ALTOS EYE PHYSICIANS

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(650) 948-9123

**Welcome to our office!**

**Because most of my patients are referred specifically for cataract and lens implant surgery, I have prepared a packet of information to help you anticipate what is involved. Of course, we will make this decision together at the time of your initial 2 hr. dilated examination at my office in Los Altos. While many general questions will be answered in these handouts, my staff and I look forward to answering your specific questions during your appointment. I always welcome any family members that wish to be present during the consultation.**

**Enclosed are the following:**

- **A pamphlet on cataract surgery that I have written (has directions to my office where your upcoming consultation will be)**
- **Information about new lens implants to reduce spectacle dependence**

**Please complete and bring the following forms with you, along with your insurance cards.**

- **One registration form**
- **Questionnaire about your general health**
- **Green questionnaire about your interest in seeing without glasses**

**I look forward to meeting you. In the meantime, you can obtain much more information about cataracts on my website www.changcataract.com. I have also written a 140-page, illustrated patient education book called Cataracts – A Patient's Guide to Treatment (Addicus Books). This can be purchased through Amazon.com or at many bookstores. You can also obtain this book at a discounted price from our office.**

**Sincerely,**

*David F. Chang MD*

***Due to individual sensitivities please refrain from wearing perfume or cologne.**

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# ATTENTION

Gas Permeable Contact Lens Wearers
and LASIK patients

Please leave contacts **off** for 2 weeks before your appointment. Also if you have had **LASIK** please try to get your old records.

Thank you,

*Dr. Chang*

PENINSULA
EYE SURGERY
CENTER

# *PRE-OP HEALTH HISTORY*

Name: _____ Age _____ Height _____ Weight _____

Scheduled Date of Surgery: _____ Eye Surgeon: _____

Internist or Primary Care Physician: _____

| YES | NO | If you answer "YES" to a question, please explain. |
|---|---|---|
| | | 1. Do you have hypertension (high blood pressure)? |
| | | 2. Do you have any heart problems (i.e. chest pain, heart attack, pacemaker, irregular heart beat, valve problems)? **(please list)** |
| | | 3. Do you have breathing problems (e.g. emphysema, asthma, shortness of breath)? **(please list)** |
| | | 4. Do you have diabetes (high blood sugar)? **Insulin required? Yes No** |
| | | 5. Do you have any MAJOR illnesses (cancer, hepatitis, TB, seizures, etc.)? **(please list)** |
| | | 6. Have you had any MAJOR surgeries and EYE surgery? **(please list)** |
| | | 7. Do you have any ALLERGIES to medications, iodine, tape or latex? **(please list)** |
| | | 8. Do you take any medications, including vitamins, herbal preparation and diet pills)? **(Please list all medications, their strength, and how often you take them)** |

## Dr. Chang's Artificial Lens Implant Questionnaire

When a cataract is removed, an artificial lens is permanently placed inside the eye to take the place of the human lens that has become the cataract. Occasionally, clear lenses that have not yet developed cataracts are also removed to reduce the need for glasses or contacts. New special lens implants are available that can reduce your dependence upon glasses, compared to standard lens implants. However, the additional "upgrade" cost is not covered by insurance, and most patients still need to wear glasses for some activities after surgery. This questionnaire will assist me in determining which, if any, of these special implants is more appropriate for you (assuming that you do not mind the additional cost and are interested in them).

1. After surgery, would you be interested in seeing well **without glasses** in the following situations?

**Distance vision (driving, walking, tennis, watching TV)**

___*Prefer no **Distance** glasses.* ___*Not important. I wouldn't mind wearing **Distance** glasses.*

**Mid-range vision. (computer, menus, price tags, cooking, board games, items on a shelf)**

___*Prefer no **Mid-range** glasses.* ___*Not important. I wouldn't mind wearing **Mid-range** glasses.*

**Near vision (reading books, newspapers, magazines, sewing)**

___*Prefer no **Near** glasses.* ___*Not important. I wouldn't mind wearing **Near** glasses.*

2. Please check the **single** statement that best describes you in terms of **night vision:**

___ a. Night vision is extremely important to me, and I require the best possible quality night vision.
___ b. I want to be able to drive comfortably at night, but I would tolerate some slight imperfections.
___ c. Night vision is not particularly important to me.

3. If you **had** to wear glasses after surgery for one activity, for which activity would you be **most** willing to use glasses? ____**Distance Vision.** ____**Mid-range Vision.** ____**Near Vision.**

4. If you could have good **Distance Vision during the day without glasses**, and good **Near Vision for reading without glasses**, but the compromise was that you might see some **rings** around lights at night, would you like that option? ____Yes ____No

5. If you could have good **Distance vision during the day and night** without glasses, and good **Mid-range Vision** without glasses, but the compromise was that you might need glasses for reading at near, would you like that option? ____Yes ____No

6. Please place an "X" on the following scale to describe your motivation to reduce dependence on glasses:

[----------I----------]

Prefer glasses at all times — somewhat interested — I hate glasses!

7. Please place an "X" on the following scale to describe your personality as best you can:

[----------I----------]

Easy going — Perfectionist

8. Your occupation or hobbies:

Please Sign Here_____

# ***Special Lens Implants to Reduce Your Need for Spectacles***

**By David F. Chang, MD**

Some people mistakenly believe that having cataract surgery will enable them to see perfectly without glasses. Having the eye's natural cataract-clouded lens removed and replaced with a clear artificial lens implant should certainly improve your vision. However, the conventional artificial lens is a single, fixed focus lens. It cannot provide both distance focus and near focus without glasses (like the eye's natural lens does in a young person). Thus, after cataract surgery, eyeglasses are still needed in order to change the focus of your eye between far distance and near.

While we're young, the focusing muscles inside our eye change and control the shape of our natural lens. This change in lens shape allows us to shift our focus from far to near. This natural focusing ability is called **accommodation**. Like the auto-focus on a camera, accommodation is so fast and automatic that we're not even aware that it's happening. Unfortunately, the eye's natural lens hardens as we age. As it loses flexibility, we progressively lose our accommodation. **Presbyopia** is the term describing the natural and unavoidable loss of this far-to-near focusing ability over time. By our 40s, the diminishing ability to focus up close must be replaced with reading glasses, bifocals, or trifocals. This is why even laser refractive surgery, such as LASIK, can only eliminate glasses if you are under the age of 40. Standard "single-focus" artificial lens implants cannot replace this age-related loss of accommodation or the need for reading glasses either.

You may also need eyeglasses to correct or optimize your far distance vision following cataract surgery. Like contact lenses or eyeglasses, every artificial lens implant model (whether standard, multifocal, or toric) is manufactured in more than 60 different "powers". As with prescription eyeglasses or contact lenses, it is important to match the appropriate artificial lens implant power to your eye. To prescribe the correct spectacle or contact lens power, we utilize trial and error to preview various lens powers in front of your eye. When you are asked, "which is better, one or two?" during an eye exam, you are selecting the lens power that you see best with. However, because the artificial lens implant is only inserted inside the eye after your natural lens (cataract) has been removed, it is impossible for you to preview or "try out" different powers during the middle of surgery. In the operating room, we obviously cannot insert more than one lens implant to let you select which one gives you the best distance focus. Nor can we switch to a different lens implant power later on as one could with contact lenses.

Fortunately, the appropriate power of the lens implant can be estimated using mathematical formulas that utilize preoperative measurements of your eye's dimensions. Although the measurements are very accurate, there are individual variables that prevent this process from being 100% perfect. One variable is the final precise position where the implant will end up inside your eye after healing is complete. The entire process is accurate enough so that most patients will see quite well without glasses in the distance (assuming that was the target). However, it frequently won't be

"perfect" and you might choose to wear thin glasses with a mild prescription for those times when a sharper distance focus is required for extremely small details.

Astigmatism is another reason that distance glasses may be needed at times. The standard lens implant does not correct astigmatism, which is a natural blur resulting from the imperfect optical shape of the cornea. Fortunately, eyeglasses can be used to optimize distance focus just as they do for anyone whose healthy eyes are not in perfect focus naturally. It is important and reassuring to remember that after cataract surgery, you should have the same optical and eyeglass options available to everyone else over age 50 who has never had a cataract. These include bifocals and trifocals, separate reading and distance glasses, contact lenses (including monovision), and even refractive surgery such as LASIK.

**Multifocal Lens Implants**

There is one special type of lens implant – the **multifocal** – that provides both near and far focus simultaneously and can significantly reduce your dependence on reading glasses. The term *multifocal* stands for "multiple focal points". Conventional single-focus lens implants are called **monofocal** lenses because they set the focus at a single location and cannot provide the ability to see at multiple different distances without glasses.

Multifocal lens implants are designed to produce a dual focus. Part of the lens is set for distance focus, and part of the lens is set for near. The design is entirely different from bifocal eyeglasses where you look through the top portion for distance and the bottom area for near. With a multifocal lens implant the brain automatically finds the correct focus.

Like the standard lens implant, the multifocal is a foldable lens that is implanted through an extremely small incision and is equally safe. However, compared to a single focus lens implant set only for distance focus, a multifocal improves your ability to see up close without glasses. Not everyone with a multifocal lens implant can read equally well without glasses. There are many factors that cause this individual variability. The ability to read without glasses is certainly better if both eyes have a multifocal lens. The younger and healthier the retina is, the better the reading ability will be. Interestingly, the ability to read without glasses improves over time for some patients. Because the lens implant does not correct it, any astigmatism you have will reduce your ability to see both far and near without glasses. Although there is no guarantee that you will read as well without glasses as you desire, multifocal lenses should allow you to see better up close without glasses, than you would with a standard monofocal lens implant.

**Can these special lens implants eliminate my glasses altogether?**

This is unlikely. Most people with multifocal lenses still find it easier to read with glasses under certain conditions, such as for prolonged reading, for small print, or when the lighting is poor. While the multifocal lens implant won't totally eliminate reading glasses,

it should provide the convenience of reading many things (e.g. handwritten notes, price tags, receipts, photographs, menus, and a wristwatch or cell phone) without having to put on glasses. With reading glasses on, you should see equally well with a multifocal or a standard lens implant.

Depending upon the amount of detail you need to see, glasses to further sharpen your distance focus may still be worn for some activities. However, compared to standard lens implants, multifocal lenses will provide you with a greater and expanded range of focusing ability without glasses.

**What about the cost?**

Not surprisingly, the multifocal and toric (see below) lens implant procedures are more expensive. Health insurance, such as Medicare, covers the costs of cataract surgery with a standard lens implant. However, the additional premium charge for implanting these special lenses is not covered, and must be paid out-of-pocket by the patient. Remember that the benefits of multifocal and toric lens implants are to reduce the inconvenience of having to wear eyeglasses so frequently. They are not "medically necessary" because they have nothing to do with improving your eye health.

**Is the Multifocal lens implant right for you?**

While the multifocal lens implant should reduce your dependence on eyeglasses, there are some tradeoffs in addition to the added out-of-pocket expense. The different focal zones of the lens optic can create subtle halos (e.g. circular rings) around lights at night. Such halos are not evident during the daytime when your pupils are smaller and the latest generation of multifocal lenses have far less tendency to cause bothersome halos compared to the original designs. Fortunately, seeing halos is a distraction that doesn't obscure the focus, and the vast majority of patients grade them as being "minor" or "minimal". The halos will become much less noticeable over time as your brain gradually adapts to them. This is similar to the way in which your brain blocks out other sensations, such as the feel of wearing earrings, over time.

The multifocal lens implant isn't right for everyone. It doesn't work well if a person has too much astigmatism, or other problems involving the cornea, retina, or optic nerve. For several reasons, patients who have previously had refractive surgery, such as *LASIK* or *radial keratotomy*, are not good candidates. Finally, your individual lifestyle and activities should be considered. Reducing the need to wear glasses is not a priority for everyone, and since there are some tradeoffs and added costs, the multifocal lens implant would not be important for these individuals. Remember that both multifocal and standard monofocal artificial lenses will provide excellent vision with glasses following cataract surgery. The difference is in what you can see when you aren't wearing glasses.

## Toric Lens Implants for Astigmatism

Like nearsightedness, ***astigmatism*** describes a common type of natural blur in healthy eyes that is corrected by wearing eyeglasses. It results from an inherited, imperfect optical shape of the cornea, the clear front window of the eye. The shape of your cornea should be perfectly round, but if is more oblong (like the back of a spoon) instead of spherical, then it will mis-focus details causing your natural vision to be blurrier compared to patients without astigmatism. The more astigmatism one has, the blurrier the vision is without eyeglasses and there is no advantage to astigmatism because it adds natural blur to every focal distance (both near and far). Corrective eyeglasses compensate for this corneal shape to optically correct this blur and to properly focus eyes with astigmatism.

Although it has nothing to do with cataracts, astigmatism can be reduced or nearly eliminated at the same time that cataract surgery is done. By mapping your corneal shape with a diagnostic technology called corneal topography, we can calculate the amount of astigmatism correction that your eye should require in eyeglasses following cataract surgery. We can then incorporate this amount of astigmatism correction into the artificial lens that is selected for your cataract surgery. This is called a ***toric*** lens implant and it represents a more customized permanent lens implant for your eye. The experience of the surgeon is important so that the toric lens implant is positioned in an orientation that best neutralizes the astigmatism from the cornea. We incorporate a safe and painless diagnostic technology (called "ORA") in the operating room to guide optimal alignment of the lens.

The toric lens may not correct all of the astigmatism, especially if it is severe. Weaker eyeglasses can correct whatever astigmatism remains. In addition, like the conventional lens implant, the toric lens is still a "single focus" lens and therefore reading glasses must still be used if the distance eyesight is good. However, toric lens implants allow appropriate patients to see better whenever they are not wearing eyeglasses. As a result any eyeglasses worn will be less strong and potentially more comfortable to wear. For example, over-the-counter reading glasses or non-prescription sunglasses should work much better if your astigmatism is minimized. Finally, compared to the conventional lens implant, the toric lens does improve the "depth of focus" for patients with astigmatism. Although it can change very slightly in some eyes with age, astigmatism won't go away on its own, and therefore the benefit of the toric lens implant should be life-long.

Toric lens implants pose no additional medical risk and are perfectly safe. Because they are still a single-focus lens, they do not introduce any halos. As with multifocal lens implants, they do not require the cataract surgery to be performed any differently and do not effectively lengthen the surgical time. Although the surgical recovery is no different, patients with astigmatism do see better with toric lens implants during the early postoperative period when they have not yet received new prescription eyeglasses.

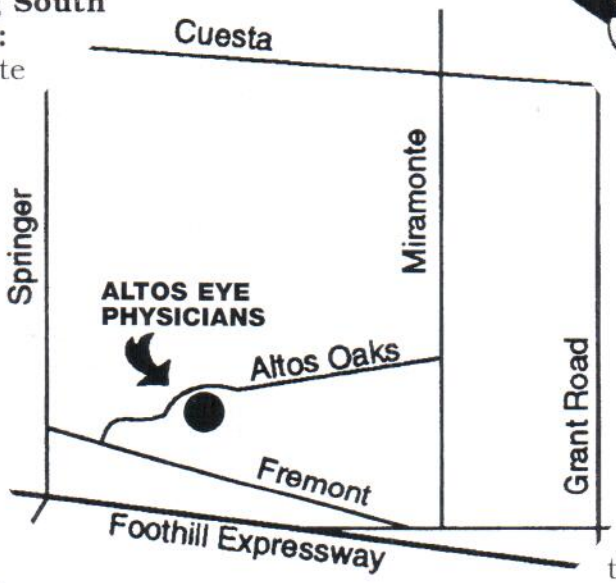
**Directions to**
**762 Altos Oaks Drive, Los Altos, CA.**

Altos Oaks is a small street that connects Miramonte Ave and Fremont Ave. We are much closer to HWY 280 than to HWY 101.

**From San Mateo heading South on HWY 280:**
Exit onto Magdalena Road, heading East, toward El Camino Real. The second traffic light intersection is the Foothill Expressway. Proceed straight through this intersection and take an immediate right onto Fremont Ave. The very next left is Altos Oaks Drive. 762 is the third building on the right.

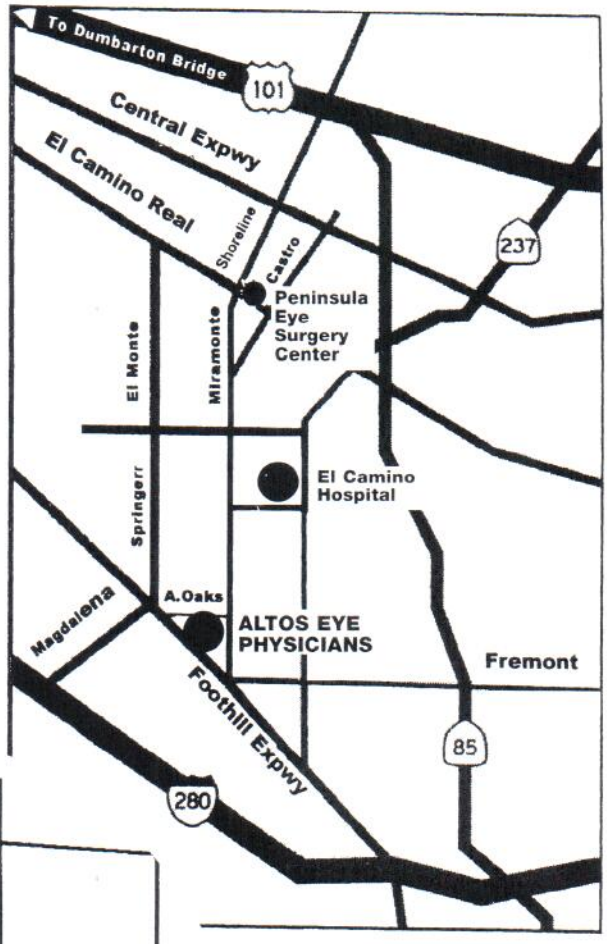
**From San Francisco heading South on 101:**
Altos Oaks is much closer to Hwy 280 than 101. Therefore cross over to 280 South via Hwy 380 or via HWY 92.

**From Palo Alto heading South on Foothill Expressway:**
After passing the El Monte intersection, the next traffic light intersection is Springer/Magdalena. Because the street name changes at this intersection, a right turn would put you on Magdalena. Instead, turn left onto Springer. Take an immediate right onto Fremont Ave. The very next left is Altos Oaks Drive.




**From San Jose heading North on 280:**
Exit onto Foothill Expressway, heading north. At the Springer-Magdalena traffic light intersection turn right onto Springer. Take an immediate right onto Fremont Ave. The very next left is Altos Oaks Drive.

**From San Jose heading North on HWY 101:**
**Exit HWY 237** (to Mountain View – Alviso Rd). After one mile, this freeway will come to a fork. Stay to the right, merging onto **HWY 85 South** (Los Gatos-Santa Cruz). Exit at Fremont Ave, turning right onto Fremont Ave heading North. After the Grant Road intersection, the next traffic light intersection is Miramonte Ave. Bear left to stay on Fremont Ave. After passing the small fire station and the tennis courts, turn right onto Altos Oaks Drive.




**From East Bay heading West on 237:**
See directions immediately above.

**From Santa Cruz heading North on 85:**
Exit at Fremont Ave, turning left onto Fremont Ave heading North. See directions immediately above.