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# OCULAR PROTECTION IN SQUASH CLUBS: TIME FOR A CHANGE?

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## SUMMARY

All squash clubs in the West Midlands were surveyed by postal questionnaire to determine their level of awareness to the risk of ocular injury. Of the 100 clubs surveyed, 51 questionnaires were returned. None of the clubs responding had any information warning of the potential hazards of ocular injury. Thirteen of the clubs had sporting goods shops; of these, three sold protective eye-wear. Significantly, all three stocked the open or lenseless type of eye-guard and only one had the guards with impact-resistant plastic lenses. The majority of clubs (96%) expressed a desire for further information. It is concluded that: (1) players are not warned of the hazards of playing without appropriate eye protection, (2) hazardous eye-guards (open type) continue to be sold, and (3) there is a desire to improve the safety of the sport.

With the increasing awareness of safety within the workplace and regulations protecting the worker, the demographics of serious eye injuries have changed. In the early part of this century work-related injuries accounted for the majority of serious eye injuries. Today, with the shorter working week and greater access to sporting facilities, the incidence of serious ocular injury related to sport has risen sharply. In one series, serious sports-related eye injuries accounted for 42.2% of all injuries requiring admission.<sup>1</sup>

It has been estimated that overall racquet sports account for 10% of all sports-related eye injuries. In the 25- to 64-year-old age group they account for 29% of these injuries.<sup>2</sup> The cost to the individual in terms of possible loss of sight and potential loss of earnings due to the inability to work is tremendous. The cost to the health care system is also substantial.<sup>3</sup>

It has been well documented that the use of

impact-resistant polycarbonate lenses designed for squash can reduce the chance of sustaining a serious ocular injury.<sup>4,5</sup> The use of protective eye-wear in Canada and the United States has increased as players have become more aware of the possibility of ocular injury.<sup>5</sup> One series reported that 45.8% of individuals playing squash wear protective eye-guards, and that their use was mandatory in 25% of squash clubs.<sup>6</sup>

We undertook this study with three objectives in mind:

1. To determine the number of squash clubs in the West Midlands that had any information outlining the hazards of play without ocular protection.
2. To determine whether the clubs had any facilities which sold eye protection and, if so, what types were available.
3. To determine the attitudes of club organisers towards information about possible ocular injury.

## METHODS

A postal questionnaire was sent to 100 squash clubs throughout the West Midlands. All the clubs were registered with the Squash Racquets Association. No request was made for any identifying details. All questionnaires were mailed simultaneously and a stamped self-addressed envelope was included to maximise the response.

## RESULTS

After a period of 12 weeks from the date of mailing, 52 of a possible 100 questionnaires had been returned. Of these there were 51 valid responses, one questionnaire having been returned uncompleted. The size of the clubs ranged from 50 players to 800 players, with the number of courts available for use ranging from 1 to 10. Twenty-six of the 51 clubs had a professional squash coach who offered tuition. Twenty-two of these coaches had a recognised squash qualification to teach, three did not and

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the status of one was unknown. The coaches were full-time at seven of the clubs.

Only 13 of the 51 clubs had a shop retailing squash equipment, and of these only three sold eye protection. All three stocked the 'open' or lenseless eye-guards, and only one also stocked the 'closed' type which consists of an impact-resistant polycarbonate lens within a robust impact-resistant frame. The cost of these accessories was less than £20 in all cases. The number of protectors sold at each of the clubs over the past year was less than 10 at two of the clubs and between 10 and 20 at the third.

The clubs surveyed were also asked if they would like more information about the potential ocular hazards of squash. Forty-nine (96%) of the respondents indicated that they would appreciate more information; 2 (4%) declined the offer.

### DISCUSSION

Over recent years squash has enjoyed a rise in popularity. Squash is played within a relatively confined court space, both players are wielding relatively long racquets, and the ball, which is of exactly the right dimensions to fit into the bony orbit, is travelling at speeds of up to 225 km/h. The potential for serious ocular trauma is very high.<sup>8,9</sup>

In 1981, Barrell *et al.*<sup>8</sup> examined the incidence of ocular injury over the period of 1 year. From that data they were able to calculate the risk of sustaining an ocular injury whilst engaged in various sporting activities. Injuries requiring hospital admission were far more likely when caused by a squash ball (1.7 injuries per 100 000 playing sessions) than the cumulative risk from the badminton shuttlecock, table tennis ball, tennis ball, cricket ball and football (1.5 injuries per 100 000 playing sessions). Furthermore the squash ball was second only to the badminton shuttlecock in terms of injuries requiring outpatient follow-up.

Subsequently, in 1985, Kennerley Bankes<sup>10</sup> con-

ducted a survey of squash-related eye injuries seen by ophthalmologists in England. Over a 6 month period 339 players were reported to have sustained such injuries. The squash ball was responsible for two-thirds of the injuries. Forty of the 339 patients sustained significant concussive injuries which may have resulted in permanent visual impairment.<sup>10</sup>

Squash players tend to be of working age, and hence ocular injury has significant implications in terms of financial stability and quality of life. There are also the costs to the employer in terms of lost services and costs to the health care system. Despite these considerations, the salient feature of squash-related eye injuries is often ignored, i.e. that they may be prevented. Indeed, many experienced players feel that it is only the novices who are likely to be injured. This has been shown to be a myth according to studies by Easterbrook, Vinger, Clement and Genovese *et al.*<sup>9,11-13</sup> In a study conducted in Australia, Genovese *et al.*<sup>11</sup> found that 26% of county standard squash players admitted to having sustained at least one eye injury. Easterbrook,<sup>12</sup> in his series, found that the players who were injured had played squash for an average of 5.6 years, whilst Clement and Fairhurst<sup>9</sup> found that the incidence of injury was actually higher in the 'top' divisions of play.

Yet the foundations for safe squash can be established at an early stage by instruction in good techniques and proper use of safety equipment. The fact that half the clubs surveyed had a professional squash coach indicates that this opportunity could easily be exploited.

In our study we found that, of the clubs that responded, only 13 (25%) had a facility for the sale of accessories related to squash. Of these only 3 (6%) sold some form of eye protection. Three points concern us: firstly, the scarcity of eye protection available to the squash-playing public; secondly, that players are being sold eye protectors that are hazardous; and finally, that in the clubs surveyed there was a lack of any form of warning as to the risks of play without eye protection. The open or lenseless eye-guard (Fig. 1) allows the passage of the squash ball so that it can come into contact with the eye.<sup>12-14</sup> In Canada, the Canadian Standards Association sets standards for sports eye protection. It also tests and approves suitable products. In the United States the American Society for Testing and Materials sets standards for various products including eye-guards. In the United Kingdom the British Standards Institution is currently setting a standard.<sup>15</sup>

The response to the question regarding availability of information was encouraging. It would appear that the squash clubs would like to promote safe play, but are awaiting a lead. We feel that as doctors we should take the lead to make squash a safer game by encouraging the use of protective eye-wear.

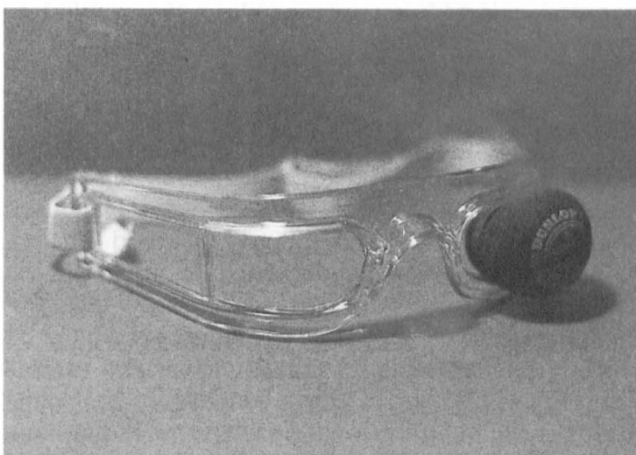


Fig. 1. The open or lenseless type of squash eye-guard.

Key words: Athletic injuries, Eye injuries, Ocular protection, Squash.

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