



CONDITION-SPECIFIC CONSIDERATIONS WHEN DEVELOPING AN EMERGENCY ACTION PLAN

By: Daryl A. Rosenbaum, MD

Fortunately, medical emergencies in the athletic setting are rare. However, this does not excuse an organization from the responsibility of being prepared for one. Actions taken (or not taken) during the first few minutes of a medical emergency usually have the most impact on the eventual outcome. Better yet, some precautions taken ahead of time may prevent a medical crisis from occurring in the first place.

If you have not yet looked over the “General Guidelines for Developing an Emergency Action Plan” please do so prior to reading the following issues related to specific medical conditions that should be considered when creating an Emergency Action Plan.

1. Sudden Cardiac Arrest

- Goal of initiating Cardio-Pulmonary Resuscitation (CPR) within 1 minute of collapse
 - Targeted first responders (e.g. athletic trainers, first responders, coaches) should receive CPR training and maintain certification
 - Goal of “shock” from a defibrillator within 3-5 minutes of collapse
 - Consider obtaining Automated External Defibrillator(s)
 - Understand that in most communities the time from EMS activation to shock is 6.1 minutes on average and can be longer in some places
 - Appropriate training, maintenance and access
 - Notify EMS of AED type, number and exact location
- Additional equipment to consider beyond AED
 - Barrier shield device/pocket masks for rescue breathing
 - Bag-valve mask
 - Oxygen source

- Oral and nasopharyngeal airways

2. Heat Illness

- Determine policy for adding rest and water breaks, limiting activity or cancelling activity based on Heat Index (<http://www.weather.gov/om/heat/heatindex.shtml>) or, better yet, Wet Bulb Globe Temperature (http://en.wikipedia.org/wiki/Wet_Bulb_Globe_Temperature)
- Inquire about sickle cell trait status on Pre-Participation form
 - Consider those with the trait to be “susceptible to heat illness”
 - Those with the trait should not be subject to timed workouts especially early in season
 - Those with the trait should be removed from participation immediately if any sign of “exhaustion” or “struggling” is observed
- If heat illness is suspected
 - Activate EMS immediately
 - Begin cooling measures immediately
 - Water immersion – ice water preferred, cold or tepid water will work. Can be done in a child’s pool.
 - Alternatives - soaked towels, fan and mist. Of course also provide shade or cool environment if easily available.
- Any victim of heat illness should see a physician before return to play

3. Head and Neck injury

- Sports medicine team should communicate ahead of time with local EMS
- Agree upon cervical spine immobilization techniques
- Type of immobilization equipment available on-site and from EMS
- Athletes and coaches should be trained not to move victims

4. Asthma

- Students with asthma should have an “asthma action plan” (See http://nhlbi.nih.gov/health/prof/lung/asthma/asth_sch.htm or www.aafa.org for examples)
 - Lists medications, describes actions to take based on certain symptoms and/or peak flow values as determined by a licensed physician / PA / NP
 - On file with administrative office

- Available at game / practice / conditioning
- Can be same as that on file with a school nurse
- Students with asthma should have:
 - Rescue inhaler and spacer if prescribed
 - Readily accessible during games / practice /conditioning
 - Responsible adult could have an extra inhaler for each individual athlete as back-up
 - Before each activity test to be certain it is functional, contains medication, is not expired
 - Pulmonary function measuring device like a peak flow meter
 - Use in coordination with asthma action plan

5. Anaphylaxis

- Documentation of known anaphylactic allergy to bee stings, foods, medications, etc. should be on file
 - Describes symptoms that occur
 - What action to take if specific symptoms occur
- Athletes with known anaphylactic allergy should have
 - Rescue prescription medication (usually an epi-pen)
 - Readily accessible during games / practice / conditioning
 - Responsible adult could have an extra supply of the rescue medication prescribed individually for each student as back-up
 - Before each activity examine to be certain it is functional, contains medication, is not expired

6. Lightning

- Assign the role of monitoring for threatening weather conditions
 - Typically athletic trainer, administrator
 - Methods to monitor for lightning risk
 - Consult National Weather Service (<http://www.weather.gov/alerts/nc.html>) or local media for severe weather watches and warnings
 - Flash-to-bang method

- Count the time in seconds that passes between a “flash” of lightning and the “bang” of thunder that follows. If count is less than 30 seconds, stop activity and seek safe shelter
- Communicate the need to stop activity and seek shelter
 - P.A. announcement
 - Signal sound from a horn, siren, whistle, bell
 - Identify safe shelter for each venue and be sure it is accessible (within reasonable distance, unlocked, capacity)
 - Building (with four walls, a ceiling, and plumbing or wiring that acts to electrically ground the structure)
 - Secondary option is a metal roof vehicle with all windows completely rolled up
 - Last option is thick grove of small trees surrounded by larger trees or a dry ditch assuming proper posture (crouch, grab knees, lower head, minimize contact with ground)
 - Determine when to resume activity
 - Flash-to-bang count greater than 30 seconds or pre-determined time period (usually 30 minutes) after last visible lightning

References:

Andersen JC, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. *J Athl Train* 2002;37(1):99–104
<http://www.nata.org/statements/position/emergencyplanning.pdf>

Armstrong LE, Casa DJ, Millard-Stafford M, Moran DS, Pyne SW, Roberts WO. ACSM position statement: exertional heat illness during training and competition. *Med Sci Sp Ex* 2007;39(3):556-572
http://journals.lww.com/acsm-msse/Fulltext/2007/03000/Exertional_Heat_Illness_during_Training_and.20.aspx