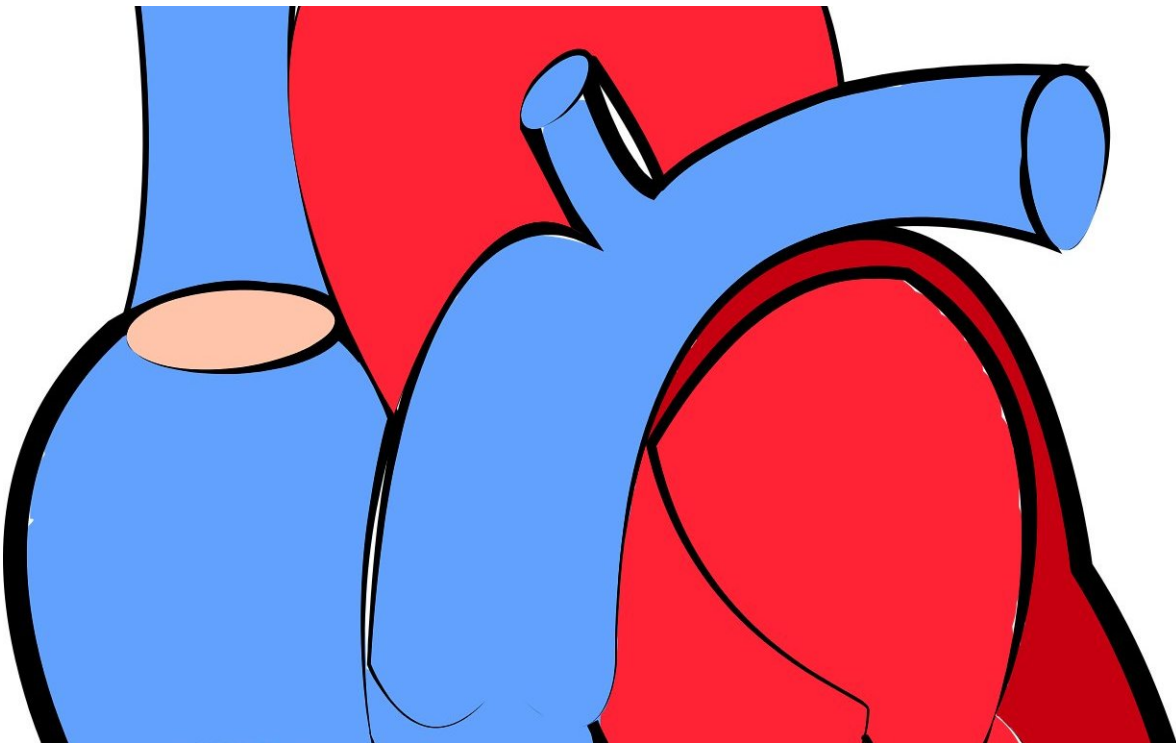


# Congenital heart defects vastly increase risk of heart problems later in life

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Credit: CC0 Public Domain

An infant born with a relatively simple heart defect is far more likely to develop heart problems as an adult, researchers at the Stanford University School of Medicine have discovered.

The risk is so great that someone born with a heart defect who has a

heart-healthy lifestyle is twice as likely to develop [heart problems](#) as someone born without a defect who has a heart-averse lifestyle.

"All of us in cardiology recognize that people with complex disease need follow-up care throughout their lives," said James Priest, MD, assistant professor of pediatric cardiology. "But for the simple problems, we've been thinking that once you close the hole or fix the valve, these patients are good to go."

The research findings suggest that the medical community should watch adults who were born with [heart defects](#)—even minor ones—more carefully. Medications and lifestyle changes may help prevent or delay major heart conditions, such as heart attacks, stroke, [heart failure](#) and [atrial fibrillation](#).

A paper describing the research will be published Feb. 28 in *Circulation*. Priest is the senior author; Priyanka Saha, a student at Harvard Medical School who was a research fellow at Stanford from 2017 to 2018, is the lead author.

## **Most common congenital condition**

About 1 percent of infants are born with heart defects, the most common congenital condition. Those with less-complex defects, such as a hole in the heart or a faulty valve, nearly always survive into adulthood, sometimes unaware of the defect until later in life.

To conduct their research, Priest, Saha and their colleagues mined data from the U.K. Biobank, which includes health data on 500,000 British residents aged 37 to 73 during the biobank's recruitment period from 2006 to 2010. They found 2,006 people who had mild congenital heart defects.

For reasons the researchers don't understand, the members of this group were slightly more likely to be obese, to smoke, to have high blood pressure and to have diabetes—all factors that increase the risk for cardiovascular problems.

However, even after adjusting for those risk factors, they found that those born with mild heart defects were 13 times as likely to develop heart failure or atrial fibrillation, five times as likely to have a stroke, and twice as likely to suffer a [heart attack](#) than those born without heart defects.

Adult survivors of congenital heart defects with fewer risk factors for [heart disease](#)—such as smoking, having [high blood pressure](#) and being obese—fared better than those who had more risk factors. Those with a heart-healthy lifestyle were about a third less likely to develop heart conditions than those with five or more heart disease risk factors.

## **A mystery**

It's unclear why adults who were born with heart defects suffer more heart disease, the study said. The researchers propose several possibilities, including the stress of surgery, genetic predisposition and cellular dysfunction.

"Is it the surgery? Could it be the medications? Or is it something intrinsic to having congenital heart disease? We don't know," Priest said, adding, "We don't know why infants have congenital heart disease to begin with."

Saha said further research into why congenital heart disease leads to adult [heart](#) problems could help shape follow-up care. But physicians can begin helping these patients right away by providing more surveillance.

"That's something that can change right now," she said. "We can start connecting them with cardiology specialists."

Provided by Stanford University Medical Center

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