

Golf related head injuries in children

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Objectives: To assess the incidence and severity of head injuries to children sustained by a blow from a golf club or ball and to highlight the potential for significant injury. An increase in public awareness of these risks might result in a reduction in morbidity.

Methods: Over a period of seven months, all children aged 3–13 years, attending the accident and emergency department with a head injury sustained from a golf club or ball had their case notes reviewed by the author.

Results: Thirty seven children, 78% of whom were boys, were identified as having sustained such a head injury, commonly during the school holiday months. Thirty three of the injuries were caused by golf clubs, the other four by a golf ball. Half of the injuries were to the frontal area. Twenty five children (68%) had skull radiographs but only one was positive—one child sustaining a compound depressed fracture of the frontal area. One child required cleaning and suturing of a wound under a general anaesthetic. A known epileptic child had a fit immediately after being hit on the head by a golf ball. Twenty two (60%) sustained lacerations that were repaired with steri strips or glue. Twelve had haematomas, seven complained of dizziness/drowsiness, and two had nausea/vomiting.

Conclusions: Other authors have reported fatal head injuries, and it would seem that parents are unaware of the risks of serious and permanent head injury, with the potential for death, attributable to blows to the head from golf clubs and balls. The need for early tuition in the safety aspects of the game cannot be underestimated and parent and player education strategies are suggested as the main means of reducing injuries in this popular sport.

Televising of international golf competitions has raised interest in the game but despite the long history of golfing there are surprisingly few publications on injuries sustained while playing the game.

We became aware that a number of children had attended our department having sustained a head injury from a golf club or ball. Accordingly, the aim of this audit was to confirm our suspicions that this was more prevalent than previously reported and to underline the need for supervision and safe practice when children play with golf clubs.

METHODS

An audit was undertaken from April to October 2001 in the accident and emergency (A&E) department of the Royal Aberdeen Children's Hospital. This hospital has the only paediatric A&E department in the north east of Scotland, serving a population of over half a million. Annually the department sees over 20 000 new cases, all under the age of 14 years.

The attendance card of each child of 3–13 years who attended the department with a head or facial injury was reviewed and all those sustained as a result of an incident with a golf club or golf ball were identified. Each such case was reviewed and the site and nature of the injury, treatment and outcome were noted. Non-accidental/intentional injury was

considered in each of the presentations, but all the injuries were judged to be consistent with the history given.

RESULTS

During this seven month period 37 children presented to the A&E department with a head or facial injury as a result of an impact from a golf club or golf ball. The frequency of attendance peaked in the school holiday months and there was a male : female ratio of 4:1 (fig 1). The mean age was 7.8 years. Half the injuries were to the forehead temple (table 1).

Twenty two (60%) presented with a laceration, 12 had a haematoma, seven complained of dizziness/drowsiness, two had nausea/vomiting, one epistaxis, and one complained of blurred vision. One child (a known epileptic) presented after a fit preceded by a blow to the head from a golf ball. No child sustained loss of consciousness.

Twenty five children (68%) had skull radiographs. Only one was positive—an 11 year old boy who had sustained a 4 cm

Table 1 Sites of injuries

Forehead/temple	18
Parietal area	5
Cheek/face	5
Occiput	3
Nose	2
Chin	2
Mouth	1
Vertex Of skull	1

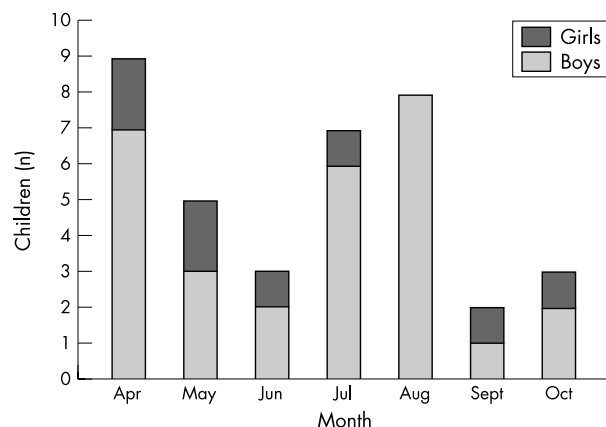


Figure 1 Attendance by sex and month.

laceration above the left eyebrow. Radiography demonstrated an underlying depressed skull fracture but computed tomography of the head showed no intracranial bleeding or injury. He underwent elevation of the fracture and suturing of the wound under a general anaesthetic and made a full recovery. One boy was admitted for suturing of a wound under a general anaesthetic. Two children were admitted to the A&E ward for overnight observation. Twelve wounds were repaired with steristrips and seven were glued. The parents of all children discharged were given a written head injury advice leaflet. No children re-attended.

DISCUSSION

Golf is becoming an increasingly popular sport. The marked torsional movements involved are stressful for both the vertebral column and the extremities.¹ A literature search showed papers² published on upper limb, back, and neck injuries but there were few papers on head injuries in children from a golf club or ball. Wilks and Jones³ reported 300 golf related injuries in Queensland over a 6.5 year period, which is a lower incidence than in our series. In our study 92% of the injuries were attributable to being struck by a club. This finding was mirrored by Ridenour⁴ who noted that injuries occurred when unsupervised children played with clubs at home. He identified 19 golf related deaths in children in the USA.

The potential for serious injury must not be underestimated and although we saw only one compound skull fracture, Pennycook *et al*⁵ noted three cases of compound skull fractures in

adults as a result of a blow by a golf club. Sakurai *et al*⁶ report a case of calcified and ossified extradural haematoma in a 14 year old girl after a blow with a golf club eight months previously. Roth and Warman⁷ report optic nerve avulsion in a 10 year old boy who was hit in the eye by a golf club.

In conclusion, golf clubs pose a significant threat to children when unsupervised and the high number of childhood golf related head injuries, particularly frontal injury, is disturbing. It would seem that parents are unaware of the risks of serious and permanent head injury with the potential for death. The need for early tuition in the safety aspects of the game cannot be underestimated and parent and player education strategies are suggested as the main means of reducing injuries in this popular sport.

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