

Voorhees Junior Vikings Concussion Protocol

A concussion is a traumatic brain injury that commonly occurs in sports like football. Suffering a second concussion prior to fully recovering from the first can have devastating consequences. Thus, in order to protect the well-being and future health of our athletes, the Voorhees Junior Vikings are adopting the following protocol for dealing with concussions suffered by our athletes during the football season. The Concussion Protocol will be monitored by the St. Luke's Concussion Center at the Warren Campus in Phillipsburg, New Jersey, under the direction of Nick Avallone, M.D. As a Board Certified Orthopaedic Sports Medicine Specialist and Head Team Physician for 4 local high schools, Dr. Avallone has additional expertise in concussion management and is a Certified ImPACT Consultant.

All athletes aged 10 and up have been offered a baseline ImPACT test, free of charge, from the St. Luke's Concussion Center. This is a 20 minute, computerized neurocognitive test that can be used as a tool in assessing when an athlete has recovered from a concussion. The test was given by a member of the concussion center on-site at Valley View School. The school has generously donated its computer clusters for us to use to perform the baseline tests. The ImPACT test is a valid test for patients aged 10 and up. Unfortunately, no valid computerized neurocognitive test exists to date for those less than 10 years old. For this age group, we will rely on symptom scores and serial neurologic exams to determine when it is safe to allow an athlete to return to play.

For those players who missed the session held already, you can still receive the free baseline ImPACT test by contacting Ethan Hood at the St. Luke's Warren Concussion Center at 908-859-4381.

All Jr Viking players are **strongly encouraged to take advantage of this program.**

A number of studies have pointed to the notion that stronger neck muscles help reduce the incidence of concussions in athletes by stabilizing the head and restricting its acceleration through space. Thus, the St. Luke's Concussion Center will also provide the Voorhees Junior Vikings coaches with a neck strengthening exercise program. The exercises will be introduced to the coaches who will then teach their athletes how to help prevent concussions through strengthening their neck muscles.

During the season, if a coach or referee suspects a concussion in a player, the athlete will be removed from practice or game participation that day and will not be allowed back to play until a full evaluation and clearance has been obtained from a physician with expertise in concussion management. If the coach has a question about a certain athlete, they are welcome to call Dr. Avallone or one of his associates on their cell phone. These numbers will be provided to the head coach of each team.

When a player is suspected of a concussion, that athlete should be evaluated within a few days of their injury by a physician who has expertise in concussion management. If the athlete's symptoms are more severe or if there is a question regarding the severity of the head injury, the patient should be taken immediately to the closest emergency department. Dr. Avallone and his colleagues at the St. Luke's Concussion Center in Phillipsburg, NJ, will offer their expertise to evaluate the athlete in the first few days after a concussion. At this visit, a full neurologic exam will be performed, a symptom score will be rendered, a treatment regimen will be prescribed and academic, athletic and lifestyle modifications will

be determined based on the severity of the player's symptoms. A note will be created for the patient to give to his school nurse describing the academic modifications and gym restrictions. This note will also be available for the coach to review to keep the athlete out of sports until he has successfully completed the Return to Play Protocol.

The patient will have relative rest during this initial recovery period and will be involved in academics to the level that his symptoms allow. The patient will then be seen one week later by Dr. Avallone or one of his board certified sports medicine associates. At this visit, the athlete will be given a post-concussion ImPACT test to help determine if the player's brain has recovered from this injury. Since recent literature has shown that school age individuals tend to take at least 2 weeks to fully recover from a concussion, we will implement a policy whereby the athlete must be symptom-free for 7 days before entering the next phase of the Return to Play Protocol. In addition, for an athlete who is 10 years old or greater and has a valid baseline ImPACT study, he must also pass the post-injury ImPACT test prior to starting the Zurich Return to Play exertional challenges. For an athlete younger than 10 years old or for someone without a valid baseline ImPACT study, that player simply must be free of symptoms for 7 days prior to beginning the Zurich Protocol. A note clearing the athlete to start the Zurich Protocol must be furnished by Dr. Avallone or one of his board certified sports medicine associates.

If a child fails the ImPACT test or has persistent symptoms of a concussion at this follow-up visit, the child may be referred to the cognitive and physical therapists at the St. Luke's Concussion Center for further treatment. He may also be referred to a neurologist with expertise in concussion management.

The Zurich Return to Play protocol is widely used by NJ high schools as well as high schools, colleges and professional teams throughout the country as a tool to gradually increase an athlete's level of exertion in a step-wise fashion prior to returning to game competition. The Voorhees Junior Vikings parents will be introduced to the exercises involved in the protocol but will not be asked to interpret any results derived from the implementation of the protocol. In its most basic form, the Zurich Protocol is as follows: 1. Light aerobic exercise at <70% max heart rate 2. Sport-specific exercise including running drills but no contact 3. Non-contact training drills and resistance training 4. Medical clearance must be given to advance to full contact practice 5. Return to normal game play. At the end of each day of graduated exercises, the parent will hand the athlete a paper with a symptom-score sheet similar to the one given to him in Dr. Avallone's office. The athlete will then fill-out this sheet and hand it back to the parent who will then immediately fax the paper to Dr. Avallone's office for interpretation. Any score greater than zero or their baseline score will be considered a failure, and Dr. Avallone will have the player repeat the previous, symptom-free step on the following day. Thus, if the athlete's symptoms recur with the addition of non-contact training during the 3rd day of the protocol, Dr. Avallone will have the patient take a step back to the lower level exercises on the next calendar day. If symptoms cease with the lower level exercises, then the athlete will be allowed to advance once again to the next step in the protocol. Alternatively, if a parent feels uncomfortable administering the exercises for a step in the protocol, the athlete may be seen at the Concussion Center and taken through that day's exercises under the supervision of one of the physical therapists.

As stated above, once the athlete has successfully navigated the Zurich Protocol through the third step, he must be given a full clearance note by Dr. Avallone or one of his board certified sports medicine associates. This note will also lift the academic guidelines for the athlete. If the athlete experiences symptoms during or after practice in step 4, the athlete will then repeat step 3 on the next calendar day. Another note from Dr. Avallone or one of his associates would have to be written to clear the athlete for football participation if he fails step 4.

This protocol is intended to help get our athletes back on the field in a safe fashion. While no protocol can guarantee that a child has fully recovered from a concussion, this algorithm has been successfully utilized in many athletes across the region and across the country and is currently used by the students at 4 local high schools. Neck strengthening, proper tackling and blocking techniques, and appropriately fitting helmets are the best ways to help prevent a concussion. Seminars will be given by Dr. Avallone on concussion prevention, identification and treatment so that parents and children alike can be better educated on how to safely enjoy participating in football.