Should all young athletes get screened for heart condition?

By ACSH Staff — October 12, 2012

Sudden death among young athletes is, thankfully, quite rare.

But among the victims, the most common cause is hypertrophic cardiomyopathy, a genetic condition in which the heart muscle becomes too thick and provoke a lethal irregularity of the heartbeat. An estimated 100 to 1,000 kids die from the disease in the U.S. every year, leading some physicians to call for regular screening for children and young adults [1].

In Italy and some other European countries, health officials are already screening adolescent (and some even screen adult) athletes before allowing them to participate in sports, which is considered a risk factor for death among those with the condition. But based on data accumulated in Italy, close to 800 athletes would have to be kept out of organized sports to prevent just one death. And as Dr. Anders Holst of the Copenhagen University Hospital in Denmark points out, the vast majority of those screened will be unnecessarily scared.

Most often symptom-free, hypertrophic cardiomyopathy can be tentatively detected by an electrocardiogram (ECG), but definitive diagnosis requires a cardiac sonogram. A simple screening ECG results in many false positives. One study found that 7 percent of all ECG-screened athletes will have to undergo additional testing. Additionally, it's typically impossible to determine which kids would have died as a result of their condition or which would have experienced no complications at all.

Treating the condition depends on the specific type of abnormality, but may include heart medications, surgery, or exercise restrictions only. Some with hypertrophic cardiomyopathy may be restricted from engaging in physical activity which would raise their heart rate over 155 beats per minute; a few require an implantable device to deliver a shock to correct a life-threatening irregularity of heartbeat. Currently, the American Heart Association advises parents to take their kids for a physical exam before starting sports, but no ECG is recommended.

I certainly understand the desire to want to do something, said Dr. Jonathan Kaltman, a medical
officer at the National Heart, Lung and Blood Institute, but we need to be able to confidently say that we're doing more good than harm before launching a screening program that's going to affect many, many lives.

ACSH's Dr. Gilbert Ross agrees that the issue of mandating routine screening is fraught with many pros and cons. Of course we would like to diagnose this condition and warn youngsters who are at risk to avoid intense exercise or sports. On the other hand, there is no level of certainty that such information will significantly prevent the already low incidence of cardiac arrest, and the harm done by alarming students and parents and keeping many out of athletics who would never become ill is a major argument against routine screening.