Expert explains changing approach to heart issues in athletes

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Heart conditions can be game-ending or even life-threatening for competitive and recreational athletes alike, but physicians are realizing that in many cases, cardiac issues can be managed to help patients carry on with sports. Elijah Behr, M.D., a cardiologist at Mayo Clinic Healthcare in London, explains the trend toward keeping athletes with heart problems in the game.

Significant research has assessed the actual risks of cardiac arrest in young athletes with heart conditions, Dr. Behr says. That includes discoveries at Mayo Clinic about long QT syndrome, a heart rhythm disorder that can cause fast, chaotic heartbeats.

"There is a trend towards allowing more exercise for patients who are well treated for their condition," Dr. Behr says. "This has to be a tailored approach that addresses the patient in a holistic way using specialist expertise and may involve their sports club, school or college in ensuring the safest way forward."

One device that can help athletes return to play after cardiac arrest is an implantable cardioverter-defibrillator. It can take electronic readings from the heart and determine whether is a life-threatening rhythm problem is occurring, then deliver an electrical shock to return the heart rhythm to normal, Dr. Behr explains. In general, the devices are highly effective for saving life when a cardiac arrest occurs, he says.

Cardiac arrest is often caused by an underlying heart condition that may scar the heart, predisposing it to a rhythm problem that causes cardiac arrest, Dr. Behr says.

"It is very unusual for cardiac arrest itself to cause any further damage to the heart than the underlying heart condition has. There are also some conditions that are primarily electrical and not associated with any damage to the heart muscle itself," Dr. Behr says. "It is possible, if there has only been minor damage to the heart or no damage at all, for an athlete to return to normal functioning and performance. It very much depends on the condition and its severity."

Research into sudden death in young athletes and nonathletes has suggested that sudden death may be twice as frequent in athletes; it is thought that this is due to the effect of extreme exertion in people with

underlying heart conditions such as the heart muscle disease cardiomyopathy, Dr. Behr says. It is still rare, he adds, noting that most sudden cardiac deaths do not occur during sports.

In general, older athletes who have undertaken endurance exercise or high-intensity exercise for many years tend to have more rhythm problems and coronary artery problems than similarly aged nonathletes, Dr. Behr says.

"We believe that this may be the effect of excessive strain on the heart from intermittent periods of high blood pressure and high heart rates. This is still poorly understood, and there is a need for further research," Dr. Behr says. "There is significant benefit overall from exercise in terms of quality of life and longevity that probably outweighs any risk of heart problems."

If exercise would worsen a heart condition or even increase the risk of cardiac arrest, cardiologists can work with athletes to moderate the intensity and length of activity, Dr. Behr says. To limit the intensity of exercise, medication and heart rate monitoring can be used to aim for a lower heart rate.

Those limitations can prove too much for competitive athletes and may require them to change sports if they wish to continue competing. Moving from more demanding and dynamic exercises to less-challenging sports may be the only way to balance patients' psychological needs against the risks of their conditions, he says.

"In general, sports are a good thing and exercise is healthy for the body and the mind. We should avoid restricting patients unnecessarily and instead achieve the right balance for them," Dr. Behr says. "They will be more likely to comply with their treatment plans and more likely to do well overall."

Provided by Mayo Clinic