Keep corneal tissue in bank to tackle eye issues in future

OptiQ service is first of its kind in Asia launched by local company which owns cord blood banks

opia in their 40s.

Timothy Goh

Patients who go under the blade to correct their myopia will now be able to freeze tissue from their own corneas, preserving it to potentially treat long-sightedness and other eye conditions they develop in the future.

Called OptiQ, the service is the first of its kind in Asia. It was launched yesterday by local company Cordlife Group, which owns a series of international cord blood banks.

OptiQ is for patients who undergo refractive eye surgery using a method called lenticule extraction. The lenticule is a tiny disc-shaped piece of corneal tissue. Small incision lenticule extraction (Smile), a non-essential procedure which reduces the dependency on glasses, is a form of refractive eye surgery.

Professor Donald Tan, an adjunct professor with the Singapore National Eye Centre (SNEC) and medical adviser to OptiQ, said: "A laser cuts a lens-shaped piece of tissue within your cornea, which matches your myopia, and then we remove it through a little keyhole incision at the side.

"And that piece which we remove, which is essentially your myopia, is the corneal lenticule."

Prof Tan, a former medical director of SNEC and former director of the Singapore Eye Research Institute (Seri), said the corneal lenticule is usually thrown away after such procedures.

But this is a waste of resources, he added. The tissue, he said, has potential

Unlike myopia, where people have trouble focusing on distant objects, those with presbyopia lose the ability to focus on objects at

close range. They then require reading glasses or plastic implants to correct their vision. But some patients do not want to wear glasses and plastic implants

carry a risk of inflammation or being rejected by the body.

Prof Tan said that if the patient's own lenticule were to be re-implanted, it could theoretically correct his condition with minimal risk of inflammation or scarring.

But the facilities to store corneal

lenticules for the long term did not previously exist in Singapore. Similar technology, however, did exist in the blood bank and stem cell storage business, which Cordlife is involved in.

So Prof Tan and the head and senior consultant of SNEC's corneal and external eye disease department, Professor Jodhbir Mehta, worked with Cordlife to develop OptiQ, which was licensed by the Ministry of Health in January.

Cordlife's facility is capable of storing the lenticules at below minus 150 deg C.

Dr Tang Kin Fai, Cordlife's laboratory director, said this theoretically allows the lenticules to be stored "indefinitely"

The cost of OptiQ before GST is either \$4,500 upfront for 20 years' storage, or an annual plan of \$1,800 for the first year and \$180 per year for the next 19 years of

storage. If both lenticules are utilised, the remaining cost of storage will be waived.

Prof Mehta said: "Almost every one of us will have presbyopia after the age of 40. We believe this advancement in ophthalmology can help a lot of people and even take healthcare in Singapore

to the next level."

Prof Tan said corneal lenticules may be able to treat not just presbyopia, but other conditions such as hyperopia, aphakia and corneal perforation as well.

While he acknowledged that the use of lenticules in treatment is still being trialled, he added: "The kev is that we're not wasting the tissue – we're storing it for you in case you need it.'

storing the corneal lenticule samples at below minus 150 deg C. Dr Tang Kin Fai, Cordlife's laboratory director, said this theoretically allows them to be stored "indefinitely". PHOTO: CORDLIFE GROUP

Cordlife's lab is capable of

Dr Tang said: "We're confident that in the future, the cryopreserved lenticules will be able to be used for the greater good.

"And once these (trials) advance to standard therapies, anyone who has stored his corneal lenticules can be a part of this medical revolution and have more treatment options in the future."

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uses given that the lenticule is shaped like a lens with a specific power.

The lenticule removed from a patient with 300 degrees of myopia will be like a lens with a corrective power of 300 degrees.

He said that many patients who are treated for myopia in their 20s or 30s will later develop presby-





FAIR

Generally fair except for thundery showers mainly over northern and western

Singapore in the late afternoon. OUTLOOK

Friday: Late afternoon thundery showers.

Saturday: Afternoon thundery showers.



C Rise Rise 7.14am 11.53pm Set Set 7.20pm 11.21am

TIDES

Today: 2.15am (2.9m), 8.43am (0.6m), 2.48pm (2.9m), 9pm (0.9m).

Tomorrow: 2.52am (2.9m), 9.30am (0.5m) 3.52pm (2.6m), 9.37pm (1.2m).

MAKING CONNECTIONS THAT MATTER