

Concussion Action Plan

Fork Union Military Academy

The purpose of the Concussion Action Plan (CAP) is to protect our students from long-term damage associated with concussions. The Virginia General Assembly has passed legislation mandating all schools to create such a plan. Also, having a concussion management plan at the middle and high school level has been endorsed by professional sports organizations such as the NFL and NHL. Current research is revealing significant problems later in life if concussions are not handled properly, and Fork Union Military Academy (FUMA) aims to prevent these issues in our students in any way possible.

What is a concussion?

A concussion is a traumatic injury to the brain. This occurs as a result of a direct hit to the head, face, neck, or body causing a sudden jarring of the brain. Common examples of this would be a helmet-to-helmet hit or impact with a solid object (such as the ground). A concussion is characterized by impairment of cognitive and/or physical function. It can occur with or without a loss of consciousness. If a concussion occurs, it is essential that it is recognized quickly and managed properly to prevent any immediate or long-term damage. Concussions can be difficult to diagnose at times, and failing to do so can have dangerous consequences. A concussion can cause a variety of cognitive and physical concerns. Tasks that require concentration such as school work can aggravate symptoms. Additional symptoms such as a lack of balance, difficulty

concentrating, feeling mentally foggy, or sleeping problems may be experienced. If not managed correctly, concussions can lead to long-lasting problems.

Post-concussion syndrome can be the result if enough time is not taken to heal. Post-concussion syndrome involves symptoms such as headaches, dizziness, blurred vision, balance problems, or difficulty sleeping. These can last for weeks or even months. Worse yet, a possible severe consequence of returning a student to activity too soon can be Second Impact Syndrome. Second Impact Syndrome occurs when someone who has not fully recovered from a concussion receives another blow to the head, neck, or body. The result is rapid brain swelling followed by cardiac arrest. Despite the best treatment efforts, second impact syndrome is fatal approximately 50% of the time. Severe consequences such as these need to be prevented in everyone, and the best way to do so is to properly manage any suspected concussion.

Policies

1. Each student at FUMA and their parent(s) shall review the concussion policy annually and sign a statement stating they understand it and will follow it.
2. Every student at FUMA will receive a baseline neurocognitive evaluation at the beginning of the school year. They will also report any pertinent medical history such as learning disabilities, ADD/ADHD, history of seizures, previous concussions, and psychiatric history (such as anxiety, depression, or sleep disorders).
3. Any student who is suspected of sustaining a concussion shall immediately be removed from activity and not allowed to return that day.
4. Any student suspected of sustaining a concussion must be evaluated by an appropriate licensed health care provider as defined by the Commonwealth of Virginia.
 - a. **Appropriate licensed health care provider** means a physician, physician assistant, osteopath, or athletic trainer licensed by the Virginia Board of

Medicine; a neuropsychologist licensed by the Board of Psychology; or a nurse practitioner, or registered nurse licensed by the Virginia State Board of Nursing.

5. No student shall be allowed to return to activity until cleared by the Head Athletic Trainer, the Infirmary, and the Academy physician.
6. After being cleared to return to activity, all students will follow a graded exercise program as directed by the Head Athletic Trainer. Student will only be cleared for full, unlimited activity if no symptoms reappear during this return to play program.
7. All return to activity decisions come from the FUMA medical staff only. Any student sustaining a concussion will have multiple points of contact among the staff and treatment of each student will be a cooperative effort between the Head Athletic Trainer, the Infirmary, and the school physician. On an as-needed basis, this concussion management team may also include members of FUMA administration and faculty necessary to ensure the student's successful transition back to normal cognitive status.

Procedures

1. All students will be monitored using online neurocognitive software. The testing will be done through the Impact program found at www.impacttest.com.
2. Any time a concussion is suspected; the student will be removed from activity and assessed using a Concussion Assessment Tool. If testing reveals the possibility of a concussion, follow-up will continue with the Acute Concussion Evaluation (ACE) form to monitor symptoms and Impact testing to monitor neurocognitive function. These will be performed by the Infirmary or Head Athletic Trainer as long and as often as necessary.
3. No student will begin the return to play (RTP) program until all symptoms have cleared on ACE evaluations, a passing score is received on the Impact testing, and approval is given by the Head Athletic Trainer and the student is cleared by the Academy physician.
4. Once a student begins the RTP program, daily follow-up assessments must be made with the Head Athletic Trainer and progression through the steps will only be allowed as directed by the Head Athletic Trainer.

Recognition of Concussions

- To provide the best care possible to our student population, all faculty and staff of FUMA will receive yearly training to recognize concussions. This will be done by means of a computer course through the Center for Disease Control's Heads Up concussion program. It is available at the following website:
http://www.cdc.gov/concussion/HeadsUp/online_training.html. Upon completion, this training will allow a person to: understand a concussion and possible consequences of sustaining one, identify signs and symptoms of a concussion, determine when to seek advanced medical care, reduce the risk of concussions, and recognize when it is safe to return to activity.
- A concussion can have many signs and symptoms. They will vary by individual and by case. They are typically grouped into 3 categories: physical, cognitive, and emotional.
 - Physical symptoms include: headache, nausea, vomiting, balance problems, dizziness, blurred vision, fatigue, sensitivity to light/sound, numbness or tingling, or trouble sleeping.
 - Cognitive symptoms include: feeling mentally foggy, feeling slowed down, difficulty concentrating, or difficulty remembering.
 - Emotional symptoms include: irritability, sadness, nervousness, feeling more emotional than usual, or other behavioral changes.

Any combination of these can signal a concussion. If a concussion is suspected, FUMA will err on the side of caution and hold a student out of activity until they can be fully tested.

- Baseline testing of all students will aid the medical staff in return to play decisions. All baseline testing will be performed using Impact testing software. This will test

information processing, or neurocognitive function. The students' own scores become the baseline against which all future testing will be compared. The testing takes about 20-30 minutes and is a simple computer test designed to be taken despite computer skills, language, or learning disabilities. Testing results are easily shown with a red flag when follow up testing scores do not meet the baseline scores. Receiving a non-red flagged test is only one piece of the RTP criteria.

Concussion Management Plan

1. Any student suspected of sustaining a concussion shall immediately be removed from activity. Assessment shall be performed by a trained medical professional as soon as possible using a concussion assessment tool to determine if any impairment is present.
 - a. A student will be transported to the Emergency Room if any of the following are present: seizure, extended loss of consciousness, severe headache, or unresolved neurological symptoms.
2. When a concussion is suspected, the Infirmary or Head Athletic Trainer should be contacted as soon as possible (if not present) to be made aware of the situation. The student will follow-up with the Head Athletic Trainer and to take the Impact test after 24 hours of the incident (to allow stabilization of symptoms) to determine if any neurocognitive impairment is present.
 - a. If any neurocognitive impairment is found on the “trauma” Impact test (this is the term given to the first test after a head injury), then the student will follow-up with the Head Athletic Trainer to repeat the Impact test once they are symptom free.

3. As long as signs and/or symptoms are present, the student will follow-up with the Infirmary for daily ACE evaluations. The student will be instructed regarding his responsibility in follow up testing and care, and a contract will be signed stating his understanding to the process. (appendix 1) This will continue every day until all signs and symptoms are gone. The student must be released by the Infirmary; no one shall stop follow-up visits without permission.
4. A student will not be allowed to perform any physical activity until receiving a 0 score on the ACE evaluations AND passing the Impact test AND is cleared by the Academy Physician. A student will be allowed to begin RTP only under the guidance of the Head Athletic Trainer.
5. If the concussion management team does not feel that the student is progressing at a reasonable rate, further testing may recommended with the school physician or other outside resources.

Return to play criteria (RTP)

1. No student shall begin the RTP program until they have been symptom free according to the ACE evaluation for at least 24 hours, AND has received a passing score on the Impact neurocognitive examination, AND is cleared by the Academy Physician.
2. Once a student has fulfilled all requirements to move on with the RTP program, they will follow a graded exercise program directed by the Head Athletic Trainer. The typical (athletic) program is described here:
 - Step 1: 20-30 minutes of cardio exercise at low intensity.

- Step 2: Unlimited cardio exercise at moderate intensity; begin sport-specific exercise and/or exertional maneuvers (i.e. jumping jacks, push-ups, sit-ups, etc.).
- Step 3: Non-contact, sport-specific drills; begin weightlifting at lighter weight (no bench, squat, or power lifting).
- Step 4: Full-contact activity under supervision; unlimited activity elsewhere (cardio, weightlifting, etc.).
- Step 5: Unrestricted return to activity, only after at least 7 days symptom free.

Note: This program may be modified according to the particular student's needs. All students undergoing the RTP program must report to the Head Athletic Trainer daily. Only the Head Athletic Trainer will make decisions about whether to advance a student through the program. All decisions will be conservative to give every student the best opportunity to recover completely.

3. If symptoms reappear at any time during the graded exercise program, the student will immediately stop all activity and report to the Head Athletic Trainer or the Infirmary as soon as possible for a re-evaluation using the ACE. Once symptoms have been gone a full 24 hours again, the student will begin back at Step 1.
4. There is also the rare possibility that a student will sustain multiple concussions within a season. For all students (athletes or not), a season will be considered any four month period. In the event of multiple concussions, extra care must be taken to give the student time to heal. Successive concussions take longer to heal, so the student will be held out of physical activity for a longer period of time.

Additional Resources on Concussions

1. Heads Up: Concussion in High School Sports.
http://www.cdc.gov/concussion/headsup/high_school.html

2. Concussion in Sports- What you need to know.
<http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000>
3. American Academy of Pediatrics, <http://www.aap.org>
4. American Medical Society for Sports Medicine, <http://www.amssm.org/>
5. Brain Injury Association of Virginia, <http://www.biav.net>
6. National Academy of Neuropsychology, <http://www.nanonline.org>
7. National Athletic Trainers' Association, <http://www.nata.org>
8. Virginia Department of Health, <http://www.vdh.state.va.us>
9. Virginia High School League, <http://www.vhsl.org>

References

1. SCAT2 [http://www.cces.ca/files/pdfs/SCAT2\[1\].pdf](http://www.cces.ca/files/pdfs/SCAT2[1].pdf)
2. ACE <http://www.cdc.gov/concussion/headsup/pdf/ACE-a.pdf>
3. Headminder <http://www.headminder.com/site/cr/home.html>
4. Guskiewicz KM, et al. National Athletic Trainers' Association position statement: management of sport-related concussion. *Journal of Athletic Training*. 2004; 39:280-297.
5. McCrory P, et al. Consensus statement on concussion in sport: the 3rd International Conference on Concussion in Sport held in Zurich, November 2008. *Journal of Athletic Training*. 2009; 44:434-48.
6. Cantu RC. Posttraumatic retrograde and anterograde amnesia: pathophysiology and implications in grading and safe return to play. *Journal of Athletic Training*. 2001; 36(3):244-248.
7. Virginia Board of Education Guidelines for Policies on Concussions in Student-Athletes. Adopted January 13, 2011. Senate Bill 652, the 2010 General Assembly, Code of Virginia § 22.1-271.5.
8. National Federation of State High School Associations (NFHS). Suggested Guidelines for Management of Concussion in Sports. January 2011.
<http://www.nfhs.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=5902&libID=592>

Fork Union Military Academy

Student Concussion Statement

I understand that it is my responsibility to report all injuries and illnesses to the Head Athletic Trainer and/or the Infirmary. This includes injuries to myself or other cadets.

I grant the medical staff permission to inform my teachers of my concussion status.

I have read and understand the FUMA Concussion Action Plan.

After reading the FUMA Concussion Action Plan, I am aware of the following information:

- A concussion is a brain injury, which I am responsible for reporting to the Head Athletic Trainer and/or the Infirmary.
- A concussion can affect my ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance.
- You cannot see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury.
- If I suspect a teammate has a concussion, I am responsible for reporting the injury to the Head Athletic Trainer and/or the Infirmary.
- I will not return to activity if I have received a blow to the head or body that results in concussion-related symptoms until cleared by the Head Athletic Trainer.
- Following concussion, the brain needs time to heal. You are much more likely to have a repeat concussion if you return to play before your symptoms resolve.
- In rare cases, repeat concussions can cause permanent brain damage, and even death.
- If I ever sustain a concussion, I will report to the Infirmary and Head Athletic Trainer every day until they release me back to activity.

By signing this statement I affirm that I have read and understand all of the FUMA Concussion Action Plan. I also understand that I may be subject to punishment if I do not follow the plan.

Signature of Student

Date

Printed name of Student

Signature of Parent/Guardian (if student is under 18)

Date

Printed name of Parent/Guardian

Appendix 1

Cadet Concussion Instructions

You are being followed by the Training and Medical staff for a Concussion.

You will be seen by the doctor on _____.

Report daily to Infirmary for an evaluation of your symptoms (ACE) after class, drill or extra help.

Report as directed to Training staff on break or after class for Impact Test every 2-5 days.

Keep quiet. Rest on free time. Minimize TV, music and video. No sports or PT. Eat well, drink well.

When you are symptom free and have a clear Impact Test you will be cleared by the doctor to start a graduated exercise plan under the guidance of the Training staff.

Only after all evaluations, tests, doctor visits and graduated exercise are completed and clear will you be returned to full duty/sport.

I acknowledge and agree to this plan of care.

Date _____

Cadet Initials _____