Renal regenerative medicine therapies (RRMTs) aim to regenerate, repair or replace damaged renal tissue to restore normal kidney function. RRMTs encompass a broad range of approaches, many of which involve the use of stem cells. These are essential for replacing injured tissues and cells that are lost every day (e.g. skin, hair and blood) as they are able to make new stem cells or new tissue cells as the need arises. Studies involving regenerative medicine and stem cells help us to understand how the kidney forms and works, genetic disease, damage to the kidney and regeneration after injury – all key areas in helping to deliver the UK Renal Research Strategy.

Stem cell research was ranked as one of patients’ top priorities in Kidney Research UK’s 2016 Patient Research Priorities Survey.

Driving collaboration to accelerate progress

The UK Renal Regenerative Medicine Network is a multi-disciplinary collaboration between patients, scientists and clinicians to help the UK become a leader in renal stem cell research and regenerative medicine.

Supported by Kidney Research UK, the Network is jointly led by Professor Patricia Murray, Professor of Stem Cells and Regenerative Medicine, University of Liverpool and Professor Jamie Davies, Professor of Experimental Anatomy, University of Edinburgh. All activities are shaped by the views of kidney patients, led by David Prosser, Kidney Research UK Trustee and patient.

Aims of the Network:

- Identify research priorities
- Generate research ideas
- Assist investigators in developing research studies
- Facilitating partnerships

To find out more about what we do and get involved, either as a researcher or patient, visit www.kidneyresearchuk.org/renal-regenerative-network or contact supportercare@kidneyresearchuk.org

“Lives free from kidney disease is what we patients dream about. Regenerative medicine and stem cell research offers a very real prospect of the next big advance, and ultimately, light at the end of the tunnel.”

David Prosser, Kidney Research UK Trustee and patient

“Regenerative medicine therapies are already showing great promise in pre-clinical models of kidney disease. UK researchers have developed great expertise in this field and are well-placed to develop these exciting therapies for the benefit of patients.”

Professor Patricia Murray, Network Co-Chair
Our developing vision: **Tackling kidney disease and improving patients’ quality of life**

**Research**
- **Within 5 years**
  - Using a recipient’s stem cells to recondition a donated kidney prior to transplant to improve viability of the kidney
  - Making simple, small human kidneys in the lab for investigating renal diseases and testing novel therapies
  - Using cell-based regenerative medicine therapies to repair or regenerate damaged kidney tissue ‘in situ’

**5-10 years**
- Improve the condition of a transplanted kidney and extend survival
- Increase the number of suitable kidneys for transplant and reduce the waiting list
- Reduce the risk of rejection through increased organ compatibility
  - Better understanding of diseases
  - Better therapies
  - Safer drugs

**10+ years**
- Improve kidney function in damaged kidneys
- Prevent or postpone the need for dialysis and transplant
- Provide patients with an alternative structure or device to support renal function
- Improve health and quality of life
- New kidneys grown from a patient’s own cells to completely avoid dialysis or transplant of a donated kidney

What it means for patients:
- Prevent or postpone the need for dialysis and transplant
- Improve kidney function in damaged kidneys
- Increase the number of suitable kidneys for transplant and reduce the waiting list
- Reduce the risk of rejection through increased organ compatibility
- Better understanding of diseases
- Better therapies
- Safer drugs