

**Author's reply**

EDITOR,—Thank you for the opportunity to reply to the letter from Davies and colleagues. I apologise for omitting the specific details of the growth hormone formulation used by 12% of the steroid users in my article.<sup>1</sup> The study, however, was primarily reporting on anabolic steroid use, and the so called "accessory drugs" were a secondary issue. As a result, individual analysis of these other drugs was kept to a minimum.

The bodybuilders interviewed were using synthetic human growth hormone, somatropin (Humatrope) manufactured by Lilly, at a dose of two units per day. The cost of a 16 unit vial on the black market in 1996 was around £100, which is cheaper than the price listed for this item in the British National Formulary (£122).

I agree with your comment that athletes need to be warned of the potential dangers of these drugs. However, the medical community must first possess a knowledge of this unsupervised drug use, which was the main purpose of my article. Of course, whether the athletes choose to listen to the advice of medical practitioners is another matter.

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1 Evans NA. Gym and tonic: a profile of 100 male steroid users. *Br J Sports Med* 1997;31:54-8.

**Health surveillance strategy for professional footballers**

EDITOR,—The thought provoking paper by Fuller and Hawkins appropriately frames professional footballers as employees within a working environment.<sup>1</sup> Health and safety should be a duty of the occupational physician (club doctor) who must ensure that within reason Health and Safety at Work regulations are adhered to and employees protected, otherwise clubs themselves will be exposed to the possibility of legal action through the doctrine of vicarious liability.

As always introducing legal responsibilities into a traditionally casual relationship may appear harsh and unreasonable in the eyes of the club doctor (who may not be salaried). The law, however, is clear that the doctor has a duty of care to each player and is not

immune from the laws of negligence. This in turn raises other thorny questions such as the role of hepatitis B testing as part of health surveillance.<sup>2</sup>

It is agreed that the overriding duty, however, is to prevent exposure to an identified hazard, of which health surveillance is only part, as concluded by C C Harling in the commentary to Fuller and Hawkins article. It is therefore essential that sports injuries in professional soccer are audited to provide a scientific foundation for rational discussion on injury protection. One of us (G MacKay) has recently completed a comprehensive study of sports injury in Scottish professional football.<sup>3</sup> There is, however, a concern that even after the publication of the pre-season data, traditional practices may be slow to change.<sup>4</sup>

Pre-season training annually results in overload and overuse, which in its current form will injure one in four and therefore fail to meet the desired objective of optimising match fitness. Health and Safety legislation should prevent employees from being put through such a dangerous programme. Fifty three per cent of injuries in the above study were non-contact injuries and of this number 50% had a further injury within the first 12 weeks of the season. Such training practices in light of current published research would provide a strong legal case for professional players who suffer injury as a result of working practices that have not been modified in the light of Health and Safety surveillance.

It would, however, be a great pity if the threat that Health and Safety surveillance records might be used in court were to prevent the club doctor from keeping such accounts. Indeed, the absence of such records might in itself be regarded as a form of suboptimal care.

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- 1 Fuller CW, Hawkins RD. Developing a health surveillance strategy for professional footballers in compliance with UK health and safety legislation. *Br J Sports Med* 1997;31:148-52.
- 2 McConnell AA, MacKay GM. Medical confidentiality in sport and the public interest. *Med Sci Law* 1995;34:45-7.
- 3 MacKay GM. The mechanism and prevention of injury in soccer. [Thesis]. Glasgow: Glasgow University, 1996.

4 MacKay GM, Hillis WS. Pre-season injuries in Scottish football: a prospective study. *Sports Exercise and Injury* 1996;2:100-2.

**Exercise induced leg pain: chronic compartment syndrome. Is the increase in intra-compartment pressure exercise specific?**

EDITOR,—We thank Simon Kemp and Mark Batt for their comments<sup>1</sup> about our paper.<sup>2</sup>

Kemp and Batt make several comments about the case history which we welcome as a general debate on the subject of exercise induced leg pain. By their own admission they accept that a major difference exists between investigators.

Disappointingly they fail to enter into the debate on the main issue of the paper—Is the increase in intra-compartment pressure exercise specific? The case history presented was our second observation, the first one being on a rower. Since then, we have seen a further two cases in contemporary ballet dancers, a poster presented at ISAKOS conference in Argentina. A further collaborative case history of an underwater hockey player was presented at the American College of Sports Medicine conference.<sup>3</sup>

We now have enough case histories based on observation to justify a controlled experiment and a study to investigate this effect in more detail. Watch this space.

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- 1 Kemp S, Batt M. Exercise induced leg pain. *Br J Sports Med* 1997;31:164.
- 2 Padhiar N, King JB. Exercise induced leg pain—chronic compartment syndrome. Is the increase in intra-compartmental pressure exercise specific? *Br J Sports Med* 1996;30:360-1.
- 3 Crisp TA, Padhiar N, King JB, Barnes MR, Allen M. Compartment syndrome of lower legs: underwater hockey. *J Am Col Sports Med* 1997;29:1330.

**BOOK REVIEWS**

**Human Body Composition.** Alex F Roche, Steven B Heymsfield, Tiomoth G Lohman. (Pp 344; £53.50.) Leeds: Human Kinetics (Europe), 1995. ISBN 0 87322 6380.

The availability of comprehensive texts on body composition analysis is limited, so this publication is timely. It contains concise and informative reviews on the underlying concepts of most body composition assessment procedures as well as synopses of the medi-

ating effects of age, sex, heredity, ethnicity, hormones, training, and diet. The final chapter, which could well have been the first, eloquently discusses the significance of body composition in the context of morbidity and mortality. For anyone who wishes to purchase equipment, there is also a very useful list of suppliers of each of the diverse techniques.

There are one or two criticisms however. The text is replete with various prediction equations for most methods of analysis, with the surprising exception of those based on skinfold sites! This is a critical omission, particularly as the skinfold method is one of the most widely accessible and universally applied procedures. The chapter on statistical methods for developing and testing prediction equations is very useful, although some reference to the Bland and Altman (*Lancet* 1986) "levels of agreement" procedure de-

serves mention. There is also no reference to the infrared interactance technique. Although this method has many critics (me included), it is nevertheless a technique that has been reported in the literature so a discussion of its merits or problems would be appropriate.

Abbreviations are used with enthusiasm throughout. However, the small gain in space at the cost of intelligibility is sometimes confusing and annoying. For example, one sentence reads: "While the differences between measures from CT and from MRI are generally low for SAT, the CV for VAT is higher..." Oh! dear! You'll have to read the book to see what it all means! In fact, even with these criticisms, I recommend that you do read the book (start saving now because it is not cheap!)

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