

# Adults born with heart disease have increased risk of developing type 2 diabetes

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Children born with heart disease have an increased risk of developing type 2 diabetes after age 30, according to a new study.

The risk appears even higher for those born with a cyanotic congenital heart disease (CHD) condition—one in which patients had a bluish coloration of the skin due to low oxygen content in tissues near the surface of the skin.

The study is published online in the *Journal of the American Heart Association*.

"Given the cardiovascular health burden of type 2 [diabetes](#), attention to its development in CHD survivors is warranted," says Nicolas Madsen, MD, a cardiologist at Cincinnati Children's Hospital Medical Center and lead author of the study. "Unfortunately, promoting [cardiovascular health](#) isn't always prioritized with the aging CHD population."

The study was conducted among 5,149 CHD subjects in Denmark who were born between 1963 and 1980 and were alive at [age](#) 30. The most common diagnoses were atrial or ventricular septal defects. These are conditions that allow blood to travel inappropriately between the upper or lower chambers of the heart.

The incidence of diabetes by age 45 was 3.9 percent for those without cyanotic conditions and 8 percent for those who were cyanotic. This compares to a type 2 diabetes rate of only 2.8 percent in the general

Danish population by the age of 45.

The increasing risk of type 2 diabetes for those with CHD may be due to traditional risk factors, such as obesity and a sedentary lifestyle, which have been studied in the aging CHD population. The increase in those with cyanotic CHD is consistent with previous studies that suggest a lack of oxygen has a negative effect on glucose metabolism. It also may indicate a common genetic or environmental risk factor.

The study is one of the largest and longest of its kind in regard to number of patients studied and that follow up included data on individuals into their 50s and 60s. The study was funded by Cincinnati Children's and the Department of Clinical Epidemiology in Aarhus, Denmark.

Provided by Cincinnati Children's Hospital Medical Center

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