KANSAS ATHLETICS, INC.

DEPARTMENT OF SPORTS MEDICINE

Concussion Assessment, Management, Return to Play and Academics Guidelines

The following policy and procedures on neurocognitive baseline testing and subsequent assessment and management of concussions as well as return to play guidelines have been developed to provide quality healthcare services and assure the well-being of each student-athlete at the University of Kansas.

BACKGROUND:

Purpose:

The Kansas Athletics Sports Medicine Department recognizes that sport induced concussions pose a significant health risk for those student-athletes participating in athletics at The University of Kansas. With this in mind, the Sports Medicine Department has implemented policies and procedures to assess and identify those student-athletes who have suffered a concussion. The Department also recognizes that baseline neurocognitive testing on student-athletes who participate in sports sponsored by Kansas Athletics, Inc. and/or who have had a history of concussions prior to entering The University of Kansas will provide significant data for return to competition decisions. This baseline data along with physical examination by team physician and/or certified athletic trainer, along with diagnostic testing will be used in conjunction in determining when it is safe for a student-athlete to return to competition.

Concussion Definition:

A traumatically induced transient disturbance of the brain function and involves a complex pathophysiological process affecting the brain. This may be due to directed or indirect contact sustained by a student-athlete with or without the loss of consciousness.

Signs and Symptoms of Concussion:

Team Physicians and Certified Athletic Trainers (ACTs) along with athletic training students all need to be aware of the signs and symptoms of a concussion to properly recognize and intervene on behalf of the student-athlete. The suspected diagnosis of concussion can include one or more of the following clinical domains:

<table>
<thead>
<tr>
<th>Physical Symptoms</th>
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<tbody>
<tr>
<td>Headache, Vision Difficulties, Nausea, Dizziness, Balance Difficulties, Light Sensitivity, Fatigue, Feeling like in a fog, Loss of Consciousness, Amnesia</td>
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<table>
<thead>
<tr>
<th>Cognitive Symptoms</th>
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<tbody>
<tr>
<td>Memory Loss (Amnesia), Attention Disorders, Reading Difficulties, Slowed Reaction Times</td>
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<tr>
<th>Emotional Symptoms</th>
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<tr>
<td>Irritability, Sadness, Nervousness, Sleep Disturbances</td>
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EDUCATIONAL PROGRAMMING:

Kansas Athletics shall provide annually to all student-athletes, coaches, team physicians, ACTs and the Director of Athletics the NCAA concussion fact sheets, or other applicable materials discussing concussions in athletic environments. Each person shall sign an acknowledgement that he/she has received, read, and understood the material.

RECOGNITION AND DIAGNOSIS OF CONCUSSION:

Baseline Assessment:

All incoming freshman and transfer student-athletes to the University of Kansas who are participating in all sports sponsored by Kansas Athletics and/or who have had a previous history of concussions as identified by their health history will have as part of their pre-participation examination (PPE), a baseline concussion assessment which shall include the following tests:

- A brain injury and concussion history (the PPE should include concussion-related questions including a past history of concussion (number, frequency, severity and recovery) and the presence of mood, learning, attention or migraine disorders);
- A symptom evaluation;
- a baseline neurocognitive test (C3 Logix) a Standardized Assessment of Concussion (SAC™);
- Balance Error Scoring System (BESS)

The Kansas Athletics Sports Medicine Department utilizes the C3 Logix system. The C3 Logix system is an Ipad based user-friendly computer program which is designed to test cognitive functioning. The Sport Concussion Assessment Tool (SCAT3) and the SAC™ is a series of questions testing orientation, immediate memory, concentration, and delayed memory to measure the immediate neurocognitive effects of a student-athlete with a suspected concussion.

Kansas Athletics will record the baseline assessment test for each student-athlete in his/her medical records. All baseline assessment tests will be performed prior to the first practice. The baseline test tools should be used post-injury at appropriate time intervals.

The Head Team Physician shall determine pre-participation clearance and/or the need for additional consultation or testing. For student-athletes with a documented concussion history, especially those with complicated or multiple concussions, the Head Team Physician may determine that a later baseline concussion assessment be taken six months or beyond the initial baseline assessment.

Concussion Diagnosis and Management:

Someone trained in the diagnosis and management of concussions must be available for all contact practices and present for all contact competition.

In any circumstance where a concussion is suspected or any student-athlete exhibiting signs, symptoms or behaviors consistent with a concussion, at rest or with exertion, shall be removed from practice or competition and referred to the team athletic trainer or team physician with
experience in diagnosis, treatment, and concussion management. Particular attention should be
given to excluding a cervical spine injury.

The student-athlete should be evaluated serially and monitored for deterioration following injury. The evaluation shall include symptom assessment, a physical and neurological examination, a cognitive assessment (SAC™, C3, and BESS test), and a clinical assessment for cervical spine trauma, skull fracture and intracranial bleeding. Concussion evaluation tools can be compared to the student-athlete’s baseline assessment.

The student-athlete should be immediately transported to the nearest hospital if any of the following signs or symptoms are present:

- Glasgow Coma score less than 13;
- Prolonged period of loss of consciousness (longer than one minute);
- Focal neurological deficit;
- Repetitive emesis;
- Persistently diminished or worsening mental status or other neurological signs or symptoms;
- Potential spine injury--if a cervical spine injury cannot be eliminated, neck immobilization and immediate transfer to the emergency department capable of advanced neurological imaging and management of cervical trauma should follow.

The student-athlete should be assessed every 5 minutes until post-concussive confusion has cleared.

In all circumstances, the ATC must document the player’s name, position, circumstance of injury, duration of confusion and any post-concussive symptoms. All student-athletes who sustain a concussion should be referred for neurocognitive testing and evaluation with the Head Team Physician within 24 hours. The student-athlete shall not be permitted to return to play or practice until receiving clearance from the Head Team Physician.

**Sideline Management** (if student-athlete remains on site):

1. A concussed player should not be left alone if the decision is made to keep the player on site, and regular monitoring for deteriorating physical or mental status is essential.

2. Assess the student-athlete for post-concussive clearing of his/her confusion every 5 minutes for the first 30 minutes, then every 15 minutes for the next 2 hours.

3. The athletic trainer must document the player’s name, position, circumstance of injury, duration of confusion and any post-concussive symptoms.

4. The student-athlete should **NOT** return to the current practice or competition, even if symptoms completely clear.

5. The student-athlete should be referred for neurocognitive testing and evaluation by the Head Team Physician within 24 hours of the injury.

6. Student-athletes with a concussion need appropriate disposition to home, to remain onsite until the end of the contest, or if needed transfer to an emergency facility.

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Post-Concussion Management:

If a concussion is confirmed, the student-athlete shall be removed from practice or play for that calendar day.

Upon discharge from the initial medical care, both oral and written instructions for home care should be given to the student-athlete and to a responsible adult (e.g., parent or roommate—the "caretaker") who should continue to monitor and supervise the student-athlete during the acute phase of sport-related concussion. Documentation of the instructions should be recorded in the student-athlete’s medical record.

Student-athletes with concussions should have medical follow-up. A detailed history of the event mechanism, course of symptoms and previous history of concussion should be elicited. Serial monitoring of standardized symptoms scores can be helpful to more objectively assess resolution of symptoms or return to their pre-injury baseline.

The Head Team Physician shall monitor the concussion symptoms and evaluate the student-athlete’s recovery in order to consider additional diagnosis and best management options. Additional diagnoses may include, but are not limited to, post-concussion syndrome, sleep dysfunction, migraine or other headache disorders, mood disorders such as anxiety and depression, ocular or vestibular dysfunction.

Some issues to be observed or considered include the following:

- Student-athletes that are recovering from a concussion should not have their sleep interrupted. Caretakers should be informed that it is desirable to let the student-athlete sleep. Sleep disturbance is a common and important symptom experienced throughout the course of a concussion. Sleep issues in the first few days following injury onset should be addressed conservatively, without medications, and with particular attention to good sleep hygiene.
- After the acute phase, medications may be considered for symptomatic relief. Those that affect the central nervous system, such as stimulants, certain anti-nausea and antidepressants should be used with caution as they may cloud the neurological and cognitive examination.
- Treatment options for headaches are limited. Acetaminophen offers a possible benefit without significant increased bleeding risk.
- A dim, quiet environment may moderate head pain, as well as symptoms of photophobia and phonophobia.
- Headaches that continue as part of a post-concussion syndrome (symptoms lasting longer than 6 weeks) often require a multidisciplinary approach.
- Alteration in mood is also a common manifestation of concussion, particularly in the acute setting. If mood issues persist beyond 6-12 weeks, treatment with medications and/or cognitive therapy should be considered.
- Decreasing academic responsibilities and other cognitive demands should be considered for any significant decrease in cognitive performance.

The Sports Medicine Department recognizes that it may not be possible for neurocognitive testing to take place within a 24 hour time frame due to team travel and other difficulties. With that in mind, it is necessary to plan for an evaluation with the Head Team Physician and for neurocognitive testing and SAC testing as soon as possible for the student-athlete, after he/she returns to campus.
RETURN-TO-PLAY GUIDELINES:

The initial management of sport-related concussion is relative physical and cognitive rest. The student-athlete diagnosed with a concussion must be removed from play and not return to play or practice for at least one calendar day and will be evaluated as soon as possible by the Head Team Physician. Once the concussed student-athlete has returned to baseline level of symptoms, cognitive function and balance, then the return-to-play progression can be initiated. Each student-athlete with a concussion must undergo a supervised stepwise progression management plan (see sample plan below) by the Head Team Physician or the ATC with expertise in concussion. The plan shall specify that the student-athlete have limited physical and cognitive activity until he/she has returned to baseline, then progresses with each step below without worsening or 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.

The student-athlete should be free of concussion symptoms at rest as well as during and after exertional activity before returning to full participation. The student-athlete should also have a normal neurological exam including a normal cognitive and balance evaluation compared to a pre-injury baseline.

Neurocognitive testing in conjunction with the team physician physical exam and additional diagnostic tests as needed may determine when a student-athlete will return to activity. Neurocognitive testing will be scheduled for 24 hours post initial injury and then subsequently every 48 hours, until the student-athlete scores at his/her baseline level, or an equivalent score that is acceptable by the Head Team Physician.

Continued post-concussive symptoms, prior concussion history and any diagnostic testing results along with neurocognitive testing and physical exam, will be utilized by the Head Team Physician in establishing a timeline for a student-athlete’s return to activity. It is important to note that this timeline could last over a period of days to weeks or months, or potential medical disqualification from Kansas Athletics sponsored teams. All cases and progression management plans will be handled on a individualized, case-by-case basis. The decision by the Head Team Physician for all cases of an athletes return to activity is final.

Post-Concussion Follow-Up (24-48 hours post-injury)-

Students-athletes will perform the following:

- Post-Concussion Symptom Check List
- SAC Test
- Neuropsychological Assessment – ImPACT
- BESS Test
- C3 Logix
- Vestibular Therapy

Note-

The Mild Traumatic Brain Injury Post Concussion Symptom Check List will be repeated every day until the student-athlete Self-Reports Asymptomatic (SRA), at which time the student-athlete will begin with Day 1 SRA Procedures.
**Day 1 Self-Report Asymptomatic (SRA)**

Mild Traumatic Brain Injury Post-Concussion Symptom Check List

Neuropsychological Assessment – ImPACT

Vestibular Therapy

Cardiovascular exercise in controlled setting-

Mode, duration and intensity dependent upon sport

Monitor symptoms

If student-athlete becomes symptomatic, return the student-athlete to the concussed state / procedures until he/she Self-Report Asymptomatic (SRA)

Weight Training (under the direction of a certified athletic trainer)

Mode, duration and intensity dependent upon sport

If Day 2 does not fall within the student-athlete’s scheduled weight lifting schedule, the student-athlete should still perform weight training exercises under the direction of an ACT.

Monitor symptoms

If student-athlete becomes symptomatic, return the student-athlete to the concussed state / procedures until he/she Self-Report Asymptomatic (SRA)

**Day 2 Self-Report Asymptomatic (SRA) – with no increase in symptoms**

a. Exertional Functional Activity without contact

• Mode, duration and intensity dependent upon sport

• Monitor symptoms

b. Vestibular Therapy

*If student-athlete becomes symptomatic, return the student-athlete to the concussed state he/she procedures until he/she Self-Report Asymptomatic (SRA)*

a. Mild Traumatic Brain Injury Evaluation Post Concussion Symptom Check List

**IF –**

•
The student-athlete is symptomatic during and/or after any of the test, return him/her to the concussed state procedures until the SRA and consult with the Team Physician for further evaluation.

The student-athlete is asymptomatic with all activity; consult with the Head Team Physician for return to play clearance.

The final determination of a student-athlete’s return to play shall be made by the Head Team Physician. The ACT should not permit a student-athlete to return to play without this determination.

RETURN TO ACADEMICS GUIDELINES:

Return to academics (return-to-learn) is a parallel concept to return-to-play, but has received less scientific evaluation than its counterpart. The foundation of return-to-learn includes:

- Return-to-learn should be managed in a stepwise program that fits the needs of the individual.

- Return-to-learn guidelines assume that both physical and cognitive activities require brain energy utilization, and they similarly assume that such brain energy is not available for physical and cognitive exertion because of the concussion-induced brain energy crisis.

- Return-to-learn recommendations are based on consensus statements, with a paucity of evidence-based data to correlate with such consensus recommendations.

- Return-to-learn recommendations and academic adjustments should be made within the context of a multi-disciplinary team, including but not limited to includes physicians, athletic trainers, coaches, administrators as well as academic (e.g. professors, deans, academic advisors) and office of disability services representatives. The level of multi-disciplinary involvement should be made on a case-by-case basis. An individual shall be identified at Kansas Athletics who will be the designated “point” person who will navigate the return-to learn process for the student-athlete (generally the academic counselor).

Like return-to-play, it is not always easy to provide prescriptive recommendations for return-to-learn because the student-athlete may appear physically normal but is unable to perform at his/her expected baseline due to concussive symptomatology.

The first step of return-to-learn is physical and cognitive rest immediately following any type of concussion, just as the first step of return-to-play is physical and cognitive rest. Cognitive rest means minimizing potential cognitive stressors such as school work, video games, reading, texting and watching television. The student-athlete should not return to classroom activity on the same day as a concussion.

When a student-athlete is diagnosed with a concussion the academic advisor will be informed, the academic advisor will then notify professors and instructors. The period of time needed to avoid class or homework should be individualized. The gradual return to academics is based on the return of concussion symptoms following cognitive exposure. The consensus to date includes:

- If the student-athlete cannot tolerate light cognitive activity, he or she should remain at home or in the residence hall.
- Once the student-athlete can tolerate cognitive activity without return of symptoms, he/she should return to the classroom and studying as tolerated. At any point, if the student-athlete becomes symptomatic, or scores on clinical measures decline, the Head Team Physician should be notified and the student-athlete's cognitive activity reassessed.

A concussion is a challenging injury for student-athletes and unlike other injuries, the timeline for return to full activity is often difficult to project. Modification of schedule or academic accommodations for up to two weeks may be indicated. It is important that health care providers continue to communicate and document the status of the student-athlete as he/she continues their recovery.

When a student-athlete has not recovered in the anticipated period of time, the student-athlete may need a change in his/her class schedule; special arrangements may be required for extended absences, test, term papers and projects. The Head Team Physician may recommend to academic counselor the possibility of arrangements. Such accommodations can often be assessed through KU Academic Achievement and Accessibility Center.

When the student-athlete experiences prolonged cognitive difficulties, the academic counselor can develop a detailed academic plan that specifies the support services specifically available for the student-athlete. The academic counselor along with the Head Team Physician can discuss/disclose the documentation to the disability office in order to seek long-term accommodations or academic adjustments. The disability office will need to verify if the impairment is limiting a major life activity per the Americans with Disabilities Act. A detailed academic plan coupled with accommodations can provide the needed support for a student-athletes as he/she returns to learning after a concussion.

The academic counselor, professor or instructor can best support a student-athletes return to academics and recovery by understanding possible concussion effects and providing the student with needed accommodations and support. Understanding concussion symptoms can help the student and members of the team identify individual needs of the student, monitor changes, and with proper permission, take action when necessary. This will help facilitate a full recovery and discourage students from minimizing the symptoms due to embarrassment, shame, or pressure to return to activities.
Return-to-Learn After a Concussion

A Partnership of Kansas Athletics and AAAC

A concussion or a concussive episode sustained by a student is a traumatic disturbance of
brain function and involves a complex pathophysiological process affecting the brain. This
may be due to direct or indirect contact sustained by a student-athlete with or without the
loss of consciousness. Return to academics (return-to-learn) from a concussion is a parallel
cost to return-to-play/activity and is supported by Kansas Athletics. This document
provides guiding principles for return-to-learn.

Return-to-learn assumes that both physical and cognitive activities require brain energy
utilization, and after a concussion, brain energy may not be available for physical and
cognitive exertion because of the brain energy crisis. Return-to-learn can best be
managed in a stepwise program that fits the needs of the individual, with
recommendations from a multi-disciplinary team that may include physicians, athletic
trainers, coaches, psychologists or counselors, neuropsychologists, administrators as
well as academic (e.g. professors, deans, academic advisors) and office of disability
services representatives.

The student-athlete may appear physically normal but may be unable to perform as
expected due to concussive symptomatology.

Concussion Symptoms*:

- Difficulty in thinking, remembering, or concentrating
- Headaches, blurred vision, nausea or vomiting, dizziness, sensitivity to noise or light,
balance problems, or fatigue
- Irritability, sadness, heightened emotion, or nervousness, or anxiety
- Sleeping more than usual, sleeping less than usual, or having trouble falling asleep

*Extended list at the end of document.

The successful implementation of return-to-learn depends on several variables:

- Recognition that concussion symptoms vary widely among student-athletes, and even within the
same individual who may be suffering a repeat concussion.
- Identification of a point person for the student-athlete who can navigate the dual obligations of
academics and athletics. For Kansas Athletics, it is an Academic and Career Counselor from
Student-Athlete Support Services (SASS) who will contact an AAAC access specialist.
- Identification of co-morbid conditions that may impair recovery, such as migraine or other
headache conditions, attention-deficit hyperactivity disorder, anxiety and depression or other mood
disorders. If additional needs are identified the student may require long term accommodations
through AAAC.
Stepwise progression guidelines for returning a student back into academics:

1. The first step of return-to-learn is relative physical and cognitive rest. Relative cognitive rest involves minimizing potential cognitive stressors, such as school work, reading, texting and watching television.

2. For the college student-athlete, consideration may be needed for flexibility on class attendance, exam dates, and assignment deadlines (not to exceed 7 consecutive days), it is imperative to avoid the classroom for at least the same day as the sport-related concussion. The period of time needed to avoid class or homework needs to be individualized. The gradual return to academics must be based on the absence of concussion symptoms following cognitive exposure. The consensus to date includes:
   a. If the student-athlete cannot tolerate light cognitive activity, he or she will remain at home or in the residence hall. Once the student-athlete can tolerate cognitive activity without return of symptoms, he/she will return to the classroom, often in graduated increments.
   b. Kansas Athletics will contact AAAC and an official notification will then be sent to faculty members.
   c. The student will contact faculty members to discuss their needed accommodations.
   d. Faculty may contact AAAC or the student’s Academic and Career Counselor from SASS with any questions or concerns.

3. At any point, if the student-athlete becomes symptomatic (i.e., more symptomatic than baseline), or scores on clinical/cognitive measures decline, the athletic trainer and team physician will be notified and the student-athlete’s cognitive activity reassessed. If the physical and cognitive rest period needs to be extended past 7 days, a qualified medical professional (team physician, athletic trainer, or a certified physician’s assistant) must support the extension and provide new documentation. The extent of academic adjustments will be recommended by a multi-disciplinary team that may include the team physician, athletic trainer, faculty athletics representative or other faculty representative, coach, individual teachers, neuropsychologist and psychologist or counselor.
   a. Student-Athlete Support Services will contact the AAAC and request faculty be notified of the need for a 7 day extension.
   b. AAAC will send a second notification to faculty members of the need for an extension.
   c. The student will contact faculty members to discuss their needed accommodations.
   d. Faculty may contact AAAC or the student’s Academic and Career Counselor from SASS with any questions or concerns.

The student-athlete must be symptom free before moving to next level or phase.
REDUCING HEAD TRAUMA EXPOSURE:

To best reduce head trauma exposure, Kansas Athletics shall adhere to the Inter-Associate Consensus: Year Round Football Practice Guidelines and the Inter-Association Consensus: Independent Medical Care Guidelines. Kansas Athletics also will take a “safety first” approach to athletic practice and competitions and shall work with coaches and student-athletes on safe play and proper techniques, reducing gratuitous contact during practice, and “taking the head out of contact.”

SUMMARY:

Kansas Athletics’ Sports Medicine Department is committed to providing quality health care services for all student-athletes. As such, Kansas Athletics is very proactive in the assessment, diagnosis, and management of concussions. By following this program, the risks of concussions associated with athletics and the potential catastrophic and long-term complications from concussions shall be limited.
**Return to Academics:** Return to academics (return-to-learn) is a parallel concept to return-to-play, but has received less scientific evaluation than its counterpart. The foundation of return-to-learn includes:

- Return-to-learn should be managed in a stepwise program that fits the needs of the individual.
- Return-to-learn guidelines assume that both physical and cognitive activities require brain energy utilization, and they similarly assume that such brain energy is not available for physical and cognitive exertion because of the concussion-induced brain energy crisis.
- Return-to-learn recommendations are based on consensus statements, with a paucity of evidence-based data to correlate with such consensus recommendations.
- Return-to-learn recommendations should be made within the context of a multi-disciplinary team that includes physicians, athletic trainers, coaches, administrators as well as academic (e.g. professors, deans, academic advisors) and office of disability services representatives.
- Like return-to-play, it is not always easy to provide prescriptive recommendations for return-to-learn because the student-athlete may appear physically normal but is unable to perform at his/her expected baseline due to concussive symptomatology.

The first step of return-to-learn is physical and cognitive rest immediately following any type of concussion, just as the first step of return-to-play is physical and cognitive rest. Cognitive rest means minimizing potential cognitive stressors such as school work, video games, reading, texting and watching television. The rationale for cognitive rest is that the brain is experiencing an energy crisis, and providing both physical and cognitive rest allows the brain to heal more quickly. Data from small studies suggest a beneficial effect of cognitive rest on concussion recovery. For the college student-athlete, cognitive rest following concussion means avoiding the classroom for at least the same day as concussion. When a student-athlete is diagnosed with a concussion the academic advisor will be informed, the academic advisor will then notify professors and instructors. The period of time needed to avoid class or homework should be individualized. The student-athlete will fill out a symptom check list daily with the athletic trainer. An Academic Acknowledgment form will be filled out and sent to the Academic Support Services explaining current symptoms and recommendations academically for student-athlete. The gradual return to academics is based on the return of concussion symptoms following cognitive exposure. The consensus to date includes:

If the student-athlete cannot tolerate light cognitive activity, he or she should remain at home or in the residence hall.

Once the student-athlete can tolerate cognitive activity without return of symptoms, he/she should return to the classroom. At any point, if the student-athlete becomes symptomatic, or scores on clinical measures decline, the team physician should be notified and the student-athlete’s cognitive activity reassessed.

The extent of academic adjustments needed should be decided by a multi-disciplinary team that may include the team physician, athletic trainer, faculty athletic representative or other faculty representative, coach, individual teachers and psychologist. The level of multi-disciplinary involvement should be made on a case-by-case basis.
A concussion is a challenging injury for student-athletes and unlike other injuries, the timeline for return to full activity is often difficult to project. The psychological response to injury is also unpredictable. Student-athletes with concussions often appear “normal,” without cast or crutches or other identifiable clues to being injured. It is important that health care providers continue to communicate and document the status of the student-athlete as he/she continues their recovery.

When a student-athlete has not recovered in the anticipated period of time, the student-athlete may need a change in his/her class schedule; special arrangements may be required for extended absences, test, term papers and projects. The team physician will recommend to academic counselor the possibility of arrangements. Such accommodations can often be assessed through KU Academic Achievement and Accessibility Center.

When the student-athlete experiences prolonged cognitive difficulties. The academic counselor can develop a detailed academic plan that specifies the support services specifically available for the student-athlete. The academic counselor along with team physician can discuss/disclose the documentation to the disability office in order to seek long-term accommodations or academic adjustments. The disability office will need to verify if the impairment is limiting a major life activity per the Americans with Disabilities Act. A detailed academic plan coupled with accommodations can provide the needed support for a student-athletes as he or she returns to learning after a concussion.

The academic counselor, professor or instructor can best support a student-athletes return to academics and recovery by understanding possible concussion effects and providing the student with needed accommodations and support. Understanding concussion symptoms can help the student and members of the team identify individual needs of the student, monitor changes, and with proper permission, take action when necessary. This will help facilitate a full recovery and discourage students from minimizing the symptoms due to embarrassment, shame, or pressure to return to activities.
RETURN TO LEARN

LEVEL 1 or Phase 1
Rest.
**No** reading, computer, TV, class, tutor, team meetings, video games
**No** Concentrating
(No physical activity)

LEVEL 2 or Phase 2
Class and team meetings if tolerated.
Mild Concentration
(Low level training room activity—bike, etc.) Target Heart Rate 40%-60%
Exercises in quite room

LEVEL 3 or Phase 3
Add tutoring and position meetings as tolerated
Mild/Moderate Concentration
Exercises in gym or more active environment
Team Warm up
On field conditioning, drills Target Heart Rate 60%-80%

LEVEL 4 or Phase 4
Add class related computer work and team-related film sessions if tolerated.
Exams “?”
Sports Specific Activity Target Heart Rate 80% (+)
Aggressive Strength Training
(Non-contact practice)

LEVEL 5 or Phase 5
Progress to regular mental activity as tolerated, drills)
(Progress to full activity, contact)

Student-athlete must be symptom free before moving to next level or phase.
SIGNS AND SYMPTOMS OF A CONCUSSION

• SIGNS OBSERVED BY PARENTS OR GUARDIANS
  - Appears dazed or stunned
  - Is confused about events
  - Answers questions slowly
  - Repeats questions
  - Can't recall events prior to hit, bump, or fall
  - Can't recall events after the hit, bump, or fall
  - Losses consciousness (even briefly)
  - Shows behavior or personality changes
  - Forgets class schedule or assignments

• SYMPTOMS REPORTED BY STUDENTS
  Physical
  - Headache or “pressure” in head
  - Nausea or vomiting
  - Balance problems or dizziness
  - Fatigue or feeling tired
  - Blurry or double vision
  - Sensitivity to light or noise
  - Numbness or tingling
  - Does not “feel right”
  - Thinking/Remembering
    - Difficulty thinking clearly
    - Difficulty concentrating or remembering
  - Feeling more slowed down
  - Feeling sluggish, hazy, foggy, or groggy
  Emotional
    - Emotional:
      - Irritable
      - Sad
    - More emotional than usual
    - Nervous
    - Difficulty thinking clearly
    - Difficulty concentrating or remembering
    - Feeling more slowed down
    - Feeling sluggish, hazy, foggy, or groggy
  Sleep
    - Drowsy
    - Sleeps less than usual
    - Sleeps more than usual
    - Has trouble falling asleep