

# Addenbrooke's Charitable Trust

## Making a difference for patients, together



**Creating healing spaces**

**Funding state-of-the-art technology**

**Investing in research**

**Supporting the best care for patients**

**An update on the liver perfusion appeal for ALTA**

## **Transforming liver transplantation to save lives: An update on the liver perfusion appeal**

### **Executive summary**

There is a common misconception that people with liver failure must be alcoholic or severely overweight. However, liver failure can affect people of all ages and lifestyles. As the liver is a vital organ in the body and has hundreds of different functions that keep us alive, a liver transplant is the only option for a person with liver failure.

At Addenbrooke's Charitable Trust, we want to invest in the latest cutting-edge technology to give patients the best care possible, which is why we fundraised for a new liver perfusion machine in 2018. Thanks to the support of charitable trusts and individuals such as yourself, we have now fully funded this equipment and I am delighted to update you on its impact on the patients and transplant team here at Addenbrooke's hospital.

### **Liver transplant**

Addenbrooke's carried out over 100 transplants in 2017. Sadly, however, 10% of those on the waiting list die before a suitable liver can be found, and further 7% deteriorate such that a transplant is no longer viable.

As well as a lack of organ donors, the transplant team face other challenges:

- An inability to make confident judgements on a liver's suitability: Surgeons must rely on the organ donor's blood tests and their trained eye to determine a liver's quality. The team therefore tend to be cautious, understandably, and do not use those livers that they do not feel totally confident in.
- The risk of poor-quality livers causing serious harm to the patient: Due to the lack of a reliable method of testing potential livers, it is possible that poor quality livers will be transplanted, causing life-threatening problems for patients.
- Limitations of current methods of preserving a donor liver: Cold storage allows a liver to be kept for only 6 – 12 hours.

### **The liver perfusion machine**

Addenbrooke's hospital's liver perfusion machine addresses the above problems and increases the supply and quality of livers available for transplant.

The machine works by pumping oxygenated blood through the liver, mimicking in simple terms what happens in the body. As a result, the transplant team are able to assess the liver more comprehensively than before and ensure that no livers are needlessly discarded.

The perfusion machine also allows the livers to be stored and preserved ready for transplant for longer periods of time than other methods (12 – 24 hours).

No other hospital in the UK has a liver perfusion machine in routine use for transplants, and yet the impact of its use has already been transformational.

## Impact at Addenbrooke's

At the beginning of this fundraising appeal, we aimed to perfuse 64 livers during the first two years. I am pleased to announce that we are on track to exceed this goal, as over the first year of the Liver perfusion's installation, the transplant team have perfused a total of 57 livers.

Of these 57 livers, 43 have been found to be viable, meaning we are also on course to achieve our target number of 50 transplants by 2020. Most importantly, those 43 transplants equate to 43 lives saved – 43 people who may now have many more years with their loved ones thanks to your support.

Several of the livers received by the team at Addenbrooke's had been turned down by other centres, as they were considered too risky to use without first testing them on the perfusion machine. Without the perfusion machine at Addenbrooke's, these livers would never have been used for transplant. They would have been needlessly discarded and the recipients would have been left on the waiting list.

Compared with other transplant centres, Addenbrooke's has had the highest use of marginal livers (those deemed to carry a greater risk), the highest 30-day survival rate and the highest transplant rate per waiting list patient, hopefully meaning fewer patients will die waiting for a liver. Professor Christopher Watson, consultant transplant surgeon at Addenbrooke's, has credited the liver perfusion machine as playing a vital role in this success.

In July, the liver perfusion machine received formal recognition from the Care Quality Commission (CQC) when it was featured in their Driving Improvement report. We are thrilled to announce that following the incredibly positive outcomes of the machine, the Cambridge University Hospitals have agreed to invest in it so that Addenbrooke's is able to continue using the machine and saving lives for many years to come.





## Paul Wren's story

In 1990, Paul Wren (pictured, right) was diagnosed with Primary Sclerosing Cholangitis: a long-term progressive disease of the liver. After initially responding well to treatment at the Queen's Medical Centre in Nottingham, Paul later received a diagnosis of liver cancer.



Once surgeons had successfully removed the cancer, they suggested to Paul that he should be on the liver transplant list and passed his details on to the transplant team at Addenbrooke's hospital for further testing. After this, the team at Addenbrooke's confirmed that a transplant was required.

Paul was put on the liver transplant list in August 2017. In January 2018, he got a call to say that a liver was ready for him. He and his wife urgently travelled down to Cambridge, only to discover that, unfortunately, the liver was not suitable which was extremely stressful for him and his family.

After the stressful false alarm, Paul was called again in August 2018 by the transplant team who had another liver for him. However, this time, the liver perfusion machine was in operation. As a result, the suitability of the liver was tested and confirmed for use.

*"I went down to Addenbrooke's and the team carried out numerous tests within hours of me arriving at the hospital. Apparently, the donor liver was on the perfusion machine and was being checked", then the surgeon came through, and he said, "its ok, we're ready"*.

After 11 hours in theatre, Paul's liver transplant surgery was a success. Paul is now getting back to his much-loved hobbies of cycling and golfing and is very grateful for the care he received at Addenbrooke's.

*'As far as Addenbrooke's are concerned, I can't praise them enough really, they were absolutely superb. The surgeons, the consultants, the nurses, etc, they were absolutely marvellous.*

*The other thing was how well the Addenbrooke's team looked after my wife. They arranged accommodation for her. The gentleman who organised that was brilliant. This meant she could just walk in to see me. That was something that Addenbrooke's were excellent at – thinking about the whole family.'*

## What next for transplant?

We would now like to support some improvements that will help the patient experience whilst they're in hospital and help them and their relatives have a comfortable stay with us. This includes:

- **Creating a dedicated room on the transplant ward for dialysis.**  
Currently this is in a room that's also used for storing equipment. With clever use of the space we can create a dedicated room where patients can have dialysis in a comfortable and relaxed environment
- **Improving our patient day rooms.**  
Patients can be in these rooms for several hours whilst waiting to know if a transplant is going ahead. By refurbishing these rooms patients can be more comfortable in a space that feels more homely and less like a hospital.
- **Providing a brighter space for patients being assessed for a liver transplant.**  
A more spacious room for outpatients with natural light is now available. We would like to provide a comfortable environment for patients, making use of art and nice furnishings to help patients feel at ease before and between outpatient appointments.

If you would like to hear more about these current fundraising projects, please do not hesitate to contact me.



## Thank you

The liver perfusion machine is an example of how Addenbrooke's Charitable Trust is able to go above and beyond NHS funding capabilities to provide patients with the best possible treatment and care available.

However, we are only able to make positive impacts on patients thanks to the generosity of our supporters. We are so grateful for your investment in the liver perfusion machine and hope that you feel inspired and encouraged by its incredible impact on the transplant team's efficiency and on the 35 individuals whose lives have been saved.

On behalf of all the patients, hospital staff and colleagues at ACT; thank you.

I look forward to keeping you updated in transplant department's activities going forward.

Jennie Hall  
Development Lead  
E-mail: [Jennie.Hall@act4addenbrookes.org.uk](mailto:Jennie.Hall@act4addenbrookes.org.uk)  
Telephone: 01223 256163