Written by John Tomberlin Sunday, 03 April 2011 22:44 - Last Updated Sunday, 03 April 2011 23:12

Last week, the most aggressive measure to address concussions in youth sports was signed into law in the state of Colorado. This year at least 30 states have introduced legislation (nine other states already have laws) governing concussions in youth sports.

Why are these facts important to lowans? Remember February 28th, 2011? That was the day former ISU-Cyclone linebacker and NFL player Matt Blair, lobbied at the state capitol for legislation in lowa that would require an athlete to have written medical clearance before returning to competition after leaving a game with a sports-related concussion. Hopefully, we'll hear more on this lowa legislation from Des Moines soon and prior to the upcoming football season.

Concussion injury can occur in any sport and the highest rate of concussion injury in high school sports occurs in football. What about spring sports in lowa? Concussion injury rates in girls and boys soccer are on the rise, comprising from 15-20% of all reported injuries in those sports nationwide. Concussions are also being reported in baseball, softball, and even track and field. The rise in reported concussions over the last decade in youth sports (age 5-18) prompted the Center for Disease Control (CDC) last year to label concussion injuries as an epidemic problem.

What exactly is a sports-related concussion? A concussion is a brain injury and all brain injuries are serious! Recent research (hi-tech MRI called diffusion tensor imaging) on concussions shows that brain injury does occur even when the injured athlete has minimal complaints. Slang terms used such as "suffered a ding", "got their bell rung" in reality minimize the fact that a concussion is an injury to the brain.

A concussion can be caused by a blow to the head, a jolt to the body, or any sudden force that results in a rapid acceleration/deceleration of the brain inside the skull. Made up of a soft gel-like substance, the impact of the brain against the inside walls of the skull can cause a change in brain function and a host of other symptoms depending on which part of the brain is injured. Unfortunately, it is a widely held misconception that you need to lose consciousness ("be knocked out cold") to have suffered a concussion. The vast majority of sports-related concussion injuries reported do NOT involve a loss of consciousness.

While most athletes who suffer a concussion do heal within a few weeks, an athlete who returns

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to play before a concussion has completely resolved risks re-injuring an already injured brain, which can have catastrophic consequences. Although rare, adolescents seem most vulnerable to this rapid brain swelling known as "second impact syndrome," which can be fatal. Recently, it was estimated that 35% of severe head injuries sustained in high school football occurred while an athlete was still playing with neurological symptom complaints from a previous injury. Additionally, multiple concussions suffered prior to complete resolution of a previous injury can result in prolonged symptoms lasting weeks, months or years. New research evidence shows that neurological deficits following concussions can even show up later in life.

Recognizing the signs of a sports-related concussion can be extremely valuable for athletes, parents and coaches.

An athlete who suffers a sports-related concussion injury may exhibit some or all of these signs:

Appears dazed or stunned
Is confused about assignment or position
Forgets an instruction from a teammate or coach
Is unsure of game, score or opponent
Moves clumsily following injury
Answers questions slowly
Loses consciousness, even briefly
Shows mood, behavior or personality changes
Can't recall events prior to hit or fall
Can't recall events after hit or fall

Following a sports-related concussion injury, an athlete may complain of any of these symptoms:

Headache or "pressure" in head Nausea or vomiting Balance problems or dizziness Double or blurry vision Sensitivity to light Sensitivity to noise Feeling sluggish, hazy, foggy or groggy

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Concentration or memory problems Confusion in normal daily activities Does not "feel right" or is "feeling down"

Here are some valuable tips to athletes, parents, and coaches when a concussion injury is suspected:

Athletes:

There are four basic things to remember so that you get the help you need, recover quickly, and return to play safely.

- 1. Don't hide it. A concussion is a brain injury and brain injuries are a serious matter.
- 2. Report it. Tell someone about your injury as soon as possible so you can get a proper diagnosis ASAP.
- 3. Take time to recover. Listen to your body and be honest about the symptoms you experience as you recover.
- 4. Better to miss a game than an entire season or career. Follow your sports medicine professional's advice.

Help yourself by learning more about concussions. Go to the Center for Disease Control (CDC) website and read the "Heads Up" fact sheet for athletes: http://www.cdc.gov/concussion/pdf/At hletes Fact Sheet-a.pdf

Coaches:

There are four basic things to remember to help you make the right decisions for your athlete.

- 1. When in doubt, sit them out. Remove your athlete from play if you suspect a concussion.
- 2. Inform the athlete's parents as soon as possible. This will expedite No. 3.

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- 3. Ensure your athlete seeks medical advice. This needs to be someone experienced in evaluating concussions.
- 4. Your medical professional will determine return to play. Leave the medical determination to the specialists.

Help yourself and your staff by learning more about concussions. Go the CDC website and read the "Heads Up" coaches guide sheet, and discover online training videos and other educational materials on concussion injuries: http://www.cdc.gov/concussion/pdf/Coach_Guide-a.pdf

Parents:

There are four basic things to remember to help you make the right decisions for your son or daughter.

- 1. Seek medical attention. They should be evaluated by someone experienced in evaluating concussions.
- 2. Keep your child out of play. That means even on the same day of suspected injury.
- 3. Communicate their injury to the school. Everyone plays a role in recovery (coaches, friends, and teachers).
- 4. Teach your child that a concussion is a brain injury. Help them to be smart (see tips for athletes, above).

Help yourself and your athlete by learning more about concussions. Go to the CDC website and read the Heads Up fact sheet for parents: http://www.cdc.gov/concussion/pdf/Parents_Fact_Sheet-a.pdf

Parents should also be advised to visit the website http://www.sportsconcussions.org/parents.html for the latest information on concussion injuries. You will find a form to take to your physician, guidelines for school/home and return to play guidelines (all developed by the Children's National Medical Center in Washington, DC). We are fortunate that all of the high schools in the Metro area employ athletic trainers, who should be experts in the area of recognition and care of sports-related concussions. In most cases they will be the first professional to assess the injury.

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To learn more about sports-related concussions, check out these websites:

- 1. Center for Disease Control (CDC) http://www.cdc.gov/concussion/HeadsUp/high-school.ht ml#4
- 2. Sports Concussions Professional Organization http://www.sportsconcussions.org/index.html

(About the Author: John Tomberlin has worked with high school athletes in the Cedar Rapids Metro area since 1995. He was a four-sport athlete in high school and a high school coach for two years in Illinois. John has more than 25 years of experience working with athletes as a physical therapist and a certified strength and conditioning specialist. He has worked with professional athletes in the NFL, MLB, and on the PGA and LPGA tours. John also has worked with elite amateur athletes in alpine skiing, figure skating, and track and field.)