

Sports Venue Coverage: EMS Guidelines for Medical Time Out

High school sporting venues are high profile community events with an inherent risk of sports trauma or spectator illness or injury. Emergency Medical Services (EMS) coverage of West Virginia inter-scholastic Friday night football has been documented to occur in over 94% of contests. Similar to other rural states, physician and certified athletic trainers (NATA) are present in less than 50% of events. The Medical Time Out protocol promotes pre-game organization for response to athlete and spectator injury.

These guidelines provide a rationale and structure for EMS entry to the sports trauma arena with the focus on pre-game preparation and communication with medical staff for participating schools. The guidelines in this protocol provide procedures for catastrophic injury recognition and response. This encourages direct participation and venue awareness with EMS positioning to promote precision of response. EMS event coverage is a valued community service with a component of unique high visibility "fish-bowl arena" and deserves a component of protection for adverse outcomes.

EMS Squad education and implementation for a Medical Time Out prior to providing coverage for scholastic sporting events is consistent with new legislation for sports concussion in all 50 states.

Medical Time Out education and checklist should be monitored by the Squad Training Officer and Squad Medical Director.

- A. The pre-game checklist should be initiated 15-30 minutes prior to the event and should document cell **phone contacts** for all participants - Team Medical Staff, EMS, Police, and School Officials.
- B. The checklist should include hand signals for EMS response to the field of play with need for sport concussion, backboard, ACLS support, and spectator response. Event sideline and press box radio communication is recommended but optional.
- C. **AED locations** in the venue should be recorded with documentation of Sentinel Seizure awareness in athlete sudden cardiac arrest.
- D. Procedures for **head and neck injury** should be reviewed with the captain assigned for C-spine control, face mask removal equipment, and agreed **technique for boarding** (log roll or 8 person lift).

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E. Additional information included in the checklist depending on the sport venue may include **cheerleading injury response** and in geographically isolated locations designated **aero-medical landing zone coordinates**, and back-up EMS when game coverage is limited to a single unit.

F. **Check List Items:**

1. Phone Contacts
2. Hand Signals
3. AED Locations
4. Head and Neck Injury
5. Technique for Boarding
6. Cheerleading Injury Response
7. Aero-medical Landing Zone Coordinates

G. Sports Concussion

1. West Virginia 2013 legislation on sports concussion return to play requires mandatory removal from contest in all cases of suspected head injury identified by sideline physician, athletic trainer or coach.
Return to play guidelines require a 5 day progression after symptom resolution and neuropsychological testing with physician involvement.
2. EMS intervention is typically requested in cases with loss of consciousness or worsening symptoms. During transport a symptom checklist should be recorded and provided to the receiving Emergency Department. (Sports Concussion Checklist Tools can be found online).

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H. Heat Illness

1. Heat stress is common in high school football. Exertion Heat Stroke with rectal temperature above 104 F and altered mental status requires rapid cooling with ice bath immersion prior to transport. Heat exhaustion with temp above 100 F should include IVF with normal saline bolus (1 liter). Athletes with known or suspected sickle cell trait (SCT) are at increased risk for heat stress and may progress to explosive rhabdomyolysis and deterioration to PEA cardiac arrest from acute renal failure induced hyperkalemia. SCT athletes with heat stress require cardiac monitoring for development of peaked T waves or QRS prolongation.

I. Athlete Sudden Cardiac Arrest (SCA)

1. Intense exercise is a trigger for Sudden Cardiac Arrest in athletes with unrecognized Hypertrophic Cardiac Myopathy (HCM), Coronary Artery Anomalies, Arrhythmogenic Right Ventricular Dysplasia (ARVD), and Long QT Syndrome.
2. ***Sudden collapse during sports play should be considered cardiac in origin.*** Athlete collapse with seizure (Sentinel Seizure) and/or agonal respirations require chest exposure for AED placement or cardiac monitor with high index of suspicion for cardiac etiology.