

# **The Haverford School Sports Medicine Education**

**Sport Related Concussion  
and  
Sudden Cardiac Arrest**

*(Click here to advance)*

# Sports Medicine Education

This site was created in response to two legislative bills which were enacted in the Pennsylvania legislature during the summer of 2012.

- On July 1st, the **Youth Sports and Safety Act** went into effect, which governs the management of concussions. The Act mandates that:

- Any athlete deemed to have suffered a concussion MUST be removed from activity, and will not be permitted back until cleared by a licensed medical professional trained in concussion management.

- Athletes, coaches, and parents MUST receive concussion education, which is to be renewed YEARLY.

- On July 28th, the **Sudden Cardiac Arrest Prevention Act** went into effect.

- This Act mandates yearly education for all athletes, coaches and parents regarding the signs, symptoms and risks of Sudden Cardiac Arrest

***This presentation contains information that all athletes, coaches and parents need to know regarding these 2 health conditions. Action is required at the end in the form. An electronic signature acknowledging that you have read this information is required.***

# Sport Related Concussion (“SRC”)

## Definition / Evaluation

### SRC:

- May be caused by trauma to the head, face or neck of a student-athlete (or trauma to the body which causes a whipping of the head)
- Typically results in rapid onset of short-lived impairment of neurological function that resolves on it's own. However, sometimes, signs and symptoms evolve over a number of minutes or hours.
- Symptoms may last only a few minutes before dissipating, or they may last several weeks.
- Does not always involve a loss of consciousness. In fact, less than 10% of all concussions result in loss of consciousness.
- **Is a metabolic injury affecting the brain chemistry and function; it is NOT a structural injury which would be detected on CT scan or MRI.** Therefore, referral to a hospital emergency department is not *necessarily* warranted in *all cases* of SRC. In addition, just because CT scan is “negative”, does not mean that your son did not sustain a concussion.

The most commonly reported symptom of concussion is a headache, but other symptoms may also be present. It is important to note that EVERY concussion is as different as the athletes who experience them. **No two concussions are alike.** In addition, an athlete who sustains multiple concussions in his career may, in fact, present with different symptoms each time depending on the forces involved, the point of contact, direction of the contact, etc.

# Sport Related Concussion

## Signs and symptoms

### Signs which **YOU** *may observe*:

Balance problems  
Loss of consciousness  
Vomiting  
Slow, slurred speech  
Abnormal emotions  
Forgetting events before the hit  
Forgetting events after the hit  
Disorientation  
Change in mental status  
Dazed appearance  
Confusion  
Poor balance  
Poor concentration

### Symptoms that may be *reported* by the **STUDENT**:

Headache  
Feeling “Foggy” or “fuzzy” in the head  
Dizziness  
Nausea  
Lightheaded feeling  
Feeling unbalanced or wobbly  
Feeling excessively fatigued  
Ringing in the ears  
Double or blurred vision  
Sensitivity to noise  
Sensitivity to light  
Difficulty concentrating  
Difficulty sleeping

# Sport Related Concussion

## What should you do??

What should you do if you think your student-athlete has sustained a concussion???

### ***REST***

- ➔ Remove him from the activity, immediately
- ➔ Report it to the athletic trainer
  - ➔ Send him home to rest: *Stay away from TV, computer, video games, texting, loud music*
- ➔ ***The first 24 hours after the injury are most critical for rest, to avoid lingering symptoms.***

# Sport Related Concussion Academic Management

## Managing concussions in the classroom:

Because the first 24 hours are most critical for rest, It is The Haverford School's policy that a student-athlete is required to stay out of school for at least one day after the concussion occurs. In some cases, additional days at home may be necessary, but in keeping with current trends, we strive to have students back in school, and in their routine as soon as tolerated. For some students it may be necessary to make modifications to the student-athlete's academic demands, such as allowing extra time for assignments and exams, and minimizing the amount of reading and homework that is required. This will be determined on a case-by-case basis, and will be communicated by the athletic trainers to other members of the concussion support team, which will include the athletic trainers, school nurses, division head, learning support center, student support services, and the student's advisor. The concussion support team is in place to make sure that all of the support services around the student are doing all they can to ensure each student's success!

If your doctor does recommend academic accommodations, make sure to get them in writing and give them to the athletic trainers, the nurses, or your advisor, upon returning to school. The athletic trainers can provide a form for the doctor to complete to simplify the process.

# Sport Related Concussion Athletic Management

## Managing concussions on the field:

***In accordance with Pennsylvania state law***, it is the policy of The Haverford School Sports Medicine staff that a student-athlete ***will NOT be permitted to return to activity*** (practice or a game) ***on the same day*** that a head injury occurs (or suspected head injury, based on signs observed by coaches, referees or the sports medicine staff) resulting in any concussion symptoms (of any intensity, and any duration).

“Post Concussion Syndrome”, or PCS (an abnormally long recovery time) can occur if a student continues to engage in physical activity, or excessive mental activity while the brain is still recovering from the initial concussion. If a student suffers a concussion during any athletic activity - game or practice - he must be removed from the activity immediately, and referred to one of the athletic trainers. As long as the student-athlete is experiencing ***any*** concussion symptoms, it is recommended that he NOT engage in any physical exertion, including running, weight lifting, and Physical Education classes, until directed to do so by his physician and/or the athletic trainers who are under the direction of a physician. Such exertion can impede the brain chemistry from returning to normal.

# Sport Related Concussion

## Physician Referral

### When should I see my doctor?

Because physical rest and mental rest are the primary treatments in the first few days of a concussion, it is not *always* necessary to consult with a physician immediately after a concussion. An athlete's family may choose to see a physician at any time; however, immediate referral to a physician will only be required by the Sports Medicine Department in cases where there is:

- **any loss of consciousness,**
  - **amnesia at any time after the injury,**
  - **symptoms that linger for a period longer than 2 days, or**
  - **if the athlete has a history of prior concussions.**

A list of recommended physicians is available from the athletic trainers, or on the [sports medicine webpage](#). After being seen by a physician who is trained in the management of sport-related concussion, a note from the physician is required to be given to the athletic trainers; this information will be forwarded to the concussion support team.



# Sport Related Concussion Neurocognitive ("baseline") testing

The Haverford School Sports Medicine staff utilizes a neurocognitive testing software program known as [ImPACT](#). This is a computerized test which assesses neurocognitive function such as immediate and delayed memory, reaction time, and motor processing speed. We strive to have every upper school student-athlete who plays a contact-sport take a baseline test in the preseason period, of 9th and 11 grades, or upon entering the school, to establish a measure of each boy's "normal" brain function. This includes: football, soccer, water polo, basketball, wrestling, ice hockey, squash, lacrosse and baseball. In addition, we strive to have as many middle school boys as possible take a baseline test in the fall. If a concussion does occur, the student-athlete will take a post-injury test within a few days after the injury, and again after the concussion symptoms have completely resolved, and the student-athlete has begun his Return-To-Play (RTP) progression (see next slide for details). The results of the follow-up test will be compared to the baseline test to help determine if the student-athlete is able to complete his RTP. Test results can be emailed or faxed to the student-athlete's physician.

# Sport Related Concussion

## Returning to activity

### Return-to-Play (RTP) Guidelines

No RTP decision will be considered until: 1) The student-athlete is completely free of concussion symptoms at rest, 2) he is able to tolerate a full day of school, 3) he can tolerate full academic workload, with no return of symptoms, and 4) he shows a satisfactory return to baseline on a post-injury ImPACT test, if a baseline was established. Only then will the student-athlete begin a graduated program of activity under the direct supervision of one of the athletic trainers, who are under the supervision and direction of our sports medicine team physician. This is a 5-step process of gradually increasing intensity, leading to full participation. Under NO circumstances should a coach take it upon him/herself to allow a student-athlete to return to sports or physical education without consulting with the athletic trainers first. **Student-athletes will only complete ONE stage per day.**

**Stage 1: No Activity** - mental and physical rest/recovery

**Stage 2: Light aerobic exercise** (e.g., stationary bicycle)

**Stage 3: Individual, Sport-Specific training** (e.g., running, skating, sport-specific, individual drills)

**Stage 4: NON-contact practice**/drills with team, and may attempt resistance/weight training

**Stage 5: FULL-contact, full-intensity practice** with team

**Stage 6: Full-contact, full-intensity game/match play**

All of the policies and procedures contained in this presentation are consistent with the [Consensus Statement on Concussion in Sport from the 5th International Conference on Concussion in Sports, held in Berlin, 2016](#). *(Click on this link to view the document)*

# Sudden Cardiac Arrest Information

## Pennsylvania State Law

### Act 59 - Sudden Cardiac Arrest Prevention Act

- went into effect in Pennsylvania on July 28th, 2012
- is intended to keep student-athletes safe while practicing or playing. The requirements of the Act are:
  - requires that every student-athlete and their parent or guardian must read this slide presentation and electronically sign this form (see final slide). It must be signed and returned **each year**.
  - requires that any student-athlete who has signs or symptoms of SCA must be removed from play. The symptoms can happen before, during or after activity. “Play” includes all athletic activity.
  - Before returning to play, the athlete must be evaluated. Clearance to return to play must be in writing. The evaluation must be performed by a licensed physician, certified registered nurse practitioner or cardiologist. The licensed physician or certified registered nurse practitioner may consult any other licensed or certified medical professionals.

# Sudden Cardiac Arrest Information

## What is it?

### What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) is when the heart stops beating, suddenly and unexpectedly. When this happens blood stops flowing to the brain and other vital organs. SCA is NOT “a heart attack”. A heart attack may cause SCA, but they are not the same. A heart attack is caused by a blockage that stops the flow of blood to the heart. SCA is a malfunction in the heart’s electrical system, causing the heart to suddenly stop beating.

### How common is SCA in the United States?

There are about 300,000 cardiac arrests outside hospitals each year. About 2,000 patients under 25 die of SCA each year.

### What are the risks of practicing or playing after experiencing symptoms?

There are risks associated with continuing to practice or play after experiencing the symptoms on the next slide. When the heart stops, so does the blood that flows to the brain and other vital organs. Death or permanent brain damage can occur in just a few minutes. Most people who have SCA die from it.

# Sudden Cardiac Arrest Information

## What does it look like?

### Are there warning signs?

Although SCA happens unexpectedly, some people may have signs or symptoms, such as:

- dizziness
- lightheadedness
- shortness of breath and/or chest pain
- difficulty breathing
- racing or fluttering heartbeat (palpitations)
- syncope (fainting)
- fatigue (extreme tiredness)
- weakness
- nausea and/or vomiting

*These symptoms can be unclear and confusing in athletes. Often, people confuse these warning signs with physical exhaustion.*

**SCA can be prevented if the underlying causes can be diagnosed and treated.**

# Sudden Cardiac Arrest Information

## Commotio Cordis

Commotio cordis typically involves young, predominantly male, athletes in whom a sudden, blunt, nonpenetrating and sometimes innocuous-appearing trauma to the front of the chest results in cardiac arrest and sudden death. The blunt contact happens at a very specific moment in the cardiac cycle, which sends the heart's electrical rhythm into a pattern known as ventricular fibrillation, which causes the heart to stop.

Although commotio cordis usually involves impact from a baseball, it has also been reported during hockey, softball, lacrosse, karate, and other sports activities in which a relatively hard and compact projectile or bodily contact caused impact to the person's chest wall. There is no predisposing factor besides blunt contact to the chest.

The best chance of surviving commotio cordis is beginning CPR as soon as possible, and using an AED as soon as possible.

# Sudden Cardiac Arrest Information

## How can SCA be prevented?

A regular pre-season physical is not sufficient to diagnose arrhythmias. A more advanced cardiac screening is the best way to assess your child's risk level for SCA. It is recommended that families contact a cardiologist for more specific screening to determine if your child has any risk factors.

For more information about SCA, [click on this link](#).

Haverford School has partnered with [Simon's Fund](#) in the past to provide screening, and may be hosting another screening this fall. Details will be announced when available.

# Acknowledgement

**Parents: [Click HERE](#) Coaches: [Click HERE](#)**

**Student-Athletes: [Click HERE](#)**

to be directed to the acknowledgement page where you must electronically sign, indicating that you have read and understand the information contained in this presentation.

**Thank you for taking the time to read this important information!**

If you have any questions, please do not hesitate to contact one of the Haverford School Athletic Trainers:

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