National Athletic Trainers' Association

CONSENSUS STATEMENT: EXECUTIVE SUMMARY

Inter-Association Task Force Recommendations on Emergency Preparedness and Management of Sudden Cardiac Arrest in High School and College Athletic Programs

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INTRODUCTION

Sudden cardiac arrest (SCA) is the leading cause of death in young athletes.[1, 2] Athletes are considered the healthiest members of our society, and their unexpected death during training or competition is a catastrophic event that stimulates debate regarding both preparticipation screening evaluations and appropriate emergency planning for athletic events. Despite preparticipation screening, healthy-appearing competitive athletes may harbor unsuspected cardiovascular disease with the potential to cause sudden death.[3] With the increasing availability of automated external defibrillators (AEDs) at athletic events, there is potential for effective secondary prevention of sudden cardiac death (SCD). The presence and timely access of AEDs at sporting venues provides a means of early defibrillation not only for athletes, but also for spectators, coaches, officials, event staff, and other attendees on campus in the case of an unexpected SCA.

Many health-related organizations have guidelines for managing SCA during athletic practices and competitions. However, these guidelines have not directly linked emergency planning and SCA management in athletics. The National Athletic Trainers' Association (NATA) convened an Inter-Association Task Force in Atlanta, Georgia on April 24, 2006, to develop consensus Recommendations on Emergency Preparedness and Management of SCA in High School and College Athletic Programs. The Task Force included representatives from 15 national organizations* with special interest in SCA in young athletes and a multidisciplinary group of health care professionals from athletic training, cardiology, electrophysiology, emergency medicine, emergency medical technicians, family medicine, orthopedics, paramedics, pediatrics, physical therapy, and sports medicine.

The goal of this statement is to assist high school and college athletic programs prepare for and respond to an unexpected SCA by summarizing essential elements of SCA in young athletes and outlining the necessary elements for emergency preparedness and standardized treatment protocols in the management of SCA. Management guidelines are focused on basic life support measures for SCA which can be provided by both bystanders and healthcare professionals before the arrival of emergency medical services (EMS) personnel. All recommendations in this statement are in agreement with the 2005 American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC),[4] the AHA Scientific Statement on Response to Cardiac Arrest and Selected Life-Threatening Medical Emergencies and the Medical Emergency Response Plan for Schools,[5] and the NATA Position Statement on Emergency Planning in Athletics.[6] Recommendations are directed towards the athletic health care team including athletic trainers, team physicians, coaches, school

administrators, and other potential first responders. This statement is intended for high school and college athletic programs and institutions, although recommendations may be applicable in other settings.

Purpose of Consensus Statement

1) To summarize essential information regarding SCA in young athletes.
2) To define appropriate emergency preparedness for SCA at athletic venues.
3) To establish uniform recommendations for the management of SCA in athletes.

SUMMARY POINTS

Emergency Preparedness

- Every school or institution that sponsors athletic activities should have a written and structured emergency action plan (EAP).
- The EAP should be developed and coordinated in consultation with local EMS personnel, school public safety officials, on-site first responders, and school administrators.
- The EAP should be specific to each individual athletic venue and encompass emergency communication, personnel, equipment, and transportation to appropriate emergency facilities.
- The EAP should be reviewed and practiced at least annually with certified athletic trainers, team and attending physicians, athletic training students, school and institutional safety personnel, administrators, and coaches.[6]
- Targeted first responders should receive certified training in CPR and AED use.
- Access to early defibrillation is essential and a target goal of <3-5 minutes from the time of collapse to the first shock is strongly recommended.[5, 7]
- Review of equipment readiness and the EAP by on-site event personnel for each athletic event is desirable.

Management of Sudden Cardiac Arrest

- Management begins with appropriate emergency preparedness, CPR and AED training for all likely first responders, and access to early defibrillation.
- Essential components of SCA management include early activation of EMS, early CPR, early defibrillation, and rapid transition to advanced cardiac life support.
- High suspicion of SCA should be maintained for any collapsed and unresponsive athlete.
- SCA in athletes can be mistaken for other causes of collapse and rescuers should be trained to recognize SCA in athletes with special focus on potential barriers to recognizing SCA including inaccurate rescuer assessment of pulse or respirations, occasional or agonal gasping, and myoclonic or seizure-like activity.
- Young athletes who collapse shortly after being struck in the chest by a firm projectile or by contact with another player should be suspected of having SCA from commotio cordis.
- Any collapsed and unresponsive athlete should be managed as a SCA with application of an AED as soon as possible for rhythm analysis and defibrillation if indicated.
- CPR should be provided while waiting for an AED.
- Interruptions in chest compressions should be minimized and CPR stopped only for rhythm analysis and shock.
- CPR should be resumed immediately after the first shock, beginning with chest compressions, with repeat rhythm analysis following 2 minutes or five cycles of CPR, or until advanced life support providers take over or the victim starts to move.[7, 8]
- Rapid access to the SCA victim should be facilitated for EMS personnel.

**The following national organizations participated in the Task Force: American Academy of Emergency Medicine, American Academy of Pediatrics, American College of Emergency Physicians, American College of Sports Medicine, American Heart Association, American Medical Society for Sports Medicine, American Orthopaedic Society for Sports Medicine, American Osteopathic Academy for Sports Medicine, American Physical Therapy Association Sports Physical Therapy Section, National Association of Emergency Medical Service Physicians, National Association of Emergency Medical Technicians, National Athletic Trainers' Association, National Collegiate Athletic Association, National Federation of State High School Associations, and Sudden Cardiac Arrest Association.*

References

1. Maron BJ. Sudden death in young athletes. N Engl J Med 2003;349(11):1064-75.
2. Van Camp SP, Bloor CM, Mueller FO, Cantu RC, Olson HG. Nontraumatic sports death in high school and college athletes. Med Sci Sports Exerc 1995;27(5):641-7.
3. Maron BJ, Shirani J, Poliac LC, Mathenge R, Roberts WC, Mueller FO. Sudden death in young competitive athletes. Clinical, demographic, and pathological profiles. JAMA 1996;276(3):199-204.
4. 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation 2005;112(24 Suppl):IV1-203.
5. Hazinski MF, Markenson D, Neish S, et al. Response to cardiac arrest and selected life-threatening medical emergencies: the medical emergency response plan for schools: A statement for healthcare providers, policymakers, school administrators, and community leaders. Circulation 2004;109(2):278-91.
6. Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. J Athl Train 2002;37(1):99-104.
7. Part 4: Adult Basic Life Support. Circulation 2005;112(24_suppl):IV19-IV34.
8. Part 5: Electrical Therapies: Automated External Defibrillators, Defibrillation, Cardioversion, and Pacing. Circulation 2005;112(24_suppl):IV35-IV46.

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