

Texas the front line on high school ECG debate

May 3 2015, by Jim Vertuno

Cody Stephens was trying to shed some of the 290 pounds from his 6-foot-9 frame before graduating high school and attending his first college football training camp three summers ago when he took a nap and didn't wake up. The autopsy showed he had an enlarged heart, which gave out.

Spurred by the deaths of teenagers like Cody who die each year by [sudden cardiac arrest](#), Texas lawmakers are pushing to make their state the first to require public [high school](#) athletes to undergo electrocardiogram testing. Those pushing for the change, including some of the parents of children who have died, say testing is relatively cheap and simple, and that it could save lives.

"Kids are dying. Why not screen everybody?" said Cody's father, Scott Stephens, who runs a foundation with his wife that awards grants to pay for heart screening.

But opponents of mandatory screening, including the American College of Cardiology and American Heart Association, question its effectiveness, saying it would lead to thousands of false-positives each year, which would lead to further, more expensive testing that isn't necessary.

Furthermore, they point out that relatively few children die of sudden [cardiac arrest](#). According to Texas officials, only nine of the more than 13.6 million public middle school and [high school students](#) who played

sports from 2005 through 2014 died of cardiac arrest during a game or practice. That figure doesn't reflect Cody Stephens' death, because he died at home.

"Indeed, the major cause of death in young athletes, by a factor of 10-fold, is accidents," said Dr. Benjamin Levine, a Dallas-based cardiologist and former vice president of the American College of Sports Medicine, who opposes the mandatory testing proposal.

The debate over mandatory electrocardiograms, also known as ECG or EKG tests, has been swirling for years and is rekindled with each death of a young athlete. Despite the resistance of the medical establishment, groups like the Stephens' have been sprouting up throughout the country.

Testing advocates notched a partial victory in April, when the Texas House voted to require public high school athletes to get tested before their first and third years of competition.

Although the state Senate has yet to decide on the measure, the state House's vote was significant because Texas has more high [school athletes](#) than any other state, said Martha Lopez-Anderson, who founded the Florida-based Saving Young Hearts foundation after her 10-year-old son Sean collapsed and died while rollerblading.

"All eyes on are Texas. If it passes in Texas, other states will follow," she said.

Texas has tried the lead-the-country model in youth sports health policy before, setting up a massive high school steroids testing program in 2007. State lawmakers are poised to scrap it this year after spending more than \$10 million and catching only a handful of cheaters.

Unlike the steroid testing program, the state wouldn't fund the heart

screening proposal, meaning athletes and schools would shoulder the costs.

Non-profits offer schools free or low-cost ECGs in 26 states—some as cheap as \$15—according to the advocacy group Screen Across America. Some, like the Go Big or Go Home Cody Stephens Foundation, offer grants to pay for ECGs. Others, meanwhile, bring the machines and trained personnel to the schools to conduct the tests.

Pat Shuff of The Cypress ECG Project near Houston told state lawmakers his organization has screened about 23,000 students over the past two years, deeming more than 40 as "high risk" who needed follow-up tests. He said statewide testing would identify hundreds of others who need medical intervention.

Cardiology experts are concerned about the tests' reliability and the expertise of those conducting and reviewing them. The Texas measure would require about 400,000 tests per year, and the state only has 225 pediatric cardiology specialists.

And while an ECG can detect some conditions, such as an enlarged heart, it can't detect others, such as a coronary artery defect, said Dr. Silvana Molossi, co-chair of the American College of Cardiology Sports and Exercise Council.

ECG testing also have a false-positive rate of anywhere from 2 to 8 percent, Molossi said.

At the high end, the Texas plan could sideline 32,000 students with false positives that send them for more expensive follow-up procedures such as echocardiograms and magnetic resonance imaging scans that could cost thousands of dollars.

Texas already requires student-athletes to pass a physical, which includes a checklist of warning signs for heart trouble that could prompt further testing such as an ECG.

Screening advocates say it's not enough, noting that the European Society of Cardiology and International Olympic Committee recommend that young athletes undergo ECG screening, and that some other countries, including Italy and Israel, mandate screenings.

Cody Stephens had two ECGs before he died—one in the seventh grade and one in ninth grade, when he was diagnosed with exercise-induced asthma. Neither showed heart problems, but he was still growing, and put on 140 pounds in the three years before he died, his father said.

Scott Stephens said an ECG before his senior year might have saved his son.

"I don't know that," Stephens said. "But this is bigger than would it have helped my son. ... What I can do is keep parents from knowing the pain my wife and I know."

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