

Q and A: Hole in heart treatment options

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I recently was hospitalized for something unrelated, but during my treatment, I was given a transesophageal echocardiogram that recorded a hole in my heart. The care team at the hospital where I was being treated said there are no ways to close or repair the hole. Is that true? Or should I seek a second opinion?

ANSWER: Congenital heart defects are the most common birth defect,

affecting approximately 1 in every 100 or more babies. Although not all heart issues are identified at birth, a hole in the heart is a common ailment, and there are several types of holes in the heart that could be detected with a transesophageal echocardiogram.

The most common is a small tunnel between the top chambers of the [heart](#), called a patent foramen ovale. This is a structure all humans have that develops in the womb. Normally, it closes after birth; however, for 1 in every 4 people this does not happen, and the tunnel remains open throughout life. In some individuals, a clot may travel from the right side to the left side of the heart, causing neurological problems, such as a stroke. If this occurs, then closure of the patent foramen ovale typically is recommended.

Another type of hole in the heart is called an [atrial septal defect](#), which affects the top chambers of the heart. These defects are formed during fetal life and may not be diagnosed at birth but rather in late childhood or even adulthood. Over time, these types of holes can produce dilatation of the right-sided heart chambers and, eventually, symptoms such as limited exercise capacity or palpitations. These are indications for closure of these defects.

Lastly, a ventricular septal defect is a type of hole in the heart that affects the bottom chambers of the heart. If these defects are small, they usually associate with a loud murmur but often do not require closure unless they affect how the valves function or if there are valve infections because of these defects.

When the defects are large, they usually produce enlargement of the left-sided heart chambers and symptoms such as poor feeding and growth in infants. Therefore, they usually require closure at an early age. When these large defects are not closed, the heart works harder and can create numerous complications, including irregular blood flow to the lungs,

inflammation of the heart's chambers and valves, and more.

Some patients may develop a blue tinge in their mouths, fingers or toes, called "cyanosis," which arises from the reversal of flow across the ventricular septal defect, from right to left. This syndrome is called "Eisenmenger syndrome," and in this setting, closure of the hole must not be performed.

It is important to recognize that a thorough evaluation of suspected heart ailments is necessary for an accurate diagnosis. This should not only include echocardiography but also cross-sectional imaging, such as cardiac CT or MRI, and cardiac catheterization. Consultation with an adult congenital heart specialist should be considered. The value of coordinating care with a specialist is that long-term follow-up needs are critical as there is risk for heart valve changes or high lung pressures development over time in patients with repaired heart holes.

Transcatheter therapies have been developed to overcome the difficulties that arise when recovering from cardiac surgery. During these procedures, a device that contains nitinol, an alloy of nickel and titanium, is deployed in the heart under fluoroscopy and ultrasound guidance.

Previously, surgery was performed for all these defects. When closure of a defect is not advised, an attempt can be made to lower the pressures of the lungs with medications used for pulmonary hypertension. This often is the case in patients with atrial septal defects. The care team will then reassess the response over time prior to attempting closure of the defect.

This is known as a treat-to-close strategy. If [patients](#) have Eisenmenger syndrome, then therapies may be provided to lower the lung pressures to ensure they can perform their routine activities adequately, as well as specific recommendations regarding dental and blood health. Patients

with these two specific conditions should be seen at a specialized adult congenital heart disease center to ensure adequate care.

Seeking out a specialist who is experienced with heart defects is a valuable option to get a [second opinion](#) but also to identify the best testing that is required for your situation. With appropriate care and follow-up, you should be able to maintain a normal quality of life.

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