

Purdue University  
Concussion Safety Protocol

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Last updated April 2019

### Introduction

Purdue University is committed to ensuring the health and safety of its student-athletes. To this end, and in accordance with NCAA legislation [Division I Constitution 3.2.4.18; Division II Constitution 3.3.4.16; Division III Constitution 3.2.4.16], Purdue University has adopted the following Concussion Safety Protocol for all student-athletes. This protocol establishes and/or identifies: (1) a sport-related concussion definition; (2) concussion safety protocol personnel; (3) independent medical care; (4) preseason education; (5) pre-participation assessment; (6) recognition and diagnosis of concussion; (7) concussion management; (8) return to activity, including both return-to-learn and return-to-play; (9) reducing exposure to head trauma; and (10) written certificate of compliance signed by the athletics health care administrator.

#### 1. Concussion Definition

The 5<sup>th</sup> international conference on concussion in sport defines concussion as follows:

Sport-related concussion (SRC) is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilized to clinically define the nature of a concussion head injury include:

- SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.
- SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.
- SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.
- SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.
- The clinical signs and symptoms cannot be explained by drug, alcohol or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction, etc.) or other comorbidities (e.g., psychological factors or coexisting medical conditions).

#### 2. Independent Medical Care

As required by NCAA Independent Medical Care legislation, team physicians and athletic trainers shall have unchallengeable autonomous authority to determine concussion management and return-to-activity decisions for all student-athletes. Further, the athletics health care administrator shall ensure that the concussion safety protocol is available for, and rehearsed by, all athletics personnel.

#### 3. Preseason Education

All student-athletes will be provided the NCAA Concussion Fact Sheet (or similar applicable material) and be required to sign an acknowledgement, on an annual basis during their pre-participation evaluation, that they have been provided, read and understood the concussion education material. This signed acknowledgement will be filed in the student-athlete's medical record.

All coaches, team physicians, athletic trainers and directors of athletics will be provided the NCAA Concussion Fact Sheet (or similar applicable material) and be required to sign an acknowledgement, on an annual basis, that they have been provided, read and understood the concussion education material. This signed acknowledgement will be filed in a secure location.

#### 4. Pre-Participation Assessment

All student-athletes will undergo at least one pre-participation baseline concussion assessment. This pre-participation assessment will, at a minimum, include assessment for the following:

- Brain injury and concussion history performed as part of the history portion of the PPE.
- Symptom evaluation (Symptom score)
- Cognitive assessment. (ImPACT)
- Balance evaluation. (Sway)

The team physician determines pre-participation clearance and any need for additional consultation or testing. Special consideration will be given for new baseline concussion assessment six months or beyond for student-athletes who have suffered a concussion or who have a complicated concussion history.

#### 5. Recognition and Diagnosis of Concussion

A member of the Purdue University medical team with training in the diagnosis, treatment and initial management of acute concussion will be present at all NCAA competitions in the following contact/collision sports: basketball, football, pole vault, soccer, wrestling.

**NOTE:** To be present means to be on site at the campus or arena of the competition. Purdue University will ensure that such personnel will be from Purdue University, from the opposing team or will be contracted independently for the event.

A member of the Purdue University medical team with training in the diagnosis, treatment and initial management of acute concussion will be available at all NCAA practices in the following contact/collision sports: basketball, football, pole vault, soccer, wrestling.

**NOTE:** To be available means that, at a minimum, medical personnel can be contacted at any time during the practice via telephone, messaging, email, beeper or other immediate communication means. Further, the case can be discussed through such communication, and immediate arrangements can be made for the athlete to be evaluated.

Symptoms of concussion include, but are not limited to: (1) physical symptoms of headache, nausea, balance problems, dizziness, visual difficulty, fatigue, sensitivity to light, sensitivity to noise, headache, feeling "out of it" or "foggy," vision changes, feeling dazed or stunned; (2) cognitive symptoms of feeling mentally foggy or slowed down, difficulty concentrating, difficulty remembering, forgetfulness, confusion, feeling slow; (3) emotional symptoms of irritability, sadness, nervousness, feeling more emotional; (4) sleep symptoms of drowsiness, sleeping more or less than usual, difficulty falling asleep.

Visible signs of concussion include but are not limited to: lying motionless; unconsciousness; vomiting; vacant look; slow to get up; balance difficulty or incoordination; clutching the head.

If an athlete, teammate, coach, official or member of medical staff identifies signs, symptoms or behaviors consistent with concussion, the following will take place immediately:

- The athlete must be removed from practice or competition.
- The athlete must be evaluated by a member of the medical team with concussion experience.
- The athlete must be removed from practice/play for that calendar day if concussion is confirmed or suspected.

The initial concussion evaluation will include:

- Symptom assessment. ("Symptom Evaluation" portion of SCAT5)
- Physical and neurological exam. (including but not limited to limb strength and sensation, tandem gait, and UE coordination)

- Cognitive assessment. (SAC portion of SCAT5 which includes orientation, immediate memory, concentration, and delayed recall)
- Balance exam. (mBESS portion of SCAT5)

Because a force sufficient to cause concussion can also cause cervical spine or other head trauma, the initial concussion evaluation will also include assessment for cervical spine trauma, skull fracture and intracranial bleed. This evaluation is included in the “glasgow coma scale”, “cervical spine assessment” and “neurological screen” portions of the SCAT5.

#### 6. Post-concussion Management

An emergency action plan will be in place for any suspected or diagnosed concussion. This plan includes rehearsed arrangements for emergency medical transportation. The emergency action plan will be activated for any of the following:

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

Because concussion may evolve or manifest over time, for all suspected or diagnosed concussions, there will be in place a mechanism for serial evaluation of the athlete.

For all cases of diagnosed concussion, the athlete and another responsible adult will be provided oral and/or written care regarding concussion management. Such instructions must be documented.

As most athletes with concussion have resolution of symptoms in 7-10 days, all athletes who have prolonged recovery more than two weeks will be re-evaluated by a physician. Such re-evaluation will be performed to confirm the concussion diagnosis, or to consider co-morbid or post-concussion diagnoses such as: sleep dysfunction; migraine or other headache disorders; mood disorders such as anxiety and depression; ocular or vestibular dysfunction; cervicalgia/neck pain; other post-concussion diagnoses.

#### 7. Return to Activity

Student-athletes require a graduated program of care following concussion, both for return-to-learn and return-to-play. Both will be considered carefully.

##### *Return-to-Learn*

Returning to academic activities after a concussion is a parallel concept to returning to play after concussion. After concussion, brain energy may not be available to perform normal cognitive exertion and function. The return-to-learn concept should follow an individualized and step-wise process overseen by a point person within the athletics department, who will work in conjunction with a multidisciplinary team.

The Purdue University multidisciplinary team may vary student-to-student, depending on the difficulty in returning to a normal school schedule. Such team may include, but not necessarily be limited to:

- Team physician.
- Athletic trainer.
- Psychologist/counselor. (Sports Psychologist employed by Athletics)
- Neuropsychologist consultant.
- Faculty athletics representative.

- Academic counselor.
- Course instructor(s).
- College administrators.
- Disability Resource Center
- Coaches.

Student-athletes who have suffered a concussion will not return to classroom on the same day. Following the first day of rest, the athlete will undergo an individualized plan that will include the following:

- The plan will be compliant with ADAAA.
- The athlete will remain at home or in the dorm if he/she cannot tolerate light cognitive activity. Otherwise, return to the classroom and studying will be as tolerated and on a gradual basis.

The academic schedule will normally not need to be adjusted for more than two weeks. If the student-athlete continues to require accommodations after two weeks, the following will occur:

- The athlete will be re-evaluated by a physician, which will confirm the diagnosis or consider other post-concussion diagnoses.
- Other members of the multi-disciplinary team will become engaged as needed.
- For more prolonged return-to-learn cases, consideration will be given to working with other campus resources, all of which will be consistent with ADAAA. Such resources will include any of the following:
  - Learning specialists.
  - Disability Resource Center
  - ADAAA office.

#### *Return-to-Play*

It is important to recognize each return-to-play plan will be individualized and supervised by a Purdue University health care provider with expertise in concussion management. Final determination of return-to-play will be made by the Purdue University physician or his/her qualified designee.

The initial treatment for all athletes following concussion is at least 1-2 days of relative physical and cognitive rest. Relative rest should continue until the athlete has returned to his/her pre-concussion baseline status. Discretion can be used by the health care provider to introduce mild aerobic activity during the transition period of returning to pre-concussion baseline status, so long as such activity does not exacerbate post-concussion symptoms or signs.

Once the athlete has returned to his/her baseline status, a stepwise progression return-to-play protocol will take place. Progression from one step in the protocol to the next can take place when the stepwise activity does not lead to worsening or new symptoms. The stepwise progression includes:

1. Light aerobic exercise such as walking, swimming or riding a stationary bike for at least 15 minutes. No resistance training is permitted. **If** asymptomatic with light aerobic exercise, then;
2. Sport-specific activity (mode, duration and intensity specific) exercise with no head impact. **If** asymptomatic with sport-specific activity, then;
3. Non-contact sport drills and resumption of progressive resistance training. **If** asymptomatic with non-contact drills and resistance training, then;
4. Full-contact practice or simulated full-contact practice and unrestricted training. **If** asymptomatic with full-contact practice, then;
5. Return-to-competition is allowed.

**NOTE:** If at any point the student-athlete becomes symptomatic (more symptomatic than baseline), the team physician or physician designee will be notified, and adjustments will be made to the return-to-play progression.

8. Reducing Exposure to Head Trauma

Purdue University is committed to student-athlete health and safety. To that end, Purdue University will be proactive in efforts to minimize exposure to head trauma. The following procedures are in place:

- Concussion Fact Sheets, plus education regarding safe play and proper technique, are made available to student-athletes at the time of the pre-season annual health examination.
- Concussion Fact Sheets, plus education regarding safe play and proper technique, are made available to coaches, sport administrators, team physicians, athletic trainers and strength and conditioning coaches on an annual basis.
- Adherence to ‘Interassociation Consensus: Year-Round Football Practice Contact Recommendations.’
- Reducing gratuitous contact during practice.
- Taking the head out of contact.
- Teams will take a “safety-first” approach to sport.

**Purdue University  
Concussion Management Plan**

By signing and dating this form, you acknowledge, on behalf of your institution, that for the 2019-2020 academic year:

1. The Concussion Management Plan fulfills the requirements of NCAA Concussion Management Legislation (Division I Constitution 3.2.4.18; Division II 3.3.4.16; Division III Constitution 3.2.4.16).
2. The Concussion Safety Protocol is consistent with Inter-Association Consensus: Diagnosis and Management of Sport-Related Concussion Best Practices and also meets the requirements of Division I Constitution 3.2.4.18.1.

***Required Signature  
Athletics Health Care Administrator***

\_\_\_\_\_  
Signature of Athletics Health Care Administrator

\_\_\_\_\_  
Print or type Name

\_\_\_\_\_  
Date