

# Crystalens

## **Who would be a good candidate for Crystalens?**

Virtually everyone in good general health who is a candidate for cataract surgery or refractive lens surgery (over age 35) is a good candidate for Crystalens. If you have already had cataract surgery, you are probably not a candidate for Crystalens. As always, one of our surgeons will perform a complete eye exam to determine if you are indeed a good candidate.

## **What makes the Crystalens different from other intraocular lenses?**

The Crystalens has the unique ability to change focus on objects at varying distances using the eye's natural focusing system. This means that the Crystalens can provide a continuous range of vision, without corrective lenses, from near to far and everything in between. Standard (single vision) lens implants do not have the ability to provide a full range of vision. Most people who have single vision lens implants MUST wear glasses for middle and near vision.

## **Can my vision be corrected to 20/20, for both reading & distance?**

The Crystalens has been designed to focus your eyes at all distances after cataract surgery. While virtually everyone will experience a significant improvement in their uncorrected vision after surgery, some people will not see 20/20 at all distances. The two-year clinical trial that supported the FDA approval of the Crystalens indicated that 92% of the people enrolled in the study (implanted in both eyes) could see 20/25 or better at distance, 96% could see 20/20 at arm's length and 73% could see 20/25 at near without glasses or contact lenses. What is more exciting is that 98% of these people could pass their drivers test, 100% could see their computer and dashboard, read the prices in the supermarket or put on their makeup, and 92% could read the telephone book or newspaper, all without glasses or contact lenses. Some patients implanted with the Crystalens still require glasses for certain activities.

## **What about my middle vision, like working on the computer. Will it be like wearing trifocals?**

Your ability to see at approximately arm's length (middle vision) will be greatly enhanced with the Crystalens. Over 96% of people enrolled in the clinical study were able to see 20/20 at arm's length without correction. In addition, the quality of vision compared to wearing trifocals is significantly improved. You will have a full range of vision, without having to tilt your head to find that portion of your glasses that allows you to see clearly. You simply look at something and the Crystalens will in most cases allow you to automatically focus your eye at near, arm's length, or distance. The Crystalens mimics the natural focusing ability of your eye before age 40.

## **How long will the Crystalens continue to work?**

The Crystalens has been implanted in over 100,000 patients with great success. Since FDA approval was received in 2003, data continues to be collected that shows excellent visual outcomes with few reports of complications. The focusing function generally improves further with time.

## **Will I have to have cataract surgery after the Crystalens?**

No. Once your lenses are removed and replaced with a Crystalens, you will never

have to have cataract surgery. Occasionally, several months or years after the lens has been placed in the eye, the vision may start to become cloudy from clouding of the lens capsular membrane behind the implant. This is sometimes called a secondary cataract, and it can occur after any intraocular lens surgery. This clouding will block the vision and a laser is used to make an opening in the membrane behind the implant, immediately improving vision. This is done painlessly in the office without the need for anesthetic, takes just a few minutes and is permanent.

### **What are the risks of Crystalens surgery?**

Refractive lensectomy with Crystalens entails all of the risks of cataract surgery, including but not limited to, inflammation, infection and dislocation of the intraocular lens. They are quite rare in modern cataract surgery in general, especially cataract surgery performed on a relatively clear lens. We use the latest technique of clear corneal, self-sealing, no suture surgery with "no needle" eye drop anesthesia for most cases of refractive lens surgery.

### **What about glare, problems driving at night and sensitivity to light? Can implant surgery create these problems?**

Yes. These symptoms can be produced or exacerbated by Crystalens (or any lens) surgery. Many people report these problems before surgery. However, they are rarely debilitating. Sensitivity to light is often a temporary symptom. The Crystalens optic material is so clear that in some people it takes time to get used to how bright colors are and how intense lights can be, particularly at night. As with any intraocular lens, glare can be a problem at night when the pupil dilates widely. These phenomena are rarer with the Crystalens than other intraocular lenses because it sits further back in the eye, and the newest model of Crystalens has a larger optic. Occasionally light can reflect off the edge of the implant and create a flash or halo of light. This typically does not occur in your central field of vision, but rather in the periphery. People who have worn contact lenses in the past may be familiar with this phenomenon.

### **How long will the surgery take? Will I feel anything?**

The Crystalens procedure is performed by Drs. Herbert Nevyas, Anita Nevyas-Wallace and Vipin Goyal in our outpatient surgical facility. A number of drops will be placed in your eye and you may be administered medications to help you relax. The eye drops anesthetize your eye and dilate your pupil. Once in the surgery suite, you will lie down on a comfortable bed, a microscope will be positioned over your eye. The actual surgery usually takes less than 20 minutes. The surgeon will stabilize your eye with a device to keep your eyelids open. You will feel no pain, only slight pressure on your eye. All you have to do is relax. Once the surgery is complete, additional drops will be placed in your eye to prevent infection, decrease inflammation, and keep your pupil dilated. A shield will be placed over your eye and someone will need to drive you home. You should rest and avoid any strenuous activities for the remainder of the day.

### **What will my vision be like after surgery?**

Your distance vision will usually be very good within a day or two after surgery. However, your middle and near vision may be somewhat blurred at first and you may need to wear reading glasses temporarily to help you read for 1 or 2 days while the operative drops wear off. This is because of the instillation of drops at the end of surgery, which will relax your focusing muscles and keep your pupil somewhat dilated for a few days. After about a week, you will notice that your intermediate vision is improving and your near vision is also starting to get better. You will

discontinue the use of the reading glasses at this time so that you strengthen the focusing muscle of your eyes.

It may take several months for your eyes to reach their full focusing potential. The more you try to read without reading glasses, the quicker you will be able to read without them. A packet of word puzzles in decreasing print size will be given to you to practice near vision and exercise your focusing muscles. Everyone's focusing ability is different. Most people will be able to see clearly in the distance, have excellent middle vision, and will be able to read a newspaper without glasses, but some people may be more comfortable with a pair of thin glasses, particularly at night or in dim light.

It is important to remember that implant surgery cannot resolve pre-existing visual conditions such as floaters, retinal damage or visual field loss due to preexisting medical conditions of the eye and not related to the lens. While virtually everyone experiences much improved vision after cataract surgery, some people will have better uncorrected vision than others. It may be necessary for some people to wear glasses for distance and/or near vision to obtain optimal visual acuity. The difference from standard intraocular lenses is that most people will not be dependent on these supplemental glasses to function normally.

#### **What can be done if my Crystalens does not provide sufficient focusing power?**

There are various reasons why the power of your implant may not be sufficient to provide you with a continuous range of vision. Your doctor will decide the best course of treatment, which may include YAG laser capsulotomy, additional surgeries such as exchange of the Crystalens implant, implantation of a second low power "piggyback" intraocular lens or LASIK surgery following your Crystalens recovery.

#### **Multi-focal Intraocular Lenses**

There are now two multi-focal intraocular lenses with recent FDA approval on the market. These are the ReStor and the ReZoom lenses. Both of these lenses present distance and near images to the eye simultaneously. They allow a degree of pseudoaccommodation in that the patient can usually see both distance and near in good focus. However, these lenses reduce contrast sensitivity and thereby make vision poorer under low light conditions. In addition, they usually cause glare and starburst phenomena around lights. For this reason, we seldom use these lenses except in certain cases where patients cannot have the Crystalens.