The best treatment for kidney failure is to replace the lost kidney function with a kidney transplant. Most people who have a kidney transplant receive a kidney from someone who has died (a deceased donor). However, supply of these kidneys is short, so it is important we look at ways to make the kidneys we transplant last as long as possible.

As part of the transplant process, kidneys from deceased donors will have some time when they have no oxygen supply. This causes damage to the kidney. The worse this initial damage is, the less time the kidney will work for in the person who receives it (the recipient). There’s only so much we can do to limit the stresses put on the kidney during the transplant process, but we can try to change how the kidney reacts to these stresses. We are investigating a treatment (**antimiR-21**) that could reduce the reaction these kidneys have to stress and therefore reduce the amount of injury.

In this study, we will use deceased donor kidneys that are not appropriate to use as transplants and that have consent to be used for research instead. The kidney will be put on a pump system that delivers blood and oxygen to mimic what happens when it is connected in the recipient’s body. We will deliver the **antimiR-21** treatment in this system and collect samples from the kidneys to see if it reduces the amount of injury. We hope that if our treatment can improve the health of deceased donor kidneys and so make them last longer, there will be more kidneys available for people with kidney failure.