





Limestone College Concussion Policy



Policy

The NCAA has developed guidelines stating the course of action to be following in the event that a sport-related concussion happens to a student-athlete. Treatment of sport-related concussions will follow these guidelines, and include additional steps put in place by the Limestone College Concussion Management Committee (Team). Student-athletes will receive concussion education materials and sign an injury reporting acknowledgment stating their understanding of the responsibility they have to inform the athletic training staff of concussion sign and symptoms. Each coaching staff member will sign an injury reporting acknowledgment form, and receive concussion education materials. Return to learn and return to activity will follow the steps outlined in the Limestone College Athletic Training Department Concussion Guidelines found in the policy and procedure manual.

Purpose

To allow a safe transition back to the classroom and a safe return to play for any student-athlete who has experienced concussion signs or symptoms. To follow the NCAA's guidelines for safe management and return to activity following concussion related episodes.

NCAA Recommendations

The NCAA Safeguards committee reaffirms its recommendation from December 2009 that an athlete exhibiting an injury that involves significant symptoms, long duration of symptoms or difficulty with memory function should not be allowed to return to play during the same day of competition and expands upon it by stating a student-athlete diagnosed with a concussion should not return to activity for the remainder of that day. Student-athletes that sustain a concussion outside their sport should be managed in the same manner as those sustained during sport activity. The student-athlete should be monitored for reoccurrence of symptoms both from physical exertion and also mental exertion, such as reading, phone texting, computer games, working on a computer, classwork, or taking a test.

Healthcare professionals should assume a concussion when unsure and waiting for final diagnosis. When in doubt, sit the athlete out. Institutions should ensure healthcare professionals attain continuing education on concussion evaluation and management annually. Structured and documented education of student-athletes and coaches is also recommended to improve the success of the recognition and referral components of a consistent management program.





Limestone College Department of Athletics Concussion Guidelines

The following policies and procedures have been instituted by the Limestone College Athletic Department in an effort to identify, diagnose, and manage and return student-athletes safely to the classroom and competition following a sport-related concussion.

I. Pre-Season Education:

- A. Concussion education information from the NCAA concussion fact sheets will be included in the Limestone College Athletic Training policy and procedure handbook. The handbook will be available in electronic copy for all coaches, athletic administrator offices, and student-athletes, and athletic trainers on the Limestone College Athletic Website. The electronic version of the policy and procedure handbook with also be available on the Limestone College athletics webpage under athletic training.
- B. Each student-athlete will sign a statement in which they accept responsibility for reporting their injuries (including concussion) to the Limestone College athletic training staff. At the beginning of each academic year, the athletics compliance officers and athletic training staff meet with all student-athletes for each sport sponsored by the institution. As part of the meeting, the concussion protocol is reviewed. During this meeting each student-athlete will sign an acknowledgment stating that they have received the information and are aware that they are responsible for reporting injuries (including concussion) to the athletic training staff. *Appendix A*
- C. All Limestone College coaches will read and sign the attached coaches' statement acknowledging that they have read and understand the NCAA Concussion Fact Sheet, will encourage their student-athletes to report any suspected injuries and illnesses related to concussion, and that they accept the responsibilities for referring any student-athlete to the athletic training staff suspected of sustaining a concussion. Furthermore, the coaches acknowledge they have read and understand the Limestone College Concussion Guidelines. Each individual will be required to sign that they have attended the athletic department meeting and received the concussion education information. The meeting will occur on an annual basis during the first two weeks of the fall semester. *Appendix B*
- D. All Limestone College Team Physicians (Primary care and Orthopedic), Athletic Trainers, and Undergraduate Athletic Training Students must read and sign the attached medical provider statement acknowledging that they will provide Limestone College student-athletes with the NCAA Concussion Fact Sheet and encourage their student-athletes to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussion. Furthermore, the staff acknowledges they have read and understands the Limestone College Concussion Policy. *Appendix C*
- E. The Director of Athletics and all Limestone College administrators must read and sign the attached administrators' statement acknowledging that they have read and understand the NCAA Concussion Fact Sheet, will encourage their student-athletes to report any suspected injuries and illnesses related to concussions, and that they accept the responsibility for referring any student-athlete to the medical staff suspected of sustaining a concussion. Furthermore, the administrator acknowledges they have read and understand the Limestone College Concussion Guidelines. *Appendix D*
- E. All faculty for the Day program and academic administrators will receive the NCAA concussion fact sheet and the classroom concussion assessment form at the annual Full faculty meeting in August. Each





of the faculty will be required to sign that they have attended the Full faculty meeting and received concussion education. *Appendix E*

II. Pre-Participation and Baseline Testing:

- A. All student-athletes will complete a medical history, including brain injury and concussion and will be assessed at pre-season clearance with the athletic training staff. *Appendix F*
- B. Any previous concussion will be documented and the medical records may be obtained for review by the Team physicians for that sport.
- C. A baseline assessment is recorded for each student-athlete prior to the first official team practice of the student-athletes first semester at Limestone College. All baseline tests will be administered with a certified athletic trainer at Limestone College.
- D. Baseline testing consists of three components listed below with the specific test used by Limestone College in italics. Testing will include the Post Concussive Symptom Score (PCSS) assessments, the Modified Balance Error Scoring System (BESS), and ImPACT, a neurocognitive computerized baseline test.
 - i. Symptoms checklist Post Concussive Symptom Score (PCSS). Appendix G
 - ii. Balance assessment *Modified Balance Error Score System (BESS)* only three stances on a firm surface will be tested. *Appendix H*
 - iii. Computerized Neuropsychological testing *Immediate Post-Concussion Assessment and Cognitive Testing* (*ImPACT*). *Appendix I*
- F. After a concussion injury, the baseline assessments are repeated at appropriate time intervals postinjury. Testing is conducted under the same conditions as the baseline whenever possible.
- G. ImPACT baseline assessments should be reviewed for abnormalities. Athletic trainers for each sport will alert their respective team physicians when incoming student-athlete ImPACT baselines are complete. The team physicians will review these results online. If a baseline has been flagged as invalid by the ImPACT program, the athletic trainer will alert the student-athlete to make arrangements to retake the test. All subsequent baseline ImPACT evaluations will be reviewed for validity in similar fashion.
- H. Clearance decisions for participation regarding concussion baseline testing and need for additional testing will be made by a Limestone College certified athletic trainer and the team physicians.

III. <u>Recognition and Diagnosis of Concussion and Post-Concussive Management:</u>

- A. Concussion and other brain injuries can be serious and potentially life threatening injuries in sports. Research indicates that these injuries can also have serious consequences later in life if not managed properly. In an effort to combat this injury the following concussion management guidelines will be used for student-athletes suspected of sustaining a concussion.
- B. A certified athletic trainer with the training in the diagnosis, treatment and initial management of acute concussions will be physically present and/or available at all athletic competitions at Limestone College.





- C. A certified athletic trainer with training in the diagnosis, treatment and initial management of acute concussions may be present and/or available for all team practices, weight room and conditioning activities.
- D. In the event of a suspected concussion occurs, Limestone College Athletic Trainers will:
 - i. Rule out cervical spine, skull fracture, intracranial bleed, or any other immediate life-threatening injuries.
 - ii. In the case any of these life-threatening injuries are suspected, the Athletic Trainer will immediately activate the Emergency Action Plan. The Athletic Training Staff will stabilize the student-athlete and monitor vital signs until Emergency Personnel arrives on the scene.
 - iii. Emergency Personnel will stabilize the student-athlete and will transport the student-athlete to the nearest medical facility for further evaluation and treatment.
- E. Perform a symptom assessment.

If the student-athlete displays any of the following symptoms, the Emergency Action Plan should be activated:

- i. Glasgow Coma Scale <13
- ii. Prolonged loss of consciousness
- iii. Focal neurological deficit
- iv. Repetitive emesis (vomiting)
- v. Persistently diminishing mental status
- F. A certified athletic trainers or team physician if present will perform a modified sideline cranial nerve assessment.
- G. A certified athletic trainers or team physician if present will perform a modified sideline BESS test.
- H. A certified athletic trainers or team physician if present will administer the Vestibular/Ocular Motor Screening (VOMS) on the sideline or locker room. *Appendix J*
- 1. As per NCAA guidelines, if a diagnosis of concussion is made, the athlete will not return to play that day.
- J. All student-athletes diagnosed with a suspected concussion will be evaluated by the Limestone College Team Physicians.
- K. it is important to keep a high index of suspicion for concussion. A concussed student-athlete may not present with obvious symptoms and may not realize they have a concussion. Other players may note confusion or poor execution of plays in a teammate and bring this to your attention. An athlete may also hide symptoms for fear of being removed from the contest.





- L. It should be recognized that concussion symptoms may be delayed following an impact and the concussion should be seen as an evolving injury in the acute stage.
- M. No student-athlete with severe or unstable symptoms or findings will be released from medical care until appropriate evaluation and follow-up is obtained. The student-athlete will receive serial monitoring for deterioration.
- N. Student-athletes and roommates (or similar second person) will be provided with verbal and written Concussion Take Home Instructions to guide care at home until seen for further follow-up in the athletic training room or the physician's office. **Appendix K**
- O. Arrangements will be made to have a roommate, teammate or similar person to monitor them overnight.
- P. The athletic trainer will notify the Limestone College Chair of The Concussion Management Committee within the Department of Athletics Academic Services that a student-athlete has sustained a possible head injury. The Academic Committee will arrange daily meetings with the student-athlete to assess accommodations that may be necessary.

IV. Repeat Evaluations:

- A. Repeat evaluations of the concussed student-athlete are performed in the athletic training facility or the team physician's office typically begin within 24 to 48 hours after injury.
- B. The PCSS, Modified BESS test (24-48 hours), **VOMS**, and ImPACT tests (when minimal symptoms are present) are repeated and compared to the baseline and initial evaluation scores to aid in the repeat evaluation.
- C. Repeat evaluations in addition to the initial 0-6 hours post injury testing are to be performed at the time-points listed below at a minimum and at the discretion of the athletic training staff.
 - i. PCSS, Modified BESS, VOMS, and ImPACT 24-48 hours post injury on a case-by-case bases.
 - ii. PCSS will be performed daily until the student-athlete is asymptomatic. Asymptomatic refers to scoring at or below baseline on the PCSS.
 - PCSS, VOMS, and ImPACT tests will be performed when the student-athlete has been cleared by Todd Morgan, team physician, and is allowed to begin Stage 5 of the Limestone College Concussion Return to Play Protocol.
 - iv. PCSS, VOMS, and ImPACT tests will be performed when the student-athlete is 6-months post injury. The ImPACT score will serve as the new baseline test for the student-athlete.
- D. Some of the time points and specific tests are recommended but may be altered on occasion to accommodate the needs and conditions of the student-athlete. Variances from the above time points and tests will be made at the discretion of the Limestone College athletic training staff.





- E. Any student-athlete experiencing prolonged recovery will be evaluated by the team physicians, and refer to consulting physicians.
- F. Monitor the student-athlete for recurrence of symptoms both for physical exertion and also mental exertion, such as reading, phone texting, computer games, working on a computer, classroom work, or taking a test.

V. Gradual Return-To-Play Protocol

Per the NCAA guidelines there are no same day return to play for a student-athlete diagnosed with a concussion.

- A. The Limestone College Return to Play Protocol is described in *Appendix L*
- B. The return to play protocol is an incremental protocol starting with minimal cognitive, autonomic, and vestibular activities in stage 1 and gradually progressing in a stepwise fashion to full return to competition over Stages 2-6.
- C. The student-athlete must be reassessed through evaluations described above before Stage 1 of the return to play progression can begin.
- D. The student-athlete should not attempt to progress from Stage 1 to Stage 2 of the return to play protocol if the student-athlete has any worsening of symptoms with Stage 1 activities. If worsening symptoms have occurred, a period of rest must pass before attempting Stage 1 activities again.
- E. If any worsening of symptoms occur while in Stage 2-6 of the Return to Play Protocol the student-athlete should drop back to the previous asymptomatic level and try to progress again after a period of rest has passed.
- F. The final step of the return to play protocol is to be cleared for participation by the Limestone College Team Physician.

While self-evident when following all of the protocol outlined in this document, it should be noted that at no time will a student-athlete be allowed to return to play if they still require academic adaptations related to their concussion.

VI. Return-to Learn Guidelines

Return to learn (RTL) is a parallel concept to return to play in that it is an individualized, stepwise program for successful reintegration into the classroom. As concussion and mild traumatic brain injury are covered under the Americans with Disabilities Act Amendments Act (ADAAA), our program, in working with the campus disabilities office, is compliant with ADAAA law.

As student-athletes return to school after a concussion, it is important to observe for the following: increased problems with attention or concentration, increased problems remembering or learning new information, longer time needed to complete tasks or assignments, difficulty organizing tasks or shifting between tasks, inappropriate





or impulsive behavior during class, greater irritability, less ability to cope with stress, more emotional, fatigue, difficulty in a stimulating environment including physical symptoms such as headache, nausea, or dizziness.

Once a student-athlete has sustained a concussion or mild traumatic brain injury, the Athletic Trainer will notify the chair (Dawn Ranns <u>dranns@limestone.edu</u>) of the Concussion Management Team, who will be the point person in notifying the student-athlete's professors.

The Concussion Management Team will be responsible for employing the protocols outlines in this document and are assigned respective roles in mild traumatic brain injury/concussion management.

A. The Concussion Management Team will include:

- i. **Team physicians** Todd Morgan General practitioner & Michael Hoenig Orthopedic Surgeon will have the final clearance on all concussions. They will supervise the stepwise progression and will serve as the final authority on the student-athletes return to learn and return to play.
- ii. Athletic Trainers Adam Ranns <u>aranns@limestone.edu</u> and the athletic training staff will recognize and treat mild traumatic brain injuries, will refer student-athletes to the team physicians if they show symptoms of concussion, and will update the Concussion Management Team as the student-athletes progresses in the stepwise approach.
- iii. Faculty Athletic Representative Dawn Ranns <u>dranns@limestone.edu</u> will act as the point person for the Concussion Management Team and will help navigate complex return to learn cases as needed.
- iv. **College Administrator** Mark Reger <u>mreger@limestone.edu</u> will act as a liaison for the Faculty Athletic Representative with all faculty in complex return to learn cases as needed.
- v. **Office of Disability Services Representative** Andrea Allison <u>aallison@liestone.edu</u> will help navigate complex return to learn cases that require prolonged classroom adjustments.
- vi. **School Nurse** Sandy Green sgreen@limestone.edu will recognize and treat mild traumatic brain injuries, will refer student-athletes to the team physicians if they show symptoms of concussion, and will contact the athletic training staff in a timely fashion when student-athletes are evaluated and seen in her office.
- vii. **School Councilor** Mary Campbell <u>mcampbell@limestone.edu</u> will help navigate complex return to learn cases that require prolonged symptoms as needed.
- viii. **Faculty Representatives**, two to three faculty members will assist the Faculty Athletic Representative when student-athletes have reported concussion in the adjustment and follow-up to the classroom.
- B. The student-athlete will be excused from all classroom activities the same day as the initial concussion, and may remain at home/dorm if light cognitive activity cannot be tolerated. Cognitive activity and symptoms will be evaluated with the Athletic Training Staff daily.





- 1. **No Class:** Student excused from class at least the same day as the initial concussion, and may remain at home/dorm if light cognitive activity cannot be tolerated.
- 2. **Immediate cognitive rest**: The student-athlete will be instructed in appropriate behaviors in order to maximize healing conditions for concussion. The student-athlete will be instructed to limit reading, "screen-time" (texting, video game play, and computer work) and any other cognitive activity that requires focus or concentration.
- 3. **Trial 10-30 minutes of light cognitive activity:** Trial 10-30 minutes of light cognitive activity will be administered to the student-athlete by a member of the Concussion Management Team. This may be reading or a math challenge. If the student-athlete is unable to tolerate this activity they should stay home from school. To move to the next stage the student-athlete needs to be able to sustain concentration for 30 minutes without symptoms exacerbating and the symptoms need to disappear with cognitive rest breaks.
- 4. **Return to partial day of school:** Return to partial day of school should include no more than 30-45 minutes of cognitive activity at one time, followed by 15 minutes of rest. Student-athletes may attend 1-3 classes per day with interspersed rest breaks. There should be a minimal expectation for productivity with no tests or homework. As student-athlete status continues to improve, being able to tolerate 4-5 hours of activity with breaks and no increase in symptoms, they may move to the next stage.
- 5. **Full day with maximum support:** Student-athletes would attend most classes, with 2-3 rest breaks throughout the day of 20-30 minutes. No tests or quizzes. Minimal homework of less than 60 minutes and minimal to moderate expectations for productivity. To move to the next stage they should be able to tolerate increased demands with only 1-2 breaks needed.
- 6. **Full day with moderate support:** Student-athletes would attend all classes with 1-2 rest breaks throughout the day of 20-30 minutes. May begin quizzes. Moderate homework up to 60-90 minutes and moderate expectations for productivity. At this time a schedule can be established for make-up work.
- 7. **Full day with minimal support:** Student-athletes would attend all classes with 0-1 rest breaks throughout the day of 20-30 minutes. They may begin modified tests with breaks and extra time. Homework of 90 minutes and maximum expectations for productivity.
- 8. **Full day with no support needed:** Student-athletes attend their full class schedule with no rest breaks. There are maximum expectations for productivity and begin to added make-up work.
- C. The Team Physicians for Limestone College may determine what classroom adjustments may be necessary based on their evaluation and the student-athlete's symptoms. Student-athletes will be provided this information in writing, which will be sent to the student-athlete's professors. *Appendix N*
- D. A designated member of the Concussion Management Team will notify all professors and will contact any other resources that may be necessary (e.g., learning specialists, office of disability services) in a manner that is compliant with ADAAA.





- i. The goal of the Concussion Management Team will be to assist the student-athlete to minimize cognitive stress while making an attempt to stay current academically. The Concussion Management Team shall make recommendations regarding the resumption of class work and class attendance in a gradual fashion for a period of up to two weeks. In the ongoing monitoring of the concussed student-athlete, the team physician, in conjunction with the Concussion Management Team, will make recommendations for continued or increased assistance from the Limestone College staff to assist with any prolonged return to learn issues that might be beyond the initial two week period post injury.
- E. The Concussion Management Team will assess PCSS daily until the student-athlete has no physical symptoms due to activity or cognitive symptoms at rest or during cognitive activity.

VIII Student-Athlete with Prolonged Symptoms:

- A. If a student-athlete is not able to complete the graduated return-to-play criteria, or if they have a recurrence of symptoms during the process, the student-athlete will follow up with the Team Physicians for Limestone College.
 - i. The Team Physicians will consider other possible diagnosis, including but not limited to post-concussion syndrome, sleep dysfunction, migraines, mood disorders, or ocular or vestibular dysfunction.
 - ii. The student-athlete will perform all necessary testing and will follow-up per Team Physicians orders.

Documentation:

The Limestone College athletic training staff will document the incident, evaluation, continued management, and clearance of the student-athlete with a concussion in the NexTT Injury Database.



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Academic Adjustment Request for the Student Classroom Concussion Assessment Form

Appendix A Student-Athletic Concussion Statement



Concussion and Injury Reporting Acknowledgement Student-Athlete Concussion Statement



I understand that it is my responsibility to report all injuries and illnesses to my athletic trainer and/or team physician.



I have read and understand the NCAA Concussion Fact Sheet.

After reading the NCAA Concussion Fact Sheet, I am aware of the following information (please initial beside each statement):

 A concussion is a brain injury, which I am responsible for reporting to my team physician or athletic trainer.

 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 injury.

 If I suspect a teammate has a concussion, I am responsible for reporting the injury to my team physician or athletic trainer.

 I will not return to play in a game or practice if I have received a blow to the head or body that results in concussion-related symptoms.

 Following concussion the brain needs time to heal. You are much more likely to have repeat concussion if you return to play before your symptoms resolve.

 In rare cases, repeat concussions can cause permanent brain damage, and even death.

Signature of Student-Athlete

Date

Printed name of Student-Athlete





Appendix B Coaches Concussion Statement



Concussion and Injury Reporting Acknowledgement Coaches Concussion Statement

I have read and understand the Limestone College Concussion Guidelines



I have read and understand the NCAA Concussion Fact Sheet.

After reading the NCAA Concussion Fact Sheet and reviewing the Limestone College Concussion Guidelines, I am aware of the following information (please initial beside each statement):

 A concussion is a brain injury, which student-athletes should report to the medical staff.
 A concussion can affect the student-athlete's 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 injury.
 I will not knowingly allow a student-athlete to return to play in a game or practice if he/she has received a blow to the head or body that results in concussion related symptoms.
 Student-athletes shall not return to play in a game or practice on the same day that they are suspected of having a concussion.
 If I suspect one of my student-athletes has a concussion, it is my responsibility to have the student-athlete see the medical staff.
 I will encourage my student-athletes to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussion.
 Following concussion the brain needs time to heal. Concussed student-athletes are much more likely to have a repeat concussion if they return to play before your symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death.
 I am aware that every first-year student-athlete participating on specified Limestone College teams must be baseline tested prior to participation in sport. These tests allow for comparison of symptoms, neurocognition and balance if the student-athlete were to become injured.
 I am aware that student-athletes diagnosed with a concussion will be assessed by the medical staff. Once symptoms have resolved the student-athlete will begin a graduated return to play guideline, following full recovery of neurocogintion and balance.

Signature of Coach

Date

Printed name of coach



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Academic Adjustment Request for the Student Classroom Concussion Assessment Form

Appendix C Medical Provider Concussion Statement



Concussion and Injury Reporting Acknowledgement Medical Provider Concussion Statement

I have read and understand the Limestone College Concussion Guidelines



I have read and understand the NCAA Concussion Fact Sheet.

After reading the NCAA Concussion Fact Sheet and reviewing the Limestone College Concussion Guidelines, I am aware of the following information (please initial beside each statement):

A concussion is a brain injury, which student-athletes should report to the medical staff.
 A concussion can affect the student-athlete's 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 injury.
 I will not knowingly allow a student-athlete to return to play in a game or practice if he/she has received a blow to the head or body that results in concussion related symptoms.
 Student-athletes shall not return to play in a game or practice on the same day that they are suspected of having a concussion.
 I will encourage my student-athletes to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussion.
 Following concussion the brain needs time to heal. Concussed student-athletes are much more likely to have a repeat concussion if they return to play before your symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death.
 I am aware that every first-year student-athlete participating on specified Limestone College teams must be baseline tested prior to participation in sport. These tests allow for comparison of symptoms, neurocognition and balance if the student-athlete were to become injured.
 I am aware that student-athletes diagnosed with a concussion will be assessed by the medical staff. Once symptoms have resolved the student-athlete will begin a graduated return to play guideline, following full recovery of neurocogintion and balance.

Signature of Medical Provider

Date



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Academic Adjustment Request for the Student Classroom Concussion Assessment Form

Appendix D Administrator Concussion Statement



Concussion and Injury Reporting Acknowledgement Administrators Concussion Statement

I have read and understand the Limestone College Concussion Guidelines



I have read and understand the NCAA Concussion Fact Sheet.

After reading the NCAA Concussion Fact Sheet and reviewing the Limestone College Concussion Guidelines, I am aware of the following information (please initial beside each statement):

 A concussion is a brain injury, which student-athletes should report to the medical staff.
 A concussion can affect the student-athlete's 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 injury.
 I will not knowingly allow a student-athlete to return to play in a game or practice if he/she has received a blow to the head or body that results in concussion related symptoms.
 Student-athletes shall not return to play in a game or practice on the same day that they are suspected of having a concussion.
 If I suspect one of my student-athletes has a concussion, it is my responsibility to have the student-athlete see the medical staff.
 I will encourage my student-athletes to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussion.
 Following concussion the brain needs time to heal. Concussed student-athletes are much more likely to have a repeat concussion if they return to play before your symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death.
 I am aware that every first-year student-athlete participating on specified Limestone College teams must be baseline tested prior to participation in sport. These tests allow for comparison of symptoms, neurocognition and balance if the student-athlete were to become injured.
 I am aware that student-athletes diagnosed with a concussion will be assessed by the medical staff. Once symptoms have resolved the student-athlete will begin a graduated return to play guideline, following full recovery of neurocogintion and balance.





Print Name of Administrator





Appendix E Faculty Concussion Statement



Concussion and Injury Reporting Acknowledgement Faculty Concussion Statement



I have completed the Faculty Concussion Presentation

After completing the Concussion presentation at the Faculty meeting and reviewing the Limestone College Concussion Guidelines, I am aware of the following information (please initial beside each statement):

 A concussion is a brain injury, which student should report to the medical staff.
 A concussion can affect the student's ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance.
 A concussion cannot be seen, but symptoms might occur right away. Other symptoms can show up hours or days after injury.
 I will not knowingly allow a student to complete tasks in the classroom that will increase symptoms of concussion if he/she has received a blow to the head or body that results in a concussion.
 Students shall not return to the classroom on the same day that they are suspected of having a concussion.
 If a student has received a concussion all communication will occur with the Concussion Management Team. All faculty should contact Dawn Ranns FAR with any questions related to a student's condition and will be updated with initial notifications, accommodates for the classroom, future contacts persons, updated changes, and discharge for full classroom clearance.
 If I suspect one of my students has a concussion, it is my responsibility to inform the Concussion Management Team.
 I will encourage my student to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussion.
 Following concussion the brain needs time to heal. Concussed students are much more likely to have a repeat concussion if they return to activity before symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death.
 I am aware that every first-year student-athlete participating on specified Limestone College teams must be baseline tested prior to participation in sport. These tests allow for comparison of symptoms, neurocognition and balance if the student-athlete were to become injured.
 I am aware that students diagnosed with a concussion will be assessed by the medical staff. The Concussion Management Team will work together to begin the individual step wise return to learn of the student. Once the





Date_____

student-athlete is cleared by the medical staff he/she will begin the stepwise return to play procedure. No student shall return to full play before they have been cleared for the classroom with minimal to no accommodations.

Signature of Faculty	
Print Faculty Name	





Appendix F: Limestone College Concussion History Form

Limestone College Concussion History Form

Name: LC Student ID #: How many years have you played this sport?						
Education History – please circle						
Years of education completed (excluding kindergarten):	12	13	14	Other:		
Received speech therapy		Yes	No			
Attended special education classes		Yes	No			
Repeated one or more years of school		Yes	No			
Diagnosed with a learning disability		Yes	No			
Problems with ADHD or Hyperactivity		Yes	No			
Handedness	Right	Left	Ambid	extrous		
Native language	English		Spanis	h	Other:	

Contact Sport History

List and provide the contact sports that you have played previously and for how many years:

Commercian History			
Concussion History:			
Number of times diagnosed with a concussion:			
Dates of each concussion:			
Number of concussions which resulted in loss of consciousness:	:		
Number of concussions which resulted in confusion:			
Number of concussions which resulted in difficulty remembering	g events after	the injury:	
Number of concussions which resulted in difficulty rememberin			
Total games missed as a result of all the concussions combined:			
6			
Treatment History – please circle			
Treatment for headaches by a physician	Yes	No	
Treatments for migraines headaches by a physician	Yes	No	
Treatment for epilepsy/seizures	Yes	No	
History of brain surgery	Yes	No	
History of meningitis	Yes	No	
Treatment for substance/alcohol abuse	Yes	No	
Treatment for psychiatric conditions (depression/anxiety)	Yes	No	
Diagnosis History:			
Diagnosed with ADD/ADHD	Yes	No	
Diagnosed with dyslexia	Yes	No	
Diagnosed with autism	Yes	No	
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Adapted from ImPACT demographic section





Appendix G Post Concussive Symptom Scale (PCSS)

Post Concussive Symptom Score (PCSS) For more information about ImPACT call 877-646-7991 or visit www.impacttest.com VALID | RELIABLE | SAFE PATIENT'S NAME: SEVERITY RATING **POST-CONCUSSION SYMPTOM SCALE** None Mild Moderate Severe Date: Date: Date: Date: Date: Date: Symptoms Date: Headache Nausea Vomiting **Balance Problems** Dizziness (spinning or movement sensation) Lightheadedness Fatigue λî μ Trouble falling asleep <u>S</u> Sleeping more than usual Sleeping less than usual of this Drowsiness part Sensitivity to light ood. No ŝ Sensitivity to noise Irritability rights Sadness Alle Fori Nervous/Anxious Inc. Feeling more emotional Numbness or tingling Applica Feeling slowed down ight © 1996-2011 by ImPACT / written permission of ImPACT / Feeling like "in a fog" Difficulty concentrating Difficulty remembering Visual problems P Other Copyright C prior written ImPACT ¹⁴ a Total





Appendix H Modified Balance Error Scoring System (BESS)

Modified Balance Error Scoring System (BESS) Procedures-

Athlete Position

- Shoes off
- Roll pant legs above ankles
- Feet narrowly together
- Hands on iliac crests
- Eyes closed

Test Procedures/Patient Instructions-

- Test begins when the patient closes his/her eyes
- Patient is instructed to make any necessary adjustments in the event that they lost their balance and return to the testing position as quickly as possible
- Test # 1 Double leg stance (feet together)
- Test # 2 Single leg stance (non-dominant foot; dominant foot should be bent to 90 degrees)
- Test # 3 Tandem stance (non-dominant foot in the rear; weight evenly distributed)
- 20 seconds per test
- Each test is performed on a firm surface (grass, turf, court, etc.)

Balance Errors-

- Hands lift off the iliac crests
- Opening eyes
- Step, stumble, or fall
- Moving hip into more than 30 degrees of flexion or abduction
- Lifting forefoot or heel
- Remaining out of testing position for more than five (5) seconds

Modified BESS Scoring

• The number of balance errors (1 point per error) on each of the three (3) tests are added together for a total modified BESS score.

Athlete Name		
Examiner		
Date		
Score Card # ERRORS		Firm Surface
	Double Leg Stance	
	Feet together	
	Single Leg Stance	
	Non-Dominant foot	
	Tandem Stance	
	Non-Dominant foot in back	
	Sub-Totals	
	Total Score:	





Appendix I Immediate Post-Concussion Assessment and Cognitive Testing ImPACT testing

Impact Testing

ImPACT(Immediate Post-Concussion Assessment and Cognitive Testing) is the only FDA concussion assessment tool for ages 5-59. The tool is a computerized concussion management program, designed to provide a guideline for concussion evaluation, for licensed healthcare provider to diagnose concussion, inform treatment, and consider if/when an athlete may return to play. The ImPACT test format consists of baseline and post-injury assessments, for patients aged 12-59 years.

- Baseline test Before a sports season starts, each student-athlete will take a baseline test, to establish how one's brain functions in normal, everyday circumstances. This assessment takes approximately 25 minutes to complete and is then stored in the company's data server, which is compliant with the U.S. Health Insurance Portability and Accountability Act (HIPPA)
- Post-injury test In the event a student-athlete sustains a head injury and is at-risk for concussion, a post-injury test will be administered; the results will be compared to the baseline scores and/or normative data scores by a licensed health care provider who will determine whether the individual has sustained a concussion and if/when the injured person may return-to-play. If a student-athlete scores substantially lower on the post-injury test than the baseline score, the student-athlete will not be allowed to return-to-play until the post-injury test scores return to the level of one's baseline.

This program evaluates multiple aspects of neuropsychological function, including: health history; inventory of concussion-related symptoms such as headache and mental fogginess; attention span, motor processing speed, reaction time, working memory, non-verbal problem solving; and impulse control.

• YouTube video by Impact on Concussion https://youtu.be/qujhauOwNBQ





Appendix J Vestibular/Ocular –Motor Screening (VOMS) for Concussion

Vestibular/Ocular -Motor Screening (VOMS) for Concussion

Instructions:

Baseline Symptoms: Record: Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale prior to beginning screening.

Memory Immediate Recall: Choose three non-related words to give to the athletes to repeat back and remember. Ex: Tractor, Necklace, Carrot. Score 0-3 on how many words they can repeat back. Record: Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Pursuits H-Test: Stand 3 feet away from athlete. Athlete keeps head still during the test. Examiner slowly and steadily moves fingertip in an "H" motion within the field of vision 2 times. Record: Nystagmus, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Saccades Horizontal: Stand 3 feet away from athlete. Examiner holds two fingertips horizontally about 1 foot apart. Athlete keeps head still during the test. Instruct athlete to move their eyes as quickly as possible from point to point for 20 seconds. Record: Nystagmus, Eyes over or under shoot fingers, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Saccades Vertical: Stand 3 feet away from athlete. Examiner holds two fingertips vertically about 1 foot apart. Athlete keeps head still during the test. Instruct athlete to move their eyes as quickly as possible from point to point for 20 seconds. Record: Nystagmus, Eyes over or under shoot fingers, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

VOR Horizontal: Stand 3 feet away from athlete. Athlete keeps eyes fixated on a fingertip. Athlete moves head back and forth in a horizontal motion for 20 seconds. Record: Nystagmus, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

VOR Vertical: Stand 3 feet away from athlete. Athlete keeps eyes fixated on a fingertip. Athlete moves head back and forth in a vertical motion for 20 seconds. Record: Nystagmus, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Convergence: Measure the ability to view a near target without double vision. Athlete will focus on a small object about 14pt font (writing on a pen). Examiner will slowly move the object closer to the patient's eyes. Patient will indicate to the examiner when a single object becomes 2 (double vision). Record: Nystagmus, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Visual Motion Sensitivity Test: The patient holds arm outstretched and focuses on their thumb. Maintaining focus on their thumb, the patient rotates side to side, together as a unit, their head, eyes and trunk for 20 seconds. Record: Nystagmus, Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.

Memory Delayed Recall: Ask athlete to remember and repeat the three words that were given to them at beginning of test. Record 0-3 on how many words they can repeat back. Record: Headache, Dizziness, Blurred Vision, Nausea & Fogginess on 0-10 scale.



Blurred



		Headache	Dizziness	Vision	Fogginess	Nausea	
Test		1-10	1-10	1-10	1-10	1-10	Comments
Baseline Symptoms							
Memory: Immediate							
Recall	÷						
	Nystagmus						
Pursuits: H-Test	Y/N						
	Nystagmus						
	Y/N; Eyes						
	over or under						
	shoot fingers						
Saccades: Horizontal	Y/N						
	Nystagmus						
	Y/N; Eyes						
	over or under						
	shoot fingers						
Saccades: Vertical	Y/N						
	Nystagmus						
VOR: Horizontal	Y/N						
	Nystagmus						
VOR: Vertical	Y/N						
Convergence	>6 cm Y/N						
Visual Motion							
Sensitivity Test							
Memory: Delayed							
Recall	,,						

VOMS Concussion Sideline Test





Appendix K **Home Instructions for Concussion**

Home Instructions for Concussion

I believe that	sustained a concussion on	To make sure that
he/she recovers, please read the following important	nt recommendations below.	Additionally, please remind them to
report to the athletic training room on	at	_ for a follow up evaluation.

Please review the following list of symptoms. If any of these develop prior to the scheduled follow up visit with the athletic trainer, please contact the athletic trainer at the cell number below, a physician, or local EMS:

- Any decrease in level of consciousness •
- Any increase in the severity of symptoms •
- Any increase in the number of symptoms •
- Any weakness or numbness in the arms and legs
- Any difficulty with facial expressions, numbness of the face, hearing, vision, & balance
- Neck pain •
- Seizure
- Vomiting

If none of the symptoms listed above occur, please follow the instructions below:

- You may use acetaminophen (Tylenol) for a headache but do not use any other medication unless instructed to ٠ do so.
- Use icepacks on the head and neck for comfort
- Eat a light diet and nothing that might upset your stomach •
- Do not drink alcohol or eat/drink spicy foods or beverages •
- Do not return to the classroom activities on the day of the concussion.

Emergency Contact Information:

Athletic Trainer: ______ Phone: ______

Make sure the athletic trainer has your cell phone and knows how to contact you overnight if needed.





Appendix L

Return to Play Protocol

Graduated Return-to-Play Protocol Taken from the Berlin 2016 Consensus Statement on Concussion in Sports

Stage	Aim	Activity	Goal of each Step
1	Symptom- limited activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work/school activities
2	Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training.	Increase heart rate
3	Sport-specific exercise	Running or skating drills. No head impact activities.	Add movement
4	Non-contact training drills	Harder training drills, eg, passing drills. May start progressive resistance training.	Exercise, coordination and increased thinking.
5	Full contact practice	Following medical clearance and evaluation of current ImPACT Test results the student-athlete may participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play.	

• There should be at least 24 hours (or longer) for each step of the progression. If any symptoms worsen during exercise, the athlete should go back to the previous step. Resistance training should be added only in the later stages (stage 3 or 4 at the earliest). If symptoms are persistent (eg, more than 10–14 days in adults or more than 1 month in children), the athlete should be referred to a healthcare professional who is an expert in the management of concussion.





Appendix M

Return to Learn Letter to the Faculty

Concussion or Mild Traumatic Brian Injury (MTBI) or *comotio cerebri* is defined as a complex pathophysiologic process affecting the brain's function. It is induced by traumatic biomechanical forces after impact to the head, face neck, and body that leads to a functional, not structural, disturbance which may or may not involve loss of consciousness. 80-90% of concussions resolves spontaneously within 7-10 days, follow a sequential course towards resolution, however, some concussions take a longer time to resolve.

Students are responsible for reporting their injuries to the athletic trainers or school nurse, including signs any symptoms of concussion. Symptoms can be broken down into these four categories and may be present at different stages of the healing process.

Cognitive	Physical	Emotional	Sleep
Difficulty thinking clearly	Headache fuzzy or blurred vision	Irritability	Sleeping more than usual
Feeling slowed down	Nausea vomiting (early on) Dizziness	Sadness	Sleeping less than usual
Difficulty concentrating	Sensitivity to noise and light/ Balance problems	More emotional	Trouble falling asleep
Difficulty remembering new information	Feeling tired and having no energy	Nervousness and anxiety	

After suffering a concussion, there is a brain energy crisis. Due to this crisis, cognitive rest is necessary to enhance the recovery process. A student's academic schedule may take some modifications in the first one to two weeks following a concussion. Please work with the student and the Concussion Management Team when navigating return to learn activities. The Concussion Management Team will also help to navigate more complex cases of prolonged return to learn. If cases are prolonged, Andrea Allison in Disability Services will be involved and classroom accommodations will be made in compliance with ADAAA as needed.

Any consideration you may provide academically during this time would be greatly appreciated. If you have any questions or concerns, please do not hesitate to contact Dawn Ranns and the Concussion Management Team. Thank you for your time and consideration during this process.

Dawn Ranns Assistance Professor Health Science Department Faculty Athletic Representative 864-488-4536 dranns@limestone.edu





Appendix N

Name:

Date:_____ Time:_ ____

Instructions to the student: Read the symptoms in the left-hand column. For each symptom, circle one answer in the center column. Be honest and do not skip any questions. Then, answer the question at the bottom of this page. *Please return this form to Dawn Ranns with the Concussion Management Team*

Symptoms	Scale of 0-6 1-2 Mild/3-4 Moderate/5-6 Sever	Accommodations		
Headache	0	Mild/moderate: Allow classroom participation If severe refer to athletic trainer. Avoid symptom triggers		
Nausea/Vomiting	0	Mild/moderate: Allow classroom participation If severe refer to athletic trainer. Avoid symptom triggers		
Dizziness/Lightheadedness/balance problems	0	Mild/moderate: Allow classroom participation If severe refer to athletic trainer. Avoid symptom triggers		
Fatigue	0	Mild/moderate: Allow classroom participation If severe refer to athletic trainer. Avoid symptom triggers		
Sensitivity to light	0	Move away from windows Dim lights, draw shades Allow sunglasses/hat in class		
Sensitivity to noise	0	Remove from loud environments Reduce classroom noise Avoid headphones and loud music		
Feeling mentally foggy	0	Give breaks between tasks Simplify tasks		
Difficulty concentrating on schoolwork	0	Shorten task duration Give breaks between tasks		
Difficulty paying attention to teacher	0	Front room seating No test, quizzes or homework		
Difficulty remembering	0	Provide class notes Provide memory aids Use alternate testing methods		
Difficulty staying organized	0	Use agendas/planner for schedule and due dates Use "to-do" lists and checklists.		
Emotions: Irritability/Sadness/nervousness anxious/Feeling more emotional	0/0/0/0			
Trouble falling asleep/Sleeping more than normal/less than normal	0/0/0			





The emphasis in managing a concussed student in the classroom is to allow the student to participate and learn **without worsening symptoms**

Below will list the stage that the student is currently in with regards to the Return to Learn Policy and what they are capable of doing in the classroom. The stage and accommodation to the classroom will be adjusted as the student increases or decreases cognitive symptoms. Please contact Dawn Ranns with any questions that you may have.

Blank was assessed by the CMT today, January 16, 2019 at 3:25 PM. Blank is experiencing minimal concussion symptoms of headache, fatigue, drowsiness, sensitivity to light, and irritability.

Blank will return to classes today 1.17.19 in State 5 of the RTL policy. Stage 5 is a full day of classes with maximum support. The student will be allowed a 15-20 minute break between his classes. There should be no quizzes or test given during Stage 5 of the RTL policy and will attempt to complete no more than 60 minutes of homework each day. Blank has an appointment with the CMT for Friday January 18, at to re-assess his symptoms. Thank you very much for your time.





Appendix O

Concussion Return-To-Learn Recommendations

(To be completed by Licensed Physician (MD/DO) or an AT, PA, NP under treating physician's supervision)

Name of the Student:	DOB:	Date:	

Following a concussion, most individuals typically need some degree of cognitive and physical rest to facilitate and expedite recovery. Activities such as reading, watching TV or movies, playing video games, working/playing on the computer and/or texting require cognitive effort and can worsen symptoms during the acute period after concussion. Navigating academic requirements and a school setting present a challenge to a recently concussed student. A Return-To-Learn policy facilitates a gradual progression of cognitive demand for students in a learning environment. Healthcare providers should consider whether academic and school modifications may help expedite recovery and lower symptom burden. It is important to the review academic/school situation for each student and identify educational accommodations that may be beneficial.

Educational accommodations that may be helpful are listed below.

Return to school with the following support:

Length of Day
Shortened day. Recommended Hours per day until re-evaluation or (date)
\leq 4 hours per day in class (consider altering days of morning/afternoon classes to maximize class participation).
Shortened classes (i.e. rest breaks during classes). Maximum class length of minutes.
Use class as a study hall in a quiet environment.
Check for the return of symptoms when doing activities that require a lot of attention or concentration.
Extra Time
Allow extra time to complete coursework/assignments and tests.
Take rest breaks during the day as needed (particularly if symptoms recur).
Homework
Lesson homework by% per class, or minutes/class; or to a maximum of minutes nightly, no more than
minutes continuous.
Testing
No significant classroom or standardized testing at this time, as this does not reflect the patient's true abilities.
Limited classroom testing allowed. No more than Questions and/or total time.
Student is able to take quizzes or tests but no bubble sheets.
Student able to take test but should be allowed extra time to complete.
Limit test and quiz taking to no more than one per day.
May resume regular test taking.
Vision
Lesson screen time (SMART board, computer, videos, etc.) to a maximum minutes per class AND no more than
continuous minutes (with 15-20 minute break in between). This includes reading notes off screens.
Print class notes and online assignments (14 font or larger recommended) to allow to keep up with online work.
Allow students to wear sunglasses or hat with bill worn forward to reduce light exposure.
Environment

- Provide alternative setting during active physical education or theater courses. (Outside of that room)
- Patient should not attend athletic practice
- Patient is allowed to be present but not participate in practice, limited to ____ hours.





Additional Recommendations: Physician Name Physician Signature:





References

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