

## Pigs to People

Roughly 103,000 people are waiting for an organ transplant, and around 84,000 of them are in need of kidney transplants. Due to the further rise of health issues such as diabetes, Chronic Kidney Disease (CKD), and hypertension, the need for kidney transplants has left hospitals and patients stuck waiting for possible donations. However, in 2024, doctors successfully transplanted the first ever genetically edited pig kidney. This development broke barriers between humans and animals, leading to a future possibility of a permanent solution. The process of xenotransplantation is so important to not only kidney transplants but also heart and liver transplants. It sets a new standard for “unsolvable” problems in the medical industry and fundamentally changes the way in which chronic diseases may be treated in the near future.

I was drawn to this topic of xenotransplantation for kidneys as I volunteer in a lab developing drugs to help solve CKD. I have seen first hand how complex CKD is and how slow the progress is in developing a viable drug to cure it. Knowing how many hours upon hours thousands of researchers put into developing a cure for CKD puts into perspective how meaningful it would be to see a real-life impact. Being able to work alongside those doctors and watch the progress of laboratory work turn into a real life saving treatment would be remarkable. Working in a lab has also shown me how much animals sacrifice for the development of new drugs and treatments to save human lives. This understanding makes breakthroughs such as xenotransplantation especially meaningful, as it represents the death of one life for the extension of another.

Works Cited

Chase, Brandon. "World's First Genetically-Edited Pig Kidney Transplant into Living Recipient Performed at Massachusetts General Hospital." *Massachusetts General Hospital*, 21 Mar. 2024,

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