

A first-of-its-kind heart transplant in New England

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A team of surgeons and specialists at Massachusetts General Hospital (MGH) is announcing an achievement in transplant surgery today, having recently performed the largest number of adult heart transplants in the

country using what are known as Donation after Circulatory Death (DCD) donor hearts. The five transplants also include the first surgery of this kind for the New England region.

For decades, heart transplant cases in the U.S. have been dependent solely upon organs donated after brain death or irreversible loss of brain function. A DCD donor has brain function incompatible with life, but doesn't meet all criteria for [brain death](#). Life support is removed and if the donor's heart stops beating within a certain window of time, death is declared and the organ is removed. Outside the body, [blood circulation](#) is re-established in the heart using a machine pump while it is being transferred to the recipient.

"This is a significant moment not only for MGH, but hopefully for transplant centers around the the country," said David D'Alessandro, MD, surgical director for Heart Transplantation at MGH. "Patients die each day while waiting for transplants, due to a major shortage of suitable organs. This is one way we can work toward addressing that gap."

The first adult DCD heart transplant in the U.S. was performed at Duke University Hospital last month. Duke and MGH are among five centers taking part in a clinical trial for DCD heart transplants, involving the use of the Organ Care System (OCS) designed by Massachusetts-based Transmedics. The portable OCS, often referred to as "heart in a box," restores the donor organ with warm, oxygenated blood, re-animating it until it can be safely transplanted. OCS was also used during the world's first DCD heart transplant in Australia in 2014 and in England's first DCD heart transplant in 2015.

"Recent studies have shown outcomes among DCD heart transplant patients overseas have been favorable," said James Markmann, MD, Ph.D., chief of the Division of Transplant Surgery at MGH. "I'm

confident we will continue to see this program grow at MGH."

The DCD [heart](#) transplant trial is expected to run through August of 2021.

Provided by Massachusetts General Hospital

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