



Best Practices During Athletic Competition

Catastrophic Injury - Management of the Cervical Spine–Injured Athlete

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National Collegiate Rugby (NCR) offers best health practices to keep collegiate athletes safe during rugby competition. These best practices are recommendations for those clubs and teams that do not have current protocols through their college or university. These best practices do not supersede or take place of those protocols and policies in place by a rugby team's college or university.

NCR recommends that **ALL** rugby side-line healthcare practitioners be certified in a ***hands-on*** Immediate-care-in-Rugby (Level 2) course. An online course alone is **NOT** acceptable. Please visit World Rugby (<https://playerwelfare.worldrugby.org/?p=1408>) for course details. OsteoMed Sport, LLC (www.SportsEMR.com), and others offer a World Rugby recognized Immediate-care-in-Rugby (Level 2) equivalent course.

Catastrophic Injury in athletics occurs from a variety of contributing factors. That National Athletic Trainers' Association has recommended six areas of focus by teams to prevent catastrophic injury occurring within their team:

1. Sportsmanship – infractions should be penalized immediately and disciplined appropriately
2. Protective equipment – protective equipment should be worn and certified to be in quality condition
3. Acclimatization and conditioning – be intentional with training to ensure the safest conditions with uncontrollable factors (such as the weather)
4. Emergency Action Plan (EAP) – have an EAP in place for when a teammate may incur from an injury listed below:
 - a. Head and neck injury
 - b. Cardiac emergencies
 - c. Heat illness
5. Appropriate use of training and physical activity by the athletics personnel – training is never a punishment
6. Education and training – athletic personnel should be trained on all policies and EAPs related to training athletes on the teams.

Prevention

1. Individuals responsible for the emergency care of athletes should be familiar with Rugby-specific causes of catastrophic cervical spine injury and understand the acute physiologic response of the spinal cord to injury.

2. Those responsible for the emergency care of athletes should be familiar with safety rules enacted for the prevention of cervical spine injuries and should take actions to ensure that such rules are followed.
3. Persons responsible for the emergency care of athletes should be familiar with pertinent protective equipment manufacturers' recommendations and specifications relative to fit, maintenance and removal. Maintaining the integrity of protective equipment helps to minimize the risk of injury.
4. Individuals responsible for the emergency care of athletes should educate coaches and athletes about the mechanisms of catastrophic spine injuries, the dangers of head-down contact, and pertinent safety rules enacted for the prevention of cervical spine injuries.

Planning and Rehearsal

1. Those responsible for the care of athletes should be familiar with the National Athletic Trainers' Association position statement on emergency planning in athletics.
2. Planning in advance of events carrying a risk of cervical spine injury should include preparation of a venue-specific emergency action plan. Components of the emergency action plan include appointing a team leader and acquiring appropriate equipment to facilitate stabilization, immobilization, and removal of treatment barriers (i.e., Rugby equipment). The emergency action plan should also incorporate communication with local emergency medical services and identification of the most appropriate emergency care facility to receive the injured athlete. These groups should be involved in creating the emergency action plan.
3. All individuals responsible for the care of athletes should be involved in regular (at least annual) rehearsals of the emergency action plan, as well as training and practice in the special skills inherent to managing a cervical spine injury. Skills requiring training and regular practice may include manual head and neck stabilization techniques, the multiple methods of transferring injured athletes (e.g., log-rolling, lift-and-slide techniques), equipment management (e.g., gaining access to the airway or chest), and immobilization methods (e.g., long spine board, cervical collar application, etc.).

Assessment

During initial assessment, the presence of any of the following findings, alone or in combination, heightens the suspicion for a potentially catastrophic cervical spine injury and requires the initiation of the spine injury management protocol: unconsciousness or altered level of consciousness, bilateral neurologic findings or complaints, significant midline spine pain with or without palpation, and obvious spinal column deformity.

Stabilization

1. When a potential spine injury is suspected, rescuers should ensure that the cervical spine is in a neutral position and should immediately apply manual cervical spine stabilization. This will minimize motion during the management of the injury.
2. Rescuers should not apply traction to the cervical spine, as this may cause distraction at the site of injury. Traction in a cervical spine with ligamentous injury can result in excessive distraction and sUBLuxation that can further compromise the spinal cord.
3. If the spine is not in a neutral position, rescuers should realign the cervical spine to minimize secondary injury to the spinal cord and to allow for optimal airway management. However, the presence or development of any of the following, alone or in combination, represents a contraindication for moving the cervical spine to neutral position: the movement causes increased pain, neurologic symptoms, muscle spasm, or airway compromise; it is physically difficult to reposition the spine; resistance is encountered during the attempt at realignment; or the patient expresses apprehension.

Airway

1. Rescuers should immediately attempt to expose the airway, removing any existing barriers (eg, protective face masks).
2. If rescue breathing becomes necessary, the individual with the most training and experience should establish an airway and commence rescue breathing using the safest technique.
3. During airway management, rescuers should cause as little motion as possible.
4. The jaw-thrust and trauma just-thrust maneuvers are recommended over the head-tilt technique, which produces unnecessary motion at the head and in the cervical spine. Advanced airway management techniques (eg, laryngoscope, endotracheal tube) are recommended in the presence of appropriately trained and certified rescuers; these methods have been shown to cause less motion and, therefore, are less likely to worsen neurologic status.

Transfer and Immobilization

1. Manual stabilization of the head should be converted to immobilization using a combination of external devices (eg, cervical collars, foam blocks), and stabilization of the cervical spine should be continued until a destabilizing injury has been ruled out using appropriate diagnostic testing (imaging). Whenever possible, manual stabilization should be resumed after the application of external devices.
2. Individuals responsible for the emergency care of athletes with cervical spine injuries should be prepared to immobilize these athletes with a long spine board or other full-body immobilization device.
3. Although the traditional spine board represents the most common device used for full-body immobilization, devices such as the full-body vacuum splint are more comfortable for athletes, reduce superficial irritation and sores over bony prominences, and may be used in appropriate situations.
4. For the supine athlete, a lift-and-slide technique (e.g., 6-plus-person lift, straddle lift and slide) of transferring the athlete to an immobilization device has been reported to produce less motion at the head and in the cervical spine than the log-roll technique and should be used in appropriate situations.
5. For the prone athlete, all potential rescuers must be familiar with the log-roll method of transferring to an immobilization device.

Source:

Swartz EE, Boden BP, Courson RW, et al. National athletic trainers' association position statement: acute management of the cervical spine-injured athlete. *J Athl Train.* 2009;44(3):306-331.
doi:10.4085/1062-6050-44.3.306

Recommended Links:

https://ncaaorg.s3.amazonaws.com/ssi/injury_prev/SSI_PreventingCatastrophicInjuryBooklet.pdf

<https://www.nata.org/press-release/092519/interassociation-recommendations-preventing-catastrophic-injury-and-death>