

You gotta have heart



An athlete's heart

Boston Celtics basketball star Reggie Lewis died of heart failure at the age of 27. The exact medical situation underlying his heart problems remains clouded in controversy.

blockage of the vessels that supply the heart muscle with blood. The risk of such heart failure tends to increase with age. But heart failure is also the leading cause of death among young athletes.

Why does the heart of a young, fit athlete fail? It is usually not due to vessel blockage, but to a mutation that affects the contractile proteins of heart muscle. The heart is good at compensating for these mutant proteins; most people can live their entire lives with the condition and never have a symptom. But with continued heavy exercise, the heart compensates by getting larger. Eventually, the increase in heart size can disrupt the electrical impulses that coordinate the contractions of the heart muscle. When heavy demand is placed on such an enlarged heart, muscle fiber contractions can suddenly become uncoordinated and the heart cannot pump blood. The lack of any prior symptoms is why the condition usually goes undiagnosed in athletes.

On April 29, 1993, the Boston Celtics met the Charlotte Hornets in a National Basketball Association playoff game at the Boston Garden. The Celtics captain and star player, 27-year-old Reggie Lewis, had just scored 10 points in 3 minutes when he went up for a rebound and suddenly slumped forward, falling to the floor «as if he'd been shot in the back.» He was examined by the team doctor (an orthopedic specialist), who allowed him to return to the game in the second half. But Lewis's legs were «wobbly» and he played only briefly.

Lewis had been experiencing dizzy spells for about a month prior to his collapse. After the playoff incident, he underwent rigorous testing by cardiologists, who diagnosed Lewis as having a dangerous arrhythmia (irregular heartbeat) caused by cardiomyopathy (diseased cardiac muscle). Accepting this diagnosis would mean the end of his professional athletic career, and Lewis sought a second

opinion. After another battery of tests, a second medical team felt that Lewis had undergone a transient irregular heartbeat attributable to normal athletic stresses. The condition was deemed treatable, and to have been in part the result of Lewis's enlarged heart—a condition sometimes seen in high-performing athletes. In July of 1993, after an hour spent shooting baskets in a pick-up game, Reggie Lewis collapsed and died of heart failure.

Your heart is a muscular pump that, at rest, beats an average of 72 times per minute. With each beat it circulates about 70 milliliters of blood through the body. Without taking work or exercise into account, that is 300 liters per hour, 7 200 liters per day, 2,6 million liters per year—no time outs. Heart failure accounts for about one-third of the deaths (about 900 000 deaths) each year in the United States, making it the country's leading cause of death. Heart failure is most commonly the result of

Answer the questions

- What is the heart failure?
- Why does the heart of a young, fit athlete fail?



Clear! Hospital emergency rooms deal with heart attacks on a daily basis. Advances in heart surgery and emergency resuscitation techniques have saved many lives, but heart failure remains the number one cause of death in the United States and Europe.



AUDIO
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