

Penetrating sledding injuries to the lower torso — 2 case reports



Katherine O'Brien, MD; Dan Poenaru, MD

Abstract

Sledding accidents are frequent and vary in severity. Penetrating sledding injuries are uncommon but may be devastating. Snow-racers — sleds with both steering and braking devices — may be associated with an increased rate of injury. The authors present 2 cases of lower-torso penetrating trauma associated with the use of snow-racers. Both cases involved penetration — of the perineum in one case and the inguinal area in the other — by wooden sticks. Both patients recovered fully after prompt surgical intervention. The authors suggest that the absence of a protective panel at the front of the snow-racer may result in the sledder's lower torso being more exposed to objects encountered while sledding. The injuries reported raise concerns about the safety of modern sleds and the possibility that design changes are needed.

Résumé

Les accidents de luge sont fréquents et leur gravité varie. Les blessures perforantes causées par un accident de luge sont rares, mais elles peuvent être dévastatrices. Il est possible d'établir un lien entre la luge de compétition dotée de mécanismes de direction et de freinage et l'augmentation des blessures. Les auteurs présentent deux cas de traumatismes perforants de la partie inférieure du torse associés à la luge de compétition. Dans les deux cas, il y a eu pénétration par un bout de bois — du périnée dans un cas et de la région inguinale dans l'autre. Les deux patients se sont rétablis complètement après une intervention chirurgicale pratiquée sans tarder. Les auteurs indiquent que l'absence de protection à l'avant de la luge de compétition pourrait exposer davantage la partie inférieure du torse du lugeur aux objets rencontrés pendant la course. Les blessures signalées soulèvent des préoccupations au sujet de la sûreté des luges modernes et des changements de concept qui pourraient s'imposer.

Injuries associated with sledding are common; although most are minor, approximately 2.5% require admission to hospital¹ and some even lead to death.² We report 2 unusual cases of penetrating injuries to the lower trunk in children using snow-racer sleds.

Case reports

Case 1

A 14-year-old boy struck a wooden stick while sledding downhill on a snow-racer. His injuries included a complete external anal sphincter tear, a partial internal sphincter tear and a 10-cm cephalad track. A local sphincter repair with broad drainage was performed; diversion of the fecal stream was avoided. The patient regained full sphincter control immediately after surgery and recovered fully.



Fig. 1: Diagram of a snow-racer sled, showing the lack of protective front panel.

Education

Éducation

Drs. O'Brien and Poenaru are with the Department of Surgery, Queen's University, Kingston, Ont.

This article has been peer reviewed.

CMAJ 1999;160:353-4

‡ See related article page 302



Case 2

An 11-year-old boy sledding downhill on a snow-racer hit a wooden stick that penetrated his left groin. The deep laceration above the inguinal canal extended upward 5 cm subcutaneously. The wound was irrigated and drained, and then allowed to heal secondarily. The patient recovered uneventfully.

Comments

These 2 cases demonstrate the association between snow-racers and the risk of groin or perineal injury. Although many factors contribute to sledding injuries, they are most likely to occur in boys³ sledding on poorly lit, unsupervised hills with obstacles.² The lowest rate of injury occurs on hills specifically groomed for sledding.

On sleds ridden in the sitting position (toboggans, inner tubes and snow-racers) the spine is susceptible to injury, whereas on sleds ridden in the prone position, the head and abdomen are susceptible. The most frequent injuries, however, are fractures, contusions and lacerations of the extremities, which often extend beyond the limits of the sled.¹ Groin and perineal injuries as the result of sledding accidents have not been previously reported.

Wynne and colleagues³ showed that snow-racers are more likely to lead to injuries than other types of sleds. Snow-racers are sleds mounted on 2 skis and steered by a

third ski located in the centre at the front; it also has rudimentary foot brakes (Fig. 1). The steering and braking devices provide a false sense of security; it is highly unlikely that drivers of such fast-moving sleds would be able to avoid obstacles.³

Traditional sleds that are ridden in the sitting position (e.g., toboggans) commonly have a protective front panel. The snow-racer, however, provides no anterior protection and the driver's lower trunk is exposed to obstacles encountered while sledding.

Besides describing 2 unusual sledding injuries, this report questions the safety of modern sleds — specifically snow-racers. An inquiry into the design of these sleds might be advisable if further similar accidents are reported. Certain design modifications might make these sleds safer, yet still retain the fun of sledding.

Competing interests: None declared.

References

1. Landsman IS, Knapp JF, Medina F, Sharma V, Wasserman GS, Walsh I. Injuries associated with downhill sledding. *Pediatr Emerg Care* 1987;3:277-80.
2. Rowe BH, Bota GW. Sledding deaths in Ontario. *Can Fam Physician* 1994;40:68-71.
3. Wynne AD, Bota GW, Rowe BH. Sledding trauma in a northeastern Ontario community. *J Trauma* 1994;37:820-5.

Reprint requests to: Dr. Dan Poenaru, Kingston General Hospital, 76 Stuart St., Kingston ON K7L 2V7; fax 613 545-3203; poenarud@KGH.kari.net

Global Theme Issue on the Impact of New Technologies in Medicine

We welcome submissions from all specialties: original research evaluating clinical uses of new technologies, thoughtful editorials and essays describing personal encounters with technological medicine.

For more information, see the editorial in the Jan. 12 issue of *CMAJ* (1999;160[1]:66). Submissions received by May 1 will have the best chance of being included.

Essay challenge

A patient enters a family physician's office with questions about medical information gathered from the Internet. We would like to receive two essays, one by a physician and one by a patient, describing this experience.