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## Traditional cataract surgery remains 'gold standard'

THE College of Ophthalmologists wishes to address certain points in last Thursday's article ("New cataract surgery cuts blindness risk").

Phacoemulsification using ultrasound energy, the "traditional cataract surgery" mentioned in the article, has been performed on thousands of patients here since the early 1990s.

The procedure has undergone tremendous improvements over time. When performed by competent surgeons, it results in a very low rate of endothelial cell loss and subsequent corneal decompensation or damage.

Peer-reviewed medical studies published over the last six years show a range of mean endothelial cell loss of between 1 per cent and 10 per cent.

A 2004 study showed that even when the procedure was performed by a junior doctor, the average endothelial cell loss was only 11.6 per cent.

The article's figure of up to 40 per cent endothelial cell loss after standard phacoemulsification is thus inaccurate and may occur only in rare cases when complications arise.

While the use of the femtosecond laser may theoretically reduce the amount of ultrasound energy required, the laser itself is high-energy. It is too early to tell whether the cumulative energy from the laser plus the reduced ultrasound is safer than the conventional amount of ultrasound energy in phacoemulsification.

The results from the National University Hospital showing that "half (of the patients) experienced negligible cell loss" after undergoing femtosecond laser-assisted cataract surgery is unproven. Without performing a proper study over a period of at least six months, it would be premature to draw such conclusions.

While femtosecond laser-assisted cataract surgery holds great promise and may become more widely acceptable in the future, we need to factor in the high costs, logistic hurdles during the procedure itself and the relative paucity of comparative data at this early phase of its use worldwide.

The current phacoemulsification technique has set an extremely high standard in safety, comfort, expediency and outcomes over the years. It remains to be seen whether the femtosecond technological evolution can match or surpass this high benchmark.

When compared to conventional phacoemulsification, which already carries a low risk of blindness, it is too early to claim that femtosecond laser-assisted cataract surgery can reduce the risk of blindness.

We hope to allay the fears of those who will be undergoing or have undergone standard phacoemulsification cataract surgery, and emphasise that at present, it remains the gold standard for cataract treatment.

**Yip Chee Chew (Dr)**

**Honorary Secretary,**

**The Council, College of Ophthalmologists, Singapore**

**Academy of Medicine of Singapore**

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# Higher cell count loss only for certain cases: NUH

WE THANK the College of Ophthalmologists for its response to last Thursday's article ("New cataract surgery cuts blindness risk").

During the media briefing, we shared that the range of endothelial cell count loss experienced by patients who underwent traditional cataract surgery was between 10 per cent and 25 per cent, as reported in the medical literature. However, in complicated cases and for ophthalmologists with less experience, the cell count loss could be as high as 40 per cent.

The reported findings that femtosecond laser-assisted cataract surgery is associated with lower cell count loss are consistent with the initial experience overseas and based on our preliminary experience in the first 40 patients who underwent this procedure.

We agree with the College of Ophthalmologists that further research is needed to establish its ultimate effectiveness. In fact, we had shared that we are planning to embark on prospective studies to compare the new surgery with conventional phacoemulsification cataract surgery.

At the National University Hospital, femtosecond laser-assisted cataract surgery is extended to all patients, including subsidised ones, as a non-basic surgical option for cataract patients with low endothelial cell counts and shallow anterior chambers.

Conventional phacoemulsification surgery remains the standard of care for the vast majority of our patients.

**Lennard Thean (Dr)**

**Director of Clinical Services**

**Head of Cataract, Lasik & Refractive Surgery**

**Department of Ophthalmology**

**National University Hospital**

**Wong Tien Yin (Professor)**

**Head, Department of Ophthalmology**

**National University Hospital**

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# NUH specialist's claims on cataract op refuted by peers

By Salma Khalik Senior Health Correspondent

CLAIMS that a National University Hospital (NUH) eye specialist made to the media earlier this month have resulted in a backlash from other ophthalmologists.

In lauding a newer, laser-assisted way to remove cataracts, Dr Lennard Thean made unfavourable comparisons to the ultrasonic-cutting method commonly used by most eye surgeons.

He had said that half of the 40 patients who had the newer and more expensive procedure lost a negligible amount of "endothelial cells". Loss of these cells could affect clarity of sight.

He had also said patients who undergo the traditional surgery could lose 10 per cent to 40 per cent of the cells.

This information is not true, said other eye specialists.

Private eye doctor Jerry Tan wrote to Dr Thean to say that "unless NUH doctors are very bad surgeons, 10 per cent to 40 per cent is not the norm".

The subject also came up for discussion at the annual general meeting of the College of Ophthalmologists - the society for eye doctors under the Academy of Medicine - over the weekend.

The college has since written to The Straits Times Forum page to correct the impression given by Dr Thean.

Dr Yip Chee Chew, honorary secretary of the college, said it was "inaccurate" to say that standard cataract surgery could result in up to 40 per cent cell loss. He pointed to medical studies into the normal method over the past six years, which have shown cell loss of 1 per cent to 10 per cent.

Even a procedure performed by a junior resident registers a cell loss of only 11.6 per cent.

Dr Yip added that "the current technique (for cataract surgery) has set an extremely high standard in safety, comfort, expediency and outcomes over the years".

As for the advantages of the newer procedure, the college said in its letter: "Without performing a proper study over a period of at least six months, it would be premature to draw such conclusions."

NUH has been using the new technique for less than two months.

However, the Singapore National Eye Centre (SNEC), Gleneagles and Mount Elizabeth hospitals have been using the laser machine for about a year.

In a reply to Dr Tan that was copied to the College of Ophthalmologists, Dr Wong Tien Yin, who heads the NUH ophthalmology department, defended the 40 per cent figure cited by Dr Thean.

He said: "In NUH, there are some cases with loss as high as 40 per cent." He explained that these high rates occur in patients with certain problems. These include having a "low endothelial cell count" before surgery.

A cataract occurs when the lens in the eye turns cloudy. Surgery is used to replace the lens with an artificial one. More than 30,000 cataract operations are done here each year, with half of them done

at the SNEC.

Dr Ronald Yeoh, a private practitioner who performs about 500 cataract operations annually, said the new laser machine makes surgery easier and more accurate.

One in five of his patients is willing to pay \$1,500 more for treatment with the new machine.

But whether its use provides a better outcome for patients who are already being treated by an experienced surgeon is difficult to say, said Dr Yeoh, who also teaches cataract surgery at the SNEC.

While it is rare, a trainee might incur a 40 per cent cell loss during surgery, he added. But experienced doctors usually keep the loss to under 10 per cent.

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**CURRENT METHOD IS GOOD**

The current technique (for cataract surgery) has set an extremely high standard in safety, comfort, expediency and outcomes over the years.

- Dr Yip Chee Chew, the honorary secretary of the College of Ophthalmologists

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# New cataract surgery cuts blindness risk

Boon for older patients, with less damage to cells lining the cornea

By Poon Chian Hui

THE National University Hospital (NUH) is now offering what it says is a safer way to remove cataracts.

The procedure, which can greatly cut the risk of blindness, would be a boon for Singapore's ageing population, since the disease affects 80 per cent of those above 60 years old.

Most patients are able to opt for the surgery, which helps to preserve the layer of cells lining the inside of the cornea, a transparent surface of the eye that lets in light, through the use of a laser.

These cells cannot regenerate, making their preservation critical.

The more cells that are saved, the lower the chance of blindness, and of needing a cornea transplant in the future.

More than 30,000 cataract operations are carried out a year in Singapore.

The new method is especially useful for older patients because the number of endothelial cells lining the cornea gets fewer with age, said Dr Lennard Thean, who heads NUH's cataract services.

The development allows patients with a low endothelial cell count to have cataract surgery safely, he added.

Of the 40 patients who underwent the new "femtosecond laser assisted cataract surgery method with patented lens cubing technology", half experienced negligible cell loss.

In contrast, those who had the traditional cataract surgery typically lose about 10 to 40 per cent of endothelial cells.

Cataract is a disease in which the lens of the eye gets clouded, obscuring vision.

The normal procedure involves the sole use of ultrasound to dissolve the cataract.

The doctor then sucks the pieces out of the patient's eye with a pump. However, ultrasound damages the inner lining of cells.

The new method, which was developed in the United States, uses a laser to first break up the cloudy lens into tiny cubes. That allows for a more limited use of ultrasound to dislodge the particles.

"The less energy used, the less cells will be lost," explained Dr Thean.

The cost of the laser-assisted surgery for each eye is \$2,300 for subsidised patients, and up to \$6,800 for private patients. The usual operation costs \$1,000 and up to \$5,000 respectively.

NUH will be offering fellowships to train external ophthalmologists in the procedure. For a start, about 20 doctors will be trained every year.

Retiree Chua Yong Ann, 74, underwent the latest procedure last month.

He first started experiencing blurry vision six years ago.

"I encountered this embarrassing problem of mistaking strangers for people I knew - until I didn't dare to say hello first," he said.

But the conventional cataract surgery was an issue for him, given his borderline endothelial cell count.

So he opted for the laser-assisted day surgery, which takes 35 minutes to complete for each eye, about 15 minutes longer than the previous method.

Said Mr Chua: "It's almost as if I didn't go for any operation at all. Today, I see things in high-definition. I can't get used to it, really."

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Background story
<b>NORMAL SURGERY</b>
Endothelial cell loss: 10 per cent to 40 per cent
Time taken: About 20 minutes per eye
Cost: \$1,000 per eye for subsidised patients and up to \$5,000 per eye for private patients
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<b>LASER-ASSISTED SURGERY</b>
Endothelial cell loss: Negligible
Time taken: About 35 minutes per eye
Cost: \$2,300 per eye for subsidised patients and up to \$6,800 per eye for private patients