

## LASIK eye surgery: Alternative to corrective lenses

DR TAREQ SALAHUDDIN

LASIK eye surgery — short for laser-assisted in-situ keratomileusis — has resulted in making clear vision a reality for millions of people who used to rely on glasses or contact lenses. With increasing experience and advances in technology, outcomes and predictability of LASIK eye surgery have greatly improved in recent years. But complications associated with LASIK eye surgery still exist. Before you schedule LASIK eye surgery, find out what it entails and what could go wrong.

**How does LASIK eye surgery work?**

LASIK eye surgery changes the shape of your cornea — the transparent membrane that arcs over your pupil and the colored part of your eye (iris). After the procedure, your cornea should bend (refract) light rays to focus more precisely on your retina rather than at some point beyond or short of your retina.

LASIK eye surgery may be an option for you if you have nearsightedness (myopia), farsightedness (hyperopia) or astigmatism. What might disqualify you from having LASIK eye surgery?

LASIK eye surgery poses particular risks for some people. You should definitely not have this surgery if you have

- Immune system disease
- Persistent dry eyes

- Eye characteristics like an extremely uneven corneal surface or an otherwise abnormally shaped cornea
- Fluctuating or progressively worsening of the quality of your vision etc.

**Can someone with presbyopia get LASIK eye surgery?**

Certain people with presbyopia may benefit from LASIK eye surgery, although there are limitations. Most people in their 40s have some signs of presbyopia — a refractive error that develops as you age — such as difficulty reading or performing other close-up tasks. The condition is usually well managed with the use of reading glasses.

If you have presbyopia, LASIK eye surgery may give you clear distance vision, but it might make it even more difficult for you to see objects close up. To avoid this, you might choose to have your vision corrected for monovision. With monovision, one eye is corrected for distant vision and the other for near vision. Not everyone is able to adjust to or tolerate monovision, so it's wise to undergo a trial with contact lenses before opting for a permanent surgical procedure.

**How do you prepare for LASIK eye surgery?**

Before surgery, your eye doctor takes a detailed medical history and uses specialised equipment to carefully measure your cornea, noting the shape and any irregularities.



If you wear contact lenses, you will need to switch to glasses full time a few weeks before this exam. Contact lenses can distort the shape of your cornea, which could lead to inaccurate measurements and a poor surgical outcome.

Skip your eye makeup and eye cream on the day before and the day of your surgery. Your doctor may also instruct you to clean your eyelashes daily or more often in the days leading up to surgery, to remove debris and minimise your risk of infection.

You will need to have someone drive you to and from your surgery. Immediately after surgery, you might still feel the effects of medicine given to you before surgery and your vision may be blurry.

Refractive surgery is usually considered elective surgery — which means it isn't vital to your health and well-being. For this reason, Medicare and most insurance companies won't cover the cost of the surgery. So be prepared to pay out-of-pocket for your expenses.

### Results

Refractive surgery often can offer you improved vision without the hassle of glasses or contact lenses. In general, you have a very good chance of achieving 20/25 vision or better after refractive surgery. More than 90 percent of people who have undergone refractive surgery no longer need to use their glasses or contact lenses most of the time.

Your results will depend on your specific refractive error and other factors. People with a low

grade of nearsightedness tend to have the most success with refractive surgery. People with a high degree of farsightedness along with astigmatism have less predictable results.

### Risks

As with any surgery, refractive surgery carries risks, including:

• **Undercorrections.** If the laser removes too little tissue from your eye, you will not get the vision results you were hoping for. Undercorrections are more common for people who are nearsighted. You may need another refractive surgery (enhancement surgery) within a year to remove more tissue.

• **Overcorrections.** It is also possible that the laser will remove too much tissue from your eye. Overcorrections may

be more difficult to fix than undercorrections.

• **Astigmatism.** Astigmatism can be caused by uneven tissue removal. This sometimes occurs if your eye moves too much during surgery. It may require additional surgery.

• **Glare, halos and double vision.** After surgery you may have difficulty seeing at night. You might notice glare, halos around bright lights or double vision. Sometimes these signs and symptoms can be treated with eyedrops that contain a type of corticosteroid, but sometimes a second surgery is required.

• **Dry eyes.** For the first six months or so after your surgery, as your eyes heal they might feel unusually dry. Your eye doctor might recommend that you use eyedrops during this time. If you experience severe dry eye, you could opt for another procedure to get special plugs put in your tear ducts to prevent your tears from draining away from the surface of your eyes.

• **Flap problems.** Folding back or removing the flap from the front of your eye during surgery can cause complications, including infection, tearing and swelling. The flap removed during PRK may grow back abnormally.

If you are considering LASIK eye surgery, talk to your doctor about your questions and concerns. He or she can explain how the surgery might benefit you and help put the risks in perspective.

HAVE A NICE DAY

DR RUBAIUL MURSHED

All health information to keep you up to date

## DNA's revolution

A revolution has taken place in the last few decades that explains how DNA makes us look like our parents and how a flawed gene can cause disease. This opens the door to treat lots of diseases.

DNA is the basis for all living matter. It means Deoxyribo-Nucleic Acid. It is the hereditary material in humans and almost all other organisms. This is a long fiber, like a hair. It is made from two threads that stick together with a slight twist. Nearly every cell in a person's body has the same DNA. Most DNA is located in the cell nucleus. All living things on this earth from tiny worms to elephants up to humans share this. According to some scientists, human DNA is 98 percent identical to that of chimpanzees. An important property of DNA is that it can replicate, or make copies of itself.

The information in DNA is stored as a code made up of four chemical bases. They are A (adenine), C (cytosine), G (guanine) and T (thymine). Human DNA consists of about 3 billion bases, and more than 99 percent of those bases are the same in all people. The order or sequence of these bases decides the information obtainable for building an organism.

In fact, these four base chemicals are constructing our genes. The genes take the orders for making all proteins that are available in a cell. The proteins in a cell choose what jobs that cell will do. As well the genes decide how the different cells will be arranged. In this fashion, DNA controls how many fingers we have, where our legs are placed on our body and even the color of your eyes. DNA is a particular bio-molecule. The entire DNA in a cell is found in individual pieces, called

chromosomes.

A chromosome is made up of DNA and the proteins attached to it. There are 23 pairs of chromosomes in a human cell. One of each pair was inherited from our mother and the other from our father. Believe it or not, we share the same number of genes as the common mustard weed. If the entire DNA in the human body were put end to end, it would reach the sun and back 600 times. It is interesting to note that we all share about 99 percent of the same DNA as our neighbour and even more with our parents and children. Difference may sound very little but it stands for three million dissimilarities in the three billion long DNA chain. Interestingly DNA detection can be fairly effective if used intelligently. Portions of the DNA sequence that vary the most among humans must be used; also, portions must be large enough to overcome the fact that human mating is not absolutely random.

Forensic-DNA typing, a revolutionary concept was first used in 1986 in England in the case of Colin Pitchfork, who was eventually convicted of the sexual assault and murder of two teenage girls. Then again, people who had wrongly confessed to the murders were saved by this technology as well.

In 1985, a year after the development of DNA fingerprinting, the polymerase chain reaction (PCR) was revealed. This revolutionised the field of molecular biology though the technique would not come into practice in forensic cases until the early 1990s. With the DNA-typing technique it is possible to prove the real criminal or murderer. This is also helpful in the identification of missing persons and human remains.

## INTERVIEW

### Avoid squatting to protect your knee

DR MD RAJIB HOSSAIN

Although osteoarthritis (OA) can affect any joint but knee is most commonly affected. Osteoarthritis of the knee is one of the five leading causes of disability among elderly, specially women.

It develops when the cartilage (smooth, slippery, fibrous connective tissue which acts as a protective cushion between bones) around the knee joint begins to deteriorate or is lost. As the cartilage is lost, the joint space between the bones narrows and this is an early symptom of osteoarthritis of the knee that can easily be seen on X-rays. It usually occurs in knees that have experienced trauma, infection, or injury. Over a period of years, the joint slowly changes. In severe cases, when the articular cartilage is gone, the thickened bone ends rub against each other and wear away. This results in a deformity of the joint and normal activity becomes painful and difficult.

Dr Chia Shi Lu, Consultant Orthopaedic surgeon of Singapore General Hospital has shared his insights with Star Health on osteoarthritis and latest options for

preventing and treating knee pain.

**Star Health (SH):** What are the causes of osteoarthritis in knee joint?

**Dr Chia Shi Lu:** The exact causes of osteoarthritis are unknown; however there are a number of factors that are commonly associated with the onset of the disease. Such as history of acute injury to the medial knee for example, meniscal or ligament trauma, prolonged and excessive use of the knee joint, previous fracture at that site of the knee, obesity, genetic factors etc. It does affect other joints such as the hip as well but Asians are more prone to knee osteoarthritis because of the common "squatting habit" in the toilets, in contrast with western patients who have hip damage more.

**SH:** Who is most vulnerable?

**Dr Lu:** Osteoarthritis of the knee is common in people over 50 years of age, in particular in women. Elderly women with medical problems like obesity or overweight, ageing, with a family history of arthritis could make them more vulnerable. It can affect either one or both sides of the knee joint however it occurs

more commonly on the inner aspect of the knee. It is common in individuals who play intense physical sports, such as football. Previous injury to the knee is a strong indicator for development of osteoarthritis in the future.

**SH:** How many people need surgery for this?

**Dr Lu:** Most people with osteoarthritis will not need surgery. Surgery is a possibility for those with severely damaged joints who have trouble walking. Surgery may involve joint replacement in which the rough worn surfaces of the joint are replaced with smooth-surfaced metal and plastic pieces. The most common surgery now is knee arthroplasty where the damaged parts are removed and replaced by an artificial joint (prosthesis). The prosthesis is made up of metal (titanium or stainless steel) and special high-grade plastic components (polyethylene) allowing the joint to function normally.

**SH:** What is your advice for the readers to protect their knees?

**Dr Lu:** To strengthen your legs and knees, do this lunge exercise, down and up, with your body

weight evenly between the front and back leg. Do not lean forward or back. Bend both knees to dip straight down, and come up again, gently, at least 10 times. Use good bending, shown in the right hand drawing above. Done properly, it should feel like exercise for the thighs and hips, not pain in the knees.

Avoid squatting on the balls of your feet with your heels up. Instead, to sit in a full squat, whether to rest, to do chores, or to go to the bathroom wherever there is no commode toilet, keep your heels on the floor. This is a customary sitting posture in much of the world. This reduces pressure on the knees and is a great stretch for your. Keep your knees over your feet, not drooping inward.

When going up stairs, keep your weight back toward the heel of the foot that is stepping up. Most people do not step this way because their leg muscles are too weak. They throw their weight forward, stepping up onto the toe. This transmits body weight onto the knee joint in a vicious cycle of weakness and pain. Keep weight back and knee pain will disappear.



Microsoft co-founder Bill Gates

## Gates urges rich countries not to cut health aid

REUTERS, New Delhi

Microsoft founder Bill Gates said he was worried the global financial crisis he says could last two to three years might drive rich countries to cut back spending on health aid for the developing world.

Echoing comments made last week by U.N. chief Ban Ki-Moon, the billionaire philanthropist said the world's poorest people will suffer the most during the economic slowdown, and said a "strong voice" was needed to keep them a global priority.

"We certainly are concerned that some of the rich world governments could either reduce their increase or even cut back the amount they spend on these issues," Gates said in India's capital.

"We have to admit that getting that generosity goes even more challenging when there's tough economic times."

Gates said he expected the United States to undergo a period of "economic contraction" for two to three years as a result of a meltdown in the housing market and heavy consumer debt.

Gates was optimistic about the newly elected American president Barack Obama's efforts to tackle global health issues, saying Obama has "shown a lot of interest" and would "drive improvements in those areas."

Gates said this while on a visit

to India on behalf of his charitable foundation to tackle health issues, focusing on polio eradication and fighting HIV/AIDS.

Meeting with Indian health officials and polio experts, Gates said he was confident polio can be successfully eradicated with India leading the way.

Gates called for increased government spending on health and urged Indian health officials to consider using innovative approaches such as injection vaccines to tackle the crippling disease.

While a lot more expensive and trickier to administer, the injected IPV vaccine could be used in addition to oral vaccines to stop the spread of polio in high-risk areas.

Oral vaccines have not proven to be as effective in India as elsewhere, a problem which some researchers suspect is down to poor sanitation and a higher presence of other diseases that stop the vaccine working properly.

A world effort to beat polio has succeeded in slashing the number of cases by 99 percent over the past two decades, but the disease is still endemic in India, Pakistan, Afghanistan and Nigeria.

The Bill and Melinda Gates Foundation has committed more than \$17 billion in grants since it began in 1994, and has given hundreds of millions of dollars in a global campaign to eradicate polio.



## Be aware of high heels

High heel shoes sure look great, but they are murder for your back. This however does not mean you should steer clear of stilettos. Wear them, but not when you know you will be walking around a lot. Wear them when going out for lunch or dinner — when the only walking you will be doing is to your car, to the table and back.

Avoid high heels when you

are going somewhere on foot. If you are constantly tempted to wear your heels, take a good look at your flats. Is there something about them you dislike? Invest in a new pair of beautiful flats or shoes with a low heel. Buy something you love, that you will enjoy wearing. If possible, get a matching bag. You will then enjoy your flats as much as you do your heels.

## Sweet potatoes: Color yourself healthy

Why eat sweet potatoes? The deep orange-yellow color of sweet potatoes tells you that they are high in the antioxidant beta carotene.

Food sources of beta carotene, which your body converts to vitamin A, may help slow the aging process and reduce the risk of some cancers. Sweet potatoes are also good sources of fiber, vitamins B-6, C and E, folate and potassium. They are fat-free and low in calorie density, meaning you can have a larger portion size without racking up the calories.



## Towards a healthy aging

DR RIFFAT H LUCY

With the increase of life expectancy, we are having larger proportion of aging population. Aging is not a disease but a series of normal changes in our body. It is not surprising that old age would be accompanied by health problems. Some people stay healthy by changing lifestyle with age, thereby increasing their chances of enjoying retirement and taking full advantage of their senior years. We can not stop aging but can learn how to age successfully.

Certain physical changes are common in aging period. Your metabolism (how fast your body can burn calories) slows over time, which means that your body needs less food energy than before. Also, most people start needing reading glasses between ages 40 and 50, and many have some hearing loss later in life. Starting in your 50s, bone aging increases.

Also starting around age 50, you may notice changes in sexual function—it is normal to have a



slower sexual response. Most vital organs gradually become less efficient with age. The kidneys are less able to keep enough water in your body. And the heart can start to show signs of wear and tear caused by years of eating the wrong foods and not exercising. So as you get older, it is important

to exercise, drink plenty of water, and eat the right foods. One of the most important things you can do for your health is exercise. People who stay active are less likely to get depressed. Exercise can be anything from walking to gardening to working out at the gym. The important thing is to be active

almost every day. No matter what your age or condition, there is a type of exercise that is right for you. Always ask your doctor whether it is safe for you to start an exercise program.

Your mental and emotional health is also important. Protect or improve your emotional health by staying in touch with friends, family, and the community. People who feel connected to others are more likely to thrive than those who are not. And try to keep stress at a minimum. Depression can be a serious problem for older adults. If you think you may be depressed, seek help from a psychiatrist.

Eat a healthy, balanced diet. Avoid salty foods and foods with a lot of fat in them, such as fried foods. If you smoke, try to quit. Do not abuse alcohol or drugs.

If you take good care of your body and stress positive ways to deal with stress now, you can slow down or even prevent problems that often come with getting older.

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