



# Better Safe!



WELCOA'S ONLINE BULLETIN FOR YOUR FAMILY'S SAFETY

# A Bang to the Brain

## What We Know About Concussions

Your brain is your body's command center. Its soft, sensitive tissues float in a cushioning fluid within the hard and sturdy skull. But a swift blow to the head or violent shaking can override these protections and lead to a mild type of brain injury known as a concussion.

More than 1 million mild traumatic brain injuries occur nationwide each year. These injuries can be caused by falls, car crashes or recreational activities like bike riding, skateboarding, skiing or even playing at the playground. More than half of concussions occur in children—often when playing organized sports such as football and soccer.

Although concussions are considered to be a mild brain injury, they need to be taken seriously. They should not be treated as minor injuries that quickly resolve. With proper care, most people recover fully from a concussion. But in some cases, a concussion can have a lasting effect on thinking, attention, learning and memory.

A single concussion is also known to raise your risk for having another concussion—and a second concussion may be more severe. It's important to learn to recognize the causes and symptoms of concussion so you can take steps to prevent or treat these head injuries.

More serious brain injuries that involve skull fracture, bleeding in the brain or swelling of the brain can be detected with X-rays or other imaging methods. But concussions can be more difficult to identify.

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## A Bang to the Brain (Continued from previous page)

“A concussion isn’t visible from the outside, and you can’t see it with standard imaging tools like MRI and CAT scans,” says Dr. Christopher Giza, a pediatric brain specialist at the University of California, Los Angeles. “Instead we look for the signs and symptoms of abnormal brain function to make a diagnosis.”

Common symptoms include nausea, headache, confusion, dizziness and memory problems. Loss of consciousness occurs in about 1 in 10 concussions. A person with a concussion might have trouble answering basic questions and move in an awkward, clumsy way.

For about 9 in 10 people with concussions, symptoms disappear within 7 to 10 days. Scientists have been working to learn more about those who take longer to recover. In one NIH-funded study, Dr. Keith Yeates of Ohio State University looked at 8- to 15-year-olds treated in an emergency room for mild traumatic brain injury.

“We found that the majority of these kids recovered quite quickly or showed no increase in symptoms at all,” Yeates says. “But a subgroup of kids, about 10% or 20%, showed a dramatic onset of symptoms after their injury and persistent symptoms that in some cases remained even 12 months after the injury.”

Body-related symptoms, such as headache and dizziness, tended to fade fairly quickly, the researchers found. But thinking-related

symptoms, including problems with memory and paying attention, tended to linger in some kids throughout the year-long study. Children who had lost consciousness or had some additional abnormality that showed up on MRI scans after the injury had an increased risk for lasting problems.

Researchers know that immediately after a concussion, the brain is especially vulnerable to having a second, more serious injury. But it’s not clear why—or how long that vulnerable period lasts. Giza and his colleagues have found that a single mild injury reduces the brain’s use of the sugar glucose as a fuel, at least in rats. A second mild injury 24 hours later leads to an even steeper drop in glucose use and memory problems that last longer. But when the brain has several days to recover, and the use of glucose returns to normal, a second mild brain injury seems to be no worse than the first.

Take steps to avoid concussions. Athletes can decrease their risk of concussion by wearing proper headgear and following the rules of good sportsmanship. Make living areas safer for seniors by removing tripping hazards such as throw rugs and clutter in walkways, and install handrails on both sides of stairways.

While this research continues, do what you can to prevent concussions. Learn to recognize the symptoms. And make sure that people with signs of concussion stop their activities and seek medical attention.

## SYMPTOMS OF CONCUSSION

**Stop activity if you have these symptoms. Athletes should not return to play until evaluated by a health care provider.**

- ✘ Headache or “pressure” in head
- ✘ Nausea or vomiting
- ✘ Balance problems or dizziness
- ✘ Double or blurry vision
- ✘ Sensitivity to light or noise
- ✘ Feeling sluggish or groggy
- ✘ Concentration or memory problems
- ✘ Confusion
- ✘ Feeling “down” or “not right”
- ✘ Changes to sleep patterns

*Adapted from the U.S. Centers for Disease Control and Prevention*

