# Does LASIK Work for Presbyopia?

Presbyopia, the unofficial harbinger of middle age, causes us to need reading glasses by our mid-40s. While not completely understood, it's believed to be caused by the hardening of the lens which causes our near vision to blur, giving us trouble with reading and other fine detail work. Up until a few years ago, your New York LASIK surgeon had few tools in his toolbox for presbyopia treatment aside from prescribing reading glasses for you.

Then, multifocal contact lenses came along. These contact lenses work like bifocal reading glasses – look up or straight ahead to see for distance, look down to see up close. Trifocals give the wearer three ranges of vision with one lens; distance, intermediate, and near vision.

LASIK surgery, however, probably won't help. It's not generally effective for people with presbyopia who want to have optimal vision without the use of any contacts or glasses. While LASIK may be able to significantly improve a presbyopic patient's distance vision, it may worsen the near vision and compound the problem.

So, what's a patient to do if he or she has presbyopia? Now that the baby-boomer generation (over 76 million born between 1946 and 1964) are all approaching age 50, the demand has increased for effective presbyopia correction surgery, and there are new procedures being tested around the world.

## Presbyopia treatment today

If you are having LASIK to correct your myopia (nearsightedness), hyperopia (farsightedness), or astigmatism, and you have presbyopia as well, your New York LASIK surgeon may be able to help you avoid reading glasses through a procedure commonly known as **"monovision LASIK"** (approved in 2007). In this procedure, the doctor corrects your dominant eye to fix your refractive error, and your non-dominant eye for near vision.

After monovision LASIK, your brain learns to rely on one eye for distance vision tasks like driving, and on the other eye for near vision tasks like reading and working on your PC. This means you may be able to put the reading glasses back in their case. Many patients adapt quickly to the monovision and are pleased with the results. However, it may take several weeks for your brain to get used to the differing inputs and to merge the images effectively, and some patients never adapt to the monovision.

Another technique performed by some surgeons, called **"blended vision LASIK"**, is milder than monovision LASIK because the near vision correction in the non-dominant eye is not as great. This means there will be less difference between the eyes and you should have an easier time adjusting to it. On occasion, you may still have to wear corrective lenses for things like reading. Also, if you are a pilot or in the military, you will likely be required to wear glasses while working, because blended vision LASIK does not satisfy their requirements.


Another FDA-approved option for correcting your presbyopia is Conductive Keratoplasty (CK). This non-invasive procedure uses radio waves to shrink the collagen fibers on the outside of the cornea, thereby increasing the curvature and magnifying power of the eye for better near vision. CK can be used successfully to correct issues like hyperopia and presbyopia, and it's well-suited to patients over the age of 40 whose conditions are not treatable by LASIK procedures. No incisions are made during the procedure, so recovery time is immediate.

Other non-laser eye surgeries for presbyopia might include **Refractive Lens Exchange (RLE)**. This surgery is virtually the same procedure used to correct a cataract lens except that there is no cataract. The RLE procedure involves exchanging the eye's natural crystalline lens with a premium accommodating, presbyopia-correcting lens, such as Crystalens, so that your eyes will focus better. Some patients even regain the vision they enjoyed in their 20s.

## PresbyLASIK for the future?

PresbyLASIK, or "multifocal LASIK", combines the multifocal ability of contacts and glasses with the permanence of LASIK surgery. Like "regular" LASIK, the surgery is performed on the cornea of the eye. Similar to the effect of bi- and trifocals lenses, the corneal surface is divided into two or three zones of vision; either near/far or near/intermediate/far. Each zone is then corrected to the best vision that can be achieved at each distance. During clinical trials, some LASIK surgeons have preferred a modified monovision approach of using presbyLASIK in the non-dominant eye and wavefront-guided (custom) LASIK in the dominant eye, with good results.

Like monovision, it takes a while for the brain to get used to receiving different information from each eye. In addition, the brain will now be receiving different information for each of the zones, so it needs a bit more time to adjust to the new normal.

## Awaiting FDA Approval

Unfortunately, as of January 2013, presbyLASIK has only been approved in Canada (where it has been in use for several years) and in Europe (since 2002). For those of us in the United States, presbyLASIK has not yet been through the three-phase approval process for effectiveness and safety required by the Food and Drug Administration (FDA) and can only be performed "off-label" or through approved clinical trials. Keep in touch with your New York LASIK surgeon to stay informed about the availability of presbyLASIK trials in your area as well as its FDA approval status.

## Who may be a candidate for multifocal LASIK?

Just like with any other LASIK procedure, you'll have to meet the same criteria – healthy eyes, a stable prescription, no sign of cataracts or dry eye – and you must already have presbyopia. Younger patients who have had cataract surgery or RLE and lost their near vision capabilities may also be good candidates.

Your New York LASIK surgeon is the best person to ask about all of this. It's also important to have realistic

expectations. Multifocal LASIK can’t give you back the near vision you had before presbyopia, but you may be able to get along without reading glasses.

Dr. Ilan Cohen is an expert in cornea and refractive surgery, with offices in Manhattan, Glendale (Queens), and Old Bridge, New Jersey. Schedule a free evaluation today.