

- Slow down for those blind curves in the trail
- Slow down for other trail or road users
- Be ready to stop for a dog or child who can dart in front of you.
- Never ride on ice or snow--it can be done, but not without falling unless you have a tricycle or four wheel bike.
- Think twice about riding in rain. Your tires will have less traction in the wet, and rain can interfere with your vision.
- Scan the road ahead carefully for rocks or potholes
- Don't run stop signs and red lights
- Don't ride on the wrong side of the road

There are more. You need to take them seriously. It sounds irritating, but actually is not once you get used to it. You will feel safer and live longer without another brain injury if you don't crash!

Adapted from our Web page: www.helmets.org/helm4inj.htm

If you were looking for headgear to give some limited protection around the home, or for a child with developmental disabilities, we have a page on the BHSI web site: www.helmets.org/special.htm
Our basic advice is: Ask your doctor.



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Helmets for Head Injured Cyclists

Summary: The first and most important thing to remember is: *pay attention to what your doctors tell you to do!* Do not ride before they say it is ok. If you have had a concussion or any brain injury, the next one can occur from a lesser blow. There is no helmet that will prevent your next concussion. Do what your doctors tell you to do! The rest is a detail.

If you have suffered a brain injury and are recovering, your doctors may have told you not to ride your bicycle for a while. And they likely did tell you to be sure to use a helmet if you ride a bicycle. As you know, after one brain injury you are much more likely to be injured again if you crash. A blow that might not injure another rider can injure you seriously.

When you have been cleared by your doctor to ride again, the question is: what helmet should I wear? What is the safest brand and model for a rider who needs the softest possible landing in a crash?

The answer is unfortunately that we do not know. There are several reasons:

- There is no such thing as a "concussion helmet." The blow that causes your second concussion can be your shoulder or back hitting the ground, without your head even hitting. Even a big, heavy, hot football helmet can not prevent your second concussion if your brain has not healed from the first one.
- Helmets are designed for people who can take the normal amount of shock without being injured. No manufacturer we

know of is designing for riders who have already suffered a brain injury. The standards they design to meet assume that you can take 300 g without permanent injury. Odds are that you can't take that much after a prior injury. In fact, there is evidence that most people can't take that much without substantial damage, even if they have never been injured before.

- Only lab testing of more of the many helmets on the market would allow us to tell you which of them would provide the softest landing. We can't afford that. *Consumer Reports* publishes helmet articles, but they can only test a few of the hundreds of models on the market, and they rate helmets highest for impact protection if they can take a heavier blow, not if they give the softest landing in normal blows.
- Manufacturers are afraid of being sued if they advertise a helmet as more likely to protect you in a crash. They don't make products they can't advertise, so there is less market incentive than there should be to make a safer helmet, and no incentive to make one for head-injured riders. They are more likely to suffer a repeat injury, so from a commercial standpoint they are not the most desirable customers.

Our advice

With those points in mind, our advice has to be based on general knowledge of the helmets we deal with, not on testing of brands and models. We look for the same type of helmet for our own personal use that you want: the safest. Here are some general points:

- ***You don't need to buy an expensive helmet.*** Manufacturers put premium prices on the helmets with the most vents, the least foam, and the best styling. Equally safe helmets are sold right beside the others, at much lower prices. Provided you fit them carefully to your head, the cheapest helmets can be just as safe for you as the expensive ones. And you may get lucky and find a cheap one that has a thicker and less dense styrofoam liner.
- ***You probably want the thickest helmet you can find.*** If a helmet has to stop you in a half inch, that's a quick stop. If it

has a full inch to stop you, the shock to the brain should be much less. This is a basic law of physics and can't be repealed with miracle materials.

- The crushable foam in bike helmets all looks the same, but it is not. Some of it is denser and considerably harder (the liner foam, not the squishy fitting foam). That's not for you. With a lot of practice you can actually tell with a thumb squeeze which helmets have harder foam. Don't try that at home, since you leave a dent in the helmet! As a general rule of thumb, the helmets that are thicker and have fewer vents tend to have the least dense foam, but not always.
- ***You want good coverage of your head,*** so look for a helmet that comes further down on the sides and in back. You can help that by taking out the squishy fitting pads in the top to let the helmet settle further down and cover more of your head. With the exception of skate helmets, manufacturers don't usually give you extended protection. They can't advertise it or charge you more for it, and it adds to heat, weight and the likelihood of rubbing on your ears in an irritating way.
- ***You want to fit your helmet very carefully.*** If it can slide out of position as you fly through the air, you may hit your unprotected head just as if you had no helmet on. We have a page on fitting helmets. The time you spend fitting may save you from another injury.

And a basic reminder:

It is better not to crash at all than to crash and have a helmet save your head. You will have to be much more careful than a normal rider. For example, you can't treat these as ho-hum warnings any more!

- Keep your speed down
- Be ready to stop at intersections
- Do not assume that car drivers see you