College of the Holy Cross Sports Medicine
Policy on Management of Mild Traumatic Brain Injury (MTBI)

The College of the Holy Cross Sports Medicine Department maintains the health and well-being for all student-athletes. The Sports Medicine staff is trained to treat a variety of musculoskeletal injuries and other health related issues. This document reflects the practices recommended by the NCAA and the Patriot League for management of mild traumatic brain injuries. The Sports Medicine Department follows the policy below for all student-athletes who have suffered from a head injury and subsequent concussion.

**Definition:** A mild traumatic brain injury (MTBI) or concussion is defined as “a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces.” Several common features that incorporate clinical, pathological, and biomechanical injury constructs that may be utilized in defining the nature of a MTBI include:

1. The result of either a direct blow to the head, face, neck or elsewhere on the body with an ‘impulsive’ force transmitted to the head.
2. Rapid onset of short-lived impairment of neurologic function that resolves spontaneously.
3. Neuropathological changes but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury.
4. A graded set of clinical symptoms that may or may not involve loss of consciousness.
5. Resolution of the clinical and cognitive symptoms typically follows a sequential course; however, it is important to note that in a small percentage of cases however, post-concussive symptoms may be prolonged.
6. No abnormality on standard structural neuroimaging studies is seen.

The following are treatment orders for the management of sport-related MTBI as seen by the Sports Medicine staff at the College of the Holy Cross:

1. All new student-athletes must sign the *College of the Holy Cross Student-Athlete Concussion Responsibility Statement (Appendix A)*, prior to their participation on any athletic team at the college, in which they accept the responsibility for reporting the signs and symptoms associated with a possible MTBI to the Sports Medicine staff.
   a. The certified athletic trainer working with that student-athlete and their respective team must scan this form to Medicat to ensure that the form has been signed and received by the sports medicine department. Ideally, this form will be submitted with the incoming student-athlete paperwork during the summer months.
   b. Student-athletes will have access to various educational materials on concussions, including the NCAA fact sheet on concussions for student-athletes. (*Appendix B*).
   c. Additionally, all student-athletes will need to complete the CFM concussion training module annually, prior to the beginning of the academic year.

2. The Certified Athletic Trainer (AT) and team physicians agree on protocol for managing sport-related MTBI prior to the beginning of the athletic season. Specifically, upon evaluation of a sport-related concussion, the Sports Medicine staff will focus attention on:
   a. The athlete’s recovery via symptoms
   b. Neurocognitive testing
   c. Postural-stability testing

3. All coaches and associated health care professionals will be educated regarding the seriousness of a possible MTBI, the use of this policy, and the NCAA policy disqualifying an athlete from play in the same day as a suspected MTBI.
   a. All coaches are required to participate in a mandatory training at the start of each academic year.
   b. All coaches will receive copies of the Concussion Education handout (*Appendix C*) produced by the NCAA at the annual Holy Cross athletics staff meeting.
   c. All coaches have a responsibility to report any possible MTBI/concussion to the medical staff.

4. Baseline testing will be implemented ideally prior to the start of a contact sport athletic season using the online ImPACT Concussion Assessment tool and abbreviated Sport Concussion Assessment Tool 3 (*Appendix D*) concussion evaluation tools.
a. Any athlete with a reported history of a MTBI will also answer a detailed Pre-participation Physical Examination (PPE) concussion questionnaire for their medical records as seen in (Appendix E)
b. More conservative treatment, as coordinated with a team physician, should be provided to the concussed athlete with a medical history of MTBI or related injury.
c. More information on ImPACT testing can be found on the ImPACT website: https://www.impacttest.com/about/

5. All helmet equipment standards, as set by the National Operating Committee on Standards for Athletic Equipment (NOCSAE) and the CSA (Canadian Standards Association), will be enforced help protect athletes from potential head injury.
   a. Helmet fitting guidelines as provided by the manufacturer for each helmet will also be enforced by the Sports Medicine Staff, as well as the Equipment Managers.
   b. The following sports will be carefully observed by the team AT for signs of problems with a helmet:
      o Football
      o Men’s & Women’s Hockey
      o Men’s Lacrosse
      o Baseball
      o Softball
   c. Items to check with an athlete’s helmet to assure safety include:
      o Chin straps must be buckled
      o No cracks or damaging chips in the helmet
      o No damage to the facemask
      o No missing screws/replace missing screws
      o All clips are secured and/or replaced if needed
      o The helmet is stable on the athlete’s head with no movement
      o The helmet appears to fit allowing for proper vision
      o Presence of the appropriate equipment standard seal and warning stickers
   d. All student-athletes on the football, men’s lacrosse, ice hockey, baseball and softball teams must read, sign, and accept the standards set for on the NOCSAE form (Appendix F). They must do this yearly.

6. Clinical evaluation should include a primary survey, and thorough secondary survey with a history, observation, palpation, and special testing (stress tests, range-of-motion testing, strength testing, neurological testing, and functional testing).
   a. All members of the Sports Medicine staff are trained to recognize the signs and symptoms of a concussion, incorporate screening/evaluation tools, can differentiate between a MTBI and a focal traumatic brain injury (TBI).
   b. The Sports Medicine staff are educated on the guidelines for return to play, guidelines for immediate referral to the Emergency Department, guidelines for physician referral, and guidelines for disqualification as outlined in (Appendix G).

7. Concussion screening during a clinical sideline evaluation will include use of an abbreviated Sport Concussion Assessment Tool 3 (SCAT3) (Appendix H)
   a. If a sideline evaluation results in the diagnosis of a concussion, the student-athlete will be completely removed from physical activity and excluded from play. They must then follow up with a team physician as soon as possible and will refrain from all athletic activities until cleared to return.
   b. Student-athletes will also be restricted from classroom activity, including exams, homework and screen time, the same day as the concussion is diagnosed.

8. Additional assessment of the cervical spine and cranial nerves will be performed to identify any cervical spine or intracerebral (focal TBI) injuries.

9. The AT will monitor a patient's vital signs, symptoms, and level of consciousness for the duration of the practice or competition.
10. A combination of screening tools will be implemented during a post-injury evaluation of an athlete who has experienced a concussion:
   a. The entire SCAT 3 must be completed during the initial evaluation post-injury.
   b. Impact Concussion Assessment testing must be done with the student-athlete is symptom-free for 24 hours and prior to the start of the return to play process.
   c. Graded Symptom Scale (Appendix I) must be completed daily to track the student-athlete’s day-to-day progress. Before any type of return to play protocol is initiated, this scale must reflect a total symptom score of ‘0’ for at least 24 hours.

11. The AT and Sports Medicine staff will document all pertinent information surrounding the concussive injury, including but not limited to (1) mechanism of injury; (2) initial signs and symptoms; (3) state of consciousness; (4) findings on serial testing of symptoms and neurocognitive function and postural-stability tests; (5) instructions given to the athlete and caretaker(s); (6) recommendations provided by the physician and subsequent referrals; (7) athlete’s gradual return to all cognitive activities and classes (8) athlete’s graduated return to play protocol (Appendix J); (9) date and time of the athlete’s full return to play; (10) relevant information on the patient’s history of prior concussion and associated recovery patterns.

12. Verbal instructions are always given the student-athlete and a roommate and/or teammate for at home care and management. All concussed athletes may be provided with home care instructions (Appendix K) for the student athlete’s current roommate/responsible friend to refer to as well.

13. A team physician or a Sports Medicine Fellow must be informed of all concussed athletes within 24-48 hours of injury.
   a. If the student-athlete is transported to a medical facility, an above Sports Medicine physician must be notified immediately.
   b. The concussed student-athlete must be seen by a Holy Cross Sports Medicine physician within 24-48 hours of injury unless travel interferes.
   c. The team physician will evaluate the student-athlete and prescribe the recommended treatment. One of the new standards for treatment includes “cognitive rest.” Cognitive rest requires the injured person to abstain from screen time, including texting, reading on their phone/computer screen; The student-athlete may be required stay home from class while they recover, limit their time reading and doing class related work. They may also be restricted from watching team practices. The guidelines for cognitive rest are created to limit the potential for worsening of symptoms during their recovery. After the evaluation, the team physician will alert the class dean of the student-athlete’s concussion. The dean must then pass the information along to the professors to allow the student-athlete to miss class, in order to treat their concussion, and allow them to make up missed class work and exams.
   d. Medical clearance will be granted in agreement between the team AT and treating physician.

14. Medical clearance for return-to-learn will take place prior to a student-athlete returning to any aspect of their respective sport, including watching practice. The team AT will act as the point person for the case and will follow the progress for the duration of the concussed state. It is the responsibility of the athletic trainer to follow up daily with the concussed student-athlete. During the check-ups, the AT must address memory, focus, concentration, mental processing, and other symptoms that may affect the ability to begin cognitive activity or to progress cognitive activity. The team physician will be kept up to date while the student-athlete progresses; If there are any lingering or worsening symptoms as cognitive activity is implemented, further evaluations will be done.

15. Team physicians will refer any student-athlete with prolonged symptoms or when deemed necessary to neurologists and/or neuropsychologists for further evaluation.
The College of the Holy Cross
Policy on Mild Traumatic Brain Injury/Concussion
Student-Athlete Concussion Education and Policy

The NCAA is committed to the prevention, identification, evaluation and management of concussions. The NCAA’s latest step in the process to develop a consistent association-wide approach to concussion management has come from the NCAA Executive Committee. The Executive Committee adopted the following policy for institutions across all three divisions.

“Institutions shall have a concussion management plan on file such that a student-athlete who exhibits signs, symptoms or behaviors consistent with a concussion shall be removed from practice or competition and evaluated by an athletics healthcare provider with experience in the evaluation and management of concussion. Student-athletes diagnosed with a concussion shall not return to activity for the remainder of that day. Medical clearance shall be determined by the team physician or their designee according to the concussion management plan. In addition, student-athletes must sign a statement in which they accept the responsibility for reporting their injuries and illnesses to the institutional medical staff, including signs and symptoms of concussions. During the review and signing process student-athletes should be presented with educational material on concussions.”

The policy came from ongoing review of research data and discussions with the medical community. Determination of appropriate care and treatment of student-athletes injuries and illness are best handled through a local institutional medical model that has team physician oversight and direction. This model should focus on appropriate access to healthcare providers with the unchallengeable authority to determine management and return-to-play.

☐ I have read and understand the above, the College of the Holy Cross Student-Athlete Concussion Education and Policy.
☐ I have read the NCAA Concussion Fact Sheet for Student-Athletes, as provided by the College of the Holy Cross.
☐ I agree to follow the rules and protocols of the College of the Holy Cross Sports Medicine Policy on Management of Mild Traumatic Brain Injury/Concussion if suspected or diagnosed with a concussion.
☐ If a concussion evaluation is warranted I agree to answer all questions honestly.
☐ I agree to accept the responsibility to report all injuries and illnesses, including signs and symptoms of concussions while participating in Intercollegiate Athletics at the College of the Holy Cross.
☐ I will complete the Initial 2 part concussion assessment survey (Impact Concussion Assessment and Sport Concussion Assessment Tool 3) before beginning my Athletic season.

Acceptance of Risk: The College of the Holy Cross, in compliance with NCAA guidelines, reminds its student athletes of the inherent risks of injury and MBTI during intercollegiate athletic participation. The College of the Holy Cross, and its athletic administrators, coaches and sports medicine staff, share the management of these risks by endeavoring to create a safe environment for competition. For their part, student athletes are strongly advised to adhere to their coaches’, athletic trainers’ (and associated physicians’) health and safety instructions, including the rules of their sport, while participating in contests, practices, training sessions and related travel to effectively reduce the risks of injury.

PRINT NAME OF STUDENT-ATHLETE: ________________________________ SPORT: ____________________

SIGNATURE OF STUDENT-ATHLETE: ____________________________ DATE: ____________________

PRINT NAME OF PARENT/ GAURDIAN (if minor): ________________________________

PARENT/GAURDIAN SIGNATURE (if minor): ____________________________ RELATIONSHIP: ____________
**CONCUSSION**

**A FACT SHEET FOR STUDENT-ATHLETES**

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### WHAT IS A CONCUSSION?

A concussion is a brain injury that:

- Is caused by a blow to the head or body.
- From contact with another player, hitting a hard surface such as the ground, ice or floor, or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.
- Can change the way your brain normally works.
- Can range from mild to severe.
- Presents itself differently for each athlete.
- Can occur during practice or competition in ANY sport.
- Can happen even if you do not lose consciousness.

### WHAT ARE THE SYMPTOMS OF A CONCUSSION?

You can’t see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury. Concussion symptoms include:

- Amnesia.
- Confusion.
- Headache.
- Loss of consciousness.
- Loss of balance or dizziness.
- Double or blurry vision.
- Sensitivity to light or noise.
- Nausea (feeling that you might vomit).
- Feeling sluggish, foggy or groggy.
- Feeling unusually irritable.
- Concentration or memory problems (forgetting game plays, facts, meeting times).
- Slowed reaction time.

Exercise or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

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### HOW CAN I PREVENT A CONCUSSION?

Basic steps you can take to protect yourself from concussion:

- Do not initiate contact with your head or helmet. You can still get a concussion if you are wearing a helmet.
- Avoid striking an opponent in the head. Undercutting, flying elbows, stepping on a head, checking an unprotected opponent, and sticks to the head all cause concussions.
- Follow your athletics department’s rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.
- Practice and perfect the skills of the sport.

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### WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?

Don’t hide it. Tell your athletic trainer and coach. Never ignore a blow to the head. Also, tell your athletic trainer and coach if one of your teammates might have a concussion.

Sports have injury timeouts and player substitutions so that you can get checked out.

Report it. Do not return to participation in a game, practice or other activity with symptoms. The sooner you get checked out, the sooner you may be able to return to play.

Get checked out. Your team physician, athletic trainer, or health care professional can tell you if you have had a concussion and when you are cleared to return to play.

A concussion can affect your ability to perform everyday activities, your reaction time, balance, sleep and classroom performance.

Take time to recover. If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a repeat concussion. In rare cases, repeat concussions can cause permanent brain damage, and even death. Severe brain injury can change your whole life.

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**IT’S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON. WHEN IN DOUBT, GET CHECKED OUT.**

For more information and resources, visit www.NCAA.org/health-safety and www.CDC.gov/Concussion.

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CONCUSSION
A FACT SHEET FOR COACHES

THE FACTS
- A concussion is a brain injury.
- All concussions are serious.
- Concussions can occur without loss of consciousness or other obvious signs.
- Concussions can occur from blows to the body as well as to the head.
- Concussions can occur in any sport.
- Recognition and proper response to concussions when they first occur can help prevent further injury or even death.
- Athletes may not report their symptoms for fear of losing playing time.
- Athletes can still get a concussion even if they are wearing a helmet.
- Data from the NCAA Injury Surveillance System suggests that concussions represent 5 to 18 percent of all reported injuries, depending on the sport.

WHAT IS A CONCUSSION?
A concussion is a brain injury that may be caused by a blow to the head, face, neck or elsewhere on the body with an “impulsive” force transmitted to the head. Concussions can also result from hitting a hard surface such as the ground, ice or floor, from players colliding with each other or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.

RECOGNIZING A POSSIBLE CONCUSSION
To help recognize a concussion, watch for the following two events among your student-athletes during both games and practices:
1. A forceful blow to the head or body that results in rapid movement of the head;
-AND-
2. Any change in the student-athlete’s behavior, thinking or physical functioning (see signs and symptoms).

SIGNS AND SYMPTOMS

Signs Observed By Coaching Staff
- Appears dazed or stunned.
- Is confused about assignment or position.
- Forgets plays.
- Is unsure of game, score or opponent.
- Moves clumsily.
- Answers questions slowly.
- Loses consciousness (even briefly).
- Shows behavior or personality changes.
- Can’t recall events before hit or fall.
- Can’t recall events after hit or fall.

Symptoms Reported By Student-Athlete
- Headache or “pressure” in head.
- Nausea or vomiting.
- Balance problems or dizziness.
- Double or blurry vision.
- Sensitivity to light.
- Sensitivity to noise.
- Feeling sluggish, hazy, foggy or groggy.
- Concentration or memory problems.
- Confusion.
- Does not “feel right.”
PREVENTION AND PREPARATION
As a coach, you play a key role in preventing concussions and responding to them properly when they occur. Here are some steps you can take to ensure the best outcome for your student-athletes:

- Educate student-athletes and coaching staff about concussion. Explain your concerns about concussion and your expectations of safe play to student-athletes, athletics staff and assistant coaches. Create an environment that supports reporting, access to proper evaluation and conservative return-to-play.
  - Review and practice your emergency action plan for your facility.
  - Know when you will have sideline medical care and when you will not, both at home and away.
  - Emphasize that protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
  - Review the Concussion Fact Sheet for Student-Athletes with your team to help them recognize the signs of a concussion.
  - Review with your athletics staff the NCAA Sports Medicine Handbook guideline: Concussion or Mild Traumatic Brain Injury (mTBI) in the Athlete.
- Insist that safety comes first.
  - Teach student-athletes safe-play techniques and encourage them to follow the rules of play.
  - Encourage student-athletes to practice good sportsmanship at all times.
  - Encourage student-athletes to immediately report symptoms of concussion.
- Prevent long-term problems: A repeat concussion that occurs before the brain recovers from the previous one (hours, days or weeks) can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in brain swelling, permanent brain damage and even death.

IF YOU THINK YOUR STUDENT-ATHLETE HAS SUSTAINED A CONCUSSION:
Take him/her out of play immediately and allow adequate time for evaluation by a health care professional experienced in evaluating for concussion.

An athlete who exhibits signs, symptoms or behaviors consistent with a concussion, either at rest or during exertion, should be removed immediately from practice or competition and should not return to play until cleared by an appropriate health care professional. Sports have injury timeouts and player substitutions so that student-athletes can get checked out.

IF A CONCUSSION IS SUSPECTED:
1. Remove the student-athlete from play. Look for the signs and symptoms of concussion if your student-athlete has experienced a blow to the head. Do not allow the student-athlete to just "shake it off." Each individual athlete will respond to concussions differently.
2. Ensure that the student-athlete is evaluated right away by an appropriate health care professional. Do not try to judge the severity of the injury yourself. Immediately refer the student-athlete to the appropriate medical staff, such as a certified athletic trainer, team physician or health care professional experienced in concussion evaluation and management.
3. Allow the student-athlete to return to play only with permission from a health care professional with experience in evaluating for concussion. Allow athletics medical staff to rely on their clinical skills and protocols in evaluating the athlete to establish the appropriate time to return to play. A return-to-play progression should occur in an individualized, step-wise fashion with gradual increments in physical exertion and risk of contact.
4. Develop a game plan. Student-athletes should not return to play until all symptoms have resolved, both at rest and during exertion. Many times, that means they will be out for the remainder of that day. In fact, as concussion management continues to evolve, the care is becoming more conservative and return-to-play time frames are getting longer. Coaches should have a game plan that accounts for this change.

IT'S BETTER THEY MISS ONE GAME THAN THE WHOLE SEASON. WHEN IN DOUBT, SIT THEM OUT.
For more information and resources, visit www.NCAA.org/health-safety and www.CDC.gov/Concussion.

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Abbreviated Sport Concussion Assessment Tool 3

Instructions: To be completed during Pre Participation Physicals as part of a comprehensive concussion baseline screening.
If the symptom score is greater than “0,” the student-athlete should be evaluated by a team physician.

Name: ____________________________
Date: ___________ Time: ________ AM/PM
Examiner: __________________________
Sport: __________________________
Age: ___________
Gender: ________
Years of education completed: ____________
Dominant hand: _____ right _____ left _____ neither
How many concussions do you think you have had in the past? ______
When was your most recent concussion? ________________________
How long was your recovery from the most recent concussion? ______
Have you ever been hospitalized or had medical imaging done for a head injury? Y  N
Have you ever been diagnosed with headaches or migraines? Y  N
Do you have a learning disability, dyslexia, ADD/ADHD? Y  N
Have you ever been diagnosed with depression, anxiety, or other psychiatric disorder? Y  N
Has anyone in your family ever been diagnosed with any of these problems? Y  N
Are you on any medications? Y  N
If yes, please list: __________________________

Symptom Evaluation
How do you feel? None   mild   moderate   severe
Headache 0 1 2 3 4 5 6
Pressure in head 0 1 2 3 4 5 6
Neck Pain 0 1 2 3 4 5 6
Nausea or vomiting 0 1 2 3 4 5 6
Dizziness 0 1 2 3 4 5 6
Blurred vision 0 1 2 3 4 5 6
Balance problems 0 1 2 3 4 5 6
Sensitivity to light 0 1 2 3 4 5 6
Sensitivity to noise 0 1 2 3 4 5 6
Feeling slowed down 0 1 2 3 4 5 6
Feeling in a fog 0 1 2 3 4 5 6
Don't feel right 0 1 2 3 4 5 6
Difficulty concentrating 0 1 2 3 4 5 6
Difficulty remembering 0 1 2 3 4 5 6
Fatigue or low energy 0 1 2 3 4 5 6
Confusion 0 1 2 3 4 5 6
Drowsiness 0 1 2 3 4 5 6
Trouble falling asleep 0 1 2 3 4 5 6
More emotional 0 1 2 3 4 5 6
Irritability 0 1 2 3 4 5 6
Sadness 0 1 2 3 4 5 6
Nervous or anxious 0 1 2 3 4 5 6
Total number of symptoms (22 Max) _________ Symptom severity score (152 Max) _________

Balance examination
(Do one or both of the following tests) Footwear (shoes, barefoot, braces, tape, etc.) ______________________
Modified Balance Error Scoring System (BESS) Which foot was tested (i.e. which is the non-dominant foot) ___L ___R Testing surface (hard floor, field, etc.)
Condition
Double leg stance: ______ Errors
Single leg stance (non-dom. foot): ______ Errors
Tandem stance (non-dom. foot at back): ______ Errors
And / Or Tandem gait Time (best of 4 trials): ______ seconds

Coordination examination
Upper limb coordination
Which arm was tested: _____ L _____ R
Coordination score ______ of 1
Positive Concussion History Follow-Up Questions

Please fill out the following questions if you have been diagnosed with a concussion.

1. Have you been hit in the head and been confused or lost your memory?
2. Have you ever had numbness, tingling, or weakness in your arms or legs after being hit or falling?
3. Have you ever been unable to move your arms or legs after being hit or falling?
4. Have you ever had a seizure?
5. When was your head injury/were your head injuries?
6. Were you able to finish the practice or game in which the injury was sustained?
7. Did you miss any practices or games due to the injury?
8. What was the nature and duration of your concussive symptoms?
9. Did you have lingering symptoms?
10. Did this head injury affect your performance in school? If so, to what degree?
11. Were you hospitalized for any head injury?
12. Were you referred to a primary care provider?
13. Was adjunct testing (neuropsychological, postural, etc.) used?
14. Did you have imaging tests (X-rays, CT-scans, etc.) done?
Helmet Care and Use Statement

<table>
<thead>
<tr>
<th>For: Football/Ice Hockey/Men's Lacrosse/Baseball/Softball Athletes</th>
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The following statement is from the NOCSAE approved guidelines. Please read it carefully and sign your name on the bottom of this sheet.

**DO NOT USE THIS HELMET TO BUTT, RAM, OR SPEAR AN OPPOSING PLAYER. THIS IS IN VIOLATION OF THE FOOTBALL RULES AND MAY RESULT IN SEVERE HEAD, BRAIN, OR NECK INJURY, PARALYSIS OR DEATH TO YOU AND POSSIBLE INJURY TO YOUR OPPONENT.**

**THERE IS A RISK THESE INJURIES MAY OCCUR AS A RESULT OF ACCIDENTAL CONTACT WITHOUT INTENT TO BUTT, RAM, OR SPEAR.**

**NO HELMET CAN PREVENT ALL SUCH INJURIES.**

**MAINTENANCE OF CORRECT FITTING IS ESSENTIAL TO THE USE OF ALL PROTECTIVE EQUIPMENT. FOOTBALL HELMETS ESPECIALLY MUST BE PROPERLY FITTED AND PROPERLY MAINTAINED IF THEY ARE TO SERVE THE PLAYER.**

I have read the above statement and understand what the consequences are should I fail to adhere to the proper use of this protective equipment.

PRINT NAME OF STUDENT-ATHLETE:____________________________________________________________

SIGNATURE OF STUDENT-ATHLETE:_________________________________ DATE:__________________
MTBI MANAGEMENT INFORMATION

Guidelines for Return to Play

- An athlete is NOT permitted to return to play in the same day of sustaining a concussion.
- Athletes should be asymptomatic at rest.
- Athletes must be asymptomatic for 24 hours before they can begin the return to play (RTP) protocol. The RTP protocol is 5 to 6 days and includes cardiovascular exertion testing, strength testing, sport specific skills and drills, and non-contact drills, before the athlete is allowed. He/she should remain out of activities that increase risk for recurrent head injury until at least day 5 of the graduated return-to-play protocol.
- If recurrent injury occurs, the athlete should be held from activity for 7 days after symptoms resolve before the graduated return-to-play protocol.
- All concussed athletes will be evaluated by a sports medicine physician prior to any full return to play.

Guidelines for Immediate Referral to Emergency Department:
The athlete should be transported immediately to the nearest emergency department if the following symptoms are experienced:

- Deterioration of neurologic function
- Decreasing level of consciousness
- Decrease or irregularity in respirations
- Decrease or irregularity in pulse
- Unequal, dilated, or unreactive pupils
- Any signs or symptoms of associated injuries, spine or skull fracture
- Mental status changes that continue to progress: lethargy, difficulty maintaining arousal, confusion, or agitation
- Seizure activity

Guidelines for Same Day Physician Referral:
On the day of injury if patient experiences any of the following:

- Loss of consciousness
- Amnesia longer than 15 minutes
- Increase in blood pressure
- Cranial nerve deficits subsequent to the initial on-field evaluation
- Vomiting
- Motor deficits subsequent to initial on-field assessment
- Sensory deficits subsequent to initial on-field assessment
- Balance deficits subsequent to initial on-field assessment
- Post-concussive symptoms that worsen
- Symptoms persistent through the end of a practice or game

Guidelines for Athlete Disqualification

- On the day of concussive event
- Permanent disqualification will be determined and discussed with the student-athlete, parents (if a minor), athletic trainer, and physician
- A team physician, in coordination with the above individuals, has the final decision on return to play for student-athletes at Holy Cross. Outside or home physician evaluations sought by the student-athlete/family will be reviewed and put into context of the injury. Non-Holy Cross-associated physicians will not determine return to play for Holy Cross student-athletes.
Appendix H: SCAT3

Sport Concussion Assessment Tool – 3rd Edition

For use by medical professionals only.

Name: ____________________________
Date/Time of Injury: ____________
Date of Assessment: ____________
Examiner: ____________________________

What is the SCAT3?¹

The SCAT3 is a standardized tool for evaluating injured athletes for concussion and can be used in athletes aged from 13 years and older. It supplements the original SCAT and the SCAT2 published in 2005 and 2009, respectively.¹ For younger persons, ages 12 and under, please use the Child SCAT3. The SCAT3 is designed for use by medical professionals. If you are not qualified, please use the Sport Concussion Recognition Tool. Presence baseline testing with the SCAT3 can be helpful for interpreting post-injury test scores.

Specific instructions for use of the SCAT3 are provided on page 3. If you are not familiar with the SCAT3, please read through these instructions carefully. This tool may be freely copied in its current form for distribution to individuals, teams, groups, organizations. Any revision or any reproduction in a digital form requires approval by the Concussion in Sport Group.

NOTE: The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The SCAT3 should not be used solely to make, or exclude, the diagnosis of concussion in the absence of clinical judgement. An athlete may have a concussion even if their SCAT3 is “normal.”

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific signs and/or symptoms (some examples listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of any one or more of the following:

- Symptoms (e.g., headache), or
- Physical signs (e.g., unsteadiness), or
- Impaired brain function (e.g., confusion) or
- Abnormal behavior (e.g., change in personality).

SIDELINE ASSESSMENT

Indications for Emergency Management

NOTE: A hit to the head can sometimes be associated with a more serious brain injury. Any of the following warrants consideration of activating emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 15
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs

Potential signs of concussion?

If any of the following signs are observed after a direct or indirect blow to the head, the athlete should stop participation, be evaluated by a medical professional and should not be permitted to return to sport the same day if a concussion is suspected.

- Any loss of consciousness?
  - Y [Yes] N [No]
- “If so, how long?”
- Balance or motor incoordination (dizziness, slow/blurred movements, etc.)
  - Y [Yes] N [No]
- Disorientation or confusion (inability to respond appropriately to questions)
  - Y [Yes] N [No]
- Loss of memory:
  - “If so, how long?”
- “Before or after the injury?”
- Blink or vacant look:
  - Y [Yes] N [No]
- Visible facial injury in combination with any of the above:
  - Y [Yes] N [No]

Glasgow coma scale (GCS)

<table>
<thead>
<tr>
<th>Best eye response (E)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>No eye opening</td>
<td>1</td>
</tr>
<tr>
<td>Eye opening in response to pain</td>
<td>2</td>
</tr>
<tr>
<td>Eye opening to speech</td>
<td>3</td>
</tr>
<tr>
<td>Eyes opening spontaneously</td>
<td>4</td>
</tr>
<tr>
<td>Best verbal response (V)</td>
<td>1</td>
</tr>
<tr>
<td>No verbal response</td>
<td>1</td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
<td>2</td>
</tr>
<tr>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td>Confused</td>
<td>4</td>
</tr>
<tr>
<td>Oriented</td>
<td>5</td>
</tr>
<tr>
<td>Best motor response (M)</td>
<td>1</td>
</tr>
<tr>
<td>No motor response</td>
<td>1</td>
</tr>
<tr>
<td>Extension to pain</td>
<td>2</td>
</tr>
<tr>
<td>Abnormal flexion to pain</td>
<td>3</td>
</tr>
<tr>
<td>Paresthesia/numbness to pain</td>
<td>4</td>
</tr>
<tr>
<td>Localizes to pain</td>
<td>5</td>
</tr>
<tr>
<td>obey commands</td>
<td>6</td>
</tr>
</tbody>
</table>

Glasgow Coma score (E + V + M) of 15

Maddocks Score²

“I am going to ask you a few questions, please listen carefully and give your best effort.”

Modified Maddocks questions (1 point for each correct answer)

| What venue are we at today? | 0 | 1 |
| Which half is it now?       | 0 | 1 |
| Who scored last in this match? | 0 | 1 |
| What team did you play last week/game? | 0 | 1 |
| Did your team win the last game? | 0 | 1 |

Maddocks score of 5

Maddocks score is validated for sideline diagnosis of concussion only and is not used for serial testing.

Notes: Mechanism of injury (“tell me what happened”):

Any athlete with a suspected concussion should be REMOVED FROM PLAY, medically assessed, monitored for deterioration (i.e., should not be left alone) and should not drive a motor vehicle until cleared to do so by a medical professional. No athlete diagnosed with concussion should be returned to sports participation on the day of injury.

¹ SCAT3 SPORT CONCUSSION ASSESSMENT TOOL 3 | PAGE 1
² © 2013 Concussion in Sport Group

250
BACKGROUND

Name: __________________________ Date: ____________
Examiner: ________________________
Sport/Team/school: ________________ Date/time of injury: ________________
Age: ____________________________ Gender: M/F
Years of education completed: ________
Dominant hand: ______ right ______ left ______ neither ______
How many concussions do you think you have had in the past? ______
When was the most recent concussion? ______
How long was your recovery from the most recent concussion? ______
Have you ever been hospitalized or had medical imaging done for a head injury? ______
Have you ever been diagnosed with headaches or migraines? ______
Do you have a learning disability, dyslexia, ADD/ADHD? ______
Have you ever been diagnosed with depression, anxiety or other psychiatric disorder? ______
Has anyone in your family ever been diagnosed with any of these problems? ______
Are you on any medications? If yes, please list: ______

SCAT3 to be done in resting state. Best done 10 or more minutes post exercise.

SYMPTOM EVALUATION

3 How do you feel?

*You should score yourself on the following symptoms, based on how you feel now*.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Sever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Pressure in head&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Neck pain</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nasal congestion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizziness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Blurred vision</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Balance problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sensitivity to light</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling slowed down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling like &quot;in a fog&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Don't feel right&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty remembering</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fatigue or low energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Confusion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Drowsiness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Trouble falling asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>More emotional</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Irritability</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sadness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous or Anxious</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total number of symptoms (Maximum possible 12) ______
Symptom severity score (Maximum possible 12) ______

Do the symptoms get worse with physical activity? ______
Do the symptoms get worse with mental activity? ______

Overall rating: If you know the athlete well prior to the injury, how different is the athlete acting compared to his/her usual self? ______
Please circle one: no different ______ very different ______ unsure ______ N/A ______

Scoring on the SCAT3 should not be used as a stand-alone method to diagnose concussion, measure recovery or make decisions about an athlete’s readiness to return to competition after concussion. Since signs and symptoms may evolve over time, it is important to consider repeat evaluation in the acute assessment of concussion.

COGNITIVE & PHYSICAL EVALUATION

4 Cognitive assessment

Standardized Assessment of Concussion (SAC)*

| Orientation (1 point for each correct answer) | 0 | 1 |
| What month is it?                             |   |   |
| What is the date today?                       |   |   |
| What is the day of the week?                  |   |   |
| What year is it?                              |   |   |
| What time is it right now? (within 1 hour)    |   |   |

Orientation score of 6

Immediate memory

List | Trial 1 | Trial 2 | Trial 3 | Alternative word list
-----|--------|--------|--------|-----------------------|
elbow | 0 | 1 | 0 | 1 |
candle | 0 | 1 | 0 | 1 |
candy | 0 | 1 | 0 | 1 |
carpet | 0 | 1 | 0 | 1 |
sandwich | 0 | 1 | 0 | 1 |
someone | 0 | 1 | 0 | 1 |

Total Immediate memory score total: ________________________

Concentration: Digits Backwards

List | Trial 1 | Trial 2 | Trial 3 | Alternative word list
-----|--------|--------|--------|-----------------------|
4-9-3 | 0 | 1 | 0 | 1 |
6-3-1-9-1 | 0 | 1 | 0 | 1 |
6-2-2-8-6 | 0 | 1 | 0 | 1 |

Total of 4 ______

Concentration: Months in Reverse Order (9 pt for entire sequence correct)

Dec-Nov-Oct-Sep-Aug-Jul-Jun-May-Apr-Mar-Feb-Jan | 0 | 1 |

Concentration score of 9

5 Neck Examination:

Range of motion: Tenderness Upper and lower limb sensation & strength

Findings:

6 Balance examination

Do one or both of the following tests:

Footwear: slippers, barefoot, shoes, tape, etc.

Modified Balance Error Scoring System (BESS) testing:
Which foot was tested (i.e. which is the non-dominant foot)
Testing surface (hard floor, soft floor, etc.)

Condition: Double leg stance: ______ Single leg stance (non-dominant foot): ______

Tandem stance (non-dominant foot back): ______

And/or ______

Tandem gait: ______

Time (Best of 4 trials): ______ seconds

7 Coordination examination

Upper limb coordination

Which arm was tested: ______
Coordination score of 10

8 SAC Delayed Recall

Delayed recall score of 9
INSTRUCTIONS

Words in italics throughout the SCAT3 are the instructions given to the athlete by the tester.

Symptom Scale

“You should score yourself on the following symptoms, based on how you feel now.”

To be completed by the athlete. In situations where the symptom scale is being completed after exercise, it should still be done in a resting state, at least 10 minutes post-exercise.

For total number of symptoms, maximum possible is 12.

For symptom severity scores, 000 if blank in table, maximum possible is 22.5 x 6 = 135.

SAC

Immediate Memory

“I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order.”

Trails 2 & 3:

“I am going to repeat the same list again. Repeat as many words as you can remember in any order, even if you call the word wrong.”

Complete all 3 trials regardless of score until trial 10.2. Read the words at a rate of one per second.

Score 1 pt. for each correct response. Trail score equals sum across all 3 trials. Do not inform the athlete that delayed recall will be tested.

Concentration

Digits backward

“I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. If you make a mistake, for example, if I say 9, 8, 7, you would say 7, 8, 9.”

If correct, go to next string length. If incorrect, treat trial 2. One point possible for each string length. Stop after incorrect in both trails. The digit should be read and written in one second.

Months in reverse order

“Now I’ll tell the months of the year in reverse order. Start with the last month and go backwards, from December to January.”

November… Go ahead!”

1 pt. for entire sequence correct.

Delayed Recall

The delayed recall should be performed after completion of the Balance and Coordination Examination.

“Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order.”

Score 1 pt. for each correct response.

Balance Examination

Modified Balance Error Scoring System (BESS)™ testing

This balance testing is based on a modified version of the Balance Error Scoring System (BESS™). A stopwatch or watch with a second hand is required for this testing.

“I am now going to test your balance. Please take your shoes off, roll up your pant legs above the knees, place your feet shoulder-width apart, and remove any extra clothing. The test will consist of three twenty-second trials with different stances.”

(a) Double leg stance:

“The first stance is standing with your feet together with your hands on your hips and with your eyes closed. You should try to maintain stability in this position for 30 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes.”

(b) Single leg stance:

“If you were to kick a ball, which foot would you use? (This will be the dominant foot). Now stand on your non-dominant foot. The non-dominant leg should be held in approximately 30 degrees of hip flexion and 90 degrees of knee flexion. Again, you should try to maintain stability for 30 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of the position. If you stumble out of this position, open your eyes and return to the starting position and continue balancing. I will start timing when you are set and have closed your eyes.”

(c) Tandem stance:

“Now stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed over both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the starting position and continue balancing. I will start timing when you are set and have closed your eyes.”

Balance testing – types of errors

1. Hands lifted off the floor
2. Opening eyes
3. Step, stumble, or fall
4. Moving hips into > 20 degrees abduction
5. Lifting forefoot or heel
6. Exercising out of test position > 5 sec.

Each of the 20-second trials is scored by counting the errors, or deviations from the proper stance, accumulated by the athlete. The examiner will begin counting errors only after the individual has assumed the proper starting position. The Modified BESS™ is calculated by adding one error point for each deviation during the three 20-second tests. The maximum total number of errors for any single condition is 18. If a condition accumulates multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once subject is set. Subjects that are unable to maintain the testing posture for a maximum of five seconds at the start are assigned the highest possible score, ten, for that testing condition.

Options: For further assessment, the same 3 stances can be performed on a surface of medium density foam (eg., approximately 50 cm x 40 cm x 6 cm thick).

Tandem Gait:

Participants are instructed to stand with their feet together and to take a starting line (the test is best done with footwear removed). Then, they walk in a forward direction in quick and as accurately as possible along a straight wide (sports tape); 3 meters line with an alternate foot heel-toe-gait pattern ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. A total of 4 trials are done and the best time is returned. Athletes should complete the test in 15 seconds. Athletes fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or any object. In this case, the time is not recorded and the test repeated, 3-4 propping.

Coordination Examination

Upper limb coordination

Finger to nose (FTN) task:

“I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) extended (shoulder flexed to 90 degrees and elbow and fingers extended), positioning in front of you. When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose, and then return to the starting position quickly and accurately if possible.”

Scoring: 5 correct repetitions in ≤ 5 seconds = 1

Note for testers: if the test subject detours their nose, do not fail the test. If they do not repeat the repetitions, failure should be scored as 0.

References & Footnotes

1. This tool has been developed by a group of international experts at the 4th International Consensus Meeting on Concussion in Sport held in Zurich, Switzerland in November 2012. The full details of the conference outcome and the authors of the tool are published in The Consensus Statement on Concussion in Sport – 4th International Conference on Concussion in Sport held in Zurich, Switzerland, November 2012, British Journal of Sports Medicine, 2013; 47: 250-76.


ATHLETE INFORMATION

Any athlete suspected of having a concussion should be removed from play, and then seek medical evaluation.

Signs to watch for
Problems could arise over the first 24–48 hours. The athlete should not be left alone and must go to a hospital at once if they:
- Have a headache that gets worse
- Are very drowsy or can't be awakened
- Can't recognize people or places
- Have repeated vomiting
- Behave unusually or seem confused, are very irritable
- Have seizures (arms and legs jerk uncontrollably)
- Have weak or numb arms or legs
- Are unsteady on their feet, have slurred speech

Remember, it is better to be safe. Consult your doctor after a suspected concussion.

Return to play
Athletes should not be returned to play the same day of injury. When returning athletes to play, they should be medically cleared and then follow a stepwise supervised program, with stages of progression.

For example:

<table>
<thead>
<tr>
<th>Rehabilitation stage</th>
<th>Functional exercise at each stage of rehabilitation</th>
<th>Objective of each stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No activity</td>
<td>Physical and cognitive rest</td>
<td>Recovery</td>
</tr>
<tr>
<td>Light activity</td>
<td>Walking, swimming or stationary cycling. Keeping healthy. Keep movement gradual.</td>
<td>Increase heart rate</td>
</tr>
<tr>
<td>Sport specific</td>
<td>Skating, running, soccer drills in full. Add boredom activities</td>
<td>Add movement</td>
</tr>
<tr>
<td>Non-contact training drills</td>
<td>Preparation to more contact training drills. Eg passing drills in football and ice hockey. May start progressive resistance training</td>
<td>Learn, coordination, and physical fitness</td>
</tr>
<tr>
<td>Full contact practice</td>
<td>Including medical clearance participate in most contact activities</td>
<td>Return to play</td>
</tr>
</tbody>
</table>

There should be at least 24 hours (or longer) for each stage and if symptoms recur the athlete should rest and they resolve once again and then resume the program at the previous asymptomatic stage. Resistance training should only be added in the later stages.

If the athlete is symptomatic for more than 10 days, then consultation by a medical practitioner who is expert in the management of concussion is recommended.

Medical clearance should be given before return to play.

CONCUSSION INJURY ADVICE
(To be given to the person monitoring the concussed athlete)

This patient has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. Recovery time is variable across individuals and the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to the timeframe.

If you notice any change in behavior, vomiting, disorientation, worsening headache, double vision or excessive drowsiness, please contact your doctor or the nearest hospital emergency department immediately.

Other important points:
- Rest (physically and mentally), including training or playing sports until symptoms resolve and you are medically cleared
- No alcohol
- No prescription or non-prescription drugs without medical supervision.
  - Specifically:
    - No sleeping tablets
    - Do not use aspirin, anti-inflammatory medication or sedating pain killers
    - Do not drive until medically cleared
    - Do not train or play sport until medically cleared

Clinic phone number

Patient's name
Date/time of injury
Date/time of medical review
Treating physician

Contact details or stamp
Evaluate all signs and symptoms, ranking each on a scale of 0-6. Establish baseline score prior to the start of the athletic season. After a concussive injury, re-assess the athlete for each symptom. Add columns and compare to baseline score. Only consider return to activity if scores are comparable to baseline score. Continue testing every 2-3 days if symptoms do not resolve. Use with SAC and/or BESS to determine appropriate time for return to play.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>None</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blurred Vision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drowsiness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping More than Usual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easily Distracted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling “In a Fog”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling “Slowed Down”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unusually Emotional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of Consciousness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of Orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nauseous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervousness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality Changes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor Balance/Coordination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ringing in the Ears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeing Stars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity to Light</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity to Noise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep Disturbances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacant Stares/ Glassy Eyes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SYMPTOM SCORE:**
## Graduated Return to Play Protocols for Contact and Non-Contact Sports

### Contact Sports: (Football, Basketball, Ice Hockey, Lacrosse, Soccer)

### Non-Contact Sports: (Baseball, Crew, Cross Country, Field Hockey, Golf, Softball, Swimming/Diving, Tennis, Track & Field, Volleyball)

<table>
<thead>
<tr>
<th>Stage of Rehabilitation</th>
<th>Daily Activities</th>
<th>Recommended Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 1</strong> - asymptomatic 24hrs</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>
| **Stage 2** - HR= 30-40% max  
- Exercise in a quiet area | - Light aerobic activity (15min)  
- Sub-max isometric strengthening & gentle isotonic  
- ROM/stretching  
- Low level balance activities | - Stationary bike, UBE, treadmill walking  
- Quad/ham sets, UE-light hand weights, hand rows, LE- SLR, ankle bands  
- Passive stretching LE & UE  
- Romberg exercises, SL balance |
| **Stage 3** - HR= 40-60%  
- Exercise in gym areas  
- Use different equipment  
- Allow positional changes & head movement | - Light-mod. Aerobic activity (20-30min)  
- Light wt. exercises  
- Active stretching  
- Mod. Balance w. head movement | - Treadmill, stationary bike, elliptical, UBE  
- Light wt. strength exer, hand exer, wall squats, lunges, steps  
- Dynamic stretching  
- Romberg exer, core exer, SL balance |
| **Stage 4** - HR= 60-80%  
- Any environment exercise  
- Integrate strength, conditioning, balance/propiroceptive exercise | - Moderate-aggressive aerobic exer.  
- All strength exer @80% max  
- Active stretching  
- Agilites, plyometrics  
- Proprioceptive/dynamic balance  
- Non-contact sport specific training | - Treadmill (jogging), stationary bike, elliptical, UBE  
- Free weights, squats, dynamic strength exer.  
- Dynamic stretching,  
- Zig-zag runs, side shuffle  
- Box jumps, UE & core plyos.  
- High level balance on discs, trampoline, BOSU |
| **Stage 5** - HR= 80%max  
- Aggressive training in all areas  
- Limited contact activities | - Limited-contact training  
- Aggressive strength exer.  
- Impact activities/plyometrics  
- Sport specific activities w/ light contact | - Sport specific drills monitored by an AT to assure appropriate limited contact activities |
| **Stage 6** - Full exertion  
- Full contact/scrimmage as appropriate in a practice setting | - Resume full physical training activities w/ contact as appropriate  
- Continue aggressive strength & conditioning  
- Sport specific activities | - Sport specific drills monitored by an AT to assure appropriate limited contact activities |
College of the Holy Cross Home Care Instructions for Potentially Concussed Athlete

I believe that_____________________________ sustained a concussion on _______________. To make sure he/she recovers, please follow the following important recommendations:

1) Please remind____________________ to report to the Athletic Training Room on_______________ at _____________for a follow-up evaluation

2) Please **review the checklist below.** If any of these problems develop prior to his/her visit, please get the patient to a physician immediately or contact the local emergency medical system as necessary. If living in a Holy Cross dormitory, call Public Safety’s Emergency line: 508-793-2222 (x2222 from a school phone).
   - Deterioration of neurologic function
   - Decreasing level of consciousness
   - Decrease or irregularity in respirations (ability to breathe)
   - Decrease or irregularity in pulse
   - Unequal, dilated, or unreactive pupils
   - Signs or symptoms of associated injuries, spine or skull fracture, or bleeding
   - Mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation
   - Seizure activity

3) It is **OK** for the patient to do the following:
   - Use acetaminophen (Tylenol) for headaches
   - Use ice pack on head/neck as needed for comfort
   - Eat a light diet
   - Return to school, as permissible by team physician
   - Go to sleep
   - Rest (no strenuous activity or sports)

4) There is **NO need** for the patient to do the following:
   - Check eyes with flashlight
   - Wake up every hour
   - Test reflexes
   - Stay in bed

5) **DO NOT:**
   - Drink alcohol
   - Eat spicy foods
   - Take ibuprofen, Motrin, or aspirin unless otherwise instructed

6) It is **recommended** that you **do not:**
   - Spend a great amount of time texting/staring at your cell phone screen
   - Watch a lot of TV/DVDs
   - Listen to loud music
   - Spend a lot of time staring at your lap top/computer screen
   - Cram your school work into a small period of time

SIGNATURE OF AT:____________________________________________________DATE:_____________________________