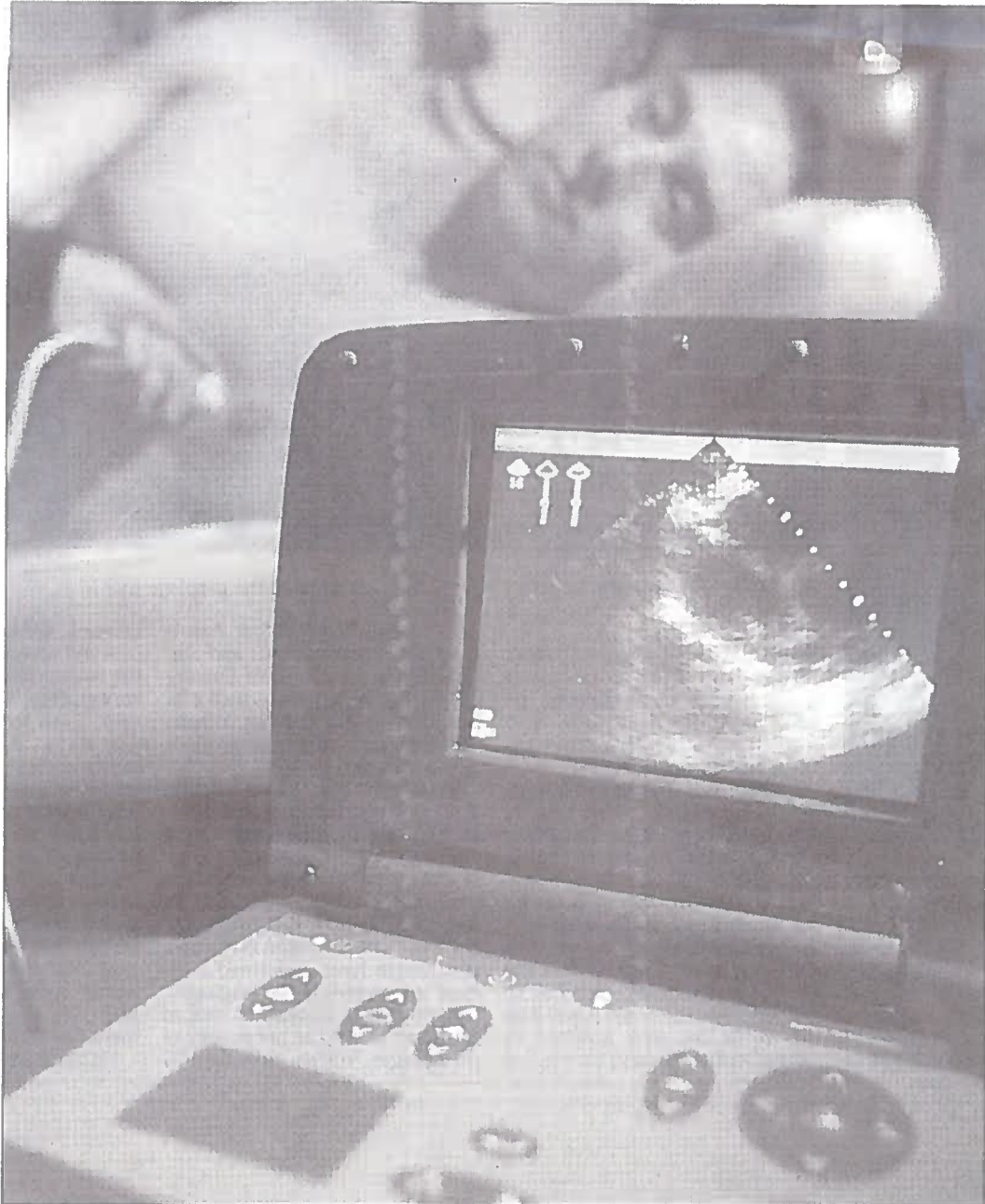


USA TODAY

NO. 1 IN THE USA

Thursday, May 24, 2001



By Todd Hilt for USA TODAY

Checking for the silent disease: Dominick Linsalato's heart is scanned for cardiomyopathy.

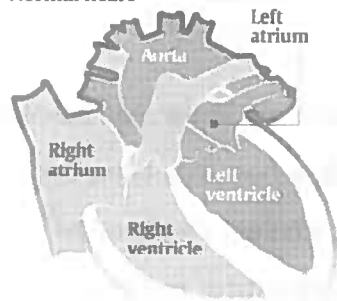
Screening athletes for sudden death

Procedure is costly, but it can identify cardiomyopathy, a rare heart disorder

Hidden danger

Roughly 200 young people die each year — often during sporting events — from cardiomyopathy. The heart disease grows silently until it strikes without warning. Here's how:

Normal heart



Heart with hypertrophic cardiomyopathy



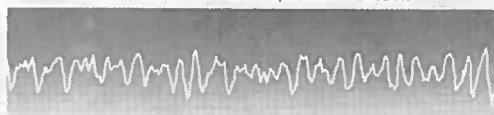
- ▶ The heart muscle thickens as a result of anything from an infection to a genetic disorder.
- ▶ During exercise, the electrical signals short-circuit within the thicker wall called the septum.

Abnormal thickening of the heart wall

Normal heart rhythm



- ▶ The heart quivers in a chaotic state known as ventricular fibrillation, as seen below.



The fix

Quick defibrillation is the only way to save a victim of ventricular fibrillation. Some schools now keep automated external defibrillators on the sidelines of sporting events in case cardiomyopathy affects a player.

Source: USA TODAY research by Robert Davis

Chad Butrum dropped dead during a league football game without even taking a hit.

The 26-year-old was the picture of health when he died in 1994 on the California field. His body was fit, but his heart was not.

Like many victims of cardiomyopathy — a silent disease that can strike fatally during exercise — Butrum died without any warning. After a huddle, he walked to the line of scrimmage, where he fell.

"Nobody hit him or anything," says Butrum's mother, a New York actress who goes by the name Arista.

Chad became one of an estimated 200 young victims of cardiomyopathy who die suddenly on athletic fields each year. Like the others, his heart — which had become enlarged by the disease — could not handle the stress of physical activity.

The silent disease is one known cause of sudden cardiac death in young athletes.

Since his death, Chad's mother has been on a crusade to screen others for the disease.

"We want to raise enough awareness to let every parent know that their kids need this," she says.

But because the medical test that detects the rare disorder is so costly — an echocardiogram, which is typically done in a hospital's cardiac center, costs more than \$1,000 — the medical community has been slow to support the idea of screening every young athlete for the condition.

New technology for screening

Still, doctors who see the deaths of young victims wish more screenings were possible.

"If cost were not an issue, then the obvious answer would be to do the test," says Joshua Hare, a cardiologist at Johns Hopkins Hospital. "It really comes down to what society is willing to bear."

Now, new tools are giving a boost to Arista's cause.

New laptop-size echocardiograms allow cardiologists to screen hundreds of athletes a day at school.

"We can do up to 250 students in a day," says Archie Roberts, a cardiologist and former professional football quarterback for the Browns and Dolphins in the late '60s who performs mass screenings.

He thinks such screenings could save lives.

"If we could reach a large audience of people across the country, we could intervene in as many as 60% to 70% of the individuals that would be at high risk of sudden death, and they don't even know about it."

For the mass screenings, the Chad Foundation for Athletes and Artists recruits cardiologists across the nation to perform the tests.

Roberts uses a three-way pitch when asking fellow doctors for help:

First, he tells doctors they will be performing a good deed by looking for the rare heart that tragically could give out. Second, the screening includes other aspects of heart health from body mass index to cholesterol tests, giving doctors a chance to intervene early. And finally, the screening is part of a study that may answer scientific questions about heart health by studying young volunteers over several years.

"We're not only going to watch the data, but we're going to intervene and try to influence these kids to keep their cardiovascular health the best," Roberts says. "It's a unique living database."

Checking for early risk factors

About 400 students have been screened so far in Baltimore, Los Angeles and Holyoke, Mass.

The screening includes six tests: the echocardiogram, and tests for hypertension, diabetes, obesity, cholesterol and basal metabolic rate.

"We look for not only the game-breaker, the cardiomyopathy, but also the early risk factors for cardiovascular disease," Roberts says.

The findings are sometimes shocking. Several kids have had a serum cholesterol of over 300.

"About 30% of high school kids are coming up with one or more abnormality," Roberts says. "We have assumed that young people were healthy, but what we're seeing is they have hypertension, obesity and increased stiffness in their arteries."

Six students have been found to have suspiciously thick heart muscles. All were sent to specialists to determine whether they have cardiomyopathy.

As an added bonus, schools that host a screening get a free defibrillator from the manufacturer, Agilent Technologies, Roberts says. More schools are teaching their students to use automated external defibrillators (AEDs), which cost \$3,000 to \$5,000. Victims of cardiomyopathy often require defibrillation when they suffer a cardiac arrest.

The disease causes the heart muscle to thicken. During the stress of exercise, the electrical impulses that usually travel through the heart with a steady, pump-driving rhythm can become short-circuited in the thick, damaged muscle.

This short circuit, called ventricular fibrillation, causes the sudden collapse and death. Defibrillation within a few minutes often restores the heartbeat.

Arista wonders if an AED could have saved Chad.

Now she wants every school to have an AED.

"We want to make sure that it becomes standard to have an AED in every school," she says. "President Clinton mandated them in federal buildings, and the FAA requires them in airplanes. They should be required in schools."