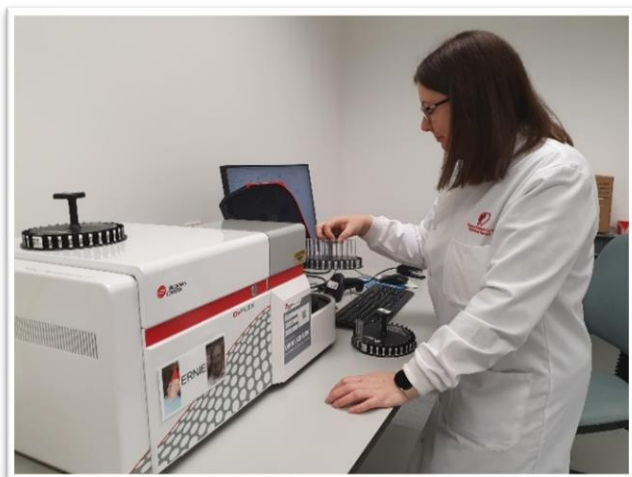


Improving Outcomes for Kidney Transplant Patients

Deborah Pritchard, Head of Transplantation Services at the Welsh Blood Service is working on a research project that could help improve outcomes for people who receive a kidney transplant. The three-year project is part of her Higher Specialist Scientist Training programme and is called *Measuring the immune response after kidney transplantation*.

Kidney transplantation is the treatment of choice for patients with end stage kidney disease and around 2800 patients received a kidney transplant last year in the UK. On average the transplanted kidney will last for 15 years.



Deborah Pritchard,
Head of Transplantation Services
at Welsh Blood Service.

One of the reasons a kidney transplant stops working is due to rejection, where the patient's own immune system, designed to detect and fight infection, identifies the transplanted kidney as something different in the body and reacts by attacking it. The patient has to take medication to suppress the immune system to protect the kidney for the life of the transplant.

Despite advances, 25% of patients in the UK experience rejection of their kidney transplant. However, we currently don't have the ability to predict the outcome of a transplant. Testing for rejection happens when kidney function is impaired, and usually by this stage irreversible damage has already occurred.

“My project is looking at specific types of cells that are part of the immune system – regulatory cells. Regulatory cells are able to suppress other immune cells and keep the immune system in order so that it does not attack the transplanted kidney.”



Once Deborah has set up a robust testing regime, she will work with colleagues at **Cardiff and Vale University Health Board Nephrology and Transplant Service** and the **Wales Kidney Research Unit** to collect and analyse blood samples from kidney transplant patients.

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“I aim to investigate whether the right types and numbers of regulatory cells could have an effect on the outcome of a transplant.

A higher number of specifically bio-marked cells could help suppress the immune system, lowering the risk of rejection.

But if the patient has a smaller number of these regulatory cells, it could mean they are at greater risk of rejection. That’s what I want to try and find out.”

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Considering samples from patients with and without rejection, she will look at a unique combination of biomarkers in regulatory cells to understand their influence on transplant rejection. This lab-based study is just the start.

If Deborah is successful in finding a difference in the regulatory cells in patients that experience rejection and those that don’t, it could provide an early warning for patients who are at greater risk of rejection after a transplant. We could then individualise care and monitoring of kidney transplant patients based on this lab test to better manage their long-term outcomes. It could even be applicable to other transplant types, such as heart and lung transplants.

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“I am interested in translational research – research that improves outcomes for our transplant patients. I hope to combine the value of lab tests with expertise in immunology to advance our care of patients, and our knowledge of transplantation.”

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The Welsh Blood Service is funding the first phase of this project.