

Summary of Research Articles

1. According to Nova Scotia's Motor Vehicle Act, the use of a helmet is mandatory for cyclists, skateboarders and in-line skaters. But there is no law that requires skaters to wear helmets. Studies have shown that ice skating produces 3X more head injury and brain injury than cycling, skateboarding or inline skating. Ice skating is particularly dangerous because when a person loses his or her balance on ice, there is often impact of the head directly on a very hard surface. Dr. David B Clarke, is one of the leading neurosurgeons in the province, he was quoted as saying: "Wearing a helmet while skating, in order to protect your brain from brain injury is supported by research and makes common sense". (December 20, 2009, John McKiggan) Nova Scotia.
2. Helmets reduce the risk of head injury by 29% to 56%, brain injuries are the leading cause of death and disability in children according to the Brain Injury Association of Canada (BIAC) and injury prevention experts.
3. A 52 year old Erindale woman died after hitting her head on the ice at Port Credit Arena, Her family is demanding the City of Mississauga make it mandatory for people to wear helmets during public skate. (Mississauga News, Jan 12, 2010)
4. An Acquired Brain Injury (ABI) is damage to the brain that occurs after birth as a result of a traumatic or non-traumatic events (not congenital or degenerative). An acquired brain injury that is the result of a traumatic event, such as a blow to the head, is called a Traumatic Brain Injury, or TBI. (ABI) often results in a complex combination of cognitive, psychosocial, behavioral and physical problems. Even people who sustain "mild" injuries can have long term consequences. (Brain Injury Association of Canada)

Traumatic brain injury is a leading cause of death and disability world-wide. Traumatic brain injury is more common than breast cancer, HIV AIDS, multiple sclerosis, and spinal cord injury combined. The leading causes of brain injury are falls, being struck by or against an object, or being in a motor vehicle crash. (Brain Injury Association of Canada)

5. An Ottawa Brain Injury Lawyer Supports Brain Injury Prevention, Posted by Ottawa Accident Lawyer, David Hollingsworth in Brain Injury / Head Injury, safety on January 5th, 2010

An Ottawa Brain Injury Lawyer supports mandatory helmets for recreational ice skaters. Brain Injury Association of Canada newsletter states "Skate safely and protect your head from injury"! Hockey helmets should be mandatory for all skaters to prevent brain injury and head injury. Dalhousie's Memorial Arena is introducing a new rule that comes into effect January 1, 2010 that will require all skaters to wear CSA-approved hockey helmets during **all** skating sessions held at Dalhousie. David Hollingsworth, lawyer, is in complete support of this necessary approach to head injury and brain injury prevention. He is quoted as "suspecting that the rule change may be unpopular with the students and public that use the skating arena". But as an Ottawa Brain Injury Lawyer, he has seen firsthand the devastating effects that a brain injury can have on individuals.

6. About Kids Health, The Hospital for Sick Children, Helmets for Injury Prevention

Dr. James Wright, MD, MPH, FRCSC says: "that for some sports, such as bicycling, hockey, and horseback riding, which carry a high risk of head injury there is good evidence that the right helmet can protect against head injury in these sports."

Recommendations include Hockey Helmets for hockey activities they help reduce the risk of fatal and serious head injury, and full face guards reduce the risk of eye injury.

Hockey Canada also requires all players to wear a CSA certified helmet with a face protector at all times while they are on the ice. For ice skating, a recent study found that ice-skaters were four times more likely to sustain head injuries than in-line skaters, and recommended that ice-skaters wear helmets and other protective equipment. When the head hits a hard surface, it stops moving very quickly. This can cause the brain to hit the inside of the skull, and can also damage the connections between brain cells. The surface of the head can also be cut or bruised, especially if it hits a sharp object. In severe cases, the skull may also be fractured.

7. A new research reported by Dr. Angela Colantonio for the Ontario Neurotrauma Foundation shows that there were 17,482 emergency room visits and/or hospitalizations for traumatic brain injury in Ontario in 2006, the majority are young men. Approximately 3,600 hospitalizations end in deaths. (Brain Injury Association of Canada)

The causes vary by age group; among adults, traffic accidents (45%) and falls (30%), are the two main causes of brain injury. Other causes include occupational injuries (10%), sport and recreational activities (10%) and physical violence (3%). Among children, falls (35%) and sport and recreational activities (29%) are the main causes of brain injuries. (Brain Injury Association of Canada)

- Children aged 0 to 4 years, older adolescents aged 15 to 19 years, and adults aged 65 years and older are most likely to sustain a TBI.
- Almost half a million (473,947) emergency department visits for TBI are made annually by children aged 0 to 14 years.
- Adults aged 75 years and older have the highest rates of TBI-related hospitalization and death.
- In every age group, TBI rates are higher for males than for females.

The BIAC asks all Canadians, children, youth, parents and seniors, to help prevent acquired brain injuries all year round by wearing helmets while cycling, rollerblading, skateboarding, ATVing, skiing, snowboarding, skating, playing ice hockey, tobogganing .

Other High Risk Activity trends, moving toward mandatory helmet use.....

8. (Toronto) March 19, 2009 – The death of actress Natasha Richardson has thrown a spotlight on an often invisible injury – brain trauma. "This tragic loss is a terrible reminder to all of us that a brain injury, even a seemingly minor one, can have devastating consequences," says John Kumpf of the Ontario Alliance for Action on Brain Injury.

"We encourage the use of helmets", researcher say : Helmets Cut Ski Injuries by 35% ... The article, published Monday February 1st, 2010 in the Canadian Medical Association Journal, study by University of Calgary scientists.

The research found that skiers and snowboarders who wear a helmet reduce their risk of head injury by 35 per cent. Canadian researchers say that this was the conclusion after reviewing 12 studies that were conducted in Europe, Asia and North America. The findings were published in the Canadian Medical Association Journal (Peter McCabe/Canadian Press)

One study conducted by Department of Sport Science (**Gerhard Ruedl, PhD, Martin Kopp, PhD and Martin Burtscher, MD PhD**), Innsbruck, Austria studied and analyzed the effects of helmets on the risk of head and neck injuries among skiers and snowboarders, ¹ Russell and colleagues found a 35% reduced risk of head injury when a ski helmet was used. Recently, they were able to show a similar reduction in the number of head injuries in skiers and snowboarders involved in falls and collisions in the winter season 2008–09. This assumption is based on the fact that higher rates of helmet use have been observed in uninjured compared with injured skiers and snowboarders. In the 2009–10 winter season, helmets were mandatory for children under the age of 15 years in most Austrian provinces. Future investigations will be needed to evaluate the impact of mandatory rules on increasing helmet use and reduced risk of head injury, especially in children.

Brent Hagel, a Canadian researcher, of the departments of pediatrics and community health sciences at the University of Calgary, says: Traumatic brain injury is the leading cause of death and serious injury among skiers and snowboarders. Estimates from several countries suggest head injuries account for up to 19 per cent and neck injuries for up to four percent of all injuries reported by ski patrols and emergency departments. But between two and five out of every 10 head injuries could be prevented by wearing helmets, the reviewers concluded."The use of helmets significantly protects against head injuries among skiers and snowboarders

9. According to The Economic Burden of Injury in Canada 2009 report, all winter activities accounted for over 70,000 unintentional injuries in Canada with nearly 1,400 resulting in partial and permanent disability. These serious injuries total \$400 million dollars in direct and indirect costs to the health care system, which combined are contributing to the social and economic burden of unintentional injuries. (**Safe Kids Canada**)

In Canada, it is estimated that 87.5 per cent of skiing and snowboarding deaths have been caused by a head injury. Traumatic brain injury, which has increased in recent years, has accounted for up to 88 per cent of all fatalities at ski resorts. Children account for 67 per cent of all ski related deaths. Research has demonstrated that ski and snowboard helmets are effective at preventing serious head injuries. It is estimated that nearly 50 per cent of all skiing and snowboarding head injuries could be prevented by simply wearing a helmet

Protective equipment can reduce the risk and severity of head injury. It is important to have a good quality, properly fitted hard hat/ helmet for work environments and collision sports. Workers should follow safety procedures mandated on work sites. All protective equipment should be certified and well maintained.

10. Think First Canada, www.thinkfirst.ca has published some alarming statistics

- Injury is the leading killer of Canadian children and youth.
- 50 % of all deaths from injury are from brain injuries
- Thirty per cent of all traumatic brain injuries are sustained by children and youth, many of them while participating in sports and recreational activities
- Each severe brain injury costs our medical system over \$400,000 at the time of injury. Costs remain approximately the same each year following the incident due to indirect expenses and follow-up treatment
- Although catastrophic brain injuries in sports and recreation can affect anyone, boys/men are affected four times as frequently as girls/women