

Clinical trial set to change kidney transplant practice

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A major clinical trial has found a simple change to world practice for kidney transplants could deliver real benefits for recipients and reduce their need for dialysis by 25%.

The BEST-Fluids trial was conducted by the Australasian Kidney Trials Network (AKTN) in collaboration with researchers from The University of Queensland, The University of Adelaide, and The University of Sydney. The research was published in *The Lancet*.

AKTN chair and UQ Professor David Johnson said the trial assessed the use of an intravenous fluid containing sodium, potassium, magnesium and chloride in proportions similar to [human blood](#)—instead of the usual practice of using normal saline ([sodium chloride](#) and water).

"Of those study participants who received intravenous Plasma-Lyte 148, 30% needed dialysis after their transplants, compared to 40% for those given normal saline," Professor Johnson said.

"This is a significant improvement in outcomes for those undergoing [kidney](#) transplant surgery."

Royal Adelaide Hospital Nephrologist Dr. Michael Collins led the study and said the findings would change world practice for kidney treatments.

"Based on these results, we believe that balanced crystalloid fluids should be used for all patients during and after kidney transplant surgery," Dr. Collins said.

"Balanced fluids are relatively cheap and widely available, which makes them a useful treatment for most of the estimated 200,000 kidney transplant operations that are conducted globally each year."

University of Sydney Professor and Senior Investigator Steve Chadban said with regular saline, as currently used, about one in three transplanted kidneys did not work immediately.

"Kidneys can be effectively 'stunned' by the traumas of donation

surgery, transportation and then transplant surgery," Professor Chadban said.

"When a kidney doesn't work immediately, dialysis is required.

"This can cause anxiety and inconvenience for patients, as well as potential longer-term damage to the kidney."

More than 800 [transplant](#) recipients participated in the study, across 16 hospitals in Australia and New Zealand between January 2018 and August 2020.

The trial was double-blinded, meaning participants and researchers were not aware who had received which fluid until its conclusion.

More information: Michael G Collins et al, Balanced crystalloid solution versus saline in deceased donor kidney transplantation (BEST-Fluids): a pragmatic, double-blind, randomised, controlled trial, *The Lancet* (2023). [DOI: 10.1016/S0140-6736\(23\)00642-6](https://doi.org/10.1016/S0140-6736(23)00642-6)

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