

Insights into new corneal surgery

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An innovative vision-restoring procedure performed in Australia for less than 10 years has been reported on in detail for the first time.

It will assist surgeons to make important decisions when using corneal grafts to treat thousands of Australians facing blindness each year.

The findings form part of the 2018 report of Flinders University the Australian Corneal Graft Registry (ACGR), which collects and analyses national data relating to corneal transplants.

An international frontrunner, the registry was established at Flinders in 1985 and has collected data on more than 35,000 graft procedures and enabled many advances to be made in the field of ophthalmology.

Corneal grafting, or keratoplasty, involves the replacement of the front clear 'window' section of the eye with a cornea from a deceased donor.

Corneal damage from genetic conditions, infections or traumatic injuries is one of the major causes of blindness in Australia.

Flinders University Associate Professor Richard Mills, who is Medical Director of the ACGR, says the newer procedure, called Descemet's Membrane Endothelial Keratoplasty, involves replacing only a very thin internal layer of the cornea.

"It requires fewer stitches and is often commended for potentially reduced rates of graft rejection and enabling final vision outcomes to be reached in a shorter time," Associate Professor Mills says.

"However, there are aspects which can make these techniques more complex to perform. This can lead to higher rates of early failure. It is therefore important that both the short and long-term outcomes are documented for surgeons to weigh up the pros and cons of these surgeries for patients' particular needs."

Associate Professor Mills says the registry's major reports are always enthusiastically received by the ophthalmic community.

"Given the immense amount of data the registry holds and its

longitudinal nature – with patient outcomes analysed over decades – the reports are regarded as a vital source of information on the different types of keratoplasty performed in Australia."

The ACGR was established by Flinders University Emeritus Professor Keryn Williams AC, together with fellow Flinders Emeritus Professor Doug Coster, and is one of the world's largest repositories of information on corneal transplants.

It has played a key role in dramatically reducing the time Australians need to wait for sight-restoring transplants by overturning previous beliefs that cornea donors have to be young.

Its knowledge has led to other countries establishing registries based on the Flinders University model, and Flinders' data is often used in international comparative studies investigating improved corneal transplants.

Provided by Flinders University

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