There’s some uplifting news for the millions of people who are unsuitable for LASIK surgery because of moderate or extreme nearsightedness, or severe astigmatism. They may benefit from a vision-correction surgical procedure using intraocular lenses.

The introduction of LASIK, an acronym for Laser Assisted in–situ Keratomileusis, was a vast improvement for treating nearsightedness, farsightedness, and astigmatism.

But while laser–vision correction procedures such as LASIK and photorefractive keratectomy have been successful for many patients, those who are extremely nearsighted or astigmatic often are unsuitable candidates for these types of eye surgeries.

In recent years, intraocular collamer lenses, also called ICLs, were introduced to solve this problem. “The technique, which uses lens replacements instead of lasers, has proven to be a very effective procedure, especially for highly myopic (nearsighted) patients,” said Dr. Jason Darlington, a board–certified eye physician and eye surgeon who performs refractive surgery for a wide range of patients at The Eye Institute for Medicine & Surgery in Melbourne. Refractive surgery is a method for correcting or improving your vision.

Nearsightedness and farsightedness are refractive errors that occur when the eye’s refractive power (ability to bend light rays) does not match its focal length (distance front to back). The eye is bending light too much or too little to focus it on the retina at the back of the eye, he said. If the individual is nearsighted, light focuses in front of the retina and causes distant objects to be blurry. If the individual is farsighted, light focuses beyond the retina and causes near objects to be blurry.

An ICL is an artificial lens, similar in function to a contact lens, which is implanted in front of the eye’s natural lens, but behind the iris, so it is practically invisible to outside observers.

“It can be a great option for patients who cannot have LASIK surgery because of their prescription, thin corneas, or dry eyes,” said Dr. Darlington, who also has expertise in glaucoma, corneal transplants, ocularplastic and cataract surgery.

A five–year ICL research study was presented in October at the 120th annual meeting of the American Academy of Ophthalmology. Researchers studied 60 eyes in 31 people who had ICLs to correct moderate to extreme levels of myopia or severe astigmatism. They chose people based on a number of factors, including those whose vision was stable, who were not correctable with LASIK surgery, and had no eye disorders, such as glaucoma or macular degeneration.

Before the procedure, all of the people had 20/200 vision or worse and only 60 percent could achieve 20/40 eyesight with glasses or contact lenses. Five years after having the procedure, 57 percent of eyes (34 eyes) achieved 20/40 vision without the use of glasses or contact lenses. Also, all of the lenses remained clear after five years, and none of the people who had surgery lost visual acuity.

This year, the largest U.S. study of its kind found that nearly 10 million adults are severely nearsighted, or highly “myopic,” the medical term. Of those, some 800,000 have a degenerative form of the disease and more than 40,000 suffer a complication called “myopic choroidal neovascularization” that could cause long–term vision loss, with women at higher risk.

The study was published online in “Ophthalmology,” the journal of the American Academy of Ophthalmology. Myopia has become increasingly common over the past several decades. In the U.S., the number of nearsighted people rose from about 25 percent in the early 1970s to 40 percent around the turn of the millennium. People with high myopia and the degenerative form are at higher risk of myopic choroidal neovascularization, the report said.

This condition is characterized by the growth of new, unstable blood vessels beneath the retina.

Dr. Darlington, who joined The Eye Institute’s M.D. team last year, moving here from Los Angeles, offers a range of choices for patients who are interested in vision correction, including LASIK surgery. Dr. Darlington does refractive surgery consultations free of charge at the practice. “It’s rare to find a patient who can’t benefit in some way from refractive surgery,” he said.

“Dr. Darlington is on the leading edge of his profession,” added Jerry Orloff, The Eye Institute’s chief executive officer. “He uses the latest technology and techniques to ensure patients receive the best outcomes. Dr. Darlington is fellowship–trained in both glaucoma and cornea. He trained at one of the top fellowships in the nation, Minnesota Eye Consultants. They publish a tremendous amount

See The Eye Institute for Medicine & Surgery, page 15
of research and are very much viewed as thought-leaders in the field."

Dr. Darlington, who enjoys surfing and kiteboarding, earned his medical degree from the University of California–Davis, where he conducted research in corneal disease. Following an internship at Scripps Mercy Hospital in San Diego, he completed his residency in ophthalmology at UC–Davis. There, he piloted research on laser–vision correction and wavefront technology in the field of refractive surgery. He then performed the Lindstrom Fellowship in advanced anterior segment surgery, including glaucoma, corneal, and refractive surgery, in Minneapolis. Dr. Richard Lindstrom, a pioneer in corneal preservation research, is the founder of Minnesota Eye Consultants.

A new technology in the field of ophthalmology is the “Kahook Dual Blade,” a device that allows eye surgeons to treat glaucoma patients in combination with cataract surgery or as a standalone procedure to restore function to the natural outflow system of the eye.

This is a technique Dr. Darlington uses to treat glaucoma in various patients. Using precision micromachining and laser–cutting technology, the KDB is engineered to excise “trabecular meshwork issue” through a clear corneal incision as small as 1.2 centimeters.

Kahook is a class of surgeries only developed recently. They are called micro–invasive glaucoma surgeries, or MIGs. “Not all glaucoma surgeons perform MIGs, but it’s going to be the wave of the future in terms of managing glaucoma,” he said.

As technology has progressed, less invasive techniques have emerged that have improved the safety and profile for glaucoma surgery, said Orloff. This opened more surgical options for patients interested in effective glaucoma management which does not rely solely on the continuous use of prescription medication.

“It’s very important for someone who has glaucoma to keep their eye pressure low, and Dr. Darlington has an arsenal of resources to help such a patient maintain and have useful vision for the rest of their life. Blindness that comes from glaucoma is permanent,” said Orloff.

Glaucoma is a group of eye diseases that damage the optic nerve, which links the eyes to the brain, said Dr. Darlington. It is most commonly associated with elevated pressure inside the eye. Without treatment, glaucoma can cause irreversible vision loss in a person’s side vision, then in his or her central vision.

With early diagnosis and treatment, sight can be preserved. However, glaucoma incidence is on the rise.

Researchers predict that glaucoma will affect as many as 6.3 million Americans by 2050.

The American Academy of Ophthalmology recommends adults start getting regular comprehensive eye examinations from an ophthalmologist, which is a physician specializing in medical and surgical eye care.

In the spirit of the holiday season, Dr. James McManus, a board–certified ophthalmologist and cataract specialist at The Eye Institute, and Dr. Darlington, who has performed thousands of cataract surgeries, seek to give the gift of sight to two area residents in need.

Dr. McManus, the founder of The Eye Institute, introduced “The Christmas Cataract” program several years ago and it has changed the lives of the recipients. He describes the program as “a happy ending waiting for your story.”

“Dr. McManus is excited to welcome Dr. Darlington as his partner this year in the program,” said Orloff.

The two physicians encourage Brevard County residents who may be experiencing vision loss because of cataracts, who are uninsured and in need, to visit TheChristmasCataract.com. Dr. McManus and Dr. Darlington will restore the sight of two Brevard County residents.

There are instructions on the website — where you can listen to some of the great holiday classics sung by Frank Sinatra — explaining how an individual or a loved one can share a photo and their story describing how vision loss has impacted their life and how they believe their life could improve if their vision was restored. Dr. McManus and Dr. Darlington will review all the entries and carefully determine the individuals most likely to benefit from cataract surgery.

“In years past the Christmas Cataract program has helped some worthy candidates receive the gift of sight. And there is nothing greater,” said Orloff.