Making EVERY Kidney Count
Kidney Research UK is the UK’s leading kidney research charity. We are committed to funding vital research into preventing kidney disease, and to developing better treatments thereby, ultimately, saving lives. Our vision is a world free of kidney disease.

Our research saves lives
Established in 1961 as the National Kidney Research Fund, today Kidney Research UK is a pioneer in its field, enabling scientific excellence and innovation.

Over the decades, we have seen tremendous breakthroughs in the diagnosis, treatment and care of those affected by kidney disease. But we continue to push at those boundaries, accelerating research that is ground-breaking, through our dedicated and ongoing funding.

In the last year we invested £6m into pioneering kidney research

- Over 5,000 people are waiting for a kidney, yet only around 3,300 transplants are carried out each year in the UK.
- On average, transplants last 10 to 15 years and a cocktail of drugs is needed to stop the body rejecting the new kidney.
- As many as five people die each week while on dialysis and waiting for a kidney transplant.

This booklet highlights some of the pioneering research Kidney Research UK has funded in transplantation – helping ensure transplanted kidneys work better for longer. Some of these projects are already saving lives.

There’s still so much more to be done.
Maddy’s story

Maddy has Focal Segmental Glomerulosclerosis which means that research is her only hope for a transplant. Currently her disease would instantly force her body to reject a transplanted kidney, putting her back on her dialysis regime, night after night.

“Ever since I started dialysis in 1998 at the age of 14, I have always carried out all my treatment myself as I didn’t want to be dependent on anyone else. This meant that I was able to go away on school trips with my portable peritoneal dialysis machine and now carry out nocturnal haemodialysis at home every night, enabling me to work full time. Having kidney failure means you have much less energy and stamina than normal, and side effects like anaemia are common. Dealing with kidney failure has taught me to live life to the full right now, as you never know what is going to happen in the future.”
In addition to the shortage of kidneys, for many people finding a compatible transplant can be very difficult. Antibodies are like the immune system’s foot soldiers, ready to attack infections, but they can also attack foreign tissue, such as a newly transplanted organ. Following a blood transfusion, pregnancy or transplant, a patient may develop a wide range of antibodies, which can therefore recognise many potential transplants. The chance of these “highly sensitised” patients finding a suitable donor is very small.

This UK-wide project, led by Dr Siân Griffin, aims to combine a therapy already licensed in another disease area with existing treatments used in transplantation. The combined treatment will work to reduce antibodies in a highly sensitised patient’s system to a manageable level, thereby increasing their chances of undergoing a successful transplant.

This project aims to open up transplant opportunities for patients who cannot currently be considered. Plus it has the potential to benefit patients waiting for other organ transplants too, including heart and liver transplants.
Sometimes the body will reject a new kidney, causing a transplant to fail. Currently we don’t know why this happens, or why it affects some patients but not others.

Dr Fred Tam and his team have discovered that there appear to be more receptors (cells that transmit information), called ‘spleen tyrosine kinase’ (SYK), in transplanted kidneys compared to normal kidneys. These SYK receptors are known to be involved in the stimulation of the immune system, which can then cause rejection. There is a known treatment – an SYK inhibitor – used to turn off these receptors, which is currently used in other disease areas. Dr Tam’s team are testing the use of this treatment in transplanted kidneys to see if it helps prevent rejection.

Once a patient receives a new kidney, Dr Tam’s work aims to ensure the kidney is not rejected.
There simply aren’t enough kidneys available for transplant. People in the UK wait around 2.5 years for a new kidney. A kidney transplant tends to work for an average of 10-15 years, meaning the recipient often ends up back on dialysis, and back on the waiting list. Sadly, some of the donated kidneys are deemed unsuitable by the surgeon right at the point of transplantation if they feel they might not be viable. If there are any doubts, the kidney is discarded.

Professor Nicholson and his team have developed a pioneering technique called ‘warm perfusion’, where the donor kidney is connected to a machine that flushes the organ with oxygenated blood before transplantation. This revives the kidney and repairs much of the damage caused by cold storage. It allows anti-inflammatory agents and other drugs to be pumped through, priming the kidney for the best chance of transplant success. This process also allows doctors to ‘test drive’ the kidney function before transplantation.

Ultimately, this research is aiming to give kidney transplant patients the best possible chance of an even longer life with their new organ. Also, at the point of transplantation, making more kidneys available for those who desperately need them.
I was given the opportunity to receive a donated kidney that was damaged. Professor Nicholson explained that his team had discovered a new process that would make the damaged kidney viable. I trusted Mike’s judgement; I had nothing to lose and everything to gain. Now I feel wonderful, I have more energy than I’ve had in years.

Research needs to go on being funded and supported to ensure that more people – people just like me – have the opportunity to get their lives back!
The shortage of kidneys available for transplant has led to greater use of kidneys from higher risk donors, such as older donors, donors following circulatory death (irreversible loss of function from the heart and lungs), and donors with significant co-morbid disease (such as cardiovascular disease and hypertension). These attributes, when combined with inevitable damage caused by retrieval, storage and transport, decrease the likelihood of these kidneys working straight after transplantation.

In this study project, Miss Marson and her team are looking into the use of the drug heme arginate (HA) as a treatment for patients in the first 24 hours after transplantation. Their aim is to reduce the likelihood of delayed graft function and help the donated kidney to work sooner, and for longer. The project will work with multiple renal centres across the UK.

HA treatment could enter routine clinical practice at the end of the study, making more kidneys available to more people and enable a higher success rate for transplantation.
The leading cause for kidney transplants failing is rejection of the kidney caused by antibodies (antibody mediated rejection or AMR), when the body’s own defence system ends up attacking the foreign transplant. Currently there is no effective treatment.

In this study Dr Willicombe and her team will conduct a randomised controlled trial to test the treatments for AMR currently in use in the UK. This will determine which is safest and best for keeping the transplanted kidney functioning. Patients with AMR will be randomly assigned to treatment groups in over 20 renal transplant units across the UK. The trial will also measure side effects and kidney function to help assess treatment effectiveness. Dr Willicombe’s team will then collate and assess the results.

This study will refine current treatment practice, and help to set a benchmark for the care of patients affected by AMR in the UK.
Jelina’s story

In 1997, at the age of 17, Jelina was diagnosed with lupus, a chronic illness which left her with scarred facial skin and inflamed kidneys. When she was 26 her kidneys failed and she was put on dialysis three days a week for four years. Her transplant at the age of 29 changed her life.

“When I lost my kidney, I lost my freedom. I was reliant on a machine to keep me alive. Having a transplant has meant freedom again and I will always be grateful to the donor’s parents, who made that ultimate decision.

I will always be grateful for research too. It’s thanks to ongoing research by passionate and committed teams of scientists that so many breakthroughs are being made. Breakthroughs that are saving lives. Today I am blessed not only with a kidney, but with a beautiful baby.”
Patients’ lives have been directly saved by pioneering breakthroughs in research work we have funded, and many other lives have been positively enhanced as the result of our study and clinical trials.

We fund as much innovative research as we can, but last year we had to turn down £2.4m of proposals that we really wanted to accept. Sadly we have to turn away exciting and potentially lifesaving ideas, because we don’t have the money to say yes.

The pathway through research to cure is long.

It’s a step at a time, and each and every step needs funding. That’s where your generous support can make a massive difference.

You can join the fight back against kidney disease.

There are many ways you can help

- Make a donation
- Get involved with fundraising
- Volunteer for us
- Join one of our patient groups

For more information about how you can help us make a difference, call us on 0300 303 1100 or visit www.kidneyresearchuk.org
I’m helping
make EVERY kidney count

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We really value your support. We’d like to keep in touch to update you about how our research is changing the lives of kidney patients, our fundraising activities and ways to get involved.

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Please return to:
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