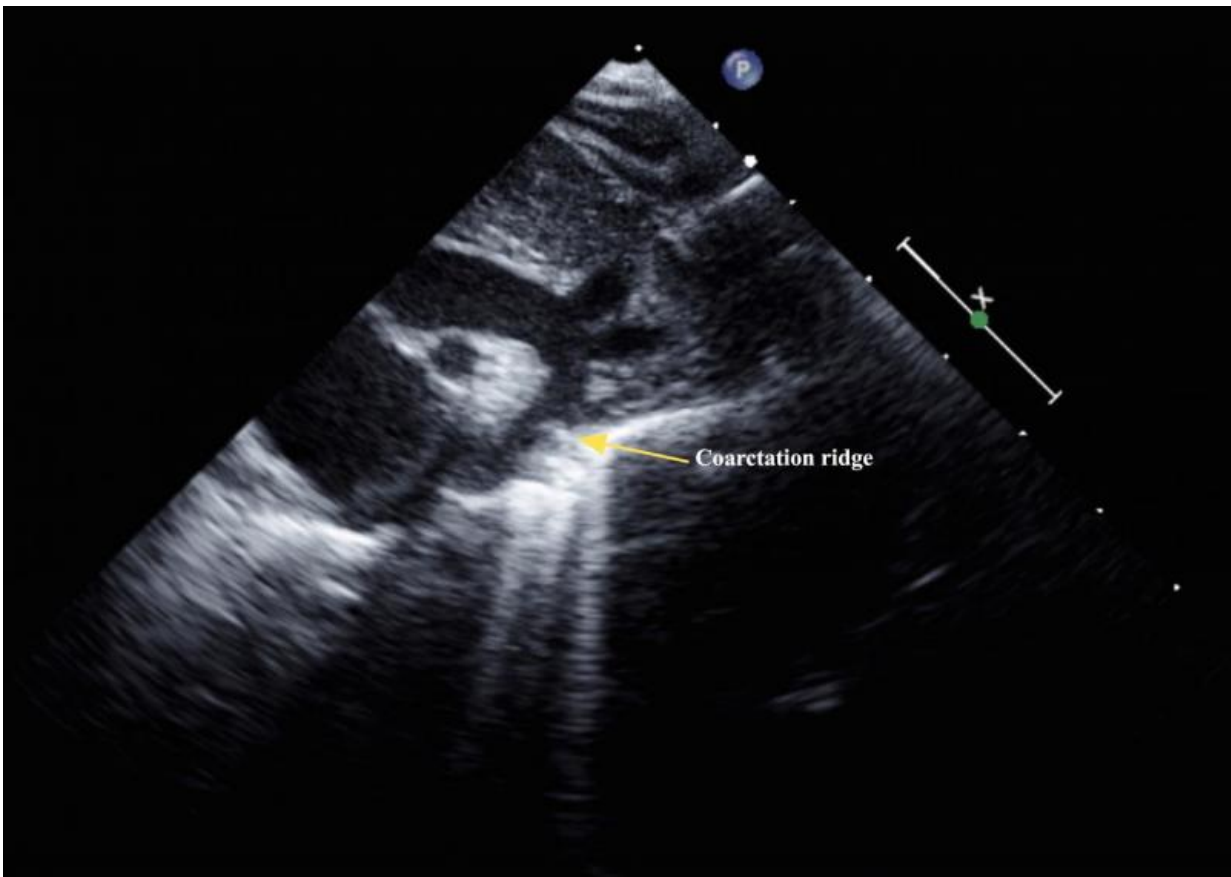


# Ultrasound detects heart dysfunction after successful repair of aortic narrowing

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Ultrasound image showing narrowing (indicated by arrow) of the aorta. Credit: Haki Jashari

New echocardiographic ultrasound methods can non-invasively evaluate

deformation of the heart muscle in order to identify abnormal function in children who were operated for coarctation (narrowing) of the aorta. Surgical intervention in infants is a worldwide and often vital procedure, but new research from Umeå University reveals that echocardiography post-surgery can and should be used to detect early and asymptomatic heart dysfunction.

"Our research suggest that patients who have been operated for aortic coarctation should receive lifelong follow-up," says Haki Jashari, doctoral student at the Department of Public Health and Clinical Medicine.

"It is well established that delayed intervention is associated with undesirable consequences on heart function. But our findings show that even in the absence of symptoms, disturbed heart function was still evident two years after being operated within the first month of life, irrespective of infrequent post-operative hypertension."

According to Haki Jashari, the best method to assess the impact of aortic coarctation on [heart function](#) post-surgery is the non-invasive ultrasound method, equipped with recent echocardiographic modalities. This widely used method is radiation free, inexpensive and patient-friendly.

Coarctation of the aorta is a [congenital heart disease](#), where the main artery coming out of the heart is narrowed just after it branches for the upper body. The narrowing results in [high blood pressure](#) in the upper body and low pressure in the lower body. Severe cases presented in the neonatal period can lead to heart failure, while mild narrowing may go unnoticed and is often first diagnosed in childhood or even later. Usually by then, the [heart](#) has already responded to the increased pressure with wall thickening. However, the recent data suggest that aortic coarctation represents a much more complicated stiffness of the vasculature rather than just a simple narrowing of the aorta.

**More information:** The effect of pressure afterload due to aortic coarctation on left ventricular function in children. [umu.diva-portal.org/smash/record.jsf?pid=diva2%3A1049236&dswid=-1494](https://umu.diva-portal.org/smash/record.jsf?pid=diva2%3A1049236&dswid=-1494)

Provided by Umea University

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