Dancing through adolescence

It is interesting how the demands of dance have changed dramatically over the years. The dancers that Degas painted look quite plump by today's standards. With the increasing complexity of pointe work, where the dancer has to literally balance her whole body weight on the tips of her toes, it is understandable why female dancers have had to become slimmer. Pas de deux has also changed, from the man merely acting as a support to the ballerina, to lifting her above his head, sometimes even on one hand. Choreographers such as Balanchine have introduced the concept of abstract works, contrasting with the traditional full length ballet classics. In these more contemporary works there is often more emphasis on the body's lines than recounting a story, and more than just a purely classical technique is required. The body is often pushed to its extreme to produce the most dramatic effect: in addition to being an artist, the dancer now has to be an athlete. With this evolution of dance, dancers now have to start training seriously at an earlier age, which raises specific issues on training during adolescence.

A retired dancer will not automatically be a good teacher. Teachers must be increasingly mindful of the growing bodies of their expanding numbers of young pupils in order to avoid injury. This applies both to girls who are dancing after school and those attending full time dance schools. The Royal Academy of Dancing runs degree courses for teachers: both students and retired dancers who now wish to teach. Certainly the dance profession is very aware of the importance of optimising dancers' health and preventing injury, as seen with the Healthier Dancer Programme initiated by Dance UK and the recent National Inquiry into Dancers' Health.1

One concern is that young dancers may eat a poor diet in order to try to be slim. In a culture where girls strive to emulate slender models, this may be exaggerated in dancers, as slenderness is a positive career strategy in terms of technical ability: it is easier to balance a body of 8 stone on pointe rather than one of 10 stone, and it is also easier for a male dancer to lift a lighter dancer. Aesthetically, slenderness is also an advantage, as dance is a visual art form and it is more pleasing to see corps of swans with a uniform slim physique. One might expect that teachers would be concerned about their young dancers eating a poor diet and being underweight. In fact it is not quite this simple, as teachers and full time dance schools are equally concerned about problems at the other end of the spectrum, in other words girls who are overweight and eating large quantities of chocolate!2 However, teachers feel that they have to take a careful stance lest they be criticised for discriminating against plumper dancers. Teachers also feel wary that suggestions about losing weight may push girls to the other extreme to become anorexic. At one full time establishment it is school policy that teachers are not allowed to tell a pupil directly that she is overweight and needs to lose weight. If a girl approaches a teacher and asks if she is overweight, the teacher should not blithely agree, but suggest that the girl seek the advise of the nutritionist. This approach is only feasible in a full time school with the necessary resources to separate the roles of the dance teacher and the health adviser; in smaller schools where girls take only a few classes per week, this may not be possible. Indeed, often a young dancer will trust and confide in her dance teacher, and this teacher will be the person who sees the girl most regularly in a leotard and so is in the best position to monitor any changes in weight. The girl may successfully disguise her shape both from those at school and her parents.

Training in young girls can delay puberty and menarche.1 The girls themselves often view lack of periods as convenient; however, the concern is that such delay in menarche may have an adverse effect on peak bone mass, which in turn is an important determinant of adult bone density.3 It has been recognised for some time that the negative effect of amenorrhoea on bone mineral density in an adult athlete outweighs the beneficial effect of weight bearing exercise, and bone mineral density is lost.3 My recent study of dancers confirmed the same finding, that amenorrhoeic dancers lose bone mineral density from the
lumbar spine, but that the femoral neck is relatively protected by being the major weight bearing site in dance training. The other important result was a negative relation between age at menarche and adult bone mineral density of the lumbar spine, suggesting a long term effect of early dance training on bone mineral density. This finding is of concern as it may be that, if an optimal peak bone mass is not attained, then this situation may not be reversible. I am currently conducting a study with young girls at full time dance schools and academic school to examine the effects of dance training, diet, development, and endocrine status on bone mineral density. This research will provide more information on the effects of dance training at an early age by including girls undertaking a graduation of exercise, from the control girls undertaking no regular activity, to the musical theatre students who do some dancing to complement acting and singing, through to the ballet dancer stream with the most hours of dancing.

In conclusion, attitudes towards health issues and sports medicine are changing, with teachers and schools keen to get to grips with these important matters. The booklet produced by the National Osteoporosis Society on menstrual problems and loss of bone mineral density is proving to be important reading material alongside the dance magazines; and one of the full time schools in my area is currently conducting a study with young girls at full time dance schools and academic school to examine the effects of dance training, diet, development, and endocrine status on bone mineral density. This research will provide more information on the effects of dance training at an early age by including girls undertaking a graduation of exercise, from the control girls undertaking no regular activity, to the musical theatre students who do some dancing to complement acting and singing, through to the ballet dancer stream with the most hours of dancing.

In conclusion, attitudes towards health issues and sports medicine are changing, with teachers and schools keen to get to grips with these important matters. The booklet produced by the National Osteoporosis Society on menstrual problems and loss of bone mineral density is proving to be important reading material alongside the dance magazines; and one of the full time schools in my area is currently conducting a study with young girls at full time dance schools and academic school to examine the effects of dance training, diet, development, and endocrine status on bone mineral density. This research will provide more information on the effects of dance training at an early age by including girls undertaking a graduation of exercise, from the control girls undertaking no regular activity, to the musical theatre students who do some dancing to complement acting and singing, through to the ballet dancer stream with the most hours of dancing.

In conclusion, attitudes towards health issues and sports medicine are changing, with teachers and schools keen to get to grips with these important matters. The booklet produced by the National Osteoporosis Society on menstrual problems and loss of bone mineral density is proving to be important reading material alongside the dance magazines; and one of the full time schools in my area is currently conducting a study with young girls at full time dance schools and academic school to examine the effects of dance training, diet, development, and endocrine status on bone mineral density. This research will provide more information on the effects of dance training at an early age by including girls undertaking a graduation of exercise, from the control girls undertaking no regular activity, to the musical theatre students who do some dancing to complement acting and singing, through to the ballet dancer stream with the most hours of dancing.

In conclusion, attitudes towards health issues and sports medicine are changing, with teachers and schools keen to get to grips with these important matters. The booklet produced by the National Osteoporosis Society on menstrual problems and loss of bone mineral density is proving to be important reading material alongside the dance magazines; and one of the full time schools in my area is currently conducting a study with young girls at full time dance schools and academic school to examine the effects of dance training, diet, development, and endocrine status on bone mineral density. This research will provide more information on the effects of dance training at an early age by including girls undertaking a graduation of exercise, from the control girls undertaking no regular activity, to the musical theatre students who do some dancing to complement acting and singing, through to the ballet dancer stream with the most hours of dancing.

Eye injuries in sport: where next?

From an ophthalmologist’s perspective, there are three particularly depressing aspects to an eye injury sustained during sport. Firstly, the injury has a high likelihood of being severe compared with most other causes of injury; secondly the treatment of such injuries is often limited to an attempt to salvage what remains of useful vision; thirdly, and perhaps of greatest concern, most of such injuries could have been prevented.

There are many hurdles to overcome before a substantial reduction in these injuries can be achieved. The scale of the problem, although intermittently highlighted by local surveys, is inadequately recognised. Even eyes that have been completely blinded from trauma do not feature on the statistics of the Office of Population Censuses and Surveys, because only bilateral visual loss qualifies for registration in the United Kingdom. There is no adequate system of data collection; the Home and Leisure Accident Surveillance System of the Department of Trade and Industry uses a sample of hospitals which excludes the specialist eye hospitals, towards which so many injuries gravitate; the ophthalmological community has not been persuaded to devote the time necessary to join the United States Eye Injury Registry, which is becoming established in several other countries; and the organisers of sport have failed to set up surveillance for eye injury within their own areas of influence. Nevertheless ophthalmologists see a steady trickle of permanently damaged eyes which can have profound effects on these (predominantly young) sportsmen and women.

A small number of charitable organisations has contributed towards the education of those playing sport, by publicising in a realistic way the potential dangers of sport, and by encouraging safe play and the wearing of eye protection where that is appropriate. Examples are the “Eye Safety Year” campaign of the Royal National Institute for the Blind (1990) and “National Eye Week”, sponsored by Fight for Sight this year. However, such campaigns have limited funds and can only scratch the surface of a problem which has in the past been ignored or sometimes one suspects actively suppressed by a sporting community that fears the effects of negative publicity. In tandem with this goes a largely apathetic UK spectacle manufacturing sector which has not as yet foreseen adequate profit in eye protector manufacture. At present the only sports eye protectors of ratified quality available in the United Kingdom are imported, largely from North America.

There is light at the end of the tunnel. The move towards standardised eye protection has been excruciatingly slow in the United Kingdom, but is now finally reaching fruition at the British Standards Institution; a British Standard for eye protection in squash (the highest priority) has now been published. The controlling bodies of some sports are increasingly recognising the problems of eye injury and are beginning to act positively to encourage safe play through training, and to support the use of eye protection. In what circumstances (if any) eye protection should become mandatory is a matter for debate, but there is overwhelming evidence for the success of such a strategy in Ice Hockey, and there may be other circumstances where regulations could once more be used to reduce the frequency and severity of injury.

One particular area of concern is the uneasy distinction between accidental and deliberate eye injury on a sports field. Several well publicised eye injuries have occurred to high profile sportsmen in the last few years, some requiring major surgery. Some injuries on the sports field are clearly the result of an assault, rather than the legitimate contact between two sportsmen engaged in fair play, and many ophthalmologists have treated patients who have lost eyes as a result. The law regards substantial damage to an eye as “grievous bodily harm”, and as such the perpetrator is at risk of a maximum sentence of imprisonment for up to five years.
years. A deliberate injury caused on a sports field is no different from one taking place on the pavement outside a public house, yet for a variety of reasons the sports field seems to be regarded by many as a venue immune from the influence of the law. That must surely be changed.

The organisers of sport, and its most famous exponents, wield enormous influence over the ever-increasing number of spectators and fans. If even a fraction of that influence could be diverted towards a balanced, constructive, and educational approach to eye safety in sport, the effect on injury statistics would be more marked than any attempts by medical zealots such as this author could possibly be.

Where is the crowd doctor?

Ten years have elapsed since the Hillsborough Stadium disaster, an incident at which stadium design and poor crowd control resulted in a significant loss of life among spectators. During this time, following the publishing of an interim report in August 1989 and the final report in January 1990 of the inquiry into the disaster by the Rt Hon Lord Justice Taylor, there has been a significant improvement in the fabric and safety conditions at all football grounds in the country. Gone are the terraces at large grounds, replaced by all seated stadia. Improved access for spectators and safety gates opening out on to the pitch are now the norm. Close cooperation between the football clubs and the police on crowd control, together with strict segregation of supporters of the opposing teams, has resulted in safer and more pleasant stadia. All these improvements are very obvious, but what of the first aid and medical recommendations? In his report, Lord Justice Taylor makes very reasonable but specific recommendations about medical cover at sporting events. These include the provision of qualified first aiders (one for every 1000 spectators), suitably equipped first aid rooms, an ambulance to be in attendance when the number of spectators is expected to exceed 5000, and the presence of a medical practitioner at every event where the number of spectators is expected to exceed 2000. When the number of spectators is expected to be less than 2000 a medical practitioner should be available to be summoned immediately to deal with any medical exigency. These medical practitioners should be trained and competent in advanced first aid.

In general, most football clubs both large and small comply with these recommendations. Indeed the larger clubs are unable to obtain a safety certificate unless they comply. All clubs have been provided with basic first aid equipment by their respective football associations, and first aiders and ambulances are in evidence at all matches as required. However, one has an anxiety about the level of medical cover at many matches where the medical cover for the spectators is often provided by the club doctor, an individual whose prime duty is to the football club and the players. Such an individual is present to look after players who may become injured during the match and is clearly not in a position to attend to a spectator who may also be injured or become ill during the match. Heart attacks among spectators are not uncommon during football matches, and it is clearly impossible to expect a medical practitioner employed to look after the players to simultaneously be able to help such a spectator casualty and be available in the event of an injury to a player. Although the report does not specify that there should be separate doctors for the team and the crowd, it makes sense that this should be the preferred situation. The reasons for this not being universally applied are many and varied. Some clubs ensure that they have both a team doctor and a crowd doctor in attendance at every game, but some smaller clubs have difficulty in attracting even one medical practitioner to act as their club doctor. Those that do not have a club doctor are often the smaller clubs who either cannot find a doctor interested in sport or who are not prepared to pay for the service. The report makes it very clear that it is the responsibility of the club to “employ a medical practitioner to be present and available to deal with any medical exigency”. Many clubs rely on the interest of a doctor to provide an honorary unpaid service to the club, and until it becomes accepted by football clubs that the presence of a medical practitioner is a necessity and one that should be paid for, then it is unlikely that we will achieve the correct level of medical cover at all football matches.

Medical practitioners accepting the responsibility of either team doctor or crowd doctor should be aware that they should be trained and competent in advanced first aid. All medical practitioners contemplating taking on such a responsibility should be suitably qualified and hold a Diploma in Sports Medicine or Advanced Life Support. It is the duty of all those who work in sports medicine and who are interested in seeing sports medicine develop in to a fully recognised medical specialty to encourage the football clubs and indeed all sports clubs to employ properly qualified sports medicine physicians to look after their teams and spectators. It also behoves them to encourage their medical colleagues who may not have obtained a qualification in either sports medicine or advanced life support to do so, thereby enriching not only their own interest but also improving the quality of medical cover at sporting events. The days of the local general practitioner who is friendly with the chairman of the club providing token medical cover for matches must be over. Sports medicine practitioners must act to improve the quality of medical support at all levels not only at the highest level as at present.

NICHOLAS P JONES
Senior Lecturer in Ophthalmology, University of Manchester
Honorary Consultant Surgeon, Manchester Royal Eye Hospital
Chairman, British Standards Institution Committee on Eye Protection in Sport


F W SMITH
MBI Centre, Woodend Hospital, Eday Road, Aberdeen AB15 6XS

Dancing through adolescence.

N Keay

doi: 10.1136/bjsm.32.3.196

Updated information and services can be found at: http://bjsm.bmj.com/content/32/3/196.citation

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to: http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to: http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to: http://group.bmj.com/subscribe/