



ASK THE EXPERT

WITH DR. DARRELL MENARD

FIND ANSWERS TO YOUR SPORT MEDICINE QUESTIONS!



YOUR HELMET AND YOUR HEAD

Q: I have played hockey for over 20 years and have always worn a helmet to protect myself. At the end of the season, I noticed my helmet was clearly in need of replacement. After an online search, I discovered there are many choices when it comes to buying a new hockey helmet. Do you have any advice on what hockey helmets work the best to prevent concussions?

- Anonymous



Even if helmets won't prevent concussions, wearing one is a very smart idea, and the benefit to you is greatest if your helmet:

1. Fits properly – snug and comfortable!
2. Is the right design for your sport.
3. Has a chin strap that is done up, so your helmet doesn't fall off.
4. Is in good repair.
5. Is sticker free – stickers will weaken the plastic!
6. Is safety certified by CSA, CPSC or ASTM.

The Bottom line: while helmets have not been shown to prevent concussions, they have been shown to reduce your risk of other types of serious damage to your head and brain. Regardless of the cost, your helmet won't be much help if it is sitting in the garage when you fall off your bike! You only have one brain – please take good care of it! **Learn more about preventing concussions: [Brain Injury Canada](#).**

Dear Anonymous: This will come as a surprise to you but according to the scientific evidence available, even the best helmets cannot prevent concussions. Hundreds of millions of dollars have been spent on the design of protective helmets for many different sports, yet despite this enormous investment, there continues to be no such thing as a concussion-prevention helmet for any sport – regardless of how expensive a helmet is.

Right now, you may be asking – why bother wearing a helmet then, when you are biking, skiing, rollerblading or playing hockey and football? Even though helmets have not been shown to prevent concussions, they continue to be an important piece of protective equipment. When properly worn, helmets are very effective at preventing cuts to the scalp, brain bleeds and skull fractures- damage that can be permanent and disabling.

So why can't a helmet prevent a concussion? This is due to the way the human head is designed. You have the hard bony covering of the skull, a set of protective membranes and the brain floating in a pool of fluid. As a result, when you get hit, your brain moves around inside your skull like a yolk inside an egg. If you are hit hard enough, your brain will move around inside your skull and rotational forces can cause shear injury to the brain cells, resulting in changes to the chemicals in the brain, affecting how the brain works.

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Dr. Darrell Menard is the Surgeon General's specialist advisor in sport medicine. He has worked extensively with athletes from multiple sports and has covered Canadian teams competing at multiple games including the 2012 Olympics and the 2016 Paralympic games. These articles were originally published in the Canadian Forces Journal, the Maple Leaf.

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