



Policy, Protocol and Procedures for the Management of Sports-Related Concussions at Saratoga High School

Medical management of sports-related concussion is evolving. In recent years, there has been a significant amount of research into sports-related concussion in high school athletes. Saratoga High School has established this protocol to provide education about concussions for athletic department staff and other school personnel. This protocol outlines procedures for staff to follow in managing head injuries, and outlines school policy as it pertains to return to play issues after concussion.

Saratoga High School seeks to provide a safe return to activity for all athletes after injury, particularly after a concussion. In order to effectively and consistently manage these injuries, procedures have been developed to aid in insuring that concussed athletes are identified, treated and referred appropriately, receive appropriate follow-up medical care during the school day, including academic assistance, and are fully recovered prior to returning to activity.

In addition to recent research, two primary documents were consulted in developing this protocol. The “Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004”¹ (referred to in this document as the Prague Statement), and the “National Athletic Trainers’ Association Position Statement: Management of Sport-Related Concussion”² (referred to in this document as the NATA Statement).

This protocol will be reviewed on a yearly basis, by the SHS administrative staff. Any changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

All athletic department staff will attend a yearly in-service meeting in which procedures for managing sports-related concussion are discussed.

Last updated August 2012

¹ McCrory P, et al. Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004. *Clin J Sports Med.* 2005; 15(2):48-55.

² Guskiewicz KM, et al. National Athletic Trainers’ Association Position Statement: Management of Sport-Related Concussion. *J Athl Train.* 2004;39(3):280-297.

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I. Prevention of Concussions and Pre-Concussion Activities

A. Coach Education

1. All coaches will view the NFHS' program on preventing concussions prior to the start of the competitive season.
2. All coaches will review Concussion Management Policies annually.

B. Athlete Education

1. All athletes will view a video presentation educating them on concussions prior to the start of the competitive season. Athletes and a parent or guardian will sign a concussion awareness form. Athletes are not allowed to participate in sports without a signed concussion awareness form.

C. ImPACT Neuropsychological Testing

1. ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing) is a research-based software tool utilized to evaluate recovery after concussion. ImPACT evaluates multiple aspects of neurocognitive function, including memory, attention, brain processing speed, reaction time, and post-concussion symptoms.
2. All athletes at Saratoga High School are encouraged to take a baseline ImPACT test prior to participation in sports at SHS (usually freshman year). They are encouraged to take a follow up baseline two years after their initial baseline to account for further brain development
3. Athletes and parents are responsible for signing up for ImPACT testing.

D. Equipment

1. All equipment will be appropriately fitted by a coach or athletic trainer
2. All equipment will be reconditioned according to the equipment governing association's recommendations for each item of equipment

II. Recognition of Concussion

A. Awareness of signs and symptoms

1. All sports staff will be aware of common signs and symptoms of sports-related concussion.
 - a) Signs (observed by others):
 - (1) Athlete appears dazed or stunned
 - (2) Confusion (about assignment, plays, etc.)
 - (3) Forgets plays
 - (4) Unsure about game, score, opponent
 - (5) Moves clumsily (altered coordination)
 - (6) Balance problems
 - (7) Personality change
 - (8) Responds slowly to questions
 - (9) Forgets events prior to hit
 - (10) Forgets events after the hit
 - (11) Loss of consciousness (any duration)

b) Symptoms (reported by athlete):

- (1) Headache
- (2) Fatigue
- (3) Nausea or vomiting
- (4) Double vision, blurry vision
- (5) Sensitive to light or noise
- (6) Feels sluggish
- (7) Feels “foggy”
- (8) Problems concentrating
- (9) Problems remembering

**These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered.

B. Assessment

1. The Athletic Trainer (AT) will assess the injury, or provide guidance to the coach if unable to personally attend to the athlete.
 - a) Immediate referral to the athlete’s primary care physician or to the hospital will be made when medically appropriate (see section III).
2. Evaluation of Cognitive Impairment (altered or diminished cognitive function)
 - a) General cognitive status can be determined by simple sideline cognitive testing.
 - (1) AT may utilize SCAT (Sports Concussion Assessment Tool)³, SAC, or other standard tool for sideline cognitive testing.
 - (2) Coaches may utilize the basic UPMC cognitive testing form or a SAC application on their smart phone if the AT is unavailable.
 - b) Signs and symptoms should be evaluated continuously while the athlete is being assessed.
 - c) ImPACT testing may be performed if an athlete denies symptoms.

III. Immediate Management and Referral Guidelines for CoachesA. RECOGNIZE, REMOVE, REFER

1. **Recognize** concussion
 - a) All coaches should become familiar with the signs and symptoms of concussion that are described in section I.
 - b) Very basic cognitive testing should be performed to determine the severity of cognitive deficits.
 - c) If a coach has any doubts about whether the athlete’s symptoms constitute a concussion, the AT should be notified and the athlete should be removed from activity.
2. **Remove** from activity
 - a) Any athlete who exhibits signs or symptoms of a concussion should be removed immediately, assessed, and should not be allowed to return to activity that day.
 - b) The athlete should not return to activity until evaluated and cleared medically. An athlete must receive both written clearance from a physician, and clearance from the AT before returning to activity.

³ McCrory P, et al

3. Refer the athlete for medical evaluation

- a) Coaches should report all head injuries to the SHS Certified Athletic Trainer (AT), Liz Alves, as soon as possible, for medical assessment and management, and for coordination of home instructions and follow-up care.
 - (1) The AT can be reached at: 650-530-0395.
 - (2) The AT will be responsible for contacting the athlete's parents and providing follow-up instructions.
 - (3) The AT will follow the guidelines in section IV.

B. If the SHS AT is unavailable, or the athlete is injured at an away event, the coach is responsible for notifying the athlete's parents of the injury and following the General Guidelines for Management of Sports-Related Concussions (Section IV).

1. Coaches should seek assistance from the host site AT if at an away contest.
2. Contact
 - a) Contact the parents or guardians to inform them of the injury and make arrangements for them to pick up the athlete. Coaches must make contact with parents or guardians before releasing the athlete.
 - (1) The Coach should insure that the athlete will be with a responsible individual, who is capable of monitoring the athlete and understanding the home care instructions, before allowing the athlete to go home. Do not send the athlete home alone
 - b) Contact the AT at 650-530-0395 or lalves@lgsuhd.org with the athlete's name and home phone number, so that follow-up can be initiated.

IV. General Guidelines for Management of Sports-Related Concussion⁴**A. If there is any question about the status of the athlete, or if the athlete is not able to be monitored appropriately, the athlete should be referred to the emergency department for evaluation. A coach, school representative, authorized adult or AT should accompany the athlete and remain with the athlete until the parents arrive.**

1. Parents or guardians may authorize a responsible adult to accompany the athlete until they are able to arrive.

B. Transportation**1. Use of Emergency Vehicles**

- a) Any athlete with a witnessed loss of consciousness (LOC) of any duration should be spine boarded and transported immediately to nearest emergency department via emergency vehicle.
- b) Any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), is to be transported immediately to the nearest emergency department via emergency vehicle.

⁴ Guskiewicz KM, et al

- c) An athlete who exhibits any of the following symptoms should be transported immediately to the nearest emergency department, via emergency vehicle.
 - (1) deterioration of neurological function
 - (2) decreasing level of consciousness
 - (3) decrease or irregularity in respirations
 - (4) decrease or irregularity in pulse
 - (5) unequal, dilated, or unreactive pupils
 - (6) any signs or symptoms of associated injuries, spine or skull fracture, or bleeding
 - (7) mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
 - (8) seizure activity
 - (9) cranial nerve deficits
 - d) An athlete who is symptomatic but stable, may be transported by his or her parents. The parents should be advised to contact the athlete's primary care physician, or seek care at the nearest emergency department, on the day of the injury
 - e) Athletes with suspected head injuries should not be permitted to drive home.
2. Parents may choose the option of emergency transportation in any circumstance.

C. Notification

1. The Athletic Trainer will contact the athlete's parents and give written and verbal home and follow-up care instructions.
 - a) If the AT is unavailable, the coach must initiate contact with the athlete's parents.
2. The AT will communicate with the athlete's guidance counselor regarding the athlete's neurocognitive and recovery status, if needed.
 - a) Guidance Counselor's Responsibilities
 - (1) The guidance counselor will monitor the student and recommend appropriate academic accommodations for students who are exhibiting symptoms of post-concussion syndrome.
 - (2) The guidance counselor will facilitate communication with the athlete's teachers if needed.
 - (3) If the student is in P.E., the guidance counselor will communicate to the P.E. teacher that the athlete is restricted from all physical activity until further notice.
3. The athletic trainer will discuss the athlete's status with the coach to ensure the athlete is participating at a safe level.

D. Referral to Physician

1. In accordance with AB 25, any athlete experiencing symptoms associated with a concussion is required to see a physician for clearance.
2. Any athlete whose concussive symptoms last longer than seven days is required to see a neurologist for clearance.

E. Post-Concussion ImPACT Testing

1. The AT is responsible for administering post-concussion ImPACT testing.
 - a) The initial post-concussion test will be administered within 48-72 hours post-injury, whenever possible.
 - b) Repeat post-concussion tests will be given at appropriate intervals, dependent upon clinical presentation.

- c) The AT will review post-concussion test data with the athlete and the athlete's parent if desired.
2. The AT will forward testing results to the athlete's treating physician, with parental permission if desired.
 - a) The AT or the athlete's parent may request that a neuropsychological consultant review the test data. The athlete's parents will be responsible for charges associated with the consultation.

F. Continued Monitoring

1. The AT will monitor the athlete, and keep school personnel informed of the individual's symptoms and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete if school personnel request such information.
2. The athlete is responsible for being truthful with their symptoms.
3. The AT will discuss the athlete's home behavior with parents periodically.
4. Parents and teachers are encouraged to share their observations about the athlete with the AT, so that they AT has a more complete view of the athlete's behavior and symptom.

G. Documentation

The AT will maintain appropriate documentation regarding assessment and management of the injury.

H. Return to Play

1. The AT is responsible for monitoring recovery & coordinating the appropriate return to play activity progression.

V. RETURN TO PLAY (RTP) PROCEDURES AFTER CONCUSSION

A. Returning to participate on the same day of injury

As previously discussed in this document, an athlete who exhibits signs or symptoms of concussion, or has abnormal cognitive testing, should not be permitted to return to play on the day of the injury. Any athlete who denies symptoms but has abnormal sideline cognitive testing should be held out of activity. “When in doubt, hold them out.”

B. Return to play after concussion

1. The athlete must meet all of the following criteria in order to progress to activity:
 - a) Asymptomatic at rest and during daily life activities (including mental exertion in school) AND:
 - b) Within normal range of baseline on post-concussion ImPACT testing if ImPACT was used AND
 - c) Have scheduled a clearance appointment with a physician within the next 72 hours or have written clearance from primary care physician or specialist (athlete must be cleared by a physician other than an Emergency Room physician).
2. Once the above criteria are met, the athlete will be progressed back to full activity following a stepwise process, (as recommended by both the Prague and NATA Statements), under the supervision of the AT.
3. Progression is individualized, and will be determined on a case by case basis.
 - a) Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport will be progressed more slowly.
 - b) Athletes will not be allowed to progress past moderate aerobic exercise without written clearance from primary care physician or non-emergency specialist.
4. Stepwise progression as described in the Prague Statement:
 - a) No activity
 - b) Light aerobic exercise – walking, stationary bike on low resistance
 - c) Moderate aerobic exercise- speed walking, elliptical, bike on med-high resistance.
 - d) Sport-specific training – running, swimming, dribbling
 - e) Non-contact sport specific training drills
 - f) Full-contact training and drills
 - g) “Live” practice – full speed, full contact non-drill activities
 - h) Return to full game play

**If the athlete experiences post-concussion symptoms during any phase, the athlete will discontinue activity until at least 24 hours after the last symptom. The athlete will return to the beginning of the stepwise progression.
5. The athlete should see the AT daily for re-assessment and instructions until he or she, has progressed to unrestricted activity, and been given a written report to that effect, from the AT. No coach will allow an athlete to return to activity without communication with the AT indicating what activity the athlete may perform. Coaches are responsible for communicating with the AT about an athlete’s status.

VI. APPENDIX:

- A. California Law AB 25
- B. Concussion Information Acknowledgment Form

California Law AB 25⁵

BILL NUMBER: AB 25 CHAPTERED
BILL TEXT

CHAPTER 456
FILED WITH SECRETARY OF STATE OCTOBER 4, 2011
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INTRODUCED BY Assembly Member Hayashi
(Coauthors: Assembly Members Buchanan, Conway, Fong, Hill, Huffman, Ma,
Nestande, John A. Pérez, and Smyth)
(Coauthors: Senators Alquist, Padilla, Steinberg, and Strickland)

DECEMBER 6, 2010

An act to add Section 49475 to the Education Code, relating to athletics.

LEGISLATIVE COUNSEL'S DIGEST

AB 25, Hayashi. School districts: athletics: concussions and head injuries.

Existing law authorizes school districts to provide specified medical services in connection with athletic events that are under the jurisdiction of, or sponsored or controlled by, school districts. These services include medical or hospital insurance for pupils injured while participating in athletic activities and ambulance service for pupils, instructors, spectators, and other individuals in attendance at athletic activities.

This bill would require a school district that elects to offer athletic programs to immediately remove from a school-sponsored athletic activity for the remainder of the day an athlete who is suspected of sustaining a concussion or head injury during that activity. The bill would prohibit the return of the athlete to that activity until he or she is evaluated by, and receives written clearance from, a licensed health care provider, as specified. The bill would require, on a yearly basis, a concussion and head injury information sheet to be signed and returned by the athlete and the athlete's parent or guardian before the athlete's initiating practice or competition. These provisions would not apply to an athlete engaged in an athletic activity during the regular schoolday or as part of a physical education course, as specified.

⁵ Assem. Bill 25, 2011-2012 Reg. Ses., ch. 456, 2011 Cal. Stat. http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0001-0050/ab_25_bill_20111004_chaptered.html

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 49475 is added to the Education Code, to read:
49475.

(a) If a school district elects to offer an athletic program, the school district shall comply with both of the following:

(1) An athlete who is suspected of sustaining a concussion or head injury in an athletic activity shall be immediately removed from the activity for the remainder of the day, and shall not be permitted to return to the activity until he or she is evaluated by a licensed health care provider, trained in the management of concussions, acting within the scope of his or her practice. The athlete shall not be permitted to return to the activity until he or she receives written clearance to return to the activity from that licensed health care provider.

(2) On a yearly basis, a concussion and head injury information sheet shall be signed and returned by the athlete and the athlete's parent or guardian before the athlete's initiating practice or competition.

(b) This section does not apply to an athlete engaging in an athletic activity during the regular schoolday or as part of a physical education course required pursuant to subdivision (d) of Section 51220.



SARATOGA HIGH SCHOOL

Dear Falcon Family,

Paul Robinson, Principal
Kevin Mount, Assistant Principal
Kerry Mohnike, Assistant Principal
Brian Safine, Assistant Principal

The incidence of concussions in sports has increased in the past few years. Over 400,000 US high school student-athletes suffered a concussion last year. Education is essential in preventing, recognizing and treating concussions. New scientific research and clinical-based literature have given the medical community a wealth of information on the recognition and treatment of sport-related concussion. We wish to share this information with you.

What is a concussion?

A concussion is a brain injury. All brain injuries are serious. They are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body with the force transmitted to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even though most concussions are mild, **all concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly.** In other words, even a “ding” or a bump on the head can be serious.

How can you tell if someone has a concussion?

You can't see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of concussion may show up right after the injury or can take hours or days to fully appear.

Symptoms felt by the athlete may include:

- Headaches
- Pressure in head
- Nausea or vomiting
- Neck pain
- Balance problems or dizziness
- Blurred, double, or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Drowsiness
- Change in sleep patterns
- Amnesia/memory issues
- Feeling “not right”
- Fatigue or low energy
- Sadness or depression
- Anxiety / nervousness
- Irritability
- Feeling more emotional

Signs observed by teammates, parents and coaches may include:

- Appears dazed
- Vacant facial expression
- Confused about assignment
- Forgets plays
- Is unsure of game, score, or opponent
- Moves clumsily or is uncoordinated
- Answers questions slowly
- Slurred speech
- Shows behavior or personality changes
- Can't recall events prior to hit
- Can't recall events after hit
- Seizures or convulsions
- Any change in typical behavior or personality
- Loses consciousness

What should you do if you think someone has suffered a concussion?

Any athlete suspected of suffering a concussion should be removed from the game or practice immediately (CIF Bylaw 313). No athlete may return to activity after a potential concussion, regardless of how mild it seems or how quickly symptoms clear, without medical clearance (CIF Bylaw 313). Athletes suspected of suffering a concussion should seek advice from a medical professional such as a doctor or athletic trainer. Close observation of the athlete should continue for several hours. Athletes suspected of sustaining a concussion will be given a post-concussion information sheet.



SARATOGA HIGH SCHOOL

Paul Robinson, Principal
Kevin Mount, Assistant Principal
Kerry Mohnike, Assistant Principal
Brian Safine, Assistant Principal

What can happen if someone keeps playing with a concussion or returns too soon?

Nationwide data continues to show that most catastrophic head injuries are a direct result of injured athletes returning to play too soon, without having fully recovered from the first head injury. There is an increased risk of significant damage from a concussion for a period of time after a concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one. This can lead to prolonged recovery, or even to severe brain swelling (second impact syndrome) with devastating and even fatal consequences.

What is Saratoga High School doing to prevent and treat concussions?

The Saratoga High School Athletic Department is committed to protecting our student-athletes. Saratoga follows a comprehensive concussion policy that outlines educational requirements for staff, immediate response to possible concussions, post-concussion support, and a return-to-play protocol based on research.

Educated Staff: All of Saratoga's coaches learn about concussions in order to increase recognition of possible concussions and enhance understanding of the return-to-play process. They strive to teach athletes proper technique, skill and strength that will help prevent concussions.

Certified Athletic Trainer: Saratoga employs a certified athletic trainer to cover all on-campus competitions. Liz Gilmore Alves, MA, ATC is trained to recognize and treat athletic injuries, including concussions. She will create a custom return-to-play plan for concussed student-athletes and coordinate their return. She is also trained to administer and read ImPACT tests.

ImPACT: ImPACT (Immediate Post Concussion Assessment and Cognitive Testing) is a computerized exam utilized in many professional, collegiate, and high school sports programs across the country to diagnose and manage concussions. ImPACT is used to help determine the severity of head injury and when the injury has fully healed. The non-invasive computerized exam is given to athletes before beginning practice or competition. It is set up in computer game format and takes 15-30 minutes to complete. 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 re-take the test. Comparing the baseline test and the post-concussion test gives us an objective view of the athlete's brain condition. Both the pre-season and post-injury test data can be given to a doctor or neuropsychologist to help evaluate the injury. The test data will help determine when return-to-play is appropriate and safe for the injured student-athlete. ImPACT testing procedures are non-invasive, and they pose no risks to the student-athlete. ImPACT provides us the best available information for managing concussions and preventing potential brain damage that can occur with multiple concussions in quick succession.

All of Saratoga's athletic staff strive to keep health and safety at the forefront of the student athletic experience. We hope that this information does not dissuade you from participating in athletics. We are committed to managing concussions in order to create a safe environment for our student-athletes to flourish.

Regards,

Tim Lugo
Athletic Director

Kevin Mount
Assistant Principal for Athletics

Liz Alves, MA, ATC
Athletic Trainer



Student ID

Concussion Information Acknowledgement Form

Education of student-athletes and their parents or guardians is an important part of preventing, recognizing and treating concussions. California State Assembly Bill 25 requires all student-athletes and their parent or guardians to read the attached information about concussions and sign a form acknowledging that they have read and understand the information provided. This form must be signed annually in order to participate. Thank you for your cooperation.

Please check, sign and return this page. Keep the previous pages for your reference.

_____ I have read the concussion information sheet. I understand that concussions are an inherent risk of participating in sports. I understand that all concussions are dangerous and must be evaluated by a medical professional.

_____ I agree to participate in the ImPACT Concussion Management Program. I understand that anonymous data from the ImPACT program may also be utilized in studies currently being conducted by both this school and UPMC.

Printed Name of Student-Athlete

Student-Athlete Signature

Date

Printed Name of Parent or Legal Guardian

Parent or Legal Guardian Signature

Date