

# Answers To Your Questions About REAL Vision<sup>®</sup> and the Crystalens<sup>®</sup>

## **What is the Crystalens?**

The Crystalens is a new technology that is designed to mimic the eye's natural ability to focus on distant, middle and near objects. Used in conjunction with standard cataract extraction methods, the Crystalens can restore a full range of functional vision, from distance to reading vision without total dependence on glasses or contact lenses.

## **What makes the Crystalens different from other intra-ocular lenses?**

The Crystalens has the unique ability to focus on objects at varying distances using the eye's natural muscle. This means that the Crystalens can provide sharper vision, without corrective lenses, throughout a full range of vision 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.

It is interesting to note that many people who have not had surgery, are not able to see 20/20 at both near and far even with glasses or contact lenses. This is due to a variety of ocular and physiological problems as well as lifestyle preferences, yet most of these people function quite normally although their vision is reduced.

The Crystalens FDA two-year clinical study results indicate that 92% of the people enrolled in the study (implanted bilaterally) 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 98% could read the telephone book or newspaper, all without glasses or contact lenses.

## **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 automatically focus your eye at near, arm's length, or distance. The Crystalens mimics the natural focusing ability of your eye.

## **Will I be able to read in all light conditions?**

The Crystalens functions very much like the normal human lens. It is important to remember that reading vision in low light is also influenced by the overall health of your eye and by the condition of the light sensors in the retina. As we get older our ability to see in low light conditions may start to decrease. It is always best to read in good light conditions.

## **How do I know if I am a good candidate for Crystalens implantation?**

We will perform a thorough examination and advise you of a customized treatment plan for effectively correcting your vision.

Virtually everyone with good general health is a candidate for implant surgery, but people with chronic infections, uncontrolled diabetes, or other health problems may have to wait until these conditions are under control prior to surgery.

People who have had prior corneal refractive surgery are acceptable candidates for Crystalens implantation as long as their eye is in good health.

If you have already had cataract surgery, you are not a candidate for the Crystalens procedure.

## **Should I have the Crystalens implant put in both eyes?**

Studies have shown that both distance and near vision is greatly enhanced if both eyes are corrected. Dr. Buckley will look at a number of factors in deciding which eye to implant first, and when to implant the other eye. The usual wait between surgeries is two to three weeks, but this may vary based on how well the first eye is healing and the visual outcome.

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

The Crystalens procedure is typically performed in an outpatient surgical facility. You will arrive at the surgery center about an hour before the procedure. A number of topical drops will be placed in your eye and oral medications may be administered to help you relax. The eye drops anesthetize your eye and dilate your pupil. Sometimes additional numbing is administered under the eye.

Once in the surgery suite, you will lie down on a comfortable bed, a microscope will be positioned over your eye and you will be asked to look up into the light of the microscope. 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 to relax and hold still.

Once the surgery is complete, additional drops will be placed in your eye to prevent infection, decrease inflammation, and keep your pupil dilated. A patch may be placed over your eye and someone will need to drive you home. Once at home, you should rest for the remainder of the day. You should avoid any strenuous activities.

Your first postoperative visit will be the day after surgery to remove the eye patch and examine your eye. Do not rub your eye.

You will be given additional medications that you will need to put in your eye for the next week or two. These drugs help the eye heal leaving no residual effects.

### **What are the chances that something could go wrong with the surgery? What would they be?**

The contemporary treatment is to remove the crystalline lens and replace it with an artificial lens. The Crystalens represents the state-of-the-art in artificial lens design and is the result of over 50 years' evolution in the treatment of cataracts.

The medical procedure to implant the Crystalens is the same safe, proven surgery performed annually on over 7 million eyes globally. Over 40 million procedures have been done in the last 25 years. But because it is surgery, it is not completely risk-free.

Complications of surgery range from minor, usually temporary side effects, to sight-threatening complications. Fortunately, significant sight-threatening complications are extremely rare, and include, but are not limited to infection, hemorrhage, and retinal detachment. People with existing medical conditions such as diabetes, high blood pressure, chronic inflammatory conditions and chronic infections are at a higher risk of developing complications. Current data indicate that 98% of people have no complications after surgery.

You will receive a thorough examination and be fully informed of any increased risk of a complication.

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

Your distance vision will usually be good within a day or two after surgery. However, your middle and near vision will be somewhat blurred at first.

Drops will be applied to your eye after surgery, preventing the eye from changing focus from far to near. These drops dilate your pupil making you sensitive to light until the drops wear off. This is done to ensure that the Crystalens is correctly positioned in your eye as it heals. It will take 7 to 14 days for the effects of this drug to wear off. You may need to wear reading glasses to help you read during this time.

After about 2 weeks, you will notice that your middle (arm's length) vision is improving and your near vision is also starting to get better. It is important that you 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. You may notice a difference in your vision from one eye to the other after your eyes heal. This is normal. If the difference in your vision is significant Dr. Buckley may recommend additional corneal refractive surgery. This is often done for the correction of astigmatism after implant surgery.

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 additional correction, particularly at night or in dim light.

It is important to remember that implant surgery cannot resolve pre-existing visual conditions such as floaters, flashes, or visual field loss that are a result of conditions of the eye and not related to the lens.

The restoration of your vision after surgery will be thoroughly discussed and a specific plan for optimizing your uncorrected vision for near and far will be recommended. It is important to remember that 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 lenses is that most people will not be dependent on these supplemental vision aids to function normally.

Since this information isn't intended to replace the advice of a health care professional, be sure and talk with Dr. Buckley before making any decisions regarding vision correction procedures.

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

These symptoms can sometimes be produced or exacerbated by cataract surgery. Many people report these problems before cataract surgery and even after 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 intra-ocular lens, glare can be a problem at night when the pupil widely dilates and 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.

Again, glare is rarely debilitating and if it does bother you, there are a number of things that can be done to improve your vision at night including medications or night driving glasses.

### **When will I be able to return to normal activities after Crystalens refractive implantation?**

Typically you will be able to return to normal activities within several days after implantation with some limitations. Your eye may be sensitive to touch and bright light, but you should be able to drive and return to work in two to three days.

You will be provided with medications to prevent infection and decrease inflammation, and a protective shield to cover your eye while sleeping. A pair of plastic, disposable sunglasses will decrease your sensitivity to light as well as providing protection during the day.

It is important that you avoid heavy lifting or straining that would increase the pressure in your eye for several days after surgery. You also must avoid rubbing or pushing on your eye. You should refrain from activities that could increase your chances of getting hit in the eye. Wear your protective sunglasses when outdoors.

You can shower and wash your hair as long as you avoid getting soap or shampoo in your eye. Refrain from using eye makeup, lid liner and mascara for several weeks after implantation. You should avoid public swimming pools, hot tubs or other sources of bacterial contamination for several weeks.

Consult your doctor on recommendations for specific activities.

### **How often do I need to have my eyes checked after surgery?**

You will be advised as to how often your eyes need to be checked. Typically, postoperative visits are accomplished one day after surgery, ten days after surgery, and again around 3 to 6 months after surgery. Thereafter, an annual exam is usually sufficient unless you have a specific problem.

### **Can I go to any eye doctor for check-ups after the surgery?**

Dr. Buckley and his staff may want to see you right after the surgery to ensure your eye is healing properly. This may include the 1st post-operative visit and sometimes the ten-day visit. After that, the surgeon may allow you to see another qualified doctor to perform your follow-up visits.

You should inform your surgeon if you would like a different doctor to follow-up with you after surgery so he/she can consult with that doctor to ensure a high level of care. You should immediately contact your surgeon if you have problems or any doubts about your eyes after surgery.

### **Will I have to have cataract surgery?**

Once your lens is removed and replaced with an artificial lens, you will never have to have cataract surgery. Occasionally, several months after the lens has been placed in the eye, the vision may start to become cloudy. This is sometimes called a secondary cataract and refers to the clouding of the membrane that surrounds the implant.

This membrane (the capsular bag) originally surrounded the human lens. When the lens was removed, all that remained was this membrane into which the artificial lens was implanted. The membrane healed around the artificial lens, securely holding it in place in the eye. Unfortunately, a build up of cells on the membrane behind the implant can cause temporary blurred vision. These cells will block the vision and have to be removed.

A laser is used to make an opening in the membrane behind the implant, immediately improving vision. This is done painlessly without an anesthetic and takes just a few minutes. Once this is done no further surgery related to your lens will be required.

### **What happens if my eye is injured sometime in the future?**

Eye injury can involve many different parts of the eye. The clear front part of the eye, the cornea, and the back part of the eye, the retina, are most often affected by injury.

The presence of an artificial lens does not make the eye any more vulnerable to trauma. Indeed, once the human lens has been replaced by the Crystalens, eye trauma would not cause a cataract.

### **What about future eye surgery?**

Advanced implantation techniques and the biocompatibility of the Crystalens allow the body to treat the implant as a normal part of the eye. The artificial lens is encased in the original membrane that surrounded the crystalline

lens. This membrane, called the capsular bag, traps and holds the Crystalens in the correct anatomical position in the eye.

Since the implant is fixed in the same position as the original lens, any future eye surgery that could be performed in or around the normal eye can be performed in an eye with the Crystalens.

Botox treatments, plastic surgery, pterygium removal and other cosmetic procedures should not be performed until your eye is well healed. Typically this is around 3 months, but your doctor will advise you when it will be safe to undergo these procedures.

**I have rosacea on my face, do I need to do anything or take anything before the surgery? Do I run a higher risk of infection after surgery?**

Rosacea is not generally considered a contraindication for eye surgery unless symptoms are expressly related to the lids or the eye itself. Your doctor will perform a complete examination and if symptoms such as an infection of the eyelids, styes, eye irritation and red eyes are present, he/she may elect to treat these conditions with medication before surgery.

If you have rosacea and are not currently exhibiting significant symptoms, it is wise to inform your doctor of your condition.

**I have dry eyes. Will lens implantation help this condition or will I still have to use artificial tears?**

Implant surgery typically will have very little influence on chronic dry eyes. This condition is related to a variety of internal and external medical conditions and is sometime associated with aging. You should consult your doctor on a therapy that is most suited to the cause and severity of your condition as well as your lifestyle.

**Will the Crystalens implant influence chronic red and irritated eyes or headaches from eyestrain?**

If eye irritation is a result of excessive contact lens wear, sensitivity to cleaning and storage solutions, or what is generally described as 'eye strain', implant surgery may reduce or eliminate these symptoms. Eye irritation can be caused by a wide variety of internal and external factors including allergies that have nothing to do with the Crystalens implant. Consult your doctor for proper diagnosis and treatment of red, irritated eyes.

**Will security eye scanning still work after Crystalens implantation?**

Security scanning should not be affected after Crystalens implantation. Security scanning usually relates to iris or retinal pattern recognition. The implant has no influence on iris scanning and should not interfere with retinal visualization through a normal sized pupil.

**What will the Crystalens procedure cost? Will insurance cover any of it?**

Since each patient's vision is different and unique, the cost for the Crystalens procedure will vary. Insurance coverage varies greatly from policy to policy and state to state. Generally speaking, private insurance may cover the cataract surgical procedure and anesthesia; and may also allow a certain additional amount for the artificial lens implant. The insured is then required to pay a deductible as well as any additional amount above the primary coverage. (Some patients are completely responsible for payment – not all insurance companies will cover some).

We will review your insurance coverage and your surgical alternatives prior to your cataract surgery. It may also be beneficial for you to contact your insurance carrier.

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