A cataract is a clouding of the crystalline lens, resulting in vision loss. There are different types of cataracts, and they may be associated with underlying conditions. Understanding the differences among types of cataracts will improve clinical management of your patients.

**Cataract overview**

The crystalline lens has a biconvex shape with a central nucleus, an outer cortex, and a shell, called the capsule. The outermost layer is composed of epithelium. It is held in place by lens zonules that anchor the lens to the ciliary body. As we age, the lens grows around the nucleus, forming the cortex (Figure 1). The lens increases in size with age as the lens continues to produce lens fibers, and it is the only part of the eye that continues to grow in adulthood. The crystalline lens is made

See Cataract on Page 3.

---

By Tracy Schroeder Swartz, OD, MS, FAAO
THIS IS WHY 4 out of 5 patients agree their lenses feel like new.

The scientifically proven formula of CLEAR CARE® Solution deeply cleans, then neutralizes, to create a gentle saline similar to natural tears. The result is pure comfort and is why CLEAR CARE® has the most loyal patients of any lens care brand.

^Trademarks are the property of their respective owners.

References:

© 2014 Novartis  02/14   CCS14004ADi

PERFORMANCE DRIVEN BY SCIENCE™
Cataract

Continued from page 1

of water and protein. The protein fibers are precisely arranged in parallel such that the lens is clear, allowing light to pass through and land on the retina. As we age, degradation of proteins disrupts the array, causing a clouding of the lens.

Increased risk of cataract development is associated with ultraviolet light (UV) exposure, steroid use, diabetes, and smoking. This process cannot be reversed, but a healthy lifestyle may slow the progression. Avoiding UV is important, so UV protection in the form of sunglasses and hats is recommended. Not smoking or drinking excessive alcohol is also recommended, as well as maintaining tight blood sugar levels if diabetic. Antioxidant supplements have not been found conclusively to alter the progression of cataracts.

Symptoms associated with cataracts include cloudy or blurry vision, glare particularly at night, double vision, fading color vision, and a shift in the refractive error. As the proteins age, the refractive power of the lens changes, which may lead to a myopic shift even in the absence of other visual symptoms. This is often the first sign of cataracts.

Cataracts are diagnosed based upon their anatomical location and appearance. If the clouding is limited to the center of the lens, it is termed nuclear sclerosis (Figure 2). If the clouding is located in the cortex, it is called a cortical cataract (Figure 3). Cataracts may occur together, and they are then called a combined cataract (Figure 4). Cataracts adjacent to the capsule are called subcapsular cataracts. Anterior and posterior subcapsular cataracts may occur in younger people because they are associated with diabetes and steroid use.

Patients may develop cataracts as babies (congenital), as children or young adults (presenile), or with typical aging (senile) (Figure 5). Cataracts may be secondary to trauma, or related to a systemic condition (see Table 1).

Diabetes and cataracts
Not only do diabetics develop cataracts earlier, they are more likely to suffer complications associated with cataract surgery. For this reason, considerable research has been performed to better understand why diabetics develop lens changes.

Several concerns with diabetics:
1. Diabetics do not process glucose normally. The enzyme aldose reductase changes glucose to sorbitol through the polyol pathway. Sorbitol should be changed to fructose by the enzyme sorbitol dehydrogenase, but the sorbitol is produced faster than it can be converted to fructose, causing a buildup of sorbitol in the lens. Accumulation of sorbitol leads to increased water within the lens, changing the lens fiber array and formation of sugar cataracts.\(^2\)
2. Osmotic stress caused by the sorbitol accumulation\(^3\) causes death of lens epithelial cells\(^4\) leading to the development of cataract.\(^5\)
3. Increased glucose levels in the aqueous humor may cause chemical changes of lens proteins. This has negative effects upon the lens.\(^6\)
4. Lenses of diabetics show an impaired antioxidant capacity, increasing the effect oxidative stress.\(^7\)

For this reason, a healthy lifestyle to reduce the risk of developing diabetes over one’s lifetime is highly recommended.

Smoking and cataracts
Smoking has been linked to cataract risk and is one reason eyecare practitioners have been...
Cataract
Continued from page 3

more diligent to discuss smoking cessation with patients. One study reported that anyone with a history of smoking cigarettes was associated with an increased risk of age-related cataract. Current smokers had a higher risk of incidence. They found that former and current smokers were associated with nuclear and subcapsular cataracts.8

Recently, another study found a significant dose-response relationship between smoking and the need for cataract extraction. Conversely, smoking cessation was associated with a decrease in risk that accumulated over time.9

Cataracts secondary to other disorders
Various types of cataracts occur related to systemic disease. Inflammatory disorders causing uveitis may require recurrent use of topical or oral steroids. Common inflammatory disorders include ankylosing spondylitis, Crohn’s disease, ulcerative colitis, juvenile idiopathic arthritis, Behcet’s syndrome, and sarcoidosis. Repeated treatment of allergies using oral steroids or chronic use of topical or inhaled steroids may also cause posterior subcapsular cataracts in a presenile patient.

Neurofibromatosis, a genetic disorder causing tumors to form on nerve tissue, is associated with cataract formation, as is Wilson disease, an inherited disorder associated with copper accumulation in the liver, ocular tissues, and other organs. Cataracts are now associated with syndromes such as Cohen syndrome, Degen disease, and Dubowitz syndrome. In some cases, the formation of cataracts may lead to initial diagnosis of a systemic condition.

Traumatic cataracts
Trauma may result in clouding of the lens (Figure 6). Injury may be directly to the eye or indirectly, as seen with head trauma. It may be blunt or penetrating trauma, or it may be related to radiation exposure. Changes may occur years or decades after the injury, and diagnosis is often made based upon appearance even if the patient is unable to report a traumatic event. A monocular, presenile cataract is a telltale sign of trauma. Blunt trauma is associated with a characteristic rosette or stellar-shaped opacification and often involves the posterior capsule.10 Penetrating injuries typically directly compromise the lens capsule, leading to cortical opacification at the injury site.

Ocular surgery may also induce cataract formation. Retinal surgery, such as scleral buckling and vitrectomy, may result in presenile cataracts. Phakic lens implants, such as the Visian lens (Staar Surgical Company), which rests in the space between the

Table 1 ICD-9-CM Diagnosis Codes (“366” Codes)

<table>
<thead>
<tr>
<th>ICD-9 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>366.00</td>
<td>nongenetic cataract unspecified</td>
</tr>
<tr>
<td>366.01</td>
<td>anterior subcapsular cataract</td>
</tr>
<tr>
<td>366.02</td>
<td>posterior subcapsular cataract</td>
</tr>
<tr>
<td>366.03</td>
<td>cortical lamellar cataract</td>
</tr>
<tr>
<td>366.04</td>
<td>juvenile nuclear cataract</td>
</tr>
<tr>
<td>366.05</td>
<td>combined forms in early childhood</td>
</tr>
<tr>
<td>366.06</td>
<td>senile cataract unspecified</td>
</tr>
<tr>
<td>366.52</td>
<td>after cataract not obscuring vision</td>
</tr>
<tr>
<td>366.53</td>
<td>after cataract obscuring vision</td>
</tr>
<tr>
<td>366.54</td>
<td>after cataract calcification</td>
</tr>
</tbody>
</table>

See Cataract on page 6
Uncover a potential systemic cause of dry eye before it takes hold

What appear to be symptoms of routine dry eye may be rooted in something deeper.

As many as 1 in 10 dry eye patients also have Sjögren’s syndrome, a common but serious autoimmune disease. Sjö™ is an advanced diagnostic test that allows you to detect Sjögren’s syndrome early and improve patient management.

Introducing

Sjö™

Early detection of Sjögren’s syndrome for patients with dry eye

Novel biomarkers for early detection

For more information about Sjö™, please call a myNicox concierge professional at 1.855.MY.NICOX (1.855.696.4269), email concierge@mynicox.com, or visit mynicox.com/Sjo.

Cataract
Continued from page 4
anterior lens and the iris, may cause friction and cause an anterior subcapsular cataract (Figures 7 and 8).

Treatment of cataracts
When a cataract is first noted clinically upon slit lamp biomicroscopy, it may not affect vision, and it is simply monitored over time. When a significant loss of vision is noted subjectively and objectively (on the Snellen chart), cataract surgery is typically recommended. Visual effect of cataracts is typically documented using Snellen acuity at distance and may include glare testing. The patient is asked to look at the distance chart while a bright light is directed into the eye. Cataracts increase light scatter, reducing the patient’s vision below the best-corrected vision. For example, the patient may read 20/25 with his glasses, but may “glare down” to 20/40.

Modern cataract surgery is typically “no stitch” outpatient surgery with light anesthesia. A small incision is made for instruments to enter the eye, and a process of phacoemulsification is performed. Ultrasound is used to break apart the lens cortex and nucleus while a vacuum removes the debris from the eye. The capsule is left in place to hold the new intraocular lens. Recently, femtosecond lasers have been approved to perform incisions for cataract surgery and to break up the lens to reduce or eliminate the need for ultrasound inside the eye.

Complicated cataracts
Certain cataracts are associated with greater surgical risks. Posterior subcapsular cataracts are more difficult to remove due to adhesion of the cataract to the lens capsule and increase risk of capsule rupture during removal. Anterior subcapsular cataracts are also more problematic because adhesions create problems with creation of the capsulorhexis, the opening of the lens capsule during surgery.

Long-standing, mature cataracts are typically extremely dense centrally (Figure 9) and are associated with smaller pupils, shallow anterior chambers, and shaky zonules. All of these physical problems complicate cataract removal. White cataracts, characterized by a golden center and cortical spoking, clefting or cracking, adhesions to the capsule, and severe cortical opacification. A “Morgagnian” cataract, is an extremely difficult case because the center is liquefied, increasing risk of dropping the nucleus into the vitreous during surgery. Traumatic cataracts may be difficult to remove if the trauma affected the lens zonules, or if the cataract is very dense.

See Cataract on Page 14

Figure 6. Traumatic cataracts may develop anytime after an injury.

Figure 7. Phakic IOL patients are at higher risk for development an anterior subcapsular cataract.

Figure 8. The ASC is easily seen in the Scheimpflug image.

Tracy Schroeder Swartz currently practices at Madison Eye Care Center in Madison, AL. She serves as education chair for the Optometric Council for Refractive Technology and consults for industry. She specializes in anterior segment disorders and being a mom to her three children.
Helping you do what you do best...even better.

Allergan presents TechAlliance—a program designed for you, the eye care technician, offering:

- Educational programs
- Patient education materials
- Product information
- Solutions to let you focus on providing patient care

And much, much more.

Register at AllerganTechAlliance.com today for these resources, plus program updates and premium content.
Why keratometry is important

K readings provide a wealth of information

By Katherine M. Mastrota, MS, OD, FAAO

Keratometry (K) is the measurement of the corneal curvature; corneal curvature determines the power of the cornea. Differences in power across the cornea (opposite meridians) results in astigmatism; therefore, keratometry measures astigmatism. It can be acquired with a variety of instruments either manually or via automated methods. Measurements can be very sophisticated, such as with topographers, that measure a cornea across a broad number of points, or it can be measured in a more finite area of the cornea, for example with a manual keratometer or with the IOL Master (Carl Zeiss Meditec). The IOL Master also measures the axial length and other ocular parameters (such as anterior chamber depth and white-to-white measurements) and includes K readings.

Manual vs. automated

Personally, I prefer manual keratometry because it provides a clear understanding of the integrity of the pre-corneal tear film, a dynamic view of the surface of the cornea. With manual keratometry, you have a direct visualization of the reflections generated by the tear film. You can recognize areas of corneal surface irregularity or compromise. If the tear film is oily or disrupted, or the cornea has subtle dystrophy or degeneration, it will be reflected in the quality of the measurements (akin to the changes of a pebble tossed into a placid lake). You have a much better understanding of the quality and accuracy of your measurements.

With automated measurements, acquisition is static. The measurements are acquired at a moment in time and computer generated. As the instrument operator, you have no appreciation of the accuracy of the "measured moment."

Keratometry is a critical measurement in cataract surgery because errors in measurements are matched 1:1 to refractive outcomes. If you’re 1.00 D in your K readings, you will have a 1.00 D refractive surprise. If your K is inaccurate, you will have an unexpected refractive surprise post-operatively. In this generation of cataract surgery and premium intraocular lenses (IOLs), a refractive miss outcome is very disappointing to the doctor and the patient. Correcting residual ametropia in cataract postoperative patients may require a second surgical procedure, be it IOL exchange, piggy-backing of an additional IOL, or a surface procedure.

If there’s any doubt in your K readings, they should be redone on another day. We will repeat K readings if there is any indication of a problem or if the measurement is difficult to acquire. I typically measure the right eye, then the left eye, then repeat to verify.

If I’m uncomfortable with any aspect of my measurement—if the patient has dry eye disease or comes in wearing contact lenses, for example—I will have the patient return after dry eye treatment and no contact lenses wear for 1 to 3 weeks, depending on the lens type. Your first K measurement may not be the one you use for surgery. If you’re taking measurements for the doctor and the patient.

See Keratometry on Page 13

Top 5 keratometry tips

1. Make sure that the keratometer is calibrated and the eyepiece is focused for the individual operator.
2. Be sure the patient is comfortable and appropriately positioned.
3. Perform testing before any drops are instilled or any other testing conducted.
4. Verify that the measurements are accurate.
5. Don’t be afraid of repeat testing.
Manual K instructions

Patient fixation
After the patient has been properly oriented:
1. Turn the instrument to point directly at the eye to be examined.
2. Looking from the side, you will see a tiny, bright ring in the center of the cornea (corneal image of circular mire).
   With the correct position established, the patient sees a reflection of his eye in the tube of the instrument. Instruct the patient to fixate on the reflection of his eye.

Focusing the instrument
1. Looking through the eyepiece, the operator will see the images of the target mire, perhaps very blurred.
2. To clear these images, use focusing knob.
3. Place the black cross near the center of the double circle by swiveling the instrument slightly and making fine adjustments of the elevating knob. (This doubled circle is called the focusing circle).
4. Lock the instrument with the locking knob, and the corneal surfaces are ready to be measured. It is important that the cross in the eyepiece be near the center of the focusing circle. At this point, the optic axis of the instrument will coincide with the visual axis of the patient's eye. At the same time, the image of the patient's eye will be directly before him. These conditions constitute the “triple alignment.”
   The focusing does not depend solely upon the apparent sharpness of the target image, but is accomplished more precisely by coincidence of overlapped focusing circles, appearing single. When the instrument is out of focus, the central focusing circle and the plus and minus signs are doubled. But when the exact focus is located, (by turning the focusing knob) the focusing circle will appear single and sharp.
   It should be noted that with an astigmatic eye, all of the central focusing circle will not appear exactly in focus at the same time. Therefore, for greater accuracy, direct attention to the doubled plus sign and focus it sharply. The focus of the minus sign is disregarded until later.

Locating the cylinder axis
Two plus signs, A and A1, will be seen between the left-hand and central focusing circles in the instrument. The axis of the cylinder can be found easily when the tips of these plus signs just touch.
   If the axis is correct, the horizontal line in the plus sign of the left circle will be exactly midway between the double horizontal line of the other plus sign as shown.
   If it is not at the midpoint, a slight rotation of the instrument one way or the other using the rotating grip will move the line to the midpoint. The double plus should next be focused, becoming single. The two horizontal lines then become continuous. This extra check on the corneal axis is particularly valuable in low astigmatic errors. When these horizontal white lines of the plus signs appear tip to tip and continuous, the Keratometer is set to indicate the axis of astigmatism.

Measuring the horizontal principal meridian
After the axis has been established:
1. Turn the horizontal measuring drum, and the left-hand plus sign will move to the right or left.
2. Move this plus sign until it is exactly superimposed on the plus sign of the central focusing circle. This completes the setting for the horizontal meridian. The scale of the left-hand or horizontal measuring drum indicates the actual dioptric power of the cornea in the horizontal or near-horizontal meridian. The drum may be left at this position during the rest of the procedure.

Measuring the vertical meridian
When the horizontal meridian is found with an astigmatic cornea, the minus signs above/below the center circle will be doubled. They must be made single by rotating the instrument’s focusing knob. This brings the vertical meridian into proper focus.
   To measure the curvature in the vertical meridian:
1. Turn the right-hand vertical measuring drum until the short minus sign B and the longer minus sign B1 are superimposed. The scale on the right-hand drum then indicates the actual dioptric power of the corneal curvature in the vertical or near-vertical meridian. Remember that if the cornea is astigmatic, it is impossible to get both principal meridians in focus at one time.
2. Turn the horizontal measuring drum until the plus signs are barely separated. If the horizontal lines of the plus sign appear to be continuous and unbroken, the instrument is set at the position of the axis of the astigmatism. If the horizontal lines appear discontinuous, the Keratometer is not at the cylinder axis.
3. Grasp the Keratometer at the rotating grip, and rotate the entire tube while looking into the eyepiece. Using a somewhat trial and error approach, a position is reached at which the horizontal lines of the plus signs will appear continuous and unbroken. A further check on the accurate location of the axis may be obtained by throwing the instrument slightly out of focus with the focusing knob. Then the plus sign of the central focusing circle will be doubled.

Instructions courtesy of Reichert; reprinted with permission.
3 correction options for presbyopes

Spectacle, contact lens, and surgical choices for patients losing accommodation

By Frank Celia

The treatment choices presented to presbyopic patients will depend on many factors, including lifestyle, profession, general attitude toward vision, and levels of disposable income. The first step is ascertaining which two of the three visual acuities are most important to them: near, intermediate, or distance vision. For example, you probably wouldn’t recommend a multifocal intraocular lens (IOL) to a professional airline pilot because those lenses may compromise nighttime distance vision.

However you, the doctor, and the patient decide to move forward, it is important that presbyopes understand that some aspect of their vision will have to be at least slightly compromised. Tradeoffs are inevitable. Despite many recent technological advancements, no one modality can give a presbyope simultaneously flawless near, intermediate, and distance vision.

That having been established, there are still a number of viable options for patients losing their accommodation, ranging from traditional—but still effective—progressive addition lenses (PALs) to the most leading-edge surgical procedures.

Spectacles

They don’t grab headlines the way contact lenses and surgeries do, but spectacles are still the go-to option for millions of presbyopic patients, not to mention a reliable profit center for eyecare practitioners. And like contact lenses and surgery, spectacle technology continues to advance.

Generally speaking, flat-line bifocals are giving way to PALs. “There are still people who wear bifocals,” says Ryan H. Powell, OD, in northwestern Missouri. “But they tend to be people who turned presbyopic back in the 1990s, tried the ‘no-line’ lenses, they weren’t successful, so they stuck with the straight lines.”

Dr. Powell fits most of his newly presbyopic patients into progressive lenses, which he makes a point of calling “no-line lenses” rather than progressives or PALs. “We have learned over time that if you say the words ‘progressive lens,’ patients have no idea what you are talking about. No-line bifocals is more descriptive,” he says.

The major technological advance among PALs over the past 10 years or so has been the extent to which newer designs have all but eliminated peripheral distortion, Dr. Powell says, which historically has been a frequent patient complaint. “The newer designs have really taken care of that problem,” he says.

Progressive lenses can be divided broadly into three categories, according to Dr. Powell: commercial, brand name, and customized. Commercial lenses tend to have a low success rate. “We have a lot of patients tell us they tried no-lines and were not successful with them. Our first question is ‘Well, where did you get them?’” he says. “And if they have tried what I consider to be a commercial style no-line, those have a low success rate. If I can get patients into a brand-name or customized lens, they do fantastic.”

He adds that he has had great success with Essilor’s Varilux 4D progressive lenses, which are custom designed around the patient’s dominant eye. Just as people are right or left-handed, they also have a leading, dominant eye. This is the eye that reaches the object being viewed first when we change gaze direction. The Varilux 4D factors in the movement of the patient’s leading, dominant eye, which results in a faster visual reaction time, according to the company.

Contact lenses

Although monovision continues to be a fallback option for presbyopic contact lens wearers, most practitioners now say they prefer to start off patients in a multifocal lens if possible. The big news in this field is that there are now three daily disposable multifocal lenses to choose from: Alcon Dailies AquaComfort Plus Multifocal and Focus Dailies Multifocal; CooperVision Proclear 1 Day Multifocal; and Sauflon clariti 1day multifocal.

“A lot of patients want to wear these lenses only part time,” says Optometry Times Editorial Advisory Board member David I.
Geffen, OD, FAAO. “So it’s a great deal for them to be able to wear them and just throw them away at the end of the day. My patients are loving this.”

For monthly presbyopic wear, Dr. Geffen’s go-to lens is Bausch + Lomb’s PureVision 2 Multifocal. “I think the optics on that lens are just excellent. And the company has redesigned the entire lens to improve its comfort, and that is working out great for us,” Dr. Geffen says.

One of the reasons multifocal lenses are eclipsing monovision modalities is that the multifocal lens manufacturing process has been improved, according to Dr. Geffen. “I think manufacturers have been able to create more quality control. They are now able to reproduce the lenses much better. It’s not like you put one lens in one time and you can see, and then you put the next one in, and you can’t. They are able to produce those aspheric designs more uniformly. You now know that each lens is going to be pretty much the same.”

Some practitioners avoid multifocals because they think fitting times are prohibitively long. This is no longer true, says Dr. Geffen. “With the advent of these better lenses, we are finding much less discrepancy in fit, so they don’t take as much time. One of the keys is not to overdo it. If these lenses are going to work, you’ll know it in two visits. You don’t want to keep going until you are fitting 10 lenses. Feedback is pretty quick.”

**Surgery**

The newest class of presbyopic correction, surgical options have existed for about only 10 years or so. So, many of these technologies do not have large patient cohorts exhibiting long-term results. Indeed the only U.S. Food and Drug Administration (FDA)-approved corneal surgery for presbyopia is conductive keratoplasty (CK), and it has fallen out of favor in recent years. A non-ablative, non-incisional procedure that uses radiofrequency energy to steepen the cornea, CK may regress over time and to occasionally induce astigmatism.

Monovision induced by LASIK has been prevalent as an off-label procedure for several years and can produce success rates in the 70 to 90 percent range. A LASIK variation called presbyLASIK, which essentially carves a multifocal design on the cornea, may be less successful. It produces measurable near-distance improvement, but patient satisfaction has not been particularly high so far.

Another option, corneal inlays, are refractive optics implanted intrastromally. One of these, Kamra, made by Acufocus and up for FDA approval this summer, increases depth of field by employing the principal of small-aperture optics—i.e., the pin-hole optics you may remember from high school science class.

Another procedure focused on intrastromal corneal tissue is Intracor, which employs a femtosecond laser to ablate this tissue only, thus leaving the epithelium untouched. Initial data on this technique is promising, but additional studies are needed before it can achieve widespread use.

Perhaps the most successful surgical treatments for presbyopia have been IOLs implanted in conjunction with cataract surgery. Multifocal IOLs can correct for presbyopia and astigmatism or be employed to induce monovision. One FDA-approved IOL can even mimic the accommodation powers of a natural lens. Of the 3.5 million cataract surgeries that occur every year, about five percent receive a multifocal or accommodative IOL, according to Richard L. Lindstrom, MD, founder of Minnesota Eye Consultants and a pioneer of refractive surgery. “It’s a small percentage of patients, but because there are so many cataract surgeries, it comes pretty close to 200,000 a year,” he says. “So a lot of patients are opting for these lenses.”

An IOL likely to be approved for use in the U.S. soon uses a unique aspheric design to increase depth of focus, according to Dr. Lindstrom. Synchrony IOL, made by Visiogen and AMO, features a high plus anterior optic connected by spring haptics to a posterior optic with variable negative power. “It’s not really a multifocal, but it improves depth of focus, so it does improve near vision,” he says.

At the American Society of Cataract and Refractive Surgery (ASCRS) meeting in April, Dr. Lindstrom learned of an experimental topical drop that causes pupils to constrict for about 8 hours, creating small aperture optics that increase depth of focus, without inducing the negative side effects of pilocarpine. “Maybe you can put the drop in when you get to work, and it wears off in time for your drive home at night,” he noted. “It might be a good standby therapy, or act as a test run for patients potentially interested in small-aperture corneal inlays.”
7 tips for leaving a patient alone in the exam room

Keeping patients comfortable and exam rooms secure

By Katherine M. Mastrota, MS, OD, FAAO

When you leave a patient alone in a room, she is left to her own devices and is free to wreak havoc in your exam room if she so desires. Curiosity may lead patients to look where they should not. You want your patient to be as comfortable as possible—but you want your exam room to remain intact.

Remember the patient's visual world looks much different when waiting in a room. Glasses may be off, contact lenses may be out, pupils may be dilated. You need to keep this in mind when patients are left alone in a room. They may not be able to see or see well.

1. Records should remain confidential
Some patients will try to access their records, whether electronic or paper. Although it’s their prerogative to see that information, the record may not yet be completed by the doctor. It's best to keep that record closed or inaccessible until you or the doctor is ready to share it. Certainly no other patient records should be left in the room or available to view.

2. Control access to Rx pads
Rx pads should not be on the desk, in the drawer, or anywhere that patients can have access to them. There have been occasions when patients try to write their own Rx for medications or contact lenses. Of course, this is not in the patients' best interests—plus it’s illegal.

3. Make sure that the patient is comfortable
Ask if she needs anything. Make sure you put the lights on and bring the chair and armrest down. If the patient uses a cane or walker, ensure it's close enough that if she needs to get up, she can. You don't want a fall in the exam room.

Offer your patient water, coffee, or tea, or whatever your office provides. Ask if she would like a magazine to pass the time.

Be sure the temperature is comfortable for your patient. An open window may feel refreshing to you, but elderly patients may be chilled. Offer to turn the heat or air conditioning up or down, if needed.

Give an estimate of when the doctor will be in. Be sure you mean it. Don't say, “The doctor will be right in,” when you know it will be at least 20 minutes. Be honest so patients have a clear understanding. This also avoids the patient coming out of the room in search of you or the doctor. If the wait will be more than a few minutes, ask if the patient would prefer to wait in the reception area.

If the wait is longer than you anticipated, you or another staff should acknowledge the delay. This is common courtesy and avoids the patient feeling forgotten.

4. Neaten up the office before you walk out
Move the slip lamp and phoropter out of the way, turn the tonometer around and move it to the side, and keep all instrumentation properly stored. Zero oculars or set them to your doctor's preference. Change chin rest papers if they've become soiled during your examination. Check the slit lamp for any fluorescein drips and ensure the equipment is wiped clean. You need to protect your equipment as well as the patient. Tuck the doctor's stool out of the way. Of course, patients should still be able to reach their things.

Before leaving a patient alone:
1. Records should remain confidential.
2. Control access to Rx pads.
3. Make sure the patient is comfortable.
4. Neaten up the office before you walk out.
5. Remember the door.
6. Neaten the desk area.
7. Stock the exam room.

Patients alone on Page 14
Keratometry

Continued from page 8

cataract surgery, it’s the first thing you want to do before instilling drops, performing gonioscopy, or anything that may compromise the corneal surface.

Although it’s not hard to learn, it takes a little practice to be sure you have accurate measurements in manual K. You need to be confident in your measurements before you put your findings down on a piece of paper. At my office in Manhattan and in all other Omni Eye Surgery offices, only doctors, including residents, will perform keratometry for patients planning cataract surgery.

Some surgeons prefer the most updated automated K for their surgeries. It’s smart to compare manual with automated because each method measures different areas of the cornea; however, measurements should correlate. Taking measurements both manually and automated gives you a better idea of the surface of the eye. Also, you should expect correlation of the measured corneal cylinder with the patient’s spectacles.

The importance of an accurate reading

Managing the corneal surface before ocular surgery is very important. Sometimes patients are referred for cataract surgery; however, the cataract is not the primary problem, the corneal surface is. In some cases, patients who have had their corneal surface rehabilitated have opted out of cataract surgery because the problem was more so poor corneal surface than the cataract affecting their vision. Clinical clues can be picked up during keratometric measurements that help you identify more subtle cornea degeneration, such as basement membrane dystrophy, that can be more difficult to identify and easy to overlook via slit lamp examination. Patients with corneal dystrophy need to be up to you to make sure the measurements are clean and raise a flag if they’re not.

Keratometric measurements are also critical in fitting contact lenses, particularly gas permeable lenses, for monitoring corneal pathology and for identifying keratoconus. Often you first identify your keratocones with keratometry.

Keratoconus

Keratoconus is a degenerative disease of the cornea causing abnormal and irregular steepening (and irregular astigmatism) of the cornea that results in reduced vision, scarring, and potential perforation of the cornea. Sometimes a patient will come in with unexplained reduced vision until the tech takes K readings. Then we learn that the cornea is completely abnormal, which is responsible for the reduced vision. Treatment options for keratoconus include corneal crosslinking, gas permeable contact lenses, Intacs (embedded stromal rings), and penetrating keratoplasty (corneal transplant).

If the K readings are outside of what is considered a normal range or if there is irregularity in the mires, that instantly clues you into the potential pathology of keratoconus. Now with corneal crosslinking, the sooner we identify it, the sooner we can slow down the progression of corneal steepening.

Some practitioners prefer automated, some prefer manual keratometry. The most important thing is that we have several ways to acquire these measurements. They should all correlate and make sense. If they vary wildly, the measurements should be retaken and reviewed in order to rule out other pathology.
Capsular haze or ‘secondary cataracts’

After removal of cataracts, lens fibers continue to be produced by the body, and they may cause clumping on the inside of the capsular surface. Should the clumping of fibers significantly reduce vision, a diagnosis of capsular haze is made (Figure 10). The patient is said to have a secondary cataract. There is no actual cataract because the lens has been removed. A YAG laser capsulotomy is performed to correct the problem, typically in the surgeon’s office. The laser is aimed at the clumping and fired to open the back of the capsule to improve the vision.

References


Patients alone

Continued from page 12

from the exam chair while they’re waiting. Our office has a companion chair within arm’s reach for patients to easily access a purse, briefcase, or other personal items.

If the patient’s coat hasn’t already been hung or moved out of the way, offer to do so.

5. Remember the door

Make sure the door is left open or closed as the practice dictates. A closed door prevents patients from overhearing conversations with or about other patients. However, an open door may prevent the patient from feeling isolated. If you do close the door, don’t forget the patient is in the exam room!

6. Neaten the desk area

Cap all drop bottles. Put all handheld equipment back in its designated place. Dispose of used alcohol pads, fluorescein strips, etc. It is a common courtesy to keep the area neat and meet Occupational Safety and Health Administration (OSHA) requirements. Patients appreciate your fastidiousness in keeping an exam room clean. Instrument covers shouldn’t be balled up or tossed on the floor. Fold them neatly and store appropriately.

7. Stock the exam room.

Although this is an end-of-day or start-of-day task, things can run out. If there are only a few drops of proparacaine, open a new bottle. If there’s a printer in the room, be sure the paper tray is filled (and another ream waiting) and the ink or toner is sufficient.
Helps eligible patients* with commercial insurance cover certain out-of-pocket co-pay costs

The Newly Improved EYLEA® (aflibercept) Injection Co-Pay Card Program Now:
✓ Provides up to $10,000 of co-pay assistance per year±
✓ Covers up to $600 per EYLEA treatment, per eye†
✓ Has no eligibility income requirement

* Patients must have commercial or private insurance (not funded through a government healthcare program) that covers EYLEA for an approved indication, along with a co-pay that exceeds $5 per purchase/treatment. They must also be residents of the United States or its territories/possessions.

± $5,000 per eye, per year.
† Patients are responsible for the first $5. The EYLEA Co-Pay Card Program will cover the co-pay balance up to $600 per EYLEA treatment per eye. Any additional co-pay costs that exceed the co-pay reimbursement are the patient’s responsibility.

The program does not cover or provide support for supplies, procedures, or any physician-related service associated with EYLEA. General, non-product-specific insurance deductibles above the co-pay amount are also not covered.

Important Information:
Not open to uninsured patients or patients covered by a government-funded insurance program (Medicare, Medicaid, etc.) or where prohibited by law. Restrictions and limitations apply. Offer subject to change or discontinuation without notice. No cash value.

For More Information about EYLEA4U, visit www.EYLEA.com

EYLEA and EYLEA4U are registered trademarks of Regeneron Pharmaceuticals, Inc.

REGENERON
©2014, Regeneron Pharmaceuticals, Inc.
777 Old Saw Mill River Road, Tarrytown, NY 10591
All rights reserved 05/2014
E4U-0306E
THIS IS WHY OPTI-FREE® PureMoist® Solution allows patients to wear contact lenses MORE COMFORTABLY¹ AND LONGER each day.²

The HydraGlyde® Moisture Matrix attaches and forms a hydrophilic environment across the surface of the lens—providing moisture from morning ‘til night.³⁴

³Based on a global survey of 10,611 contact lens wearers who tried OPTI-FREE® PureMoist® for two weeks.

References:

PERFORMANCE DRIVEN BY SCIENCE™