

INDEX

Comprehensive Eye Exams	pg 2
Eye Exam Q&A	pg 4
Eye Emergencies	pg 10
Glaucoma Testing	pg 11
Dry Eye Treatment	pg 12
Pediatric Eye Exams	pg 15
Red, Pink or Sore Eyes	Pg 18
Visual Field Testing	pg 19
Digital Retinal Imaging	pg 20
Management of Ocular Diseases	pg 21
Cataract Surgery	pg 22
Glaucoma Testing and Treatment	pg 23
Macular Degeneration Treatment	pg 24
Corneal Mapping	pg 25
LASIK Surgery	pg 26
Refractive Surgery Co-Management	pg 30
Latisse	pg 31
Sports and Specialty Eyewear Fitting	pg 32

Comprehensive Eye Exams

Regardless of your age or physical health, it's important to have regular eye exams.

During a complete eye exam, your eye doctor will not only determine your prescription for eyeglasses or contact lenses, but will also check your eyes for common eye diseases, assess how your eyes work together as a team and evaluate your eyes as an indicator of your overall health.

A comprehensive eye exam includes a number of tests and procedures to examine and evaluate the health of your eyes and the quality of your vision. These tests range from simple ones, like having you read an eye chart, to complex tests, such as using a high-powered lens to examine the health of the tissues inside of your eyes.

Eyecare experts recommend you have a complete eye exam every one to three years, depending on your age, risk factors, and physical condition.

CHILDREN

Some experts estimate that approximately 5% to 10% of pre-schoolers and 25% of school-aged children have vision problems. According to the American Optometric Association (AOA), all children should have their eyes examined at 6 months of age, at age 3 and again at the start of school. Children without vision problems or risk factors for eye or vision problems should then continue to have their eyes examined at least every two years throughout school.

Children with existing vision problems or risk factors should have their eyes examined more frequently. Common risk factors for vision problems include:

- premature birth
- developmental delays
- turned or crossed eyes
- family history of eye disease
- history of eye injury
- other physical illness or disease

The AOA recommends that children who wear eyeglasses or contact lenses should have their eyes examined at least every 12 months or according to their eye doctor's instructions.

ADULTS

The AOA also recommends an annual eye exam for any adult who wears eyeglasses or contacts. If you don't normally need vision correction, you still need an eye exam every two to three years up to the age of 40, depending on your rate of visual change and overall health. Doctors often recommend more frequent examinations for adults with diabetes, high blood pressure and other disorders, because many diseases can have an impact on vision and eye health.

If you are over 40, it's a good idea to have your eyes examined every one to two years to check for common age-related eye problems such as presbyopia, cataracts and macular degeneration.

Because the risk of eye disease continues to increase with advancing age, everyone over the age of 60 should be examined annually.

Eye Exam Q&A

Like routine maintenance on your car and home, scheduling regular visits with your eye doctor for a comprehensive eye exam—to test your current vision as well as screen for vision problems that might not be readily apparent—helps keep your most valued assets in peak condition. Regular eye exams are important to maintaining good eye health by keeping your prescription up-to-date and also by detecting and preventing potential diseases before they can become problematic. Because many eye diseases and conditions can develop slowly and do not have any obvious symptoms, early detection can reduce the risk of further harm and give you the best treatment options.

What is an Optometrist?

Doctors of Optometry are primary healthcare providers who specialize in the examination, diagnosis, treatment (prescribing), management and prevention of diseases and disorders of the visual system, the eye and associated structures, as well as the diagnosis of ocular manifestations of systemic disease. You do not need a referral from your family doctor in order to have an eye examination.

How Often Should I Have an Eye Examination?

The Canadian Association of Optometrists suggests ANNUAL eye health and vision examinations for all children, adults over forty, contact lens wearers, and for those individuals with medical conditions or family history that can affect your eye health. All other patients need be examined every two years.

Do I Have Coverage For My Eye Exam?

You may have partial coverage for an eye exam through MSP if you are under 19, over 65, have an eye disease, have a systemic disease like diabetes that can affect eye health, or have a very high spectacle prescription.

Most extended medical plans also cover all or part of your exam.

Visiting Your Eye Care Professional

Whether you or a loved one are having a first eye exam, a repeat eye exam, or are seeing a new eye doctor for the first time, there are a number of routine questions you can expect. But your answers to these questions during eye exams are anything but routine for your eye doctor.

That's because there are any number of factors in your medical history that can contribute to current or potential vision problems. Understanding your lifestyle and describing any visual

problems you're having helps to point your eye exam in the right direction. And there are medical conditions, medications and circumstances that can put you or a family member at a higher risk for certain eye diseases.

Things to know before eye exams.

Beyond having your vision insurance information, necessary payment and identification ready, here's a checklist of things to know before you approach the front desk at your next eye exam.

- What eye problems are you having now? Is your vision blurry or hazy at certain distances? Do you have problems in your side vision? Are you experiencing pain or discomfort in certain lighting situations?
- Do you have a history of any eye problems or eye injury? Do you have a current prescription for glasses or contact lenses? Are you wearing them regularly, and if so, are you still happy with them?
- Were you or your loved one born prematurely? Have you had any health problems in the recent such as high blood pressure or heart disease? Are you diabetic? Are you considered overweight?
- Are you taking any medications? Do you have allergies to medications, food or other materials? Seasonal allergies?
- Has anyone in your family (including parents) suffered from eye problems or diseases such as cataracts, glaucoma or macular degeneration?
- Has anyone in your family (including parents) suffered from high blood pressure, heart disease or diabetes? What about other health problems that can affect the whole body like blood disorders or cancer?

Eye exams include a detailed history because many things you might consider unrelated to vision may actually affect your current vision, or reveal potential risks for developing certain eye diseases. Be ready to provide a complete history at your next eye exam, and help the front desk, and your eye doctor, best prepare for the examination that follows.

Medications

In addition to being “windows to the soul”, your eyes are also a clear indicator—or window—to your overall general health. That's why it's so important to understand the relationship between your eyes and any medications you may currently be using. Since eye doctors can use your eye health as a predictor or measure of your general health, all medications that could affect your eyes need to be discussed with your eye care professional.

Can non eye-related medications affect my eyesight?

Yes, they can. Because of its rich blood supply and relatively small mass, the eye is susceptible to certain drugs and toxic agents. Many medications, both prescription and nonprescription (over the counter) can alter the quantity or the quality of your vision, or pose a threat to your future eye health.

Your current medications and healthy sight actually go hand in hand, and need to be discussed with your eye doctor.

How can medications affect eyesight?

Potential adverse effects of medications on your eyes can be classified into three basic categories:

1. Medications that can cause blurred vision or alter your eyes' ability to adjust to the environment can affect your quantity of vision.
2. Medications that can induce glare, increase light sensitivity, or impair light-dark adaptation affect your quality of vision.
3. Medications that can contribute to the development of ocular disorders. Certain medications can become a factor in developing disorders such as: cataracts, keratopathies, retinopathies, maculopathies, optic neuropathies, and glaucoma. These potential effects of certain medications are typically long term, potentially more serious, and pose a greater threat to vision. However, their progression can usually be prevented (or limited) if recognized early and the offending agent is discontinued or the dosage reduced.

Are there other factors to consider connecting medications and eyesight?

There is a growing body of experimental and epidemiological evidence connecting chronic UVR exposure with vision-threatening ocular disorders such as cataracts. Medications that either dilate the pupil (increasing the amount of UV entering the eye) or increase the effects of UV on the eye (photosensitizers) may increase the risk of developing UV-related eye disease.

If you are concerned about the effects your medications may have on your eyes, or experience any eye-related side effects, you should consult your primary care doctor or eye care professional.

What to Expect

You might be going to a regularly-scheduled eye exam. You may be following a recommendation to see an eye doctor after a vision screening at a local clinic or wellness center. Or your next eye doctor visit could be a response to vision problems or eye discomfort.

The more you know going in, the easier the entire vision care process will be.

For regularly scheduled eye exams, expect to talk about any changes in your medical history since the last time you saw your eye doctor. And if this is your first time in a new practice, you'll be asked to provide a more complete medical history, including a list of medications you're currently taking, and any vision problems your parents may have experienced.

In addition, you'll undergo a series of vision and eye tests that help determine the overall health and quality of your vision. These tests also help to check that your current prescription glasses or contacts (if you have one) is still meeting your vision needs. Your eye doctor will also check your eyes for signs of any potential vision problems or eye diseases. In many instances, your pupil may be dilated (opened) using special drops so that your eye doctor can better see the structures of the eye.

You'll then have an honest discussion about the current state of your eye health and vision, and your eye doctor may "prescribe" vision correction for you in the form of eyeglasses or contact lenses. Any health concerns or possibly serious vision complications will also be discussed, including the next steps you must take to preserve and protect your sight.

In general, a routine eye exam will last less than an hour depending upon the number of tests you have, and may be partially or completely covered by many vision insurance plans.

Visiting eye doctors as a result of a vision screening is also common, but remember: vision screenings offered by health clinics, pediatricians, public schools or local charitable organizations are not a substitute for comprehensive eye exams. Be sure to bring the findings from your screening to your eye doctor—it's a great way to begin the discussion of your current eye health.

For eye doctor visits that result from eye pain, eye discomfort or vision problems you actually can see, expect to take many of the steps involved in a routine eye exam, but specific to the symptoms you're having. There may be a number of additional tests required as well, so it's important—especially when suffering pain or discomfort—to allow for as much time as possible for a complete, comprehensive eye exam.

And if you feel you are in an emergency situation with your eyes or your vision—don't wait. Seek immediate emergency medical treatment.

What to remember

Many vision problems and eye diseases often present minimal, if any, symptoms. That's why it's so important to make regular appointments to see your eye doctor. And since vision can change gradually over time, it's important to know that you're seeing your best, year after year.

Remember the following for your next eye doctor visit:

- Know your medical history and list of current medications
- Know your current symptoms and be able to describe them—write them down if necessary
- Know your family history—some eye diseases like glaucoma and cataracts are hereditary
- Ask in advance about your particular vision insurance plan, and if a co-pay will be due
- Bring your insurance card, identification and method of payment, if necessary
- Bring your most recent prescription for glasses or contact lenses
- Bring your corrective eyewear to the exam
- If undergoing a test using dilation eye drops, bring proper eye protection, like sunglasses, for after your appointment

Most importantly, remember that eye doctors—and everyone within the eyecare practice—are there to help you see your best and feel your best

What to Ask

It's essential, too, that you make the most out of your exams. We've included a range of questions for you to ask during your next eye exam, or if necessary, before your exam to avoid any miscommunication. We hope you find these helpful and that the information contained in our EyeGlass Guide 2.0 will help to facilitate a comprehensive and informed dialogue between you and your eye care professional.

Questions to ask before your eye exam...

- Do you accept my insurance plan's vision coverage?
- Is payment required at the time of service?
- What will my eye exam entail?
- How long should I expect to be there?
- Will my pupils be dilated?

- What should I bring with me?

Questions to ask at your eye exam...

- Given my age, eye condition and other risk factors, how often should I have my eyes examined?
- At what age should I start to schedule my children for regular eye exams?
- What lens designs and options are a good fit for me?
- Can my glasses block UV rays?
- Do all sunglasses protect my eyes from UV rays?
- What are photochromic lenses and are they a good option for me?

Things to remember

It's always a good idea to bring any of the following (if available) to your eye exam appointment:

- Your extended medical card
- A list of all medications, vitamins and other supplements you are taking
- All pairs of prescription glasses you currently own
- If you have it, a copy of your latest eyeglass prescription
- Information on frames you like, or lenses you've researched

Don't forget, if participating in a flexible spending account program, you may be able to use the account to pay for portions of your eye care not covered directly by your insurance plan.

Eye Emergencies

Eye injuries range from the very minor such as getting soap in your eye, to the catastrophic such as chemical exposures or lacerations, which could result in permanent loss of vision. Find out when to seek immediate medical care.

Glaucoma Testing

What Is a Glaucoma Test?

Glaucoma is the generalized name for a group of eye diseases that damage the optic nerve of the eye, preventing the eye from sending accurate visual information to the brain. Glaucoma tests are designed to test your eyes for one of the key symptoms of the disease—increased eye pressure—however only a comprehensive eye exam can reveal whether or not you have glaucoma. Increased pressure inside the eye is often a key indicator of glaucoma, though not exclusively so. Eye doctors can use a number of tests for eye pressure, but will, by default, check for signs of glaucoma as part of a detailed examination of the retina—the light sensitive area at the back of the eye responsible for processing images.

How Does Glaucoma Testing Work?

A glaucoma test is usually part of a routine eye exam. Both types of glaucoma tests measure internal pressure of the eye.

One glaucoma test involves measuring what happens when a puff of air is blown across the surface of the eye. (A puff test) Another test uses a special device (in conjunction with eye-numbing drops) to “touch” the surface of the eye to measure eye pressure.

While increased eye pressure is a key indicator of the disease, it does not necessarily mean you have a glaucoma diagnosis. In fact, the only way to detect glaucoma is to have a detailed, comprehensive eye exam that often includes dilation of the pupils.

So “true” glaucoma testing actually involves examining the retina and optic nerve at the back of the eye for signs of the disease.

Glaucoma can cause slight to severe vision loss, and is often discovered only after the disease is present—that’s why glaucoma testing is so important.

Dry Eye Treatment

Dry eye syndrome (DES or dry eye) is a chronic lack of sufficient lubrication and moisture on the surface of the eye. Its consequences range from minor irritation to the inability to wear contact lenses and an increased risk of corneal inflammation and eye infections.

Signs and Symptoms of Dry Eye

Persistent dryness, scratchiness and a burning sensation on your eyes are common symptoms of dry eye syndrome. These symptoms alone may be enough for your eye doctor to diagnose dry eye syndrome. Sometimes, he or she may want to measure the amount of tears in your eyes. A thin strip of filter paper placed at the edge of the eye, called a Schirmer test, is one way of measuring this.

Some people with dry eyes also experience a “foreign body sensation” – the feeling that something is in the eye. And it may seem odd, but sometimes dry eye syndrome can cause watery eyes, because the excessive dryness works to overstimulate production of the watery component of your eye's tears.

What Causes Dry Eyes?

In dry eye syndrome, the tear glands that moisturize the eye don't produce enough tears, or the tears have a chemical composition that causes them to evaporate too quickly.

Dry eye syndrome has several causes. It occurs:

- As a part of the natural aging process, especially among women over age 40.
- As a side effect of many medications, such as antihistamines, antidepressants, certain blood pressure medicines, Parkinson's medications and birth control pills.
- Because you live in a dry, dusty or windy climate with low humidity.

If your home or office has air conditioning or a dry heating system, that too can dry out your eyes. Another cause is insufficient blinking, such as when you're staring at a computer screen all day.

Dry eyes are also associated with certain systemic diseases such as lupus, rheumatoid arthritis, rosacea or Sjogren's Syndrome (a triad of dry eyes, dry mouth, and rheumatoid arthritis or lupus).

Long-term contact lens wear, incomplete closure of the eyelids, eyelid disease and a deficiency of the tear-producing glands are other causes.

Dry eye syndrome is more common in women, possibly due to hormone fluctuations. Recent research suggests that smoking, too, can increase your risk of dry eye syndrome. Dry eye has

also been associated with incomplete lid closure following blepharoplasty – a popular cosmetic surgery to eliminate droopy eyelids.

Treatment for Dry Eye

Dry eye syndrome is an ongoing condition that treatments may be unable to cure. But the symptoms of dry eye – including dryness, scratchiness and burning – can usually be successfully managed.

Your eyecare practitioner may recommend artificial tears, which are lubricating eye drops that may alleviate the dry, scratchy feeling and foreign body sensation of dry eye.

Prescription eye drops for dry eye go one step further: they help increase your tear production. In some cases, your doctor may also prescribe a steroid for more immediate short-term relief.

Another option for dry eye treatment involves a tiny insert filled with a lubricating ingredient. The insert is placed just inside the lower eyelid, where it continuously releases lubrication throughout the day.

If you wear contact lenses, be aware that many artificial tears cannot be used during contact lens wear. You may need to remove your lenses before using the drops. Wait 15 minutes or longer (check the label) before reinserting them. For mild dry eye, contact lens rewetting drops may be sufficient to make your eyes feel better, but the effect is usually only temporary. Switching to another lens brand could also help.

Check the label, but better yet, check with your doctor before buying any over-the-counter eye drops. Your eye doctor will know which formulas are effective and long-lasting and which are not, as well as which eye drops will work with your contact lenses.

To reduce the effects of sun, wind and dust on dry eyes, wear sunglasses when outdoors. Wraparound styles offer the best protection.

Indoors, an air cleaner can filter out dust and other particles from the air, while a humidifier adds moisture to air that's too dry because of air conditioning or heating.

For more significant cases of dry eye, your eye doctor may recommend punctal plugs. These tiny devices are inserted in ducts in your lids to slow the drainage of tears away from your eyes, thereby keeping your eyes more moist.

If your dry eye is caused by meibomian gland dysfunction (MGD), your doctor may recommend warm compresses and suggest an in-office procedure to clear the blocked glands and restore normal function.

Doctors sometimes also recommend special nutritional supplements containing certain essential fatty acids to decrease dry eye symptoms. Drinking more water may also offer some relief.

If medications are the cause of dry eyes, discontinuing the drug generally resolves the problem. But in this case, the benefits of the drug must be weighed against the side effect of dry eyes. Sometimes switching to a different type of medication alleviates the dry eye symptoms while keeping the needed treatment. In any case, never switch or discontinue your medications without consulting with your doctor first.

Treating any underlying eyelid disease, such as blepharitis, helps as well. This may call for antibiotic or steroid drops, plus frequent eyelid scrubs with an antibacterial shampoo.

If you are considering LASIK, be aware that dry eyes may disqualify you for the surgery, at least until your dry eye condition is successfully treated. Dry eyes increase your risk for poor healing after LASIK, so most surgeons will want to treat the dry eyes first, to ensure a good LASIK outcome. This goes for other types of vision correction surgery, as well.

Pediatric Eye Exams

According to experts, 80% of learning is visual, which means that if your child is having difficulty seeing clearly, his or her learning can be affected. This also goes for infants who develop and learn about the world around them through their sense of sight. To ensure that your children have the visual resources they need to grow and develop normally, their eyes and vision should be checked by an eye doctor at certain stages of their development.

According to the American Optometric Association (AOA) children should have their eyes examined by an eye doctor at 6 months, 3 years, at the start of school, and then at least every 2 years following. If there are any signs that there may be a vision problem or if the child has certain risk factors (such as developmental delays, premature birth, crossed or lazy eyes, family history or previous injuries) more frequent exams are recommended. A child that wears eyeglasses or contact lenses should have his or her eyes examined yearly. Children's eyes can change rapidly as they grow.

Eye Exams in Infants: Birth – 24 Months

A baby's visual system develops gradually over the first few months of life. They have to learn to focus and move their eyes, and use them together as a team. The brain also needs to learn how to process the visual information from the eyes to understand and interact with the world. With the development of eyesight, comes also the foundation for motor development such as crawling, walking and hand-eye coordination.

You can ensure that your baby is reaching milestones by keeping an eye on what is happening with your infant's development and by ensuring that you schedule a comprehensive infant eye exam at 6 months. At this exam, the eye doctor will check that the child is seeing properly and developing on track and look for conditions that could impair eye health or vision (such as strabismus (misalignment or crossing of the eyes), farsightedness, nearsightedness, or astigmatism).

Since there is a higher risk of eye and vision problems if your infant was born premature or is showing signs of developmental delay, your eye doctor may require more frequent visits to keep watch on his or her progress.

Eye Exams in Preschool Children: 2-5

The toddler and preschool age is a period where children experience drastic growth in intellectual and motor skills. During this time they will develop the fine motor skills, hand-eye coordination and perceptual abilities that will prepare them to read and write, play sports

and participate in creative activities such as drawing, sculpting or building. This is all dependent upon good vision and visual processes.

This is the age when parents should be on the lookout for signs of lazy eye (amblyopia) – when one eye doesn't see clearly, or crossed eyes (strabismus) – when one or both eyes turns inward or outward. The earlier these conditions are treated, the higher the success rate.

Parents should also be aware of any developmental delays having to do with object, number or letter recognition, color recognition or coordination, as the root of such problems can often be visual. If you notice your child squinting, rubbing his eyes frequently, sitting very close to the tv or reading material, or generally avoiding activities such as puzzles or coloring, it is worth a trip to the eye doctor.

Eye Exams in School-Aged Children: Ages 6-18

Undetected or uncorrected vision problems can cause children and teens to suffer academically, socially, athletically and personally. If your child is having trouble in school or afterschool activities there could be an underlying vision problem. Proper learning, motor development, reading, and many other skills are dependent upon not only good vision, but also the ability of your eyes to work together. Children that have problems with focusing, reading, teaming their eyes or hand-eye coordination will often experience frustration, and may exhibit behavioral problems as well. Often they don't know that the vision they are experiencing is abnormal, so they aren't able to express that they need help.

In addition to the symptoms written above, signs of vision problems in older children include:

- Short attention span
- Headaches
- Frequent blinking
- Avoiding reading
- Tilting the head to one side
- Losing their place often while reading
- Double vision
- Poor reading comprehension

The Eye Exam

In addition to basic visual acuity (distance and near vision) an eye exam may assess the following visual skills that are required for learning and mobility:

- Binocular vision: how the eyes work together as a team
- Focusing
- Peripheral Vision
- Color Vision
- Hand-eye Coordination
- Tracking

The doctor will also examine the area around the eye and inside the eye to check for any eye diseases or health conditions. You should tell the doctor any relevant personal history of your child such as a premature birth, developmental delays, family history of eye problems, eye injuries or medications the child is taking. This would also be the time to address any concerns or issues your child has that might indicate a vision problem.

If the eye doctor does determine that your child has a vision problem, they may discuss a number of therapeutic options such as eyeglasses or contact lenses, an eye patch, vision therapy or Ortho-k, depending on the condition and the doctor's specialty. Since some conditions are much easier to treat when they are caught early while the eyes are still developing, it is important to diagnose any eye and vision issues as early as possible.

Following the guidelines for children's eye exams and staying alert to any signs of vision problems can help your child to reach his or her potential.

Red, Pink or Sore Eyes?

We are ready to look after ALL of your eye care needs in one location. In addition to the services you already rely on us for such as routine eye exams, contact lenses, designer frames and eyeglasses – think of your Optometrist first for:

- sore, red, or itchy eyes
- treatment of "pink eye" and other bacterial infections
- removal of foreign bodies from the eye (such as wood or metal)
- treatment of eye allergies or burns
- emergency eye care

This is convenient and cost effective for your whole family and you can be sure you are receiving the attention of an eye care specialist.

Visual Field Testing

A visual field test measures how much 'side' vision you have. It is a straightforward test, painless, and does not involve eye drops. Essentially lights are flashed on, and you have to press a button whenever you see the light. Your head is kept still and you have to place your chin on a chin rest. The lights are bright or dim at different stages of the test. Some of the flashes are purely to check you are concentrating.

Each eye is tested separately and the entire test takes 15-45 minutes. Your optometrist may ask only for a driving licence visual field test, which takes 5-10 minutes. If you have just asked for a driving test or the clinic doctor advised you have one, you will be informed of the result by the clinic doctor, in writing, in a few weeks.

Normally the test is carried out by a computerised machine, called a Humphrey. Occasionally the manual test has to be used, a Goldman. For each test you have to look at a central point then press a buzzer each time you see the light.

Digital Retinal Imaging

Digital Retinal Imaging allows your eye doctor to evaluate the health of the back of your eye, the retina. It is used to detect diseases, such as, Diabetes and Macular Degeneration. It is critical to confirm the health of the retina, optic nerve and other retinal structures.

Many eye diseases, if detected at an early stage, can be treated successfully without total loss of vision. Your Retinal Images will be stored electronically. This gives the Doctor a permanent record of the condition and state of your retina. This is very important in assisting the Doctor to detect and measure any changes to your retina each time you get your eyes examined, as many eye conditions, such as Glaucoma are diagnosed by detecting changes over time.

Management of Ocular Diseases

Our Eye Care Clinic makes it a policy to ensure that all staff members are up-to-date on the latest technology and techniques to make your visit as comfortable and effective as possible. As optometric technology changes, it is even more important to select an eye doctor who has all the right optometry qualifications and follows the latest developments in eye care.

Utilizing cutting edge technology we are diagnosing and managing, with greater precision, diseases like Glaucoma, Macular degeneration and Cataracts. Earlier and more precise diagnosis means earlier treatment and better outcomes. We are taking an aggressive approach to diseases that previously had few treatment options. Great advances have been made in the treatment of these diseases.

Cataract Surgery

Cataracts is a disease of the eye that results in the clouding of the lens of the eyeball. Cataracts prevent clear images from appearing on the eye's retina; causing mild, moderate, even severe blurred vision.

Typically an eye disorder associated with aging (over half of the people in America over age 80 have either had a cataract or cataract surgery), cataracts generally occur later in life as the lens structure within the human eye changes and gets older.

Cataract surgery is the removal of the natural lens of the eye (also called "crystalline lens") that has developed an opacification, which is referred to as a cataract. Metabolic changes of the crystalline lens fibers over the time lead to the development of the cataract and loss of transparency, causing impairment or loss of vision. During cataract surgery, a patient's cloudy natural lens is removed and replaced with a synthetic lens to restore the lens's transparency.

Following surgical removal of the natural lens, an artificial intraocular lens implant is inserted (eye surgeons say that the lens is "implanted"). Cataract surgery is generally performed by an ophthalmologist (eye surgeon) in an ambulatory (rather than inpatient) setting, in a surgical center or hospital, using local anesthesia (either topical, peribulbar, or retrobulbar), usually causing little or no discomfort to the patient. Well over 90% of operations are successful in restoring useful vision, with a low complication rate. Day care, high volume, minimally invasive, small incision phacoemulsification with quick post-op recovery has become the standard of care in cataract surgery all over the world.

Glaucoma Testing and Treatment

What Is a Glaucoma Test?

Glaucoma is the generalized name for a group of eye diseases that damage the optic nerve of the eye, preventing the eye from sending accurate visual information to the brain. Glaucoma tests are designed to test your eyes for one of the key symptoms of the disease—increased eye pressure—however only a comprehensive eye exam can reveal whether or not you have glaucoma. Increased pressure inside the eye is often a key indicator of glaucoma, though not exclusively so. Eye doctors can use a number of tests for eye pressure, but will, by default, check for signs of glaucoma as part of a detailed examination of the retina—the light sensitive area at the back of the eye responsible for processing images.

How Does Glaucoma Testing Work?

A glaucoma test is usually part of a routine eye exam. Both types of glaucoma tests measure internal pressure of the eye.

One glaucoma test involves measuring what happens when a puff of air is blown across the surface of the eye. (A puff test) Another test uses a special device (in conjunction with eye-numbing drops) to “touch” the surface of the eye to measure eye pressure.

While increased eye pressure is a key indicator of the disease, it does not necessarily mean you have a glaucoma diagnosis. In fact, the only way to detect glaucoma is to have a detailed, comprehensive eye exam that often includes dilation of the pupils.

So “true” glaucoma testing actually involves examining the retina and optic nerve at the back of the eye for signs of the disease.

Macular Degeneration Treatment

There is currently no cure for macular degeneration. Macular degeneration treatment options exist that can slow the progress of the disease or improve vision based on the type of macular degeneration you are experiencing. To understand the risks and the limitations of all macular degeneration treatments, speak frankly with your eye doctor.

Dry macular degeneration treatment actually begins with routine eye exams, especially after age 60. The goal here is to catch the development of ARMD early. If detected, you may be prescribed a specific mix of high-dose zinc and antioxidants that have shown an ability to slow the progression of the disease.

Wet macular degeneration treatment can include a number of options; including laser surgery, light-activated dyes that are injected into the circulatory system, or drugs injected directly into the eye that inhibit the growth of abnormal blood vessels that cause the wet form of the disease.

With any macular degeneration treatment, there are no guarantees that the disease can be stopped, no promises that a treatment won't need to be repeated, and a sobering reminder that vision, once lost, is rarely restored.

Corneal Mapping

Corneal topography, also known as photokeratoscopy or videokeratography, is a non-invasive medical imaging technique for mapping the surface curvature of the cornea, the outer structure of the eye. Since the cornea is normally responsible for some 70% of the eye's refractive power, its topography is of critical importance in determining the quality of vision.

The three-dimensional map is therefore a valuable aid to the examining ophthalmologist or optometrist and can assist in the diagnosis and treatment of a number of conditions; in planning refractive surgery such as LASIK and evaluation of its results; or in assessing the fit of contact lenses. A development of keratoscopy, corneal topography extends the measurement range from the four points a few millimeters apart that is offered by keratometry to a grid of thousands of points covering the entire cornea. The procedure is carried out in seconds and is completely painless.

LASIK Surgery

The doctors at our Eye Care Clinic have extensive experience in the pre-operative evaluation and post-operative care of LASIK and other vision correction procedures. By far, LASIK is currently the most popular vision-correcting or "refractive" surgery available. But there are other options as well. We will help you find the ideal solution for your problem and partner with the best surgeon to perform your procedure.

Introduction to LASIK

LASIK is the most commonly performed refractive surgery procedure. You may hear people calling it "LASIX," but the correct name is LASIK, which is short for "laser-assisted in situ keratomileusis."

Why is it so popular? LASIK has advantages over other vision correction procedures, including a relative lack of pain afterward and the fact that good vision usually is achieved by the very next day.

An instrument called a microkeratome is used in LASIK eye surgery to create a thin, circular flap in the cornea. Another, newer way of making the flap is with a laser.

The surgeon folds the hinged flap back out of the way, then removes some corneal tissue underneath using an excimer laser. The excimer laser uses a cool ultraviolet light beam to precisely remove ("ablate") very tiny bits of tissue from the cornea to reshape it.

When the cornea is reshaped in the right way, it works better to focus light into the eye and onto the retina, providing clearer vision than before. The flap is then laid back in place, covering the area where the corneal tissue was removed.

Both nearsighted and farsighted people can benefit from the LASIK procedure. With nearsighted people, the goal is to flatten the too-steep cornea; with farsighted people, a steeper cornea is desired. Excimer lasers also can correct astigmatism by smoothing an irregular cornea into a more normal shape.

Corrective Eye Surgery Basics

Is Corrective Eye Surgery For Me?

Are you tired of wearing glasses, soft, or hard contact lenses? What are the available surgical methods for correcting eyesight? Can you gain freedom of great eyesight without ever again requiring your corrective lenses?

Corrective eye surgery ranges from reshaping of the eye surface with a procedure known as LASIK and PRK to surgical insertion of artificial lenses for correcting your eyesight. Below is a brief overview of refractive surgery options:

PRK

PRK or Photorefractive Keratectomy, was the first laser vision procedure to receive USA approval, earning FDA approval in 1995. PRK rapidly replaced radial keratotomy (RK), which was the viable surgical treatment for nearsightedness prior to that time. PRK promised breakthrough results reducing or even eliminating many earlier complications of RK such as halos around lights, fluctuating vision, glare, decreased visual acuity and even the regressive return of nearsightedness. PRK greatly reduced the risk of infection and other unpredictable negative results.

Similar to LASIK, PRK uses a laser, removing small amounts of corneal tissue and thus reshaping the eyeball to correct a patient's vision. The difference between the two is that PRK applies the laser directly to the surface of the cornea, as compared to LASIK where the laser goes under a flap of corneal tissue. Improved visual acuity results for PRK and LASIK are comparable however PRK delivers more acute discomfort to the patient's eye for weeks, until the thin outer protective layer of the cornea (the epithelium) heals. Vision blurring for multiple weeks after PRK is common through the healing.

PRK procedures were sharply declined in favor of LASIK owing to low levels of LASIK discomfort and faster recovery. PRK, nevertheless has had a comeback due to highly effective pain meds and because it poses less risk of some complications. Studies also prove PRK and LASIK efficacy as similar in the long-term.

LASIK

LASIK (laser-assisted in situ keratomileusis) is where a thin, hinged flap is made on the cornea prior to the laser treatment. This flap is then lifted and folded so that laser energy can be directed to underlying corneal tissue thus reshaping the eyeball. Upon completion the flap is replaced so that it becomes a natural bandage. LASIK's main advantage over PRK is that there is almost no discomfort after the procedure. Vision is typically clear within hours rather than days, after PRK.

LASEK

LASEK (laser-assisted sub-epithelial keratomileusis) is a modification of LASIK in which the corneal flap is much thinner. The delicate epithelium is removed by loosening it from the underlying cornea with a solution. It is pushed aside and laser treatment is applied. The flap

is then replaced and bandaged until it reattaches to the cornea as it heals. Generally there is less post-operative discomfort with LASEK compared to PRK, and vision recovery is faster. LASEK may be preferred over LASIK when the patient's cornea is thin opting for a safer LASEK vs LASIK procedure.

Epi-LASIK

Epi-LASIK is quite similar to LASEK, but a cutting tool is used to separate the epithelium from the underlying cornea prior to the laser treatment. This procedure eliminates the adverse reaction to alcohol placed on the eye and thereby quickens the healing process. Epi-LASIK may be preferred over LASIK where concerns of corneal thickness are exhibited.

Bladeless, All-Laser LASIK

Blade-free LASIK is often preferred especially because it involves the use of a laser vs. a mechanical cutting tool to create the flap in LASIK. All LASIK procedures -IntraLASIK, iLASIK or femto LASIK – eliminate the risk of those complications which might occur when the flap is created.

Wavefront LASIK – PRK

Wavefront (or “custom”) LASIK – PRK uses laser treatment determined by computer mapping the power of your eye. This is also referred to as wavefront analysis. Wave front-guided procedures use computer precision much greater than typical eyeglasses prescriptions. They can correct subtle optical imperfections know as “high-order aberrations” which typically may be too difficult to treat. Studies suggest that wave-front-guided ablations deliver significantly sharper vision compared to conventional (non-wavefront) LASIK or PRK. They may even be thanked for reduction of high-risk nighttime halos or glare.

CK

CK or Conductive Keratoplasty, is refractive surgery without the use of a laser. It uses a hand-held device which delivers low-heat radio waves to multiple spots on the peripheral cornea. This causes corneal tissue shrinkage which increases the curvature of the cornea. The shrinkage in turn correcting mild amounts of farsightedness or restoring usable near vision to people over 40 who have presbyopia.

CK for presbyopia is called NearVision CK, and it can be used to correct presbyopia for people who previously had LASIK surgery.

Phakic IOLs

Phakic IOLs -Intra-Ocular Lenses -small lenses are inserted into the eye for correction of various vision problems. These lenses are placed in front of or behind the pupil.

Phakic IOL implantation can correct much more severe nearsightedness than LASIK. Due to the fact that this is an “internal” eye procedure there are relatively greater risks. The financial costs of this procedure is typically also therefore higher.

Refractive Lens Exchange

Refractive lens exchange -RLE, is also a non-laser, internal eye procedure. RLE is similar in many ways to cataract surgery. Whereas with cataracts the surgeon removes the eye's natural lens which has become scarred and “cloudy”, the surgeon removes a “clear” natural lens and replaces it with an artificial lens of altered shape, reducing or eliminating related farsightedness.

RLE is potentially risky with complications causing a much more expensive procedure compared to LASIK. It is important to note that removing the existent natural lens of a young patient will affect their close-focus ability, forcing them to require reading glasses. Therefore RLE is preferred only in cases of severe vision correction requirements.

Cataract Surgery

Cataract surgery is considered to be a refractive procedure. New lens implants partially restore a patient's vision thus correcting nearsightedness and / or farsightedness. These lenses, which are called multi-focal IOLs, or accommodating IOLs, are used by many cataract surgeons. They are still the cutting edge and provide excellent results.

It is recommended to consult with your Medicare-aid and other health insurance providers to be certain what they do or do not cover of the basic costs of cataract or any eye surgery. Of course you can always opt out-of-pocket payment for the benefits -which outweigh the extra costs of these more modern procedures and lenses. The potential of restoring a fuller range of vision adds significant life value far offsetting the short-term cost.

Refractive Surgery Co-Management

Our doctors will evaluate your eyes and discuss your visual goals to help determine if you are an appropriate candidate for LASIK, PRK or Cataract Refractive Technology. If you have appropriate goals and there are no contraindications for the procedure, we will recommend a pre-operative evaluation to determine suitability for refractive surgery. This evaluation includes:

- Counseling on refractive surgery options
- Eye dominance testing
- Review of eye history and refractive stability
- Medical evaluation of the cornea and eye
- Current Refraction Status

If after the pre-operative evaluation, the decision is made to proceed with surgery, your information will be forwarded to the surgeon, a pre surgery consult with a surgeon will be scheduled. Post-operative management will be provided by our doctors, and includes multiple visits over a period from the date of surgery to include medical evaluation and management of the vision and corneal healing. Evaluation of any additional needs such as reading glasses, sunglasses, or enhancement laser procedures is also included.

Latisse

Latisse™ is now available at our optometry office.

Introducing a revolutionary eyelash treatment to enhance the length and appearance of your eyelashes. LATISSE™ solution is a prescription treatment for hypotrichosis, and is used to grow eyelashes, making each eyelash longer, thicker and darker. Hypotrichosis is another name for having inadequate or too few eyelashes.

LATISSE™ is believed to grow eyelashes in two ways: By increasing the length of the eyelash growth phase By increasing the number of eyelashes in this growth phase.

LATISSE™ is a daily eyelash solution you apply each evening to the base of your upper eyelashes. LATISSE™ users begin to see eyelash growth at 4 weeks with full results after 16 weeks. The growth is gradual overnight, over time.

The most common side effects after using LATISSE™ solution are an itching sensation in the eyes and/or eye redness.

To find out if LATISSE™ enhancement for eyelashes is right for you, call or visit our office for an expert Latisse assessment. Read more about [LATISSE™](#)

Sports and Specialty Eyewear Fitting

20/20 vision is a first step. Of course you need to be sure that your vision or corrected with lenses vision is 20/20. Visual acuity is critical. But what about related skill sets such as first rate peripheral vision, eye-hand coordination, correct depth perception, total field awareness, etc.

These skills are some of the more important and keenly necessary skills for excellence in sports. Be it skeet-shooting, bumper cars, skiing, playing golf, soccer, football, baseball, basketball or any other sport; vision plays on the front line.

To perform optimally in your favorite sport, you most definitely will benefit from a consultation with your eye-care professional with a focus on your “sports vision” — even if you have 20/20 vision. Your typical basic eye exam will not usually include the tests of these special visual skills critically necessary to your challenging sports performance.

Sports vision tests are extensive and should be tailored to the sport you love to participate in. Your examiner would include tests which evaluate how you see during movement both in and outdoors while interacting with other people, sounds, players, coaching instruction, obstructing objects or other players.

Professional athletes might typically exercise especially to “bulk-up” their sports vision. School athletic programs may include athlete vision training courses. Similar training are enjoyed by golfers, pool-billiard and tennis players. Non-sports pros may gain significant advantages in their trade-craft and skills from similar vision training; think law enforcement, computer geeks, pilots, and many other technical professionals.

Your sports vision or pro-skills eye exam will include focused questions about your activities and patterns. Specialized testing can help to determine your special sports or skills related needs. These tests may include three-dimensional images and holograms to test your reaction time in real life. Computerized tests can help measure your eye-hand coordination and reactions.

Live, in-field measurements of your reaction times and speed in a variety of sports situations may be necessary. Sports vision specialists even attend games or competitions to help evaluate vision performance. They may also use videos of your games to study and gauge your performance.

A comprehensive sports vision training program is an ideal solution to be sure you are bringing your best game to the table.