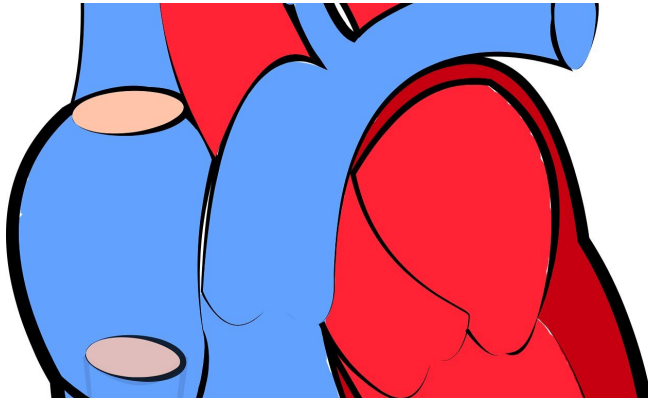


# Common heart defect—repaired or not—may limit exercise ability

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A common congenital heart defect may reduce your ability to exercise especially as you grow older, regardless of whether it was corrected with surgery or previously deemed too small for treatment, according to research published today in the *Journal of the American Heart Association*, an open access journal of the American Heart Association.

A ventricular septal [defect](#) occurs when a hole in the wall separating the pumping chambers of the heart does not close. It can be surgically closed or left alone if determined to be harmless.

Researchers know that people born with a ventricular septal defect have poorer functional exercise than their healthy peers, however, it has not been clear whether this [exercise capacity](#) would degenerate as they age.

A new study from Denmark suggests that people 40 years and older with ventricular septal defects—surgically repaired or not—have worse functional exercise [capacity](#) than people born without the defect, and the difference in exercise capacity appears to increase with age.

"Most congenital heart defect patients are discharged from follow-up care as they reach adulthood, yet many experienced limitations during [physical activity](#)," said lead author Marie Maagaard, M.D., Ph.D., a researcher at Aarhus University Hospital in Aarhus, Denmark. "These results underline the importance of keeping adults with ventricular septal defects in follow-up programs and including exercise tests in the assessment of their potential deteriorating functional capacity."

Functional exercise capacity is an estimate of what a person's heart will allow them to do, regardless of other physical issues, and is based upon the heart's ability to pump sufficient amounts of oxygen-rich blood to replace expended oxygen in the proper balance, thus allowing normal physical activity.

Researchers evaluated differences in functional exercise capacity using standard cardiopulmonary exercise testing among 30 patients with surgically repaired ventricular septal defects, 30 others who had small but unrepaired defects and compared them to two groups of 30 [healthy adults](#) without the [heart](#) defect who were matched with patients by age and gender. All the participants were between age 40 and 75.

Among their findings:

- Compared with healthy adults, exercise capacity was 29% lower for [older patients](#) with surgically repaired ventricular septal defects after age 40.
- Patients in their mid-20s with surgically repaired ventricular septal defects have 18% diminished capacity compared with their healthy counterparts.
- Older participants with unrepaired ventricular septal defect had 21% lower capacity; while younger patients with an unrepaired defect had 17% lower capacity than their healthy peers.
- Overall, all participants—both with repaired

and unrepaired defects—had markedly lower exercise capacity at low intensity exercise levels; detectable at 20% of their maximal effort. This corresponds with impairment at exercise levels like that of minor daily activities.

Maagaard emphasized that the data from the repaired group also cannot be directly compared with patients who have undergone more recent procedures, as advances have been made in operative procedures and technology in recent decades.

"The next step to better understand the physiology behind this study's findings could be a combination of cardiac catheterization with upright bicycle [exercise](#), performed in surgically repaired and unrepaired ventricular septal defect patients and their healthy counterparts," she said. "Furthermore, randomized clinical trials of potential therapeutic options are also important."

**More information:** *Journal of the American Heart Association* (2020).  
[www.ahajournals.org/doi/10.1161/JAHA.120.015956](http://www.ahajournals.org/doi/10.1161/JAHA.120.015956)

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