

'Parents assume the sport physical is enough'

There are non-profits that offer free EKG tests, and the Peyton Walker Foundation frequently holds them at various schools in central Pennsylvania. These screening events depend on awareness, which is another challenge in combating cardiac arrest.

Walker wants parents and athletes to know how critical it is to take advantage of these initiatives.



Jonathan "J.T." Kuhn, 16, suffered a massive heart attack on Feb. 28, 2019, and died March 4, 2019. (Photo: Photo courtesy of PennLive and Shawnee Smith, contributor)

"The biggest challenge is that parents assume the sports physical is enough, and that if anything was wrong, it would be found," Walker said. "Unfortunately, kids are getting the same physicals that maybe I got 40 years ago.

"We would love to see EKGs become the standard of care that would be incorporated into well-child visits and sports physicals, but until then, we will continue to reach out and provide these in the community free of charge."

But on Feb. 28, seven days after his season ended, Kuhn's mother found him unresponsive. His heart had stopped working after a massive heart attack. After a four-day stay at Hershey Medical Center, Kuhn died March 4.

Kuhn is one of hundreds of young athletes to suffer a heart attack or sudden cardiac arrest because of undiagnosed warning signs. It's an issue that schools across America are battling, searching for ways to find undetected conditions in students and respond to an emergency.

While all high school athletes undergo a physical prior to the sports season, those tests do not include advanced heart screenings, which can be expensive and don't have a clear medical consensus on their effectiveness.

Additionally, not all schools have the same access to automatic external defibrillators.

According to the Peyton Walker Foundation — named for the former Trinity High School (Pennsylvania) student who died of sudden cardiac arrest in 2013 at 19 — SCA is the No. 1 killer of young athletes in the United States and the No. 2 medical cause of death in people under 25.

[Parent Heart Watch](#), a national nonprofit that works to protect youth from SCA, reports that 1 in 300 young athletes have undetected heart symptoms. The electrical symptoms that manifest themselves via abnormal heart rhythms often aren't found in time.

Big Spring High School hopes the tragedy can educate parents and athletes alike. The school has encouraged families to bring their children to screening events managed by the Peyton Walker Foundation.

"I think the big part of it is we have to educate our student athletes and parents on the topic and make them aware of (the dangers of sudden cardiac arrest)," Big Spring athletic director Joe Sinkovich said. "That is our first step."

Can heart screenings prevent tragedies before they happen?

Sudden cardiac arrest is the abrupt loss of heart function, breathing and consciousness, according to the Mayo Clinic. It often results from an electrical disturbance in someone's heart. It is not the same as a heart attack, though the two are closely linked.

Mandatory physicals include basic cardiovascular tests with a stethoscope. But a physical is unlikely to find underlying electrical issues in someone's heart.

The best screening process for those issues is an electrocardiogram (EKG), which can detect almost 86% of these conditions, according to Julie Walker, the mother of Peyton Walker and the director of the foundation named after Peyton.



Peyton Walker was a sophomore medical student at King's College on Nov. 2, 2013, when she died due to hypertrophic cardiomyopathy. Her life inspired her mother Julie to start the Peyton Walker Foundation. (Photo: Submitted)

It's not a perfect method, but it is the most thorough, and one that Parent Heart Watch executive director Martha Lopez-Anderson believes to be a necessary step in helping prevent cardiac arrests in people like her son, who died in 2004.

"All screenings, diabetes, cholesterol, colonoscopies, mammograms, prostate tests, those screenings are done why? Because they save live," Lopez-Anderson said. "We're talking about doing a screening for the most vital organ in the body, for youth, to identify this so we can take the proper actions."

Why 'selective use' of EKGs is the best approach

While it would seem ideal for EKGs to be an operating procedure of every sports physical, many medical professionals don't believe it's that simple.

The costs, the need for a trained interpreter of the results and the debate about their efficiency make it difficult to be a mandatory procedure.

An EKG test can cost between \$30 and \$100 if covered by insurance, and much more if not. A normal physical might cost just \$15.

That can just be the beginning. According to a [report from the ABIM Foundation](#) (American Board of Internal Medicine), the results of an EKG test can sometimes be unclear. That can lead to a doctor prescribing more tests, which might end up being unnecessary.

Those tests can still give a family peace of mind about a child's health, but they can also rack up costs and keep a healthy athlete off the field.

"The issue is you are trying to catch a rare entity across a population (young people) that is typically the healthiest," said Dr. Pete Barclay, a cardiologist at WellSpan in York, Pennsylvania. "When you cast such a wide net and the testing isn't perfect, you will read things on an EKG that seems abnormal but ends up unnecessarily eliminating kids from participating."

A former football player at Princeton, Barclay understands the painful emotions that come with this issue.

"It's horrifying to think about," Barclay said. "How sudden and horrible it is."

Barclay noted that EKG tests are very useful. He said WellSpan has started a program funded by grants for young athletes who are "interested" to get the tests on a voluntary basis. The program has onsite [echo testing](#) if an abnormality is found.

Ultimately, he thinks the best course of action is for parents to be conscious of their family's heart history and to work with their doctor to see if additional heart testing is necessary.

"I'm thankful these issues are extremely rare, and with proper family history and selective uses of EKG, we can dramatically reduce these issues from occurring," Barclay said.

AEDs can save lives

According to Parent Heart Watch, 95% of SCA victims die because of a delayed emergency response. That's where AEDs can help. AEDs are portable machines that send shocks that can save the life of someone who has gone into cardiac arrest. The machines use audio and visual commands to guide the person using it.

While it's common for school athletic departments to have a few AEDs on hand — usually at least in the gym and the trainer's room — that still leaves the potential for tragedy if someone goes into cardiac arrest at an outdoor event when the trainer isn't present.

AEDs are designed for a layman to use (many schools teach their coaches how to use them), but there needs to be one in the vicinity so it can be activated quickly when someone needs it. Not all schools have the same budget size, so not all schools can purchase as many devices as they deem necessary. Many rely on donations to get more defibrillators.

The National Federation of State High School Associations, the governing body for high school sports in the United States, recently shipped more than 600 AEDs to high school associations in 24 states.