I have just turned 40. Recently, I find my vision fluctuating between clear and blur when I wear contact lenses. It is more blurred in dim light conditions. Is LASIK still suitable for me or am I too old for it? Are there any other options?

LASIK is a type of refractive surgery that offers patients a permanent alternative to wearing glasses or contact lenses.

It is a life-changing procedure that has been around since 1991 and has been performed on more than 40 million people worldwide. The procedure is all laser and 100 per cent bladeless. A very thin flap on the cornea is first created using a femtosecond laser, then an excimer laser reshapes the underlying corneal tissue to correct short-sightedness, astigmatism and long-sightedness or presbyopia (“lao hua”).

**Advanced and safer technology**

The advances in LASIK have advanced greatly, patient satisfaction is at an all-time high, and studies have demonstrated exceptional safety outcomes.

With careful patient selection and ultra-thin flaps made by the bladeless femtosecond laser, post-op dry eyes are only temporary and no longer pose a long-term issue in most patients, while ectasia (loss of corneal strength) is now very rarely seen.

Post LASIK, their vision back the next day and can quickly return to their work and activities.

It is the most commonly performed laser eye surgery worldwide and, at present, remains the mainstay of refractive surgery for the treatment of short-sightedness, astigmatism and long-sightedness/presbyopia.

**Suitable age group**

The United States Food and Drug Administration (FDA) has approved LASIK for those aged 18 and above, with no upper age limit.

Although the majority of LASIK patients at our eye centre are between 18 and 50 years old, there are also others in their 60s and 70s who come to have presbyopia corrected by LASIK if they did not have the opportunity to get their presbyopia corrected during their previous cataract surgeries.

The FDA-approved treatment range for LASIK includes up to -12.00 dioptr (D) of myopia, +6.00D of long-sightedness/presbyopia and -6.00D of astigmatism.

**Demand for better visual quality**

Patients today not only expect 20/20 vision or better after LASIK surgery, they also demand better quality of vision than what they have with spectacles and contact lenses.

For example, a 20-year-old patient may see well in the daytime but finds that his glasses or contact lenses are associated with glare and haloes at night and generally blurry vision in dim light conditions.

These are visual quality issues rather than visual quantity issues — things that make patients like or dislike their own eyes, enjoy or not enjoy their own vision — and are termed Higher Order Aberrations (HOAs).

HOAs occur mostly in dim light conditions, when the pupil automatically dilates in the eye’s fluid and get scattered instead of being able to focus onto the retina to provide a clear image, causing night-time optical disturbances such as glare, haloes, starbursts and blur.

**Wavefront-guided LASIK**

The most advanced form of HOA correction is wavefront-guided LASIK.

This technology originated from the National Aeronautics and Space Administration (Nasa) Hubble Space Telescope, considered to be the most powerful optical device ever invented by mankind to date.

Fourier algorithm wavefront-guided LASIK maps out and corrects HOAs of the human eye to provide superior night vision.

SMILE is currently FDA-approved to treat between -1.00D and -8.00D of myopia with up to -3.00D of astigmatism, so it is not yet a solution for patients with long-sightedness/presbyopia or mixed astigmatism.

It is also not able to perform customised treatment for HOAs that affect night vision, and remains a treatment based on spectacle prescription only.

**Implantable Collamer Lenses**

Implantable Collamer Lenses (ICL) are the ideal solution for patients with high prescriptions not suitable for laser eye surgery. The FDA-approved age range is 21 to 45 years old, and the FDA-approved treatment range is up to -20.00D of short-sightedness, up to +12.00D of long-sightedness and up to -5.00D of astigmatism.

Dr Natasha Lim

Medical director and ophthalmologist, senior consultant, Dr Natasha Lim Eye Centre

**TREATMENT OF MYOPIA, ASTIGMATISM AND PRESBYOPIA FOR ALL AGES**

- 100% bladeless wavefront-guided LASIK
- 100% bladeless laser cataract surgery
- Computer-guided lens implantation

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**Q&A/Refreshments/End**

**Dec 12 (6.30pm to 7.30pm)**

**WSTC Event @ NUH**

**usc_event@nuhs.edu.sg**

**Registration is FREE!**

**For more details, call 6560-2220 to register.**

**A/Prof Shridhar Iyer**

Professor, Division of Pediatric Gastroenterology, Hepatology and Nutrition.