Scott Shurmur, M.D.

What causes sudden cardiac arrest in athletes?

0:06

The most common is in pathologic and abnormal thickening of heart muscle, called hypertrophic cardiomyopathy. Usually in one part of the heart, but not all of it. And this can cause fatal rhythm problems that aren't life sustaining instead of beating regularly, normally efficiently, the heart just kind of wiggles and doesn't supply enough blood to the body.

Can it be something genetic?

0:34

There is a very strong genetic component. And so if there's a family history of sudden death or survived arrests, then the workup starts and the thickness of the heart muscle is a big key. Whether or not family members have died, how thick the heart muscle is, is a big key as well. And this all goes into the equation as to whether you can allow somebody to play or not.

Are there usually any symptoms?

1:04

Well, usually not there can be some shortness of breath and things but in young, healthy people who are conditioned, usually there aren't symptoms. The first symptoms are relatively catastrophic. And that's one of the real difficulties.

How does a high volume of physical activity affect your heart in the short term and long term?

1:21

If you're an endurance person, a long distance runner, for instance, generally, the heart gets bigger and becomes more efficient, actually, there's increased circulation desired. So the heart accommodates by expanding its size, more blood is pumped for every beat. And actually, when you're at rest, then there are fewer beats per minute. So sometimes we get referred people who have low resting heart rates, but if they're healthy young endurance athlete, it's certainly nothing to worry about. The heart's just more efficient, has more blood ejected per beat. So as you don't need as many beats per minute.

..continued

2:05

The other physiologic adaptation which we got to the heart gets bigger if you're an endurance athletes, it gets a little bit thicker if you're a resistance athlete, but it still can generally be differentiated from the pathology of hypertrophic myopathy At least by educated eyes.

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Can supplements be dangerous for athletes?

2:29

Creatine one has to be careful with too and the problem with any supplements is the FDA does not scrutinize them. claims can be made about what's in them and other things can be in them. They can be worthless and not effective at all or they can be effective and there can be things like anabolic steroids in them even though it appears nowhere on the label to make them more effective and more popular. So one has to be very careful with any supplements.

What can athletes do to be more heart healthy?

3:02

Well, you know, it's interesting, depends on what phase in their career they're in. Some linemen play at such high weights and sometimes have had to add weight, unnaturally not necessarily with steroids anymore, I think they're largely out of sport, but by adding a lot of calories, and sometimes very fat, dense calories and nutritionally poor calories, along with nutritionally good calories, because if you're trying to gain 60 pounds, you have to do that anyway, you need to, and then not always are the adaptations appropriate after their career ends. For a long time, the average age of a former NFL lineman or the average life expectancy was about 55 years. And that's was partly because in those days, smoking rates were high, but weight was gained weight was carried. High blood pressure rates were high. It's a little better than that now, but not necessarily a lot. And so I think reverting to the principles of appropriate heart health after one's done especially if you were sort of needed to carry extra weight is one way to think about it. Otherwise, as you're playing as you're in your career, make sure you're well hydrated. Critical deficiencies in hydration can lead to passing out spells and loss of a couple specific minerals. Notably, magnesium, potassium can leave you at risk of a heart a arrhythmia, usually only if you're at risk for one anyway. And so that's a small group, but you want to make sure you're well hydrated because heat exhaustion can be an issue too. When you're playing particularly football in the summer months, one needs to be careful and unfortunately, fat burners and accelerants and stimulants are the leading accelerator of heatstroke. That was the case with a football player named Corey Stringer died during training camp. So stay hydrated, be reasonable of heat hygiene and be mindful of appropriate weights once your competitive career has ended.

What is the importance of an EKG and when should someone be screened?

5:25

Societies differ on that. In Texas, there has been discussion on state law that in any case you will be required at high school level a higher for all competitive athletes, something that's an overstep and unnecessarily expensive. In Europe, it goes a step further. I think Italy Professional Soccer players are screened with not only an EKG but an echocardiogram. And an echocardiogram will show you how the heart functions showing you it's size show you its thickness of the muscle. We talked about hypertrophic cardiomyopathy, being an abnormality of muscle thickness. The problem is and it's hard to differentiate, if you if you are a resistance trainer and athlete who lifts weights, your heart muscle can thicken, but usually it's the whole

heart. It's moderate, it's to a moderate degree, and not an extreme degree, and not only a part of the heart, so differentiating normal athletes heart is one term that's used from hypertrophic myopathy can be difficult, but I mean, an echocardiogram can help sort that out. So, obviously, everybody needs a good sports physical. Even, you know, at the first levels of competition, heart murmurs, kids with heart murmurs are generally sorted out and screened further or a history of fainting or not keeping up that's how it's generally sorted out in the United States should be a little more universal should everybody have an EKG? My opinion would probably be no but you need a good history and exam with somebody who knows what to do with the information.