

## Letter to the Editor

### TO THE EDITOR

#### Head Injuries in Skiers and Snowboarders

I read "Head Injuries in Skiers and Snowboarders in British Columbia," by Hentschel, Hader, and Boyd in the February 2001 issue of *The Canadian Journal of Neurological Sciences* with great interest and appreciation. However, allow me to humbly suggest a needed correction to a prominent categorical statement within the first paragraph:

"... however, only one has specifically addressed the severity of head injuries in this population."<sup>13</sup>

The Journal of Trauma citation mentioned (13) within the article had commented in this manner: "to date, however, there has been no published study focusing on head injuries caused by snowboarding." In this regard, may I mention an article published ten years earlier?

I refer to our report "First Report of Snowboard Neurological Injury in Winter Sports." *Clinical Sports Medicine*. Chapman and Hall, Ltd. (London) 1989;1:45-55. It presented the first snowboarding head injuries to be published, fully a decade prior to all references mentioned above. One case is of such severity and near mortality that I believe it is worth mentioning.

A 15-year-old male high school student was snowboarding off an aerial jump at a nearby ski resort where he attempted to negotiate a "tail-grab" (or "mule-kick") maneuver. He landed incorrectly and struck his mid-occipital area with his own snowboard tail, losing consciousness. The curved tail of the snowboard acted as a broad spade, impaling the occiput. The resultant scalp laceration was closed by an E.R. physician, and he was discharged to home. There, the sudden appearance of vomiting prompted his mother to consult her home remedy book, and she followed its suggestion ... "return to the emergency room".

Re-exam revealed stupor, intermittent vomiting, and blurred optic discs. X-ray studies suggested penetrating skull and brain injury with laceration of the terminal portion of the saggital sinus above the torcula.

Emergency surgery required a bilateral occipital approach for repair of the saggital sinus' terminal segment. An initial trial of one millimeter elevation of the depressed midline occipital bone precipitated aggressive circumferential venous blood flow from the entire 360 degrees. Upon witnessing this, all available hospital matched blood was brought to the operating room prior to the next step.

After an encircling bone incision isolated the bone of the compound fracture, an assembly of Gelfoam, Surgicell pack, and cotton patties were quickly substituted for the mobilized

depressed bone area. During this less-than-one-second switch of bone to tamponade, two 6-8 inch continous spurting vertical columns of venous blood were produced. Massive blood loss over one minute produced hemodynamic instability. The sinus repair with dural substitute over an occlusive tamponading dressing at the torcula proceeded concurrent with replacement of four units of blood in order to restore acceptable blood pressure. He was equipped with a temporary helmet and advised to sleep prone. Two months after discharge, he was admitted for cranioplastic repair of the vulnerable midline occipital defect. The next year he returned to snowboarding – with a helmet.

Earlier citations such as this do not always lend themselves to detection by the current robust and efficient computer searches of today. This historical inaccuracy (unintentional I'm sure) in no way diminishes the value of a very valuable clinical contribution, reported in your journal.

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#### Addendum

- (1) In viewing the interval experience since the first snowboard report,<sup>1</sup> evidence suggests that the incidence of head injury in snowboarding has paralleled that seen in skiing. On the other hand, we failed to anticipate the marked rise in lower spine injury, at times accompanied by neurologic damage.
- (2) The need for helmet use is now even more compelling than when first advanced two decades ago.<sup>2</sup> It should be a concurrent first rental/purchase acquisition, as part of the initial trip to the rental or equipment shop!

1. Harris JB. First report of snowboard neurological injury. *Clinical Sports Medicine*. Chapman and Hall, Ltd. 1989;1:45-55.
2. Harris JB. Neurological injuries in winter sports. *The Physician and Sportsmedicine*. McGraw-Hill 1983;11:111-122.

#### REPLY

We agree with the comments of Dr. Harris. In British Columbia, we have seen a significant increase in the number of snowboarders, as well as skiers, wearing helmets this most recent ski season. The helmet is becoming a desirable fashion accessory for the snowboarder, while fortunately, at the same time, providing a much-needed safety adjunct.

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