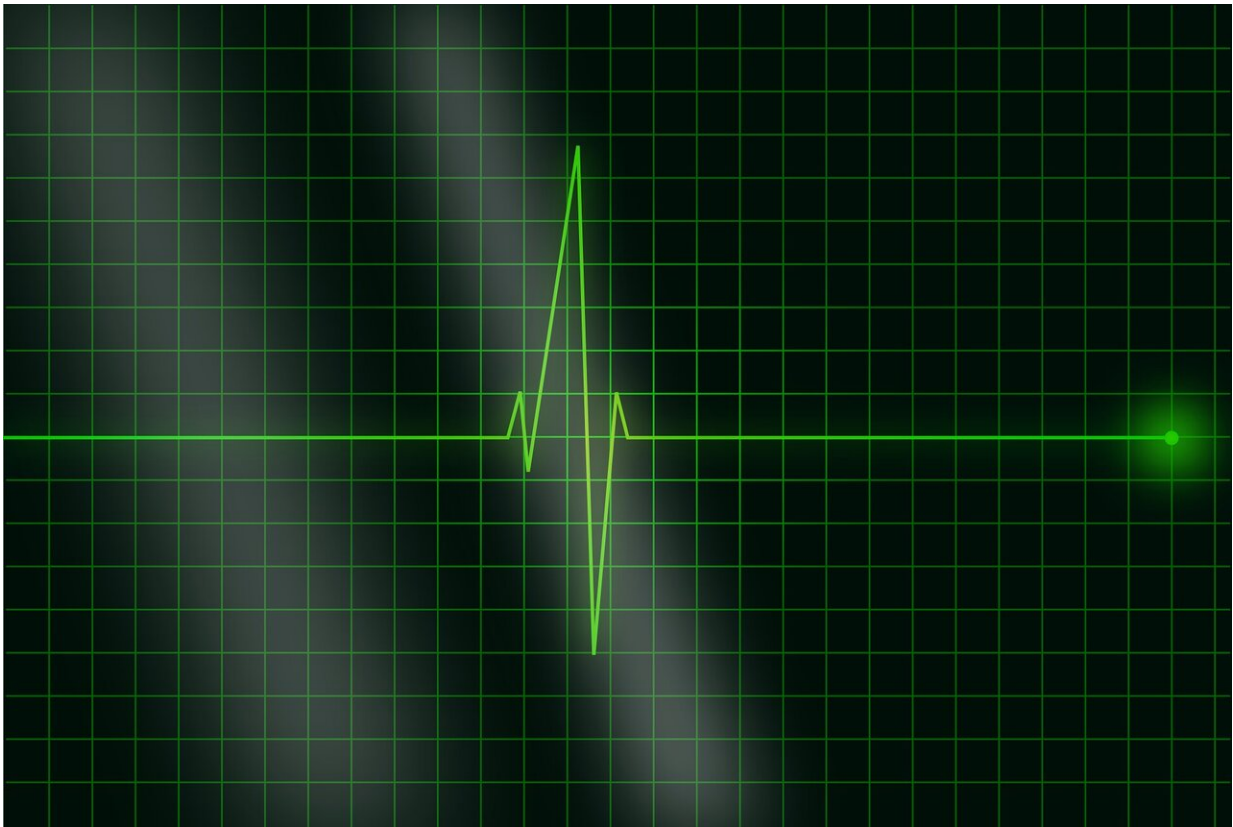


Hearts from donors who were COVID-19 positive may be safe for transplantation

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Donor hearts from people who were COVID-19-positive appeared to be as safe for transplantation as those from people without COVID-19, according to a short-term analysis to be presented at the American Heart

Association's Scientific Sessions 2022. The meeting, held in person in Chicago and virtually, Nov. 5-7, 2022, is a premier global exchange of the latest scientific advancements, research and evidence-based clinical practice updates in cardiovascular science.

The analysis includes data from the first 84 COVID-positive [donor](#) heart transplant recipients in the U.S.

"These findings suggest that we may be able to be more aggressive about accepting donors that are positive for COVID-19 when patients are in dire need of an organ for [heart transplantation](#)," said study author Samuel T. Kim, B.A., a third-year [medical student](#) at the David Geffen School of Medicine at University of California in Los Angeles.

The 2022 American Heart Association/American College of Cardiology/Heart Failure Society of America [guidelines for managing heart failure](#) recommend heart transplantation for people who progress to advanced (stage D) heart failure. People with stage D heart failure have [severe symptoms](#), such as shortness of breath, fatigue and swelling, that interfere with daily life and may lead to recurrent hospitalizations despite receiving optimal medical therapies.

Demand for [heart transplants](#) has doubled in the past 30 years—from 1,676 heart transplantations reported in the U.S. in 1988 to 3,658 recipients in 2020 according to the American Heart Association's [Heart Disease and Stroke Statistics—2022](#). The United Network for Organ Sharing reports more than 3,400 people in the U.S. are waiting for a heart today.

"Despite the increased need for this operation, there is a continued shortage of available donor organs for people in need of transplantation. The COVID-19 pandemic made things worse with an increased rate of donors testing positive for COVID-19, which generally renders the

donors unsuitable for transplantation," Kim said. "However, several academic centers have started to use COVID-19-positive [donor hearts](#) for heart transplantation in recent months and have reported good results."

Researchers in this study analyzed the United Network for Organ Sharing database for all adult heart transplants in the U.S. from February 2021 to March 2022, which included the first 84 COVID-19-positive donor heart transplants among 3,289 total heart transplants. They compared results up to 30 days after transplantation between patients who received hearts from COVID-19-positive donors to those who received hearts from COVID-19-negative donors. The researchers assessed rates of death in the hospital or within 30 days after the operation, post-operative complications, and death from specific causes, such as infections and lung complications, which are known concerns for people who have had COVID-19.

The analysis found the differences in transplant outcomes between groups were not statistically significant. They found:

- Both groups of donor organ recipients had similar rates of death in the hospital and at 30 days after transplantation, as well as similar rates of complications such as graft failure (a condition where the body rejects the new organ) and lung complications.
- The average hospital stay for those receiving a COVID-19-positive donor heart was 15 days, versus 17 days for patients receiving a heart from a donor without COVID-19;
- Organ rejection occurred in 2.4% of the recipients from COVID-19-positive donors, compared to 1% of the others;
- 96.1% of people who received hearts from COVID-19 positive donors survived the first 30 days compared to 97% of those who received hearts from donors without the virus.
- Among the four patients who died after receiving a heart from a

COVID-19-positive donor, none died from respiratory causes or infections.

The researchers said they were surprised by the findings. "Specifically, we thought death from respiratory or lung-related causes would be a problem among recipients receiving donor hearts with COVID-19," Kim said. "Yet, we found no such differences, and in fact, this study offers early evidence that COVID-19-positive donor hearts may be as safe as hearts without COVID-19 for heart transplantation."

"These findings provide evidence that outcomes were similar at 30-days post-transplant among patients who received COVID-19-positive donor hearts, so the potential risks appear to be lower than expected," said Eldrin F. Lewis, M.D., M.P.H., FAHA, chair of the Association's Scientific Publishing Committee, an advance heart failure and heart transplant specialist, and the Simon H. Stertzer M.D. Professor of Cardiovascular Medicine and chair of the division of cardiovascular medicine at Stanford University. "In turn, this may help to address the shortages in donor hearts for transplantation and reduce waiting times, since people often get sicker as [heart failure](#) progresses while waiting for a donor heart to become available."

The study's impact is limited by its [small sample size](#), and the analysis may be underpowered to detect differences in [heart](#) transplantation experiences. Longer-term studies are needed to assess how patients receiving hearts from COVID-19-positive donors fare beyond 30 days after surgery and the rate to early graft failure.

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More information: Abstract: www.abstractsonline.com/pp8/?...1/presentation/11229

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