GOALS OF THE POLICY

- Standardized approach to concussive injury to protect the health and welfare of student athletes.
- Comprehensive baseline and post-injury evaluations for concussive injury in the student athlete.
- Individualized return to academics and return to sport for athletes with concussive injury.
- Provide educational information to athletes, coaches and others regarding concussion.

POLICY

Concussion is an important injury in the student athlete. Princeton University Athletic Medicine (PUAM) has a comprehensive program regarding concussive injury that includes a baseline assessment, a post-injury evaluation, and an individualized return to academics and sport management program.

PROCEDURES

1. Administrative Issues
   a. Emergency Action Plan (EAP) for all venues including Concussion Plan
   b. Education of Athletic Trainers, Team Physicians, Coaches and Administrators regarding EAP & Concussion Plan
   c. Education of student athletes, coaches, administrators, athletic trainers and team physicians regarding concussion, including signs & symptoms, prompt reporting of symptoms, importance of properly fitting equipment, and high-risk sport activities (e.g. leading with the head).
   d. Pre-participation Physical Examinations performed for all varsity athletes and club rugby athletes.
   e. Acknowledgement of Student Athlete (SA) agreement regarding reporting of all injuries & illness, including signs and symptoms of concussion, to PUAM staff.
   f. Acknowledgement of Coaching & Support Staff (coaches, administrators, athletic trainers, team physicians) Agreement regarding receiving education regarding the signs and symptoms of concussion, the importance of early reporting, and the PUAM Concussion Management Policy.
   g. ATC’s on site/available for all at risk practices & games, physician on site/available for at risk home varsity sport events.
h. Documentation of baseline testing (Sideline Concussion Assessment Tool 5 (SCAT5)), initial injury evaluation (SCAT5 & other) as well as daily symptom scoring (when available) and documentation of academic issues. Documentation (ATC & team physician) of initial & subsequent evaluations, change in status regarding activities (return to play / academic progress) and final clearance to return to play.

i. PUAM Concussion Education Information Sheet (Attachment 1) given to SA that have sustained a concussive injury.

j. Understand importance of education, technique training, early recognition and reporting, following league and NCAA rules and promoting fair play in potential prevention of concussion.

2. PUAM Pre-Participation Exam: 1st year SA’s
   a. Includes questions regarding possible concussion “modifiers”: history of prior concussion(s), attention deficit hyperactivity disorder (ADHD) or learning disabilities, headache or migraines/ migraine, depression, anxiety or other mental health disorder, or seizure disorder.
   b. Baseline SCAT 5 (including symptom checklist, brief cognitive evaluation and balance assessment) performed for all varsity athletes and club rugby and computerized neuropsychological (NP) testing (e.g. “Immediate Post-Concussion Assessment and Cognitive Testing” (ImPACT)) performed for all at risk sport athletes (Football, Men’s & Women’s Soccer, Field Hockey, Wrestling, Men’s & Women’s Ice Hockey, Men’s & Women’s Basketball, Men’s & Women’s Lacrosse, Men’s & Women’s Water Polo, Men’s & Women’s Pole Vaulting, Baseball, Softball, Men’s & Women’s Club Rugby).
   c. If an athlete has a significant history of prior concussion(s), or significant other modifiers, the team physician may request that NP testing include computerized neuropsychological testing (e.g. ImPACT) as well as additional paper & pencil (P & P) tests, and may request additional consultation and/or testing.

3. Sideline Evaluation:
   a. When an athlete exhibits signs or has symptoms of concussion after a blow to the head or body, they should be removed from play and not allowed to return to play until evaluated by a licensed health care provider.
   b. A SA with worsening symptoms, especially worsening headache, nausea or vomiting, increased confusion, garbled speech, lethargy or extreme sleepiness, trouble using their arms or legs, convulsions or seizure activity should be transported emergently by public safety / ambulance to the emergency room. Any SA with neck pain should be treated as if a cervical spine injury is present, and emergency procedures (cervical spine motion restriction, emergency room transfer) considered or initiated.
   c. For SA transported to the emergency room, whether by public safety or ambulance, contact the inpatient unit of UHS (609-258-3139 or 609-258-3141) to provide them with this information.
   d. If no ATC or team physician is available, and the athlete has minimal symptoms, contact the athletic trainer / team physician to determine a plan for evaluation of the athlete. If you are unable to contact the PUAM staff, contact UHS at 609-258-3139 or 609-258-3141. Public safety should be called for transportation.
   e. For away contests when an ATC is not available, the host institutions medical staff should be utilized.
Policy Title: Managing Concussions in Athletes

f. If an ATC is on site and the SA is stable medically, SCAT 5 (or similar instrument) should be used for the evaluation of the injured athlete.
g. If an ATC is on site and the assessment is concussion, the athlete cannot return to play the same day.
h. If the athlete is evaluated by the team physician and/or other clinician and the diagnosis is concussion, the athlete cannot return to play the same day.
i. Provide SA with PUAM Concussion Education Information.

4. Management:
   a. Physician evaluation of all athletes with suspected concussion, timing dependent on ATC assessment & clinical judgment. The ATC should contact the team physician to discuss follow up care.
   b. The team physician will:
      i. Determine if additional testing / consultation as indicated
      ii. Educate SA regarding importance of reporting all / any symptoms
      iii. Review PUAM Concussion Education Information.
      iv. Determine if any modifications to school or other demands necessary (e.g. refer to Office of Disabilities, communicate with deans, parents, others)
   c. The student athlete will:
      i. Contact his/her Dean, Director of Undergraduate Studies and the Academic-Athletic Advisor (per the PUAM Concussion Education Information) regarding their diagnosis, and providing permission to discuss the diagnosis with the team physician
      ii. Report to the ATC and team physician, as instructed for follow up visits.
      iii. Report symptoms or signs and any academic concerns to the ATC and team physicians.

5. Follow up Care;
   a. Daily follow up, as able, using “SCAT5 Follow Up” form including symptom checklist, questions regarding difficulties with class and attendance at class, and documentation of the level of activity (no activity, cardiovascular (CV) activities, limited / non-contact activity and full / contact activity).
   b. Post Injury NP Testing (e.g. ImPACT and paper/pencil tests) performed ideally 24-48 hrs post injury or as determined by team physician.
   c. Post-injury NP testing sent to outside consulting neuropsychologist along with clinical information by team physician. NP testing interpreted by outside consulting neuropsychologist.
   d. Return to limited academic and physical activities determined by the team physician, consistent with Berlin Concussion in Sport Guidelines (McCrory et al BJSM 2017)
   e. Follow up with team physician once athlete is symptom free as well as when ready to return to full play, or weekly, whichever comes first. If not seen by team physician at these time points, the plan of progression must be discussed between the ATC and team physician

6. Return to Academics & Return to Sport Decisions;
   a. Individualized decision; made by the team physician. Review of symptoms, neurocognitive and balance testing, and consultation from the athlete, ATC, consulting neuropsychologist and additional outside consultation as appropriate. Consultation from
Policy Title: Managing Concussions in Athletes

athlete, Deans and Professors, and Office of Disabilities may be indicated for Return to Academics Decisions.
b. **Time athlete held out of activity, rate of return to academics and sport progression, also individualized, with decision made by team physician**
c. Modifiers to consider;
   i. Specifics of current injury (e.g. symptom burden, nature and duration, as well as results of post-injury neurocognitive / balance testing / other clinical exam findings)
   ii. Age
   iii. Prior history of concussion (#, specifics of prior injury(s), severity of prior injurie(s), recency)
   iv. Other possible “modifiers” (e.g. history of ADHD or Learning disabilities, Headaches or Migraine, Depression, Anxiety or other mental health disorder, or Seizure disorder)
   v. Other (e.g. emotional readiness, academic demand / calendar, emotional disorders (e.g. depression or anxiety), parental concern)
d. **Athlete should have an initial period (approximately 24-48 hours) of both relative physical rest and cognitive rest before beginning the return to sport progression.**
e. **After the initial period of rest, an athlete can return to daily activities that do not provoke or exacerbate symptoms.** There may be situations where controlled cardiovascular (CV) exertion that does not exacerbate symptoms can be considered as part of treatment in non-acute settings. These exceptions are decided on by the team physician, and are separate from the Return to Sport progression outlined below. An athlete should be symptom free / back to baseline level of symptoms prior to starting the Return to Sport progression. An athlete with exacerbation of concussion signs / symptoms at rest or exertion should not continue to participate and should inform their ATC / team physician.
f. **Gradual progression in activity; step-wise with gradual increments in physical exertion and risk of contact, consistent with Berlin Concussion Guidelines**
   i. Symptom limited activity (daily activities that do not provoke symptoms)
   ii. Light aerobic exercise / CV challenge (15 – 20 minutes) intended to increase heart rate and break a sweat
   iii. Unlimited cardiovascular activity, sport-specific CV activities.
   iv. Non-contact training drills (no contact activities). May start progressive resistance training.
   v. Full-contact practice (participate in normal practice without restrictions)
   vi. Return to sport / full game play
g. **Rate of progression and final clearance is determined by the team physician**
   i. No return to contact until neurocognitive, balance and other clinical testing considered normal
   ii. Repeat full SCAT5 once cleared to return to full contact activity.
   iii. If NP testing interpreted as abnormal, repeat NP testing, with at least 48 hours between repeat testing unless otherwise indicated.

7. **Clearance & Final Follow Up**
a. **Final clearance decision made by PUAM team physician.** Additional consultation and/or testing may be indicated and will be determined by the team physician.
b. SA Education regarding importance of reporting all symptoms as well as increased risk for subsequent concussion.
c. Repeat SCAT5 and NP testing (computerized and Paper & Pencil testing) for returning student athlete prior to following year to establish a new “baseline”.

ATTACHMENTS:

- Concussion Education Information
- SCAT 5
- NCAA Coaches and Student Athlete Education Sheets.

REFERENCES: