

Study suggests new screening method for sudden death in athletes

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A new study suggests that echocardiography be included as part of screenings to help identify student athletes with heart problems that could lead to sudden death.

The Cincinnati Children's Hospital Medical Center study, presented recently at the annual meeting of the American Society of Echocardiography, suggests adding a modified echo to the current practice of taking an EKG, getting a [family history](#) and having a physical exam.

"EKG is a good tool, but may not be sensitive enough to catch problems that could lead to [sudden death](#)," says Michelle Grenier, MD, a physician at the Cincinnati Children's Heart Institute and one of the investigators of the study. "We found that an abbreviated echo is a fiscally responsible addition that will yield useful information when screening [student athletes](#) for structural [heart disease](#) and [cardiomyopathies](#)— heart muscle diseases that are the major cause of sudden death in athletes."

Screening for risk of sudden death in athletes has long been a topic of controversy, in part because it is expensive and time consuming. Her study, however, indicates that a shortened echo may increase the sensitivity of finding heart defects in competitive athletes.

As part of an ongoing study, Dr. Grenier and colleagues at Cincinnati Children's recruited 85 teen athletes for a screening that included a health questionnaire, physical exam, EKG and a 15-image, modified

echo that took nine minutes, on average, to obtain. Echoes that were considered abnormal were referred for a complete echo, where they were read by a cardiologist not involved in the study.

Ten of the participants (12 percent) had abnormal echoes when read in real-time and were referred for further assessment. These 10 participants had a normal history, [physical exam](#) and EKG. All preliminary diagnoses were later substantiated. The researchers found no additional [heart problems](#), and all 10 echoes were later confirmed to be abnormal.

"The number of patients with asymptomatic, congenital heart disease was higher than expected, but the rate of cardiomyopathy – the main cause of sudden death in athletes – is probably closer to the published rate," says Dr. Grenier. "Our goal is to provide useful information to care providers, who may then better counsel athletes and their families on full participation in sports.

"The cost-effectiveness and impact on reducing the rate of sudden cardiac death aren't yet known, but the impact on quality of life in reassurance of cardiac health during exercise is priceless," she says.

Provided by Cincinnati Children's Hospital Medical Center

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