

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: FIRST-IN-THE-WORLD HEART AND THYMUS TRANSPLANT SAVES
EASTON
REPORT: MB #5117

BACKGROUND: Congenital heart defects (CHDs) are the most common type of birth defect. As medical care and treatment have advanced, babies with a CHD are living longer and healthier lives. CHDs are present at birth and can affect the structure of a baby's heart and the way it works. They can affect how blood flows through the heart and out to the rest of the body. CHDs can vary from mild (such as a small hole in the heart) to severe (such as missing or poorly formed parts of the heart). Nearly one in 100 babies (about one percent or 40,000 babies) is born with a heart defect in the United States each year. About one in 4 babies born with a heart defect (about 25 percent) has a critical CHD. Some heart defects don't need treatment or can be treated easily.

(Sources: <https://www.cdc.gov/ncbddd/heartdefects/facts.html>
<https://www.marchofdimes.org/complications/congenital-heart-defects.aspx#:~:text=Nearly%201%20in%20100%20babies,or%20can%20be%20treated%20easily.>)

DIAGNOSING: In some children, symptoms that appear during infancy or even later may be the first sign of a problem. Newborns with a congenital heart defect may have symptoms such as irritability or inconsolable crying, rapid breathing, excessive sweating, and difficulty feeding and gaining weight. Symptoms in babies occur when the blood does not receive enough oxygen, or the heart cannot pump efficiently. Symptoms often include cyanosis, in which the skin appear bluish; fluid retention in the chest; a heart murmur, which the doctor can hear with a stethoscope; or an absent or rapid pulse. Decreased blood flow to the arms and legs may make a baby's skin abnormally pale and cool. In older children and adolescents, congenital heart defects may affect growth and development and produce weakness, fatigue, and shortness of breath during normal activities and exercise.

(Source: <https://nyulangone.org/conditions/congenital-heart-defects-in-children/diagnosis#:~:text=In%20some%20children%2C%20symptoms%20that,difficulty%20feeding%20and%20gaining%20weight.>)

NEW TECHNOLOGY: "HeartFlow is a new technology that makes the process of being tested for heart problems easier for patients," Dr. Cecilia Hirsch, MD, a cardiologist at Banner Health's North Colorado Medical Center, said. "It can provide information about the blood flow in a patient's heart and determine whether a patient needs to continue with more invasive heart tests based on the images gathered." If the CT angiogram shows between 30 to 70 percent narrowing of the artery, the images are sent to HeartFlow for a detailed analysis. HeartFlow analysis helps determine which patients would need to have an invasive coronary angiogram or cardiac catheterization done. Studies have shown that in cases where HeartFlow is used, 45 to 50 percent of patients did not need to have an invasive procedure done, which avoids having unnecessary procedures. "HeartFlow is recommended by physicians to patients that are experiencing symptoms related to chest discomfort, tightness in their chest or other signs of possible heart problems," Dr. Hirsch said.

(Source: <https://www.bannerhealth.com/healthcareblog/better-me/coronary-artery-disease-and-heartflow#:~:text=%E2%80%9CHeartFlow%20is%20a%20new%20technology,based%20on%20the%20images%20gathered.%E2%80%9D>)

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

Stephanie Lopez
(919) 724-5934
Stephanie.lopez@duke.edu

If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com