

UNIVERSITY OF ARIZONA SPORTS MEDICINE
Concussion / Mild Traumatic Brain Injury (MTBI) Guidelines

The University of Arizona (UA) Sports Medicine Department recognizes that concussions/mild traumatic brain injuries (MTBI) pose a significant risk for all student-athlete (S-A). The purpose of this document is to provide Guidelines in support of UA's commitment. It applies to all medical staff, coaches, academic staff, staff of Intercollegiate Athletics, and S-As. UA's management plan for concussions includes components regarding education, acute injury management for suspected concussions, treatment and protocols for return-to-learn/return-to-play decisions. A multidisciplinary team will be utilized to treat S-A with concussions. This team includes the team physician and athletic trainer. The team could also include but not limited to psychologist, neuropsychologist, neuro-optometrist, neurologist, vestibular therapist, psychiatrist and academic specialists.

Education:

All S-As, coaches, athletic administrators and medical staff will receive education/training appropriate to their position. NCAA concussion fact sheets will be available for each to every S-A. All coaches will receive education on concussion during their annual "Emergency Medicine Training" (see appendix for objectives of training). The Associate Director of Athletics of C.A.T.S. Medical Services will review this policy with athletic administrators and medical staff on an annual basis and make changes as appropriate. Medical staff will receive annual training on concussion symptoms/management, emergency action plans for our venues, and common/serious medical conditions. All participants will sign and date an acknowledgement of having received and understood the concussion material.

Student-athletes must complete a pre-participation physical before participation in any organized athletic activity including workouts and practice for the UA. Elements of that process related to concussion include (but are not limited to):

- Receiving education and educational materials about concussions (including but not limited to NCAA Concussion Education Fact Sheet)
- Receive education on the importance of safety first approach, proper technique and taking the head out of contact for applicable sports.
- A review of their history of concussions and head injuries including concussion symptom evaluation
- Confirmation of the SA's responsibility to report injuries and illnesses (including signs and symptoms of concussions) including their signature accepting that responsibility
- Baseline computerized neuropsychological testing (including baseline symptom score) using the ImPACT program, C3 Logix or equivalent.
- Vestibulospinal (Balance) and/or Vestibulocular evaluation (Utilizing BioDex, BESS, VOMS, C3 Logix or other applicable assessment)
- Team physician clearance and/or identification of the need for additional consultation or testing

Acute injury management for suspected concussion:

At the time of the injury or at any point after a mechanism that could cause a concussion, the S-A and/or any coaches who observed the mechanism are required to report to the medical staff ASAP if any of the following symptoms are present.

Physical symptoms: Headaches, nausea/vomiting, fatigue, visual problems, balance problems, sensitivity to light, sensitivity to noise, numbness/tingling, dizziness

Cognitive symptoms: Loss of consciousness, feeling mentally foggy, problems concentrating, problems remembering, feeling more slowed down

Emotional symptoms: Irritability, sadness, feeling more emotional, nervousness

Sleep symptoms: Drowsiness, sleeping more than usual, sleeping less than usual, trouble falling asleep

An S-A reporting any of the above symptoms shall be held out of all activity until evaluated by a UA Team Physician or athletic trainer (medical staff). Such individual shall operate within their scope of

professional practice while evaluating and treating a patient with a suspected concussion. The medical staff member will perform an appropriate evaluation to determine if a concussion/MTBI is present. If such a determination is made, the medical staff member shall direct that the S-A continue to be withheld from practice, competition and work outs. The medical staff member will also assess whether it is necessary for the S-A to be excused from going to class, meetings and travel for the remainder of that day. The medical provider's decision to withhold an S-A from activities is final and may not be challenged.

The initial evaluation will include a symptom assessment, physical and neurologic exam (including cognitive assessment) and balance exam. Other injuries including cervical spine trauma, skull fracture and intracranial bleed will be considered. Medical staff will initiate transportation for the S-A by emergency medical services (EMS) for further medical care should any of the following be present:

- Glasgow Coma Scale < 13
- Prolonged loss of consciousness
- A focal neurological deficit suggesting intracranial trauma
- Repetitive emesis
- Persistently diminished/worsening mental status or other worsening neurological signs/symptoms
- Spine injury or suspected spine injury

Following the initial evaluation, determination will be made concerning: the severity of the injury, need for emergent or urgent transportation, further medical evaluation or treatment, frequency and duration of serial evaluations will be made. No S-A will be able to participate in workout, practices, or competitions until cleared by the Team Physician or his/her designee.

Medical staff responsibilities at the time of diagnosis:

1. S-A education: Injured student-athlete will be verbally informed of concussion symptoms, factors that make symptoms worse, activity restrictions and warning signs for more serious symptoms or signs that would require emergent treatment warranting a 911 call should those symptoms/signs be observed. The S-A will be given a post-concussion education sheet. (See appendix)
2. Notification and education of person staying with injured student-athlete: Injured S-As should be discouraged from staying alone following a head injury. A post-concussion education sheet will be shared with the person staying with the S-A.
3. Notification of the Team Physician or their designee: Any member of the medical staff shall notify the Team Physician of the injury, evaluation, and plan for the S-A.

Each of these steps will be documented by a member of the medical staff.

Treatment of concussion and return-to-play decisions:

The S-A will be evaluated by a team physician or designee at intervals while symptomatic and prior to return to any sports participation including exercise, weight training, individual workouts, practice or competition. Evaluations may include but are not limited to physical examinations, review of symptoms at rest/exertion, exercise tolerance, balance assessment, psychological assessments, reaction time testing, vestibulo-ocular, oculomotor assessment as well as review of results of neuropsychological testing (ImPACT program and/or C3 Logix, with comparison to their baseline results). The team physician and/or other members of the multi-disciplinary team will take special consideration during the re-evaluation of the patient who is experiencing changing or continuing concussion symptoms that persist for more than two weeks.

Initially, the concussed S-A will have limited physical and cognitive activity until symptoms improve. An individualized patient-specific progression plan back into sport will be established. This progression may include the following steps as appropriate provided they do not worsen or provoke new symptoms:

- Light aerobic exercise without resistance training
- Sport-specific exercise and activity without head impact
- Non-contact practice with progressive resistance training
- Unrestricted training
- Return to competition

A final exertion exercise stress test, vestibular/ocular stress test along with a neuropsychological exam will be conducted at the discretion of the team physician or designee. Such tests and any resulting evaluations and recommendations will be patient and sport-specific. Each step of the progression and testing will be documented along with the patient's reaction to the activity.

Ordering additional testing, evaluation and neuropsychologist consultation will be at the discretion of the Team Physician or designee. During the recovery process, the team physician, psychologist and athletic trainer will assess and monitor for potential problems including but not limited to:

- Post-concussion syndrome
- Sleep dysfunction
- Migraine or other headache disorders
- Mood disorders such as anxiety and depression
- Ocular or vestibular dysfunction
- Illicit drug use
- Academic difficulty

Return-to-learn:

In the event an S-A is diagnosed with a concussion, academic accommodations will be facilitated as appropriate. The team academic advisor will be notified of the S-A's concussion (if the patient allows the release of this protected medical information) and possible limitations in the classroom. The medical and academic teams will assist the S-A by providing documentation explaining the S-A's injury that can be disseminated to S-A's instructors and other academic professionals as needed.

The medical staff will evaluate the S-A's need to be excused from tutoring, study table and classroom work on the day of the injury. An individualized learning plan for the S-A that may include staying at home if light cognitive activity cannot be tolerated as well as a schedule for gradual return to classroom participation and studying as tolerated. Staff will also assess the most optimal environment for the S-A learning without exacerbating symptoms. That may or may not be the patient's "home". Modification of academic commitments including class and tutoring schedules will be made as directed by the medical staff in consultation with the academic advisor or designee. Re-evaluation by the medical staff will occur if concussion symptoms worsen with academic challenges.

In the event of a more complex case or prolonged return-to-learn, a multi-disciplinary team will be identified to assist the student-athlete. This team may include, but is not limited to, a team physician, athletic trainer, psychologist, neuropsychologist consultant, neurologist, faculty athletic representative, academic counselor, course instructors, Dean of Students representative, college administrators, Disability Resource Center representative, SALT Center and coaches. Additional campus resources will be identified as appropriate.

Reducing Exposure to Head Trauma:

The UA Football Program follows the Football Practice Guidelines set for the PAC 12 Conference. For all other sports the UA follows all practice guidelines set forth by NCAA and PAC 12 Conference. All coaches shall put an emphasis on proper technique, limited head contact or taking the head out of contact,

and a safety first approach. Medical staff may engage in record review of injuries to assess how and when they occurred and may use de-identified information to educate coaches, S-As and administrations on ways to prevent injuries including but not limited to concussions. The medical staff will also participate in Quality Assurance/Quality Improvement programs as they relate to injury prevention and concussion management.

Independent Medical Care:

Medical staff decisions regarding S-A injury management and return-to-play decisions may not be overridden by coaching or other ICA staff. Medical staff will have unchallengeable authority to stop any UA athletic activity deemed unsafe. While S-As may pursue additional or independent medical care at their own expense and while any such input provided will be considered by UA medical staff, return to UA athletic participation decisions reside solely with the UA Team Physician or his/her designee.

To help ensure independent medical care is delivered to S-As, UA Team Physicians are not supervised by the Athletics Department. The Athletics Department has a University Memorandum of Understanding with Campus Health Services (CHS) to provide Team Physicians to S-As. The team physicians are CHS employees who report to and are evaluated by CHS's Medical Director. While athletic trainers (AT) report thru the Athletics Department and ultimately to the Athletics Director, they are subject to Arizona state law and must work under direction of a physician, in this case the UA Team Physician. A yearly evaluation of medical care (see appendix) delivered to ensure appropriate medical care will be conducted by a team physician before signing the Arizona State required AT/Physician written agreement (see appendix).

NOTE: This is a guideline for the management of concussion/MTBI, based on the medical knowledge and experience of our staff, available guidelines, best practice documents, consensus statements and recommendations of the NCAA/PAC 12. All injuries, including concussion/MTBI, are unique to the events surrounding the injury and to the person sustaining the injury. Each case will be managed with awareness of this uniqueness and with the goal of ensuring the student-athlete's health and wellness.

Adopted August 24, 2010

Reviewed and Updated August 8, 2016, Reviewed and approved 3/2/17,2/27/18,4/17/19 RC& DP

Randy P. Cohen ATC, DPT-Associate AD for Medical Services

Donald E. Porter MD- Head Team Physician

Above names will be designated as an electronic signature

Sports Medicine 8/2//16 Reviewed by BS OCG & SH RM

**The University of Arizona Athletic Department
Coaches Medical and Safety Training
Objectives**

CPR/AED

Objective: Acquire and maintain (review yearly with Medical Staff) certification according to American Red Cross or American Heart Association guidelines.

Emergency Action Plan (EAP)

Objectives: Understand role in Emergency Action Plan.
Working knowledge of specific venue(s) used.
Knowledge of location of EAP's at each venue used.
Knowledge of location of AED's in the Athletics Department.

Sickle Cell Trait

Objectives: Learn and understand in general how Sickle Cell Trait can interact with exercise.
Understand the importance of gradual implementation of activity.
Understand need for extra rest/recovery time.
Understand the importance for Student-Athlete to take care of oneself.
Understanding the need of limiting activity if S-A is ill.

Rhabdomyolysis

Objectives: Understand the general physiological process.
Understand risk factors and need for gradual increase in activities after rest period.
Knowledge of signs and symptoms of this condition.
Understand how to prevent this condition from occurring.

Asthmatic Athletes

Objective: Understand general physiological process of asthma.
Know which athletes are asthmatic and use medication.
Understand risk factors that could exacerbate the condition.

Concussion

Objectives: Know signs and symptoms of concussion.
Importance of reporting signs and symptoms.
Importance of holding S-A out of practice and competition.
Understanding progression of return to participation following clearance by Medical Staff.
Know ways to minimize risk of concussion for specific sport

Lightning

Objectives: Working knowledge of lightning protocol.
Importance of determining a safe shelter and location of safe shelter sites at your particular athletic venue.
Understanding of the Flash-to-Bang & Weather App method for measuring lightning distance.

Nutritional Supplements

Objectives: Know University Policy on nutritional supplements.

Psychological Concerns

Objectives: Know signs and symptoms of psychological concerns.
Know what to do if signs and symptoms are observed.

Coach Signature: _____ Printed Name: _____ Date: _____

Instructor Signature: _____ Printed Name: _____ Date: _____



You have been diagnosed with a concussion and need to have someone (friend, roommate or family member) with you overnight. You do not need to wake up every hour overnight.

A concussion is a type of traumatic brain injury, or TBI, caused by a bump, blow, or jolt to the head that can change the way your brain normally works. Typical symptoms include headache, vision changes, nausea, memory/concentration problems, dizziness, mood and sleep problems among others.

Your symptoms can get better or worse while you recover depending on what you're doing and how long it has been since your injury. They are typically worst 24-48 hours after the injury.

You should rest as much as possible, try to eat normal meals, and drink plenty of fluids.

Medication: You can use Tylenol for headache. Do **not** take aspirin, Advil (Motrin, ibuprofen), Aleve (Naprosyn, naproxen) or any other *new* medication without direct instructions from a physician.

WATCH FOR ANY OF THE FOLLOWING PROBLEMS

Worsening headache

Vomiting

Decreased level of consciousness

Dilated pupils

Increased confusion

Stumbling/loss of balance

Weakness in one arm/leg

Blurred vision

Increased irritability

Increased dizziness

If any of these problems develop call 911 and go to the emergency room. Notify your athletic trainer of changes in your condition.

Athletic Trainer _____ Phone Number _____

Avoid the following activities until instructed by the medical staff as they will make your symptoms worse:

- Physical exertion (exercise, biking, lifting anything heavy, sex)
- Reading
- Computer work
- Video games
- Texting
- Loud music
- Driving or operating a motor vehicle
- Alcohol use
- Prolonged television watching

You are not cleared to return to ANY physical exertion or sports, including weight lifting, running, practice or competition until you are medically cleared by a team physician.

Report back to the athletic training room on _____ at _____ am/pm

PHYSICIANS EVALUATION

Name	Employee Number	Hire Date	Rating Period
			From to

The athletic trainer communicates pertinent medical information to physician on new injuries in a timely manner

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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The athletic trainer communicates pertinent medical information to physician in a timely manner on existing patients

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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The athletic trainer refers the appropriate patients to the team physician and in a timely manner

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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The athletic trainer refers the appropriate patients to outside specialists and notifies the team physician in a timely manner when appropriate

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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The athletic trainer provides proper treatment and rehabilitation

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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The athletic trainer follows all instructions and guidelines set forth by supervising physician

Far Exceeds Requirements <input type="checkbox"/>	Exceeds Requirements <input type="checkbox"/>	Meet Requirements <input type="checkbox"/>	Meets some of the Requirements <input type="checkbox"/>	Does Not Meet Requirements <input type="checkbox"/>
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Comments

Physician Name _____ Date _____

Arizona
Athletic Trainer /Physician Written Agreement
State of Arizona Statute Article 31 Chapter 41

(1) If the athletic trainer has reasonable cause to believe symptoms or conditions are present that require services beyond the scope of practice of athletic training or if athletic training is contraindicated, the athletic trainer shall refer a person with an injury or illness sustained while person's participation in or preparation for games or sports or participation in recreational activities or physical fitness activities to one or more appropriate health care practitioners for evaluation and treatment.

(2) The athletic trainer shall modify or terminate treatment of a patient that is not beneficial to a patient or that the patient cannot tolerate.

(3) A copy of this protocol shall be maintained by the athletic trainer at his or her place of employment at all times this may be saved electronically.

(4) This protocol will be updated yearly. (This form must be updated anytime the Physician changes)

☒ (1) Taking a medical history when necessary for evaluation and treatment of an injury or illness sustained while person's participation in or preparation for games or sports or participation in recreational activities or physical fitness activities includes: *previous medical history, previous surgical history, pertinent family medical history, current medication history including known drug allergies, relevant social history, chief medical complaint and history of the present injury or illness for which the person to be treated is seeking evaluation and treatment.*

☒ (2) Evaluation and management of the injuries or illness sustained while participating in physical activity utilizing any of the following procedures: *Palpation, general observation, motion assessment, muscle strength tests, endurance tests, neurological assessment, joint play assessment, functional evaluation, objective physical measurement, circulatory assessment, medical assessment including but not limited to blood pressure, pulse, temperature, oxygen saturation and concussion assessment including but not limited to neurological assessment, balance assessment, neurocognitive assessment and visual field assessment*

☒ (3) Utilize treatment procedures to treat the injuries or illness sustained while person's participation in or preparation for games or sports or participation in recreational activities or physical fitness activities: *ultrasound, phonophoresis, electrical nerve stimulation, iontophoresis, cupping, diathermy, intermittent compression, traction, therapeutic massage, moist heat, laser, light therapy, paraffin baths, cryotherapy, hydrotherapy*

☒ (4) Provide emergency care or first aid

☒ (5) Utilize rehabilitation and physical reconditioning procedures to rehabilitate an injury or illness sustained while person's participation in or preparation for games or sports or participation in recreational activities or physical fitness activities: *progressive resistance exercise, range of motion exercise, trigger point therapy, joint mobilization, proprioceptive neuromuscular facilitation, functional exercise, cardiovascular exercise, aquatic exercise, taping, bracing and splinting, isokinetic exercise, isometric exercise, isotonic exercise*

☒ (6) Managing, rehabilitating and physically reconditioning injuries or illnesses that impede or prevent an individual from returning to participation in games or sports or participation in recreational activities or physical fitness activities

☒ (7) Establishing or administering risk management, conditioning, and injury prevention programs.

☒ (8) Clear the patient/athlete to return to full or partial activity as the patient/ athlete progresses.

☒ (8) Administer medication as per specific protocols approved by physician: Asthma management, Anaphylaxis- EpiPen, Dexamethosone, lidocaine (iontophoresis & phonophoresis) , Ketoprofen/ Ibuprofen/ Cyclobenzaprine/ Piroxicam (NSAID topical use only), OTC medication, managing diabetic condition in athletes
Other: _____

_____ (9) Current AT License verified at http://directoryat.az.gov/licensee_directory_new/

ATHLETIC TRAINER

Name _____

1 National Championship Dr. Tucson AZ 85721
85721

AZ License No. _____

Signature _____ Date _____

Date _____

PHYSICIAN

Name _____

1 National Championship Dr. Tucson, AZ

AZ License No. _____

Signature _____