

Video Games May Trigger Rare Heart Attacks in Kids: Study



When 16-year-old Jake Gallagher [died of a heart attack](#) while playing video games, the U.K. teen's death made international headlines. Many reports called the 2013 case a rare isolated incident, noting the teen had an underlying heart condition that put him at risk.

But new research suggests such cases are more common than you might think.

Australian scientists who reviewed nearly 70 studies and reports on cardiovascular risks from electronic gaming identified 22 children and teens who lost consciousness while playing video games and experienced heart rhythm problems and other cardiac complications.

Nineteen of the mostly male gamers, aged 7 to 16, experienced serious irregular heartbeats known as ventricular arrhythmia. Six had heart attacks, and four died suddenly. The researchers also found only 7 of the 22 had received a prior diagnosis of arrhythmia or other heart problems.

"Video games may represent a serious risk to some children with arrhythmic conditions; they might be lethal in patients with predisposing, but often previously unrecognized arrhythmic conditions," notes lead investigator Claire M. Lawley, MBBS, PhD, with The Heart Centre for Children in Sydney, Australia, in a statement. "Children who suddenly lose consciousness while electronic gaming should be assessed by a heart specialist as this could be the first sign of a serious heart problem."

Such cases are rare

Such cases are rare, says Christian Turner, MBBS, a co-author of the report, published in the journal [Heart Rhythm](#). Even so, the findings suggest parents monitor their children for signs of stress while gaming — such as sudden fainting or blacking out during periods of high excitement — that might signal an underlying heart condition that could put their lives in danger.



The Truth About Video Games and Your Mood

Are video games tied to more aggression and less empathy? Some experts question how much they are to blame for certain behaviors.

"The population at risk is exceptionally small," he says. "Children playing games electronically would be at no greater risk than playing school sports or being physically active. For a parent, if their child has a new blackout, faint, collapse or seizure, they should be checked out by their local or family doctor. The family's doctor will then determine if further tests are necessary."

In an editorial accompanying the new report, Daniel Sohinki, MD, with the Department of Cardiology at Augusta University in Georgia, argues that the study's findings suggest screening programs — similar to what's recommended for collegiate sports — aimed at identifying underlying cardiac issues "should encompass athletes being considered for participation in eSports."

Sohinki says what's needed is a better understanding of how stress — mental or physical — stimulates the cardiovascular system in ways that can be dangerous to gamers and traditional sports athletes alike. The same might also be said of other highly stressful activities, such as watching horror films or exciting competitive sporting events that get your heart beating faster.

"What it comes down to is what kind of stress stimulates the cardiovascular system," he says.

"Whether that's mental excitement or physical exertion, it's something that increases your heart rate and increases the stimulated input to the cardiovascular system ... that's the common underlying theme between aerobic exercise and competitive video games."

Rethinking of conventional belief

He notes that new findings should prompt a rethinking of conventional belief that video games are safer for kids with underlying heart problems than traditional sports, such as basketball, soccer, and hockey, that can put young athletes at risk for sudden cardiac death.

"I think in the past, there's been a thought that if there's a child who we believe is at risk for arrhythmia or some sort of cardiovascular complication from aerobic exercise, then maybe some sort of sedentary activity, like playing a video game, would be safer for them," he says. "But what this paper argues is that if you have a child whom you believe to be at risk for a cardiac event for whatever reason, you can't necessarily be assured that a competitive video game is going to be a safer activity for them."

The Australian investigators who conducted the new review based their conclusions on dozens of studies and reports on children who experienced sudden loss of consciousness while playing video games and were determined to have underlying heart conditions.

Among the researchers' findings:

Of the 22 cases identified, multiplayer war gaming was the most frequent trigger.

19 males (86%) were identified as having experienced suspected or proven ventricular arrhythmia during electronic gaming.

Six (27%) experienced cardiac arrest and four (18%) died suddenly.

Underlying heart conditions were known in just seven (31%) patients beforehand, but confirmed in 12 (54%) afterward.

The most common underlying conditions were heart rhythm disorders known as CPVD (catecholaminergic polymorphic ventricular tachycardia) and LQTS (congenital long QT syndrome). The research team also found a high incidence of genetic variants (63%) among the gamers, which has significant implications for their families. In some cases, the investigation of a child who lost consciousness during video gaming led to other family members being diagnosed with an important familial heart rhythm problem.

Findings shouldn't lead to calls for widespread screening of all children

Turner says he believes the researchers' findings, while troubling, shouldn't lead to calls for widespread screening of all children — with echocardiograms, stress tests, or other procedures — before clearing them to play video games.

"We, in Sydney, Australia, feel the potential harms of screening all children for such a rare condition outweigh the potential benefits," he says. "Screening would entail performing an exercise stress test on every child in the community and is certainly not practical in the real world. The medical community is already well aware that syncope [loss of consciousness] during sport should be investigated. Our findings in this report suggest that syncope during electronic gaming should be similarly investigated."

But Sohinki argues that any child who has had symptoms of a potential heart condition should at least get a standard physical exam and be evaluated for any symptoms that might suggest video gaming could pose a potential risk. These recommendations are in line with guidelines of the National College Athletic Association (NCAA) for sports athletes, which estimates sudden cardiac death strikes between 1 in 40,000 and 1 in 80,000 players each year.

"For the NCAA, the minimum is a comprehensive medical history and physical examination that's aimed at identifying either cardiac symptoms or a personal or family history of cardiovascular disease," he notes. "That's recommended for all NCAA athletes. So I think there's a strong argument to be made that ... that should be extended to any person who is going to participate competitively in a video game. I think you could justify a history and physical examination as being a cost-effective intervention. I would support that."

For Sohinki, who has a young son and is a gamer himself, the issue is both a personal and professional concern. He practices what he preaches.

"I have a 3-year-old and he's watched me play video games and asked to play games as well," he says. "I also have a [heart] valve condition that is heritable, so he's already had an echocardiogram screening. But if he didn't have any symptoms or a known history of cardiovascular disease, I'm not sure I would have anything more than a medical history and physical screening before letting him play video games." -webmd.com, October 12, 2022