

Resuscitation after on-field cardiac arrest should start with teammates, says sports cardiologist

June 8 2023



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It is well known that early resuscitation with cardiopulmonary resuscitation (CPR) and an automated external defibrillator (AED) saves

lives, and in most sports-related sudden cardiac arrest events, trainers or medical personnel respond and initiate protocols to resuscitate a player while other athletes standby.

However, time to treatment is critical, so the ability for a fellow [athlete](#) to recognize sports-related [sudden cardiac arrest](#) and initiate resuscitation while medical personnel arrive is crucial in a life-threatening event where seconds matter. However, in a new study presented at the American College of Cardiology's Care of the Athletic Heart 2023 conference, only 50% of athletes surveyed reported knowing what sudden cardiac arrest is or being concerned about it during play.

"Typically, the first and closest witnesses to a fallen player are their fellow athletes, so they should become part of the first response team. In addition, athletes are ubiquitous in sports environments—the game, gym, practice facility, player-only training sessions—whereas trainers, coaches, etc. are not," said Merije T. Chukumerije, MD, a sports cardiologist with Cedars-Sinai Medical Group at the Smidt Heart Institute in Los Angeles and the study's lead author.

"Athletes are also viable members of their communities and families where they may be the only person with CPR knowledge and can therefore save lives beyond just the field of play."

Chukumerije, who collaborated with Lorrel Toft, MD, a cardiologist at the University of Nevada, Reno and a leader in CPR education, performed a review evaluating the frequency of athletes providing CPR during sports-related sudden cardiac arrest. As there is no standard reporting method for these events, the researchers were unable to perform a systematic review of databases.

The study identified sports-related sudden cardiac arrest events where CPR was clearly utilized by analyzing the first 100 YouTube results for

"athlete cardiac arrest during game" (10); Parent Heart Watch database, a nonprofit that shares stories of youth sudden cardiac arrest (20); scholarly articles (13); and media summaries (3). In total, researchers found 46 cases of sports-related sudden cardiac arrest between 1984 and 2022 involving CPR.

According to the researchers, 89% of cases involved trained personnel providing CPR and 11% involved fellow athletes providing CPR. However, in the cases involving fellow athletes, two of the athletes providing CPR were trained first responders. Therefore, only in 7% of sports-related sudden cardiac arrest cases involving CPR was a lay-responder athlete involved. Analysis of the events found that in most cases athletes would wave to medical staff for assistance before leaving the collapsed athlete.

As part of the study, a survey was performed to assess competitive athletes' awareness of sports-related sudden cardiac arrest and CPR. The study included 104 collegiate athletes (37% female) at three sites and occurred prior to the televised collapse of National Football League player Damar Hamlin in January 2023.

The survey found:

- 50% reported knowing what sudden cardiac arrest is, with no significant difference across sport, gender or years of experience
- 51% had received CPR training
- 61.5% of athletes who had received CPR training reported knowing what sudden cardiac arrest is compared to 39.2% who had no CPR training
- 7.7% of athletes were concerned about sudden cardiac arrest during play, with no significant difference across any group

According to the researchers, the study demonstrates the need for, and

benefit of, CPR and AED training for athletes. If youth sports began training at a young age and allowed for continued exposure throughout high school, college, recreational leagues and beyond, athletes would be highly skilled.

"If we review any sports-related sudden cardiac arrest event, the athlete next to the fallen player is typically shocked, waving over to the [medical staff](#) for assistance and backing away from the player. It is very rare that the response is one of action," Chukumerije said. "I would argue that CPR drills for athletes should be part of a team's emergency action plan so that the [initial reaction](#) from players is to get down, check a pulse and initiate CPR if necessary. Time saves lives."

As a longtime advocate for the importance of early action and planning in sports-related sudden [cardiac arrest](#), the ACC recently joined The Smart Heart Sports Coalition, led by the National Football League, to advocate for all states to adopt policies that will prevent death from SCA through increased CPR education, AED access and emergency action plan requirements.

More information: Conference: [www.acc.org/Education-and-Meet ... f-the-Athletic-Heart](http://www.acc.org/Education-and-Meet...f-the-Athletic-Heart)

Provided by American College of Cardiology

Citation: Resuscitation after on-field cardiac arrest should start with teammates, says sports cardiologist (2023, June 8) retrieved 23 April 2024 from <https://medicalxpress.com/news/2023-06-resuscitation-on-field-cardiac-teammates-sports.html>

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