

# A heads-up on head injuries

By Bonnie Skopinski  
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When a young football player is tackled or tackles another player and one of them doesn't get up, or when a young hockey player's head hits the ice so hard it bounces, everybody's breath catches and apprehension rises.

The risk of head or neck injury looms in all contact sports.

At Saturday's four-hour head and neck injury clinic at the Bergen Park Fire Rescue training center, speakers told participants that knowing what to do and what not to do before and after such injuries can make a big difference in the outcome.

Evergreen Fire Rescue and St. Anthony Central Hospital sponsored the event for coaches, firefighters and emergency medical personnel.

An estimated 300,000 concussions occur in the United States each year. One in 10 high school contact-sport athletes will sustain a concussion, pediatric neuropsychologist John W. Kirk told the group.

However, Kirk said, many concussions never receive attention because they are not identified as such or because of pressure to just shake it off or because an athletic career or scholarship is at stake.

The old assumption that if an athlete does not lose consciousness, the hit was mild, is untrue. Also untrue is the notion that sitting out for a while and accurately counting fingers or knowing the date are all that's necessary to ascertain if an athlete is OK, he said.

Kirk stressed the importance of understanding concussions.

First, concussions are additive in their effect on the brain; the more concussions an athlete sustains, the more likely residual brain injury will occur.

Second, even a mild concussion can cause lasting brain injury.

Third, some concussion effects don't manifest until hours, or even days, after the event. A persistent headache is common and a good clue that the injury has not healed yet.

An athlete who returns to his sport before he has healed runs a higher risk of receiving another concussion, one that may cause permanent injury, Kirk emphasized.

The effects of an unrecognized concussion can snowball. For example, symptoms like sleep disruption or trouble concentrating can lead to lower grades, which can lead to anxiety or depression, and so on.

If a concussion is suspected, Kirk recommended, coaches should remove the athlete from the game and:

- Have the athlete evaluated by a physician. If the physician deems it necessary, follow up with a neuropsychologist, who can test for cognitive, behavioral and reaction-time changes.

Increasingly, schools and sports associations are employing a computerized test (ImPACT<sup>®</sup>) that athletes take at the start of the season to get a baseline for functioning level. That way, post-concussion changes can be identified more accurately.

- Don't return the youth to physical exertion until all symptoms resolve, and even then, return him or her to activity gradually.

In an interview after the clinic, speaker Tom Candlin, emergency medical service coordinator for St. Anthony Central, added that bleeding or swelling caused by the concussion may develop slowly. The doctor may advise parents to wake the youth every hour to make sure he can be awakened.

At the clinic, Candlin spoke about neck injuries — what coaches can do until paramedics arrive, as well as the best way for emergency personnel to deal with an injured athlete wearing bulky pads and helmet.

Fortunately, neck injury resulting in permanent disability is uncommon, he said.

But there's a reason why athletes are taught "heads-up" play. Crashing into someone or something with the top of the head first is very dangerous, as is helmet-to-helmet contact. It compresses the vertebrae and discs so much that they can buckle and cause injury to nerves or vital blood vessels.

Any forceful event that causes excessive flexion, extension or rotation of the neck can cause injury, Candlin explained.

In those situations, well-meaning people crowd around, eager to help. They offer all sorts of advice, much of it inaccurate and therefore potentially dangerous.

So the first thing a coach must do is take charge, he said.

Numbness, tingling and loss of function in the extremities are important symptoms. Candlin explained what a coach needs to do:

- Instruct the athlete to keep still.
- Have someone call 911.
- Tell the injured athlete what's going on. This will help him remain calm and therefore remain still.
- Do not take the helmet or shoulder pads off. Not only does this require dangerous manipulation of the head and shoulders, which could cause neck damage, it leaves the athlete on a less-even surface. For instance, removing the helmet of a youth wearing shoulder pads means the head will flop backward.
- Do take the mask off and the mouth guard out so that if breathing assistance becomes necessary, no time is wasted before it can begin. This means that coaching staff must know their players' equipment, how to remove the mask quickly and carefully, and have the proper tools on hand.
- Stabilizing the head and neck means holding the head and neck as one unit, not just the head.
- If the athlete lands on his stomach, don't roll him onto his back. This position allows for an open airway and gravity flow of vomit.
- If the athlete is on his back and begins to vomit, he should be rolled to his side to keep vomit from going down the airway and choking him. The roll must be done carefully, toward the people doing the rolling. An adequate number of people should assist in a coordinated effort so that the head and shoulders stay aligned as one unit.
- All actions taken are to protect the head and neck unit first and foremost. Other injuries are of secondary concern.

Candlin went on to discuss how emergency services personnel should safely perform the lift onto the backboard and how to instruct coaches and others to assist.

With Candlin's 13-year-old son, Tom, posing as the injured player, the coaches, firefighters and emergency personnel got a chance to practice.

In terms of prevention, he said, coaches and parents should make sure equipment as vital as a helmet fits properly.

They must drill into their players that spearing, boarding and other head-down contact is not only unsportsmanlike, they can result in devastating neck injury.

Assistant coach Rick Platz with the Mountain Area Midget Football Association thought the clinic was very helpful, especially the opportunity to practice.

Platz feels more confidence about what to do and how to work in cooperation with paramedics, he said.

Corinne Noller is "almost" an emergency medical technician. She'd read about the proper way to lift a potentially neck-injured person in a helmet and pads but had never seen it. The clinic helped, she said.

John Locke is doing his paramedic training now, but he's been with Evergreen Fire/Rescue since 2000. He's seen well-meaning people mishandle situations like the ones described.

He understands why coaches and parents sometimes coax the athlete to get up when he shouldn't. "They want them to be OK."

Platz observed, "It would be nice to have even more participation from Jefferson County and Clear Creek County coaches ... so everyone's hearing the same thing at the same time."

**Signs and symptoms of concussion:**

- \* Appears dazed or stunned
- \* Confused about assignment, forgets plays
- \* Disoriented to what's going on in game
- \* Can't recall events before hit or after hit
- \* Coordination difficulties
- \* Slow to respond verbally
- \* Loss of consciousness
- \* Changes in behavior or personality

**Athlete may observe:**

- \* Persistent headaches
- \* Nausea or vomiting
- \* Balance problems or dizziness
- \* Double or blurred vision
- \* Sensitivity to light or noise
- \* Feeling "out of it"
- \* Sleep disruption
- \* Trouble with concentration or memory
- \* Irritability, emotionality or sadness

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**Websites:**

[www.cdc.gov/ncipc/tbi/Coaches\\_Tool\\_Kit.htm](http://www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm)

[www.impacttest.com](http://www.impacttest.com)

[www.drjohnkirk.com](http://www.drjohnkirk.com)

[www.riddell1.com/newsite/footage.php](http://www.riddell1.com/newsite/footage.php) (video called "Heads Up").