, as a neophyte in 1962 I accept the blame. Being wiser today than 40 years ago, and even considering Dr Carpinelli’s critique, I unequivocally support multiple sets over single sets for optimising strength. I would suggest to Dr Carpinelli that he conduct research of his own in the hope of gaining support for his position. If his zealousness, which is commendable, were redirected to research rather than to criticising old studies, his academic contributions would be more fruitful.

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References
1 Berger RA. Effect of varied weight training programs on strength. Res Q 1962;33:168-81

BOOK REVIEWS

Complementary therapies for physical therapists


Public interest in complementary therapies has increased dramatically in the last few decades, with many of the new treatment methods of potential interest to physical therapists and their patients. This is therefore a timely volume. It comprises some 23 chapters complemented by 11 extra chapters available via the internet. The authors are not well known to me, but they clearly each have a special interest in their chosen topic.

After an initial and intellectually challenging chapter on “Energy medicine”, which a physicist would have difficulty accepting, the authors present a primarily theoretical approach to a wide range of alternative therapies. Some, such as acupuncture, Feldenkrais, and myofascial release, have gained some acceptance among physiotherapists, whereas others, including the techniques involving the Chakra system, reflexology, flower essences, and electro-crystal therapy, remain firmly on the fringe of modern practice.

In the foreword, we are asked to read critically and consider the evidence for the various approaches presented. An excellent suggestion but very difficult to do from the material presented! The authors cover the theory behind the techniques in some detail, but there is little to support their assertions. Those looking for an evidence based text will be disappointed. While reading each chapter, I spent much of my time peering at the reference lists. Most of the references were to the 21st century. Dr Carpinelli’s paper credits my study as “the genesis of the unsubstantiated belief that multiple sets are required for optimal gains in strength”. His opinion is complimentary in one respect, but I cannot take full credit for it. Most professionals in the field are now adopting multiple sets because they have experimentally discovered that multiple sets are more effective than one set. Some early research studies have compared different weight training programmes, but in practice, multiple sets have been used in training.” I am hardly the “genesis” of an “unsubstantiated belief”. Historically the medical applications of strength training for therapy involve multiple sets. One set is the exception. So Berger is not as one “crying in the desert”. There are many more therapists and coaches flinging down the gauntlet in support of multiple sets.

The probability level of 0.05, which academics hold so sacred in decision making, does not always supersede in importance common sense when considering the difficulties in experimental design attempting to control numerous factors in strength research. One research problem is finding subjects who have, preferably, no experience in weight training and who are able to train for long periods of time, other than 12 weeks, under controlled conditions. If I had concluded in my study in 1962 that one set was as good as multiple sets, I would have had more than just Dr Carpinelli voicing criticism of my paper. The practitioners in the field would have had more confidence to agree with my views and would not have waited 40 years to do so.

A person who comes to my mind as one having defended single sets in past years is Arthur Jones, the developer of the Nautilus machine. To my knowledge, he has never presented any acceptable scientific evidence supporting his belief. Furthermore, he has few adherents today of his training views, although one adherent is obvious. Of the 85 references in Dr Carpinelli’s paper, Mr Jones authored not one. Certainly his contribution to the body of knowledge in strength training should be acknowledged, if deserving.

I decided to deal with a limited amount of “evidence” in defence of my study. But I must preface my remarks by assuring the readers that my paper was reviewed by several researchers at the time of acceptance and was approved by them for publication. The conclusions I drew were substantiated and accepted by them. For Dr Carpinelli to refer to my study as the “genesis of the unsubstantiated belief” is unwarranted, if deserving.

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References
1 Berger RA. Effect of varied weight training programs on strength. Res Q 1962;33:168-81

RESULTS OF THE ATTACKING TEAM NOT BEING REQUIRED TO STOP THE BALL, LEAVES DEFENDERS WITH VERY LITTLE REACTION TIME TO AVOID BEEN STRUCK BY AN INCORRECTLY HIT BALL WHICH MAY Rise off the ground. IN LOWER LEAGUES, HITTING TECHNIQUE IS OFTEN LESS WELL DEVELOPED AND IT IS COMMON FOR THE BALL TO BE LIFTED DURING A SHOT. CONCERN HAS BEEN EXPRESSED AT THE NUMBER OF FACIAL INJURIES IN HOCKEY, AND IT IS MY BELIEF THAT THE RATES OF INJURIES (BOTH FACIAL AND OTHER) WILL INCREASE AS A RESULT OF THIS NEW RULE, SOME OF WHICH MAY BE SEVERE.

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References
books, unpublished reports, or publications in obscure journals. This was disappointing. In fact in chapter 4, “Healing by intention: a research-based overview”, any references to trials of this form of healing were in other than mainstream medical journals. This form of referencing makes a fair assessment of the evidence frustratingly difficult.

This book is useful mainly as an introduction to the very theoretical but generally very poorly researched field of complementary therapies in physical therapy. The basic problem is that it is heavy on theory, mainly unsubstantiated, and light on evidence of efficacy. It did not convince me to recommend the majority of the therapies to my patients.

More positively, this book is well written and easy to read. I clearly learned much about the subject matter, the validity of much of which I found questionable. However, it would be useful in educating physical therapists about treatments that they may be asked about or choose to trial. As it appears to be the only book of its kind, it should be held as a reference text at institutions involved in the teaching of physical therapies.

Analysis
Presentation 16/20
Comprehensiveness 17/20
Readability 15/20
Relevance 6/20
Evidence basis 3/20
Total 57/100

R Beneke, R M Leithäuser
Department of Biological Sciences, Centre for Sports and Exercise Science, Central Campus, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, UK; rbekele@essex.ac.uk

The 5th British Musculoskeletal ultrasound course
1–3 October 2003, Leeds, UK
Musculoskeletal sonologists from the UK and mainland Europe will cover all aspects of musculoskeletal ultrasound in lectures and tutorials. The course is open to radiologists, radiographers, and clinicians with a US imaging interest.

Further details: Gill Bliss, MR Department, Clarendon Wing, Leeds General Infirmary, Great George Street, Leeds LS1 3EX; Tel: +44 (0)113 392 3768; fax: +44 (0)113 392 8241; email: gillian.bliss@leedsth.nhs.uk

Back Pain Prevention and Rehabilitation
5 October 2003, Glasgow, UK
A study day with Professor Stuart McGill.

Further details: Yvonne Gilbert, BASEM Secretary, Royal College of Surgeons of Edinburgh, Nicolson Street, Edinburgh EH8 9DW; Tel: +44 (0)131 527 3409; email: y.gilbert@rcsed.ac.uk. Organised by BASEM Scotland.

Congress of Sports Medicine of the AZ Sint-Jan AV
24–25 October 2003, Bruges, Belgium

Further details: Congress Centre, OUD SINT-JIN, Mariastaat 38, B-8000, Brugge, Belgium; email: brucosport@azbrugge.be; website: www.brucosport.be

International Conference on the Science and Practice of Rugby
5–7 November 2003, Brisbane, Australia

Further details: Kerry Williams, Conference Organiser, QUT, GPO Box 2434, Brisbane, QLD 4001, Australia. Tel: +61 7 3864 2220; fax: +61 7 3864 5160; website: www.rugbystudies.com/conference

The Fifth International Conference on Sport, Leisure and Ergonomics
19–21 November 2003, Burton, Cheshire, UK
A three day conference in affiliation with the Ergonomics Society.

Further details: Congress Secretariat, Sport, Leisure and Ergonomics, Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Henry Cotton Campus, 15–21 Webster Street, Liverpool L3 2ET, UK. Tel: +44 (0)151 231 4088; email: K.George@livjm.ac.uk

Medicare India
6–8 April 2004, New Delhi, India
This exhibition and conference will be held for the first time, following India’s ambitious “health for all” programme launched in 2002.

Further details: Congress Chairman: Professor Dr med. habil. Peter Habermeyer; President of the Society: University-Professor; Dr Herbert Rech. Abstruct deadline: 31 March 2003
Further details: INTERCONGRESS GmbH. Tel: +49 611 97716-35; fax: +49 611 97716-16; email: kattrin.volkanl@intercongress.de; website: www.internationalcongress.de

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Sports Medicine, Australian Institute of Sport, PO Box 176, Belconnen, Canberra, ACT 2616, Australia; fallonk@ausport.gov.au

Science for exercise and sport
The basic scientific principles and working techniques relevant for science in the field of exercise physiology and exercise and sport sciences are described in this book. It is written for undergraduate students with minor or no experience and knowledge in science.

The book is divided into three sections. The first section covers the physical states of gas, liquid, and solid. The second explains forces, energy, and electricity. The third addresses data analysis and report writing. Each chapter starts with a list of learning objectives, a short introduction which highlights the relevance for sports and exercise. So called “action points” enable the reader to check the learning success. A conclusion briefly summarises the take away message, and “key points” condense the latter to its essence. Each chapter is completed with a list of references, but also examples of additional recommended literature for further reading.

In general, the structure of the book is systematic, consistent, and in principle helpful, and the content covers a thorough portfolio of knowledge which is relevant for a successful start in experimental sport and exercise science. Nevertheless, it remains rather difficult whether the book would really attract the attention of the targeted readership. It is much too text dominated. This weakens the impact of adequate wording and the provided examples of application and scientific transfer. Most of the figures and flow charts are of poor quality. It also remains questionable whether detailed descriptions of the personal computer, software, and the internet are really necessary nowadays. In general, the layout of the book appears somewhat different compared with modern text books.

In conclusion, this book is well structured with mostly convincing content but a rather suboptimal layout. After thorough revision of the layout and minor aspects of content, it has the potential to improve from one of many more or less adequate handbooks to a very good tool which not only meets the requirements with respect to learning objectives but also to an adequate presentation to the targeted readership.
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 Renstrom (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, UK. Email: michael.turner@LTA.org.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, the two exams held in 2001 and 2002:

- Dr Andrew J Adair
- Dr Abimola Afolabi
- Dr Sinead M Armstrong
- Dr Terence J R Babwah
- Dr Catriona E I Boyle
- Dr Susan J Brick
- Dr Lawrence J Conway
- Dr Alan J Dawson
- Mr Patrick D Dismann
- Dr Niall WA Elliott
- Dr Christopher J Ellis
- Dr Roger K Goulds
- Dr Niall A Hogan
- Dr James R Hopkinson
- Mr Ananta K Jayanti
- Dr Michelle Jeffrey
- Mr S P Kale
- Dr Arun Kumar
- Dr Robert M MacFarlane
- Dr Kaushal C Malhan
- Dr Martin D McConaghy
- Dr Lisa A McConnell
- Dr Fergal T E McCourt
- Dr Ronan M McKeown
- Dr Michael G McMullan
- Dr Steven R McNally
- Dr Paul J Moroney
- Dr Leonard D M Nokes
- Dr Nanda K G Pillai
- Dr Jonathan D Rees
- Dr Duncal A Reid
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- Dr Martin O Rochford
- Dr Hungerford A T Rowley
- Dr Shaun A Sexton
- Dr Jason E Smith
- Dr Aravanthan Suppiah
- Dr James A Thomas

For further information contact: Mrs Yvonne Gilbert, Administrative Secretary, Intercollegiate Academic Board of Sport and Exercise Medicine, Royal College of Surgeons of Edinburgh, Nicolson Street, Edinburgh EH8 9DW, UK; 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, UK; tel: +44 (0)131 527 3409; email: y.gilbert@rcsed.ac.uk

Winners of the annual BASEM Prizes

Dr Eileen Mackie (Clodigodrel 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, UK; 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, UK; tel: +44 (0)131 527 3409; email: y.gilbert@rcsed.ac.uk

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Web site: www.med.unsw.edu.au/sportsmed

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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NCPAD NEWS

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