EAST CAROLINA UNIVERSITY
CAMPUS RECREATION &
WELLNESS CONCUSSION
MANAGEMENT PLAN 2020-21

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Concussions pose a significant risk to participants at all levels. To increase awareness of concussions in sports and provide recreation employees and participants with the information they need to recognize when to seek help for a suspected concussion, the Assistant Director of Athletic Training in the Campus Recreation & Wellness Department of East Carolina University will institute the following concussion education plan.

1. Concussion Education Components

Concussion education and awareness materials used by the department will include information on:

- What concussions are
- How concussions happen
- Signs and symptoms
- What to do if a concussion is suspected
- Red flags that necessitate emergency medical care
- The dangers of ignoring a concussion

Who is trained in Concussion Education & Awareness?

- Student staff employed by ECU campus rec & wellness
  - Sport Program Supervisors
  - Facility managers
  - Score keepers
  - Lifeguards
  - Adventure Staff
- All club sport participants

What Is a Concussion?

Sport related concussion (SRC) is a traumatic brain injury (TBI) induced by biomechanical forces. Several common features that may be utilized in clinically defining the nature of a concussive 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 several 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).

Signs and Symptoms

Recognizing and evaluating SRC in the club participant on the field can be a challenging responsibility for the healthcare provider (i.e., athletic trainer or sports med physician). Performing this task often involves a rapid assessment during competition with a time constraint and the participant eager to play. A standardized objective assessment of
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injury that excludes more serious injury is critical in determining disposition decisions for the participant. The sideline evaluation completed by the healthcare providers is based on recognition of injury, assessment of symptoms, cognitive and cranial nerve function, and balance. Repeated assessments are often necessary. Because SRC is often an evolving injury, and signs and symptoms may be delayed, erring on the side of caution (i.e., keeping a participant out of participation when there is any suspicion of injury) is important.

The suspected diagnosis of SRC can include one or more of the following clinical domains:

A. Symptoms: somatic (e.g., headache), cognitive (e.g., feeling like in a fog) and/or emotional symptoms (e.g., lability)
B. Physical signs (e.g., loss of consciousness, amnesia, neurological deficit)
C. Balance impairment (e.g., gait unsteadiness)
D. Behavioral changes (e.g., irritability)
E. Cognitive impairment (e.g., slowed reaction times)
F. Sleep/wake disturbance (e.g., somnolence, drowsiness)

If signs or symptoms in any one or more of the clinical domains are present, an SRC should be suspected and the appropriate management strategy instituted. It is important to note, however, that these signs and symptoms also happen to be non-specific to concussion, so their presence simply prompts the inclusion of concussion in a differential diagnosis for further evaluation, but the symptom is not itself diagnostic of concussion.

Red Flags - Any person who experiences any of the following after a head injury should seek urgent medical evaluation:

- Significant midline neck pain
- Decreased cervical spine range of motion
- Double vision
- Weakness/tingling/burning in arms or legs
- Severe or increasing headache
- Seizure or convulsions
- Deteriorating conscious state
- Repetitive Vomiting
- Increasingly restless, agitated or combative

II. Pre-Participation Assessment

All incoming freshman and other first-time East Carolina University Club Sport student-participants participating in the sports classified as “High Risk” (See Figure 1) will undergo baseline testing prior to team participation using Sway Medical to establish the participant’s normal cognitive, balance and memory function. A certified athletic trainer (AT) will schedule the baseline tests with the club officers to occur before a scheduled practice and on the surface that they will be participating on. In the event a participant is evaluated for a concussion, the test at the time of injury is compared to the baseline test to determine if there is any impairment.

Any team or participant that is not required to get a baseline test but would like to have one, may contact the Assistant Director of Athletic Training to schedule testing. See Appendix A for the full classifications of club sports risk levels. In addition, it is strongly recommended for participants with a history of concussion participating in any other sport to conduct a Sway baseline test.
III. Event of an Injury

REMOVE

If a participant shows any signs or symptoms of an SRC:

i. The participant should be evaluated by a physician or other licensed healthcare provider (i.e. AT) on site using standard emergency management principles, and attention should be given to excluding a cervical spine injury.

ii. The appropriate disposition of the participant must be determined by the treating healthcare provider in a timely manner. If no healthcare provider is available, the participant should be safely removed from practice or play and a referral to an AT +/- a physician arranged.

iii. Once the first aid issues are addressed, an assessment of the concussive injury should be made using the standardized assessment tools.

iv. The participant should not be left alone immediately after the injury, and serial monitoring for deterioration is essential over the initial few hours after injury.

v. A participant with diagnosed SRC should not be allowed to return to play on the day of injury.

Some concussions warrant immediate transportation to a hospital. Emergency personal is needed if the participant begins to experience any of the Red Flags (pg.3). All concussions are to require clearance by a physician prior to return to activity and play. Once clearance recommendations have been made, the participant must provide documentation of those clearance recommendations to the ECU CRW AT.

HIGH RISK GROUPS

<table>
<thead>
<tr>
<th>High Risk - Group A</th>
<th>High Risk- Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rugby</td>
<td>6. Field Hockey</td>
</tr>
<tr>
<td>2. Ice Hockey</td>
<td>7. Soccer (M)</td>
</tr>
<tr>
<td>3. Rugby (W)</td>
<td>8. Soccer (W)</td>
</tr>
<tr>
<td>4. Lacrosse (M)</td>
<td>9. Lacrosse (W)</td>
</tr>
<tr>
<td>5. Wrestling</td>
<td>10. Volleyball (M)</td>
</tr>
<tr>
<td></td>
<td>11. Volleyball (W)</td>
</tr>
<tr>
<td></td>
<td>12. Boxing</td>
</tr>
<tr>
<td></td>
<td>13. Cheerleading</td>
</tr>
</tbody>
</table>

HOME CLUB EVENTS-

A home event is defined as one occurring in the ECU facilities or any of the local satellite facilities.

In the event a participant is suspected of having a concussion during a home event they should be removed from play immediately and referred to the athletic trainer covering the game for further evaluation. If the participant is assessed to not have a concussion based off the AT’s sideline evaluation, then the participant should be further assessed with exertional maneuvers (pushups, sit ups, mountain climbers, jumping jacks, and jogging). If the participant remains asymptomatic and has no evidence of altered cognitive and/or balance functioning, they may return to play. If a concussion is suspected, then the participant is removed from play for the rest of the game or practice and the participant will follow the ECU CRW ATs medical advice on further instruction. A concussion factsheet will be provided to the participant by the Athletic Trainer, Sport Program Supervisor or Facility Manager.
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via email or hard copy. All concussions will require a follow up with a physician. Any participants with a concussion will be referred to a physician as soon as available.

If the AT is not present at the time of injury, they should be notified as soon as possible by a Club Officer. If the participant is from a team in the High-Risk group (Figure 1), the safety officer will run an event assessment on Sway. Those results are immediately sent to the “on call” AT. The AT will then evaluate the Sway results, compare them to the participant’s baseline and get in contact with the safety officer to determine the next steps of care. Participants who have been removed from play and not assessed immediately by an AT should get in contact with the ECU CRW ATs to be evaluated as soon as available.

AWAY CLUB EVENTS
An away event is defined as one occurring outside of the ECU Facilities or satellite locations.

In the event of a participant being suspected of sustaining a head injury during an away event, the participant should be immediately removed from play and should not be allowed to return. If an AT is available at the hosting facility, the participant should seek care from the hosting AT or medical personnel. If no AT or medical personnel is present at the venue, designated team safety officers should run the participant through the provided CRT-5 (See Appendix B) assessment tool or run them through the Sway event test if they are a High-Risk team. The participant should be monitored closely, and the ECU CRW ATs should be informed immediately by a Club Officer. Within 24 hours of the teams return, the participant must follow-up with the ECU CRW AT for further instruction.

INTRAMURAL EVENTS

In the event of a participant being suspected of sustaining a head injury during an intramural event, the participant should be immediately removed from play and should not be allowed to return. Student staff should radio an AT to inform them there is a suspected head injury. Student staff will bring the injured participant to the AT if possible. A concussion factsheet will be provided to the participant by the Athletic Trainer, Sport Program Supervisor or Facility Manager via email or hard copy. If no AT is present, a sport program supervisor is to fill out an accident report and review the CRT-5 with the participant. The participant should be given the business card of the ATs and informed that they will need to schedule an appointment with an AT before returning to participation.

OPEN RECREATION

Any open recreation participant suspected of sustaining a head injury between 4:00-PM – 9:00 PM Monday through Friday should be brought to the Athletic Training room for evaluation. While they are waiting to be seen by an AT, the student staff should be filling out an accident report in Connect2. All other head injuries that occur outside that time window should be brought to the Facility Manager to be assessed using the CRT-5. Facility Manager will provide them with a concussion factsheet, inform them that they are no longer allowed to participate until evaluated by the CRW ATs and that the CRW AT’s will reach out to them to schedule a follow up evaluation to determine their ability to return to participation or not.

IV. Post-Concussion Treatment Plan

Referral

Participants suspected of having an SRC or other TBI will be referred for evaluation by a medical professional with concussion experience. They will be suspended from IM Leagues, facility access and will not be allowed to start the return to play progression until they provide the ECU CRW ATs with documentation of

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clearance from a physician. The injured participant needs to follow up with the AT regularly to monitor symptoms. If the participant does not follow treatment plan accordingly, they put their club at risk for a 1-year suspension. See Club Sports Handbook for more details.

Return to Play (RTP) Progression

After an appropriate initial evaluation and a brief period of rest during the acute phase (24–48 hours) after injury, club participants can be encouraged to become gradually and progressively more active while staying below their cognitive and physical symptom-exacerbation thresholds (i.e., activity level should not bring on or worsen their symptoms) under the supervision of their AT. It is reasonable for participants to avoid vigorous exertion while they are recovering. There should be at least 24 hours (or longer) for each step of the progression. If any symptoms worsen during exercise, the participant should go back to the previous step. Closely-monitored active rehabilitation programs involving controlled sub-symptom-threshold, submaximal exercise has been shown to be safe and may be of benefit in facilitating recovery. Resistance training should be added only in the later stages (stage 3 or 4 at the earliest). Refer to Figure 1 (pg. 8) for more information.

Club sport participants will be required to go through their RTP while supervised by an ECU CRW AT. Intramural and open recreation participants will be given a concussion factsheet (See Appendix C) as well as the progression chart (Figure 1, pg. 8) to complete their progression on their own. After it’s been completed, they will return to the ECU CRW ATs for a final check-in before clearance to return to activity.

6-Step Return to Play Progression Chart

Follow the link below for further progression recommendations from the CDC
https://www.cdc.gov/headsup/basics/return_to_sports.html

Return to Learn

In most cases, a concussion will only transiently limit a student’s participation in school; however, in some cases, a concussion can affect multiple aspects of a student’s ability to participate, learn, and perform well in school. In turn, the experience of learning and engaging in academic activities that require concentration can cause a student’s concussion symptoms to reappear or worsen. The concept of resting the brain is important and it is recommended to limit brain exertion with activities such as thinking, learning, memorizing, reading, texting, computer time, and watching TV for at least the first 24-48 hours following a concussion. A gradual return to cognitive activities, if it does not make things worse, is the best approach.

If a participant is having difficulties focusing or being able to fulfill their academic responsibilities due to concussion symptoms, the participant should contact the Assistant Director of Athletic Training to set up a follow-

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up appointment with the Sports Medicine Physician on campus. If the Sports Med Physician feels the participant needs academic accommodations, they will refer them to accessibility services on campus. At Student Accessibility Services, an access consultant will meet one-on-one with the student to assess their level of disability and create a customized plan for accommodations.

Graduated Return to School Strategy Chart

![Graduated return-to-school strategy chart](image)

Reinstatement

After the RTP has been completed the AT deems the participant safe to return to activity, and the physician has not requested a follow up before their return, the AT will unsuspend the participant from IM Leagues and Fusion. This will allow them to participate in intramural sports and regain access to the facilities. Only the ATs can give them this access again when the suspensions are due to injuries.

V. Recordkeeping

It is essential that the department keep records of accidents and incidents that happen, including those involving a concussion. If a participant is suspected of sustaining a concussion, an accident report should be completed as soon as possible and should record all signs and symptoms observed or experienced. Make sure to include complete contact information for the injured participant, record what type of assessment was performed, what type of treatment was provided, and any instructions that were given for follow-up. Initial accident reports will be input to Connect2 and the ATs injury evaluation will be input to Healthy Roster. The AT’s, Club Sports Coordinator, Assistant Director of Youth & Sport Programs and the Associate Director of Leadership & Programs have access to the Connect2 Reports. Only the Athletic Trainers have access to the reports on Healthy Roster.

VI. Review of Plan

Our understanding of concussions is constantly evolving. This plan was written to be in alignment with the most recent international consensus statement on concussion in sport and best practices for concussion management. The plan will be reviewed annually and updated as appropriate to stay in line with current recommendations.
# Appendix A – Risk Classification of Club Sports

## Club Sport Risk Level Classifications

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Moderate Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Contact &amp; Collision) (3 officers per team: SWAY, CPR/AED certified)</td>
<td>(Contact) (2 officers per team: SWAY, CPR/AED certified)</td>
<td>(Limited Contact) (1 officer per team: CPR/AED certified)</td>
</tr>
</tbody>
</table>

### Group A
- 1. Rugby (M)
- 2. Ice Hockey (M)
- 3. Rugby (W)
- 4. Lacrosse (M)
- 5. Wrestling

### Group B
- 6. Field Hockey
- 7. Soccer (M)
- 8. Soccer (W)
- 9. Lacrosse (W)
- 10. Volleyball (M)
- 11. Volleyball (W)
- 12. Boxing
- 13. Cheerleading

| **High Risk** Group A: These teams will have AT coverage for games, competitions and contact practices. ATCs will not travel with teams, but the team’s safety officers are expected to update ECU CRW ATC immediately if there are anyconcussions or injuries that require immediate evaluation. All other injury reports should be completed/submitted within 24 hours. ATC will not provide sideline coverage at non-contact/walk through practices, and the teams will need to communicate at least 5 days in advance when they plan to have non-contact/walk through practices. If more than one club sport team has an event on the same day, teams will be asked to coordinate game time changes as needed to ensure proper AT coverage. Conference schedules, national governing bodies and official availability will impact scheduled game times. If ECU CRW ATCs are unable to accommodate ATCs from a contracted outside source will be provided. |
| **High Risk** Group B: These teams will have AT coverage on the sidelines for games and/or competitions. An ATC will not be on their sidelines for practice, but they will be on call and attempt to arrive on scene in 15 minutes or less if needed for an injury. If all three ECU CRW ATCs are at other events or unavailable at the time of competition, an outreach ATC will be provided by ECU CRW. ATC will not travel with teams, but the team’s safety officers are expected to update ECU CRW ATC immediately if there are any concussions or injuries that require immediate evaluation. All other injury reports should be completed/submitted within 24 hours. If more than one sport has an event on the same day, the teams will be asked to coordinate game time changes as needed to ensure proper AT coverage. Conference schedules, national governing bodies and official availability will impact scheduled game times. When ATC coverage is available, the priority is given to the sport that is higher up on the list. |
| **Moderate Risk**: These teams have the option to request AT sideline coverage for their games or competitions. Their request must be given at least 10 days in advance. The ECU ATCs have the option to accept or deny request within 5 days of the event based on availability. |
| **Low Risk**: These teams will not receive any AT sideline coverage but do have access to the rehab services provided in the clinic during operating hours. |

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Appendix B – Concussion Recognition Tool (CRT-5)

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STEP 3: SYMPTOMS
- Headache
- "Pressure in head"
- Balance problems
- Nausea or vomiting
- Drowsiness
- Dizziness
- Blurred vision
- Sensitivity to light
- Sensitivity to noise
- Fatigue or low energy
- "Don’t feel right"
- More emotional
- More Irritable
- Sadness
- Nervous or anxious
- Neck Pain
- Difficulty concentrating
- Difficulty remembering
- Feeling slowed down
- Feeling like "in a fog"

STEP 4: MEMORY ASSESSMENT
(IN ATHLETES OLDER THAN 12 YEARS)
Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion:
- "What venue are we at today?"
- "Which half is it now?"
- "Who scored last in this game?"
- "What team did you play last week/game?"
- "Did your team win the last game?"

Athletes with suspected concussion should:
- Not be left alone initially (at least for the first 1-2 hours).
- Not drink alcohol.
- Not use recreational/prescription drugs.
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a healthcare professional.

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ANY ATHLETE WITH A SUSPECTED CONCUSSION SHOULD BE IMMEDIATELY REMOVED FROM PRACTICE OR PLAY AND SHOULD NOT RETURN TO ACTIVITY UNTIL ASSESSED MEDICALLY, EVEN IF THE SYMPTOMS RESOLVE

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Appendix C – ECU CRW Concussion Factsheet

ECU CRW CONCUSSION FACTSHEET

Athletes who experience one or more of the signs and symptoms listed below after a bump, blow, or jolt to the head or body may have a concussion.

WHAT TO LOOK OUT FOR:

SYMPTOMS
- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just not "feeling right" or is "feeling down"

RED FLAGS: SEEK URGENT MEDICAL EVALUATION:
1. Neck pain or tenderness
2. Double vision
3. Weakness/tingling/burning in arms or legs
4. Severe or increasing headache
5. Seizure or convulsions
6. Deteriorating conscious state
7. Vomiting
8. Increasingly restless, agitated or combative

IMPORTANT PHONENUMBERS:

ECU Campus Rec & Wellness
HEAD Athletic Trainer
NAME:  Jennifer "JP" Pidgeon
PHONE:  (252) 328-2315 Work Cell (252) 414-2462
EMAIL:  pidgeoni9@ecu.edu

ECU Campus Rec & Wellness
GA Athletic Trainers
NAME:  Christi Teague Ferrell & Christina Turner
PHONE:  (252) 737-2604
EMAIL:  crwathletictraining@ecu.edu

HEADS UP ACTION PLAN:
1. Remove the athlete from play.
2. Keep the athlete out of play the day of the injury.
3. Allow athlete to get a full night of uninterrupted sleep.
4. Encourage athlete to eat a balance diet.
5. Decrease screen use and strenuous brain activity.
6. Schedule an evaluation with an appropriate health care provider for further evaluation, management and activity recommendations.

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Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the (NCOA)(National Operating Committee on Standards for Athletic Equipment.)

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