



WJCC Schools Athletics Concussions Procedures



Concussions sometimes occur among athletes in competitive sports programs. At WJCC Schools, careful protocols are utilized, including the use of ImPACT software, to guide management of head injuries. The following will provide background information on concussions and describe the protocols followed at WJCC Schools.

PLEASE NOTE: If a student athlete is suffering from any signs and/or symptoms of concussion resulting from a blow to the head, the athlete **MUST** report to the school's athletic trainer, or a physician as soon as possible. The sooner a proper diagnosis can be made, the sooner healing can begin.

Definition of a concussion:

A concussion is the disruption of normal brain function due to either a direct blow to the head, face and neck, or an indirect blow or jolt to another part of the body that transmits an "impulsive" force to the brain. Some concussions may result in a loss of consciousness.

However, loss of consciousness is not the defining characteristic of a concussion. It is imperative that the brain have enough time to heal in order to prevent any further trauma or symptoms (experienced and reported by the athlete) that may be present with concussions:

- Headache
- Nausea
- Dizziness
- Double or fuzzy vision or any other visual alteration
- Sensitivity to light and/or noise
- Feeling sluggish or slow
- Feeling "foggy" or in a "funk"
- Difficulty in concentrating when reading, listening or speaking
- Extreme fatigue

Management of a concussion:

Proper management of concussion is the best form of prevention of serious injury. Most important is prevention of Second Impact Syndrome – a catastrophic increase in intracranial pressure leading to massive brain swelling, herniation and death. This syndrome occurs in athletes up to 14 days post-concussion and when an athlete returns to competition prior to the complete resolution of symptoms. Therefore the following concussion protocols are utilized at WJCC Schools:

- 1) Any student/athlete diagnosed with concussion are removed from competition.
- 2) No students with concussion are allowed to return to play in the current game.
- 3) All concussions are referred for medical evaluation following the injury by an appropriate licensed health care provider as designated by the State of Virginia. An appropriate licensed health care provider can be any of the following:
 - a. Physician
 - b. Physician assistant
 - c. Osteopath physician
 - d. Athletic trainer licensed by the Virginia Board of Medicine
 - e. Neuropsychologist licensed by the Board of Psychology
 - f. Nurse practitioner licensed by the Virginia State Board of Nursing
- 4) Stepwise return to play:

Rehabilitation Stage	Functional Exercise	Objective of Stage
1. No activity	Complete physical and cognitive rest	Recovery
2. Light aerobic activity	Walking, swimming, stationary cycling keeping intensity < 70% maximum heart rate, no resistance activities	Increase heart rate
3. Sports-specific exercise	Specific sports-related drills, but NO head impact	Add movement
4. Non-contact training drills	More complex training drills; may start light resistance training	Exercise, coordination, cognitive load
5. Full-contact practice	After medical clearance, participate in normal training	Restore confidence and assess functional skills by coaches
6. Return-to-play	Normal game play	

- a. Each stage in concussion rehabilitation should last no less than 24 hours with a minimum of 5 days required after activity is started to consider a full return to competition.
 - b. Prior to any contact practice the student-athlete may be given a post-injury ImPACT test that will be interpreted by a qualified healthcare professional knowledgeable in concussion management. The ImPACT results will be used in conjunction with the entire history and assessment to help determine “return to play” status.
- 5) An athlete with 2 concussions per season will be removed from contact sports for the remainder of that season. Return to play will require neurocognitive testing and the

approval by an appropriate licensed health care provider as designated by the State of Virginia.

- 6) An athlete with a history of 3 or more concussions is highly recommended to avoid contact sports. Participation will require neurocognitive testing and be at the discretion of the school medical inspector.

As each sports concussion is unique, the concussion management plan will be individualized for each student-athlete. The ultimate goal of the concussion program is to allow a safe return to play and minimizing any long-term health problems from a concussion.

Some additional facts about concussions:

- Mild concussions ("bell ringers") do not require loss of consciousness. Presenting symptoms may include headache, nausea, balance problems, photosensitivity, fatigue, foggy or sluggish feeling, change in sleep patterns, and cognitive changes.
- Cutting edge research suggests that a concussion produces metabolic, rather than anatomic, injury to the brain, making CT scanning and MRI insensitive to the physiological changes in the concussed brain.
- An athlete who sustains a concussion is 4-6 times more likely to sustain a second concussion.
- Effects of a concussion are cumulative in athletes who return to play prior to complete recovery.
- High school athletes with a history of 3 or more concussions are up to 9 times more likely to have more severe symptoms following subsequent concussions.
- Post-concussion syndrome can involve decreased processing speed, short term memory impairment, concentration deficit, depression/irritability, fatigue/sleep disturbance, and academic difficulties.

More information on concussions can be obtained from the following website:
www.sportsconcussion.com

ImPACT

At WJCC schools, the health and safety of our athletes has always been our top priority. In recent years, medical science has increasingly confirmed the potential, long-term effects of repeated, untreated head injuries among athletes. Because of this, we have been pro-active and aggressive in taking measures to assess the severity of concussions and promote a safe return to play.

Several years ago, ALL of the WJCC's High Schools have implemented a software program to assess head injuries, called ImPACT. This program tests all athletes pre-season and obtains a baseline measurement of neurocognitive function. During the season, if an athlete has a suspected head injury, he/she is retested and the result is compared to that original, baseline measurement. A student athlete is not allowed to begin their gradual return to play program

after a head injury until his/her measurement returns to the baseline “normal” status and they have been approved by an appropriate licensed health care provider as designated by the State of Virginia.

The ImPACT software has been successfully used in college and professional athletics to help protect athletes and support their safe return to play. At WJCC schools, we are committed to using the same software to protect the health and safety of our students. We hope that the following FAQs will provide the answers to any questions you may have about ImPACT:

- What is ImPACT?

ImPACT (Immediate Post Concussion Assessment and Cognitive Testing), is a software tool which was developed by the University of Pittsburgh Medical Center (UPMC). ImPACT is used 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, ImPACT is used to help determine its severity and help monitor the healing process.

- How does ImPACT work?

During pre-season, before any physical contact is sustained, an athlete takes a 30-minute computerized test that measures brain processing, speed, memory and visual motor skills. The ImPACT testing procedures are non-invasive and pose no risks to your son/daughter. The results are collected and stored by our athletic trainers and physician. If an athlete experiences a head injury or concussion during the season, he/she is re-tested and the result is compared to the preseason baseline data. Doing this allows physicians to determine the athlete’s neurocognitive status and determine when it is safe for the player to return to athletics.

- How is the ImPACT data used?

If an injury of this nature occurs to your son or daughter, you will be promptly contacted with all the details. The pre-season and post-injury test data may be sent to your physician to help evaluate the injury. The test data will enable these health professionals to determine when return-to-play is appropriate and safe for an injured athlete.

- Which athletes must complete ImPACT testing?

Athletes who plan to participate in sports must complete the ImPACT baseline evaluation on-line, prior to the start of pre-season. Your son/daughter will only need to complete ONE baseline evaluation every 2 yrs, regardless of how many sports they plan to play during that time. Every Freshman, Junior, and new student-athlete must take a baseline test before participating on an athletic team in WJCC public schools.