

### Scientists Achieved Successful Transplant of Pig Kidneys into Deceased Human Recipients

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Two separate research teams have achieved successful transplantation of genetically engineered pig kidneys into deceased human recipients. Attempts to achieve animal-to-human organ transplants, known as xenotransplants, have encountered continuous failures for decades due to the immediate rejection of foreign tissue by the human immune system. Scientists are revisiting this approach by utilizing genetically modified pigs aimed at producing organs that closely resemble human tissues.

At the Heersink School of Medicine, University of Alabama in Birmingham, a male in his 50s, who was pronounced brain dead, received a transplant of genetically modified pig kidneys. Within few seconds of being transplanted, the pig kidneys started producing urine. Furthermore, serum creatinine levels decreased to near normal range within two days following the transplant and remained within normal levels throughout the study duration. The details of this breakthrough advancement were outlined in a research article published in JAMA in August 2023.

A separate team at New York University Langone Health achieved a groundbreaking milestone by demonstrating normal functioning of a genetically modified pig kidney for an unprecedented duration of thirty-two days in a brain-dead individual. This experimental xenotransplant was performed on a 57-year-old brain-dead recipient, and the patient's native kidneys were removed to ensure that the pig kidney was the sole functioning organ.

These remarkable advancements in the realm of xenotransplantation signify a substantial stride towards resolving the ongoing issue of organ shortages. However, such studies raise a number of ethical considerations and rely on the incredible support of the deceased recipient's families.

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