

# First corneal stem cell transplant conducted in Ireland

June 10 2016

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First corneal stem cell transplant conducted in Ireland. Credit: Dublin City University

On Tuesday 7th June 2016, the first Limbal Stem Cell transplant in Ireland was performed by Mr. William Power, Consultant

Ophthalmologist at the Royal Victoria Eye and Ear Hospital (RVEEH) in Dublin. While this technique has been available in a number of other countries, until now this was not a treatment option available in Ireland. This transplant represents the culmination of a collaboration between researchers, scientists and clinicians in the National Institute for Cellular Biotechnology (NICB) in Dublin City University (DCU), the Eye Bank at the Irish Blood Transfusion Service (IBTS), and the Royal Victoria Eye and Ear Hospital (RVEEH).

The cornea is the transparent dome on the front of the [eye](#), which acts like a window, protecting the inner light-detecting components of the eye. Cornea grafting is used for many corneal diseases, but relies on an intact limbal cell source in the recipient for long term success. The limbal stem cells help maintain a clear cornea. The health of the cornea on the front surface of the eye is essential for vision. Deficiency of these stem cells results in corneal inflammation, opacification, vascularisation, pain and loss of vision.

In January 2016, the IBTS received authorisation from the HPRA to grow these cells as an Advanced Therapeutic Medicinal Product for clinical use. The stem cells originated from a human cornea which was donated by a deceased donor. These [stem cells](#) were then isolated and grown in carefully controlled conditions in the clean rooms of the Irish Blood Transfusion Service over a period of 12 days by the team of medical scientists led the Chief Medical Scientist Sandra Shaw, Colin Hynes and Fiona Cauchi and by Dr. William Murphy, Medical and Scientific Director.

This achievement was made possible by a generous bequest to the IBTS by the late Edith Ingram. The bequest allowed the IBTS to collaborate with the research team in DCU led by led by Prof. Martin Clynes and Dr. Finbarr O'Sullivan. The primary research and development of the methodology was successfully established by the researchers in the

National Institute for Cellular Biotechnology (NICB) DCU led by Dr. Finbarr O'Sullivan, Dr Kishore Reddy and Dr Clair Gallagher and then transferred to the IBTS where further translational research was carried out and the process optimised to meet regulatory approval necessary for clinical use.

Co-Lead NICB researcher on the project, Dr. Finbarr O'Sullivan said "As a researcher it is wonderful to see something you work at in the laboratory making it into the real world to improve someone's life. This only came about due to the collaboration of effort between the three partners in developing the process."

Provided by Dublin City University

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