

What is a Concussion?

A concussion is a type of traumatic brain injury that interferes with normal functioning of the brain (changes how the cells in the brain normally work). A concussion can be caused by a bump, blow, or jolt to the head or body. Any force that is transmitted to the head causing the brain to bounce around or twist within the skull can result in a concussion. Over 90% of concussions do not involve loss of consciousness. It is important to note that a concussion can happen in any sport or athletic activity.

Concussion affects people in four areas of function:

- Physical - This describes how a person may feel: Headache, fatigue, nausea, vomiting, dizziness, etc.
- Thinking - Poor memory and concentration, responds to questions more slowly, asks repetitive questions. Concussion can cause an altered state of awareness.
- Emotions - A concussion can make a person more irritable and cause mood swings.
- Sleep - Concussions frequently cause changes in sleeping patterns, which can increase fatigue.

These are some SIGNS of concussion (what others can see in an injured athlete):

- Dazed or stunned appearance
- Unsure of score, game, opponent
- Clumsy
- Answers more slowly than usual
- Shows behavior or personality changes
- Loss of consciousness (even briefly)
- Repeats questions
- Forgets class schedule or assignments

These are some of the more common SYMPTOMS of concussion (what an injured athlete feels):

- Headache
- Nausea or vomiting
- Dizzy or unsteady
- Sensitive to light or noise or blurry vision
- Difficulty thinking clearly, concentrating, or remembering
- Irritable, sad, or feeling more emotional than usual
- Sleeps more or less than usual

What is Sudden Cardiac Arrest?

Sudden cardiac arrest is a condition in which the heart suddenly stops beating. When that happens, blood stops flowing to the brain and other vital organs. If it is not treated, sudden cardiac arrest usually causes death within minutes. But quick treatment with a defibrillator may be lifesaving. A heart attack is different from a sudden cardiac arrest. A heart attack happens when blood flow to the heart is blocked. During a heart attack, the heart usually does not suddenly stop beating. With sudden cardiac arrest, the heart stops beating.

The heart has an electrical system that controls the rate and rhythm of the heartbeat. A sudden cardiac arrest can happen when the heart's electrical system is not working right and causes irregular heartbeats. Irregular heartbeats are called arrhythmias. There are different types. They may cause the heart to beat too fast, too slow, or with an irregular rhythm. Some can cause the heart to stop pumping blood to the body; this is the type that causes sudden cardiac arrest.

What are the Warning Signs of Sudden Cardiac Arrest?

Usually, the first sign of SCA is loss of consciousness (fainting). This happens when the heart stops beating.

Some people may have a racing heartbeat or feel dizzy or light-headed just before they faint. And, sometimes people have chest pain, shortness of breath, nausea, or vomiting in the hour before they have a sudden cardiac arrest.

Sudden cardiac arrest happens without warning and requires emergency treatment. Sudden cardiac arrest is an emergency. A person having a sudden cardiac arrest needs to be treated with a defibrillator right away. A defibrillator is a device that sends an electric shock to the heart. The electric shock can restore a normal rhythm to a heart that has stopped beating. To work well, it needs to be done within minutes of the sudden cardiac arrest.

ImPACT Testing



Northland Pines Middle and High School uses an innovative program for our student-athletes that will assist our team physicians/athletic trainers in evaluating and treating head injuries (e.g., concussion). In order to better manage concussions sustained by our student-athletes, we have acquired a software tool called ImPACT (Immediate Post Concussion Assessment and Cognitive Testing). ImPACT is a computerized exam utilized in many professional, collegiate, and high school sports programs across the country to successfully diagnose and manage concussions. If an athlete is believed to have suffered a head injury during competition, ImPACT is used to help determine the severity of head injury and when the injury has fully healed.

The computerized exam is given to athletes before beginning contact sport practice or competition. This non-invasive test is set up in "video-game" type format and takes about 15-20 minutes to complete. It is simple, and actually many athletes enjoy the challenge of taking the test. Essentially, the ImPACT test is a preseason physical of the brain. It tracks information such as memory, reaction time, speed, and concentration. It is not an IQ test.

If a concussion is suspected, the athlete will be required to retake the test. Both the preseason and post-injury test data is given to a local doctor to help evaluate the injury. The information gathered can also be shared with your family doctor. The test data will enable these health professionals to determine when return-to-play is appropriate and safe for the injured athlete. If an injury of this nature occurs to your child, you will be promptly contacted with all the details.

The ImPACT testing procedures are non-invasive and they pose no risks to your student-athlete. We are excited to implement this program given that it provides us the best available information for managing concussions and preventing potential brain damage that can occur with multiple concussions. The Northland Pines High School administration, coaching, and athletic training staff are striving to keep your child's health and safety at the forefront of the student athletic experience. If you have any further questions regarding this program please contact Josh Tilley, Activities Director, at (715) 479-6286.