

## **Frequently Asked Questions**

### **What does 20/20 vision mean?**

20/20 vision is a term used to express normal visual acuity (the clarity or sharpness of vision) measured at a distance of 20 feet. If you have 20/20 vision, you can see clearly at 20 feet what should normally be seen at that distance. If you have 20/100 vision, it means that you must be as close as 20 feet to see what a person with normal vision can see at 100 feet.

### **Does 20/20 mean perfect vision?**

No. 20/20 vision only indicates the sharpness or clarity of vision at a distance. There are other important vision skills, among them peripheral awareness or side vision, eye coordination, depth perception, focusing ability and colour vision that contribute to your overall vision ability.

### **Is 15/15 vision better than 20/20?**

No. 15/15 means normal sharpness of vision at 15 feet just as 20/20 indicates normal acuity at 20 feet. Most optometrists in Canada use 20 feet as the standard to express sharpness of vision.

### **Why do some people have less than 20/20 vision?**

Visual acuity is affected by many factors. Less than optimum clarity may result from vision conditions like nearsightedness, farsightedness, or astigmatism, or from eye diseases.

### **Will clarity of vision vary with distance?**

Some people can see well at a distance, but are unable to bring nearer objects into focus. This condition can be caused by farsightedness or presbyopia (a loss of focusing ability). Others can see items that are close, but cannot see those far away. This condition may be caused by nearsightedness.

### **If my vision is less than optimum, what can I do?**

A comprehensive eye examination by a Doctor of Optometry should identify those causes, if any, that are affecting your ability to see well. In most cases, your optometrist can prescribe glasses, contact lenses or a vision therapy program that will help improve your vision. If the reduced vision is due to an eye disease, the use of ocular medication or other treatment may be needed.

### **What is amblyopia or lazy eye?**

Amblyopia is the lack of development of vision in one eye that is not directly caused by any eye health problem. It is not correctable with lenses alone.

### **Who is likely to develop amblyopia?**

Amblyopia is the result of poor early development, and as such, occurs before the age of six. It is estimated that 2-4% of children under the age of six have amblyopia.

### **What causes amblyopia?**

Amblyopia results from a large difference in the prescription between the two eyes or it can occur when strabismus (crossed eyes) is present. It can also occur when something is interfering with the clarity of the various components of the eye. This causes blurred vision in the affected eye. Because the image that is sent to the brain from the affected eye is poor, the brain will ignore this eye. As the brain ignores the eye over time, very few connections are made between the brain and the eye. It is this lack of connections between the brain and the eye that causes the eye to become amblyopic. This is why lenses alone cannot correct the problem.

### **Is the amblyopic eye blind?**

The amblyopic eye is never blind in the sense of being entirely without sight. Amblyopia mostly affects the central vision. Peripheral vision is still almost normal.

### **What are signs / symptoms of amblyopia?**

Most of the time, there are no symptoms of amblyopia. Since only one eye is affected, the other eye usually has reasonably good vision and tends to take over all visual tasks. Unless the good eye is covered, the person will rarely notice the poor vision in the amblyopic eye. Sometimes amblyopia is associated with strabismus (crossed eyes), which may be noted as a sign/symptom.

### **How is amblyopia diagnosed?**

A comprehensive optometric examination can determine the presence of amblyopia. The earlier it is diagnosed, the greater the chance for a complete recovery.

That is why it is important to have your child's vision examined at six months of age, again at age 3 and then regularly thereafter.

### **What is anterior uveitis?**

Anterior uveitis is an inflammation of the middle layer of the eye, which includes the iris and adjacent tissue, known as the ciliary body.

### **Is the disease serious?**

If untreated, anterior uveitis can lead to other eye problems and cause permanent damage. It usually responds well to treatment, however, there may be a tendency for the condition to recur.

### **What causes anterior uveitis?**

Anterior uveitis can occur as a result of trauma to the eye, such as a blow or foreign object penetrating the eye. It can also be a complication of other eye disease, or it may be caused by general health problems such as rheumatoid arthritis, rubella and mumps. In most cases, there is no obvious underlying cause.

### **What are the signs/symptoms of anterior uveitis?**

Signs/symptoms may include a red, sore and inflamed eye, blurring of vision, sensitivity to light and an irregular pupil.

### **What is astigmatism?**

Astigmatism occurs when the front surface of your eye (cornea) or the lens inside the eye is slightly irregular in shape, resulting in vision being blurred at all distances. Astigmatism is not a disease, but is actually a vision condition that is quite common.

### **What causes astigmatism?**

When the front of your eye or the lens inside the eye is more oval than round, light does not focus properly on the back of your eye (retina). Astigmatism is caused by small differences in the growth and alignment of the components of the eye. In some cases, it may be hereditary or it may result from such factors as pressure of the eyelids on the cornea.

### **How common is astigmatism?**

Most people have some degree of astigmatism. However, only moderate to highly astigmatic eyes may need corrective lenses.

### **What are signs/symptoms of astigmatism?**

People with severe astigmatism will usually have blurred or distorted vision. Those with mild astigmatism may experience headaches, eyestrain, fatigue or blurred vision at certain distances.

### **How is astigmatism diagnosed?**

A comprehensive eye examination by your Doctor of Optometry will include tests for astigmatism.

### **Can astigmatism be corrected?**

Almost all levels of astigmatism can be optically corrected with properly prescribed and fitted eyeglasses or contact lenses. Laser surgery may be an option for appropriate cases.

### **Does astigmatism get progressively worse?**

Astigmatism may change with time. Regular optometric care can, however, help to insure that proper vision is maintained.

### **How will astigmatism affect my lifestyle?**

You may have to adjust to wearing eyeglasses or contact lenses if you do not wear them now. Other than that, astigmatism probably will not significantly affect your lifestyle at all.

### **What is a multifocal lens?**

A multifocal lens is a lens that contains two or more prescriptions for correcting vision at different distances. These include bifocals, trifocals, and special occupational lenses.

### **Why are multifocal lenses prescribed?**

Not all people see well at all distances. Bifocals (“bi” meaning two) are prescribed to aid both near and far vision. Trifocals (“tri” meaning three) are prescribed to aid near, far and middle distance seeing. As people reach their early to mid-forties, their eyes gradually lose their ability to focus on objects that are close up. As a result, multifocal lenses are often prescribed to adjust to these changes.

### **Aren’t bifocals / trifocals just for older people?**

No. Multifocal lenses are the correction of choice for certain conditions for children, teens and young adults. Occasionally, a young person’s most clear, comfortable and efficient near vision requires a lens power different from the necessary distance correction.

### **Can I get rid of the telltale line in the middle of my lenses?**

Those lines can be eliminated with “no-line” or “progressive addition lenses”. They gradually change in power from the distance segment to the near vision segment. These progressive lenses are the most advanced, multi-functional of any bifocal/trifocal and many people prefer the cosmetic value of no lines.

### **Don’t bifocals / trifocals indicate a serious vision problem?**

The gradual decrease in the ability of the eyes to focus is a natural part of the aging process. Multifocal lenses merely correct for these changes. Currently, over half of all lenses worn in Canada are multifocal.

### **Why do multifocal eyeglasses cost more than regular eyeglasses?**

Eyeglasses are precision optical devices and must be made with the utmost care and skill. Additional time and skill is also needed in the measurements taken to accurately order the lenses and in dispensing them to you. Multifocal lens technology is ever improving and changing.

### **I currently wear contact lenses. Will I have to give them up?**

Bifocal contact lenses are available. In addition, the technique of monovision (using one eye for close vision and one eye for distant vision) is becoming more common. Reading glasses may also be used in addition to contact lenses to adjust to vision changes. Check with your Doctor of Optometry.

### **What are some suggestions for adapting to multifocal lenses?**

- Don’t look at your feet when walking.
- Hold reading material closer to your body and lower your eyes so that you are reading out of the lowest part of your lenses.

- Fold your newspaper in half or quarters and move it, rather than your head when reading.
- Wear your multifocal continuously for the first week or two, until your eyes are accustomed to them, even though you may not need them for all tasks.
- Make sure that eyeglass frames are always adjusted for your face so that the lenses are properly positioned.

## **What is Blepharitis?**

### **Blepharitis**

If your eyelid rims are red and irritated, if they burn and itch or if you've noticed an oily discharge or scaly skin around them, you may have an inflammatory problem called "blepharitis". Some people describe it as "psoriasis of the eyelids". Blepharitis may be either of two main types or a combination of them.

### **Seborrheic blepharitis**

Characterized by an excessive discharge of oil/grease from the skin around the eyelids. It is usually accompanied by similarly greasy hair and skin.

### **Staphylococcal blepharitis**

A bacterial infection. It is more likely to result in infective eyelid conditions, such as styes.

### **What are the treatments?**

To treat seborrheic blepharitis, keep the lid edges and surrounding skin clean by regularly scrubbing the area with a mild soap. Medicated pads specifically designed for this are also available. For staphylococcal blepharitis, ointments containing antibiotics and sulfonamides should be applied to the edges of the eyelids with a cotton ball.

While over-the-counter treatments for blepharitis are available, it is advisable to seek professional help the first time you experience the condition. If you have had blepharitis before and had experience with its treatment, using the over-the-counter ointments may be adequate. But, whether you have had the condition before or not, if the blepharitis is infectious, you should get appropriate treatment as soon as possible to reduce the risk of having the infection spread and cause more serious conditions.

### **What is a cataract?**

When the normally clear lens within your eye becomes cloudy and opaque, it is called a cataract. Cataracts vary from extremely small areas of cloudiness to large opaque areas that cause a noticeable loss of vision.

### **Who gets cataracts?**

Cataracts are most often found in persons over the age of 60, but they are also occasionally found in younger people, including newborns.

### **What causes cataracts?**

No one knows exactly what causes cataracts. It is known that a chemical change occurs within your eye that causes the lens to become cloudy. This may be due to advancing age or it may be the result of heredity, an injury or a disease. Excessive exposure to ultraviolet radiation present in sunlight, cigarette smoking or the use of certain medications are also risk factors for the development of cataracts. Cataracts usually develop in both eyes, but often at different rates.

### **Can cataracts be prevented?**

Currently, there is no proven method to prevent cataracts from forming. Wearing sunglasses is a tremendous benefit as they protect your lens from harmful UV rays, which can speed up cataract formation. A diet rich in antioxidants (such as Vitamins A, C, E, Zinc Selenium & Magnesium) is seemingly also beneficial.

### **What are the signs / symptoms of cataracts?**

Cataracts develop without pain or redness, some indications that a cataract may be forming include blurred or hazy vision, the appearance of spots in front of the eyes, or the feeling of having a film over the eyes. A temporary improvement in near vision may also occur and increased sensitivity to glare, especially at night may be experienced.

### **How are cataracts diagnosed?**

A comprehensive eye examination by a Doctor of Optometry can determine if you have a cataract forming. How are cataracts treated?

In the early stages of a cataract, where vision is only minimally affected, your optometrist can prescribe new lenses for your glasses to give you the sharpest vision possible. When the cataracts start to interfere with your daily activities and glasses cannot improve this vision, your optometrist will refer you to an eye surgeon who may recommend the surgical removal of the cataracts. The surgery is relatively uncomplicated and has a success rate of at least 95 percent.

### **When will I need to have cataracts removed?**

Cataracts may develop slowly over many years or they may form rapidly in a matter of months. Some cataracts never progress to the point that they need to be removed. When a change in glasses can no longer provide functional vision, your optometrist will arrange a consultation with a cataract surgeon.

### **What happens after cataract surgery?**

Intraocular lens implants, inserted in your eye at the time of surgery, serve as a “new lens” and sometimes give you good distance vision without glasses. Your near vision will still be blurred. Your Doctor of Optometry will prescribe new lenses for your glasses about 4 weeks after surgery to maximize your distance and near vision.

## **What is colour deficiency?**

Colour deficiency occurs when your ability to distinguish colours and shades is less than normal. The term “colour blind” is often used, but usually incorrectly. Only a very small number of people are completely unable to identify any colours. Colour deficiency is more common in males than females.

## **What causes colour deficiency?**

Colour deficiency is usually inherited, but can also result from certain diseases, trauma or as a side effect of certain medications. It happens when an individual partially or completely lacks one or more types of the three kinds of cones.

## **What types of colour deficiency exist?**

There are three: two different kinds of red-green deficiency and one blue-yellow deficiency. The red-green deficiencies are by far the most common and result in the inability to distinguish between certain shades of red and green. Blue-yellow deficiency is very rare and results in the inability to distinguish between certain shades of blue and yellow. In very rare cases, colour deficiency exists to an extent that no colours can be detected. This person sees all things in shades of black, white and grey.

## **How is colour deficiency detected?**

People who are colour deficient are generally unaware of their condition. They assume that everyone sees things the way they do. As a result, a complete optometric examination, including a test for colour vision, is recommended. The test for colour deficiency is a relatively simple one, typically involving the viewing of a series of coloured designs. The designs have been created in such a way that a person with normal colour vision can see certain figures in the designs. A colour deficient person will not be able to distinguish the figures.

## **When should a person be tested for colour deficiency?**

Every child should be checked for colour deficiency by at least age five. It is important to detect colour deficiency early because colour coded learning materials are used extensively in the primary grades. In addition, colour deficiency may affect the career path of an individual, since the ability to distinguish colours is an important aspect of some jobs, such as pilots, electricians, some military personnel, police officers and others.

## **Can colour deficiency be cured?**

Unfortunately a cure for colour deficiency has not yet been discovered. A person with colour deficiency can, however, be taught to adapt to the inability to distinguish colours. For example, you can be taught to recognize the brightness and location of a traffic light rather than the colour itself. It is sometimes possible to increase the ability to distinguish colours with the use of special filters. A special red tinted contact lens, used in one eye, and other devices are used, in some cases, to aid persons with certain colour deficiencies.

## **What is conjunctivitis?**

Conjunctivitis is an inflammation of the conjunctiva, a thin, transparent layer covering the surface of the inner eyelid and a portion of the front of the eye. This condition appears in many forms and affects people of all ages.

## **What causes conjunctivitis?**

The three main types of conjunctivitis are infectious, allergic, and chemical. The infectious form, commonly known as “pink eye” is caused by a contagious virus or bacteria. Your body’s allergies to pollen, cosmetics, animals, or fabrics often bring on allergic conjunctivitis. Irritants like air pollution, noxious fumes and chlorine in swimming pools may produce the chemical form.

## **What are the signs / symptoms of conjunctivitis?**

Common signs / symptoms of conjunctivitis are red eyes, inflamed inner lids, watery eyes, blurred vision and sandy or scratchy feeling in the eyes. With the infectious form, there may be a pus-like or watery discharge around the eyelids.

## **Since infectious conjunctivitis is contagious, what measure can be taken to prevent spreading this condition?**

To avoid giving infectious conjunctivitis to others, keep your hands away from your eyes; thoroughly wash your hands before and after applying eye medication; do not share towels, washcloths, cosmetics or eye drops with others and seek treatment promptly. Small children, who may forget these precautions, should be kept away from school, camp and the swimming pool until the condition is cured.

## **Will conjunctivitis harm my eyes?**

Certain forms of conjunctivitis can develop into a serious condition that may harm your vision. Therefore, it’s important to have your condition diagnosed and properly treated quickly.

## **How is infectious conjunctivitis treated?**

Infectious conjunctivitis, caused by bacteria, is usually treated with antibiotic eye drops and/or ointment. Other infectious forms, caused by viruses, can’t be treated with antibiotics. They are fought off by your body’s immune system. But, some antibiotics may be prescribed to prevent secondary bacterial infections from developing.

## **How are the allergic and chemical forms of conjunctivitis treated?**

The ideal treatment for both forms is to remove the cause of the allergy or irritation. For instance, avoid contact with any animal if it causes an allergic reaction. Wear swimming goggles if chlorinated water irritates your eyes. In cases where these measures won’t work, other types of prescription and over-the-counter eye drops are available to help relieve the discomfort.

## **What is diabetes?**

Diabetes, simply stated, is a disease that prevents your body from making or using insulin which in turn leads to increased sugar levels in your bloodstream.

## **How does diabetes affect the eye?**

Diabetes and its complications can affect many parts of the eye. Diabetes can cause changes in nearsightedness, farsightedness and premature presbyopia (the inability to focus on close objects). It can result in cataracts, glaucoma, paralysis of the nerves that control the eye muscles or pupil, and in decreased corneal sensitivity. Visual symptoms of diabetes include fluctuating or blurring of vision, occasional double vision, loss of visual field, and flashes and floaters within the eyes. Sometimes these early signs of diabetes are detected in a thorough optometric examination. The most serious eye problem associated with diabetes is diabetic retinopathy.

## **What is retinopathy?**

Diabetic retinopathy occurs when there is a weakening or swelling of the tiny blood vessels in the retina of your eye, resulting in blood leakage, the growth of new blood vessels and other changes. If diabetic retinopathy is left untreated, blindness can result.

## **Can vision loss from diabetes be prevented?**

Yes, in a routine eye examination, your optometrist can diagnose potential vision threatening changes in your eye that may be treated to prevent blindness. However, once damage has occurred, the effects are usually permanent. It is important to control your diabetes as much as possible to minimize your risk of developing retinopathy.

## **How is diabetic retinopathy treated?**

In the early stages, diabetic retinopathy is monitored through eye health examinations. If necessary, it may be treated with laser therapy. A bright beam of light is focused on the retina, causing a burn which seals off leaking blood vessels. In other cases, surgery inside the eye may be necessary. Early detection of diabetic retinopathy is crucial, as treatment is much more likely to be successful at an early stage.

## **Are there risk factors for developing retinopathy?**

Several factors that increase the risk of developing retinopathy include smoking, high blood pressure, drinking alcohol and pregnancy.

## **How can diabetes-related eye problems be prevented?**

Monitor and maintain control of your diabetes. See your physician regularly and follow instructions about diet, exercise and medication. See your optometrist, an eye care specialist, for a thorough eye examination when you are first diagnosed as a diabetic, at least annually thereafter and more frequently if recommended.

## **Double Vision**

If you see two of whatever you are looking at, you may have a condition known as double vision, also referred to as diplopia. Double and blurred vision are often thought to be the same, but they are not. In blurred vision, a single image appears unclear. In double vision, two images are seen at the same time, creating understandable confusion for anyone who has it.

### **What causes double vision?**

There are two possible causes.

- Failure of both eyes to point at the object being viewed, a condition referred to as “strabismus” or “squint”. In normal vision, both eyes look at the same object. The images seen by the two eyes are fused into a single picture by the brain. If the eyes do not point at the same object, the image seen by each eye is different and cannot be fused. The result is double vision. Why might eyes not point in the same direction? Possibly because of a defect in the muscles which control the movement of the eyes or in the control of these muscles through the nerves and brain.
- Refractive. Light from an object is split into two images by a defect in the eye’s optical system. Cataracts may cause such a defect. Strabismus is a more common cause of double vision than is refractive defect.

### **What are its implications?**

Double vision can be extremely troubling. The brain acts to alleviate the discomfort by suppressing, or blanking out, one of the images. In young children, if this suppression persists over a continued length of time, it can lead to an impairment of the development of the visual system. The suppressed eye may get to the point where it is unable to see well, no matter how good the spectacle or contact lens correction. Doctors call this condition “amblyopia”. Since it is a result of a defect in the interpretive mechanisms of the eye and brain, it is more difficult to treat than a refractive condition (one having to do with the eye’s ability to bend light).

### **How is it treated?**

Treatment of double vision consists of eye exercises, surgical straightening of the eye or a combination of the two. Therapy is aimed at re-aligning the squinting eye where possible without surgery and re-stimulating the part of the visual pathway to the brain that is not working correctly. If the double vision is due to the presence of cataracts, referral for possible cataract surgery will be undertaken.

### **What is “dry eye?”**

The tears your eyes normally produce are necessary for overall eye health and clear vision. Dry eye occurs when your eyes do not produce enough tears or produce tears which do not have the proper chemical composition.

### **What causes “dry eye?”**

Dry eye symptoms can result from the normal aging process, hormonal changes, exposure to environmental conditions, problems with normal blinking or from medications such as antihistamines, oral contraceptives or antidepressants. Dry eye can also be symptomatic of general health problems, or other diseases or can result from chemical or thermal burns to the eye.

### **What are signs/symptoms of “dry eye?”**

The common sign/symptoms include stinging, itchy, scratchy and uncomfortable eyes; and sometimes having a burning feeling or a feeling of something foreign within the eye. You may experience increased dry eye symptoms on awakening. Some people experience an overly wet eye. This is a natural reflex to comfort a dry eye.

### **How is “dry eye” diagnosed?**

During the examination, your Doctor of Optometry will ask you questions about your general health, your use of medications and your home and work environments to determine any factors which may be causing dry eye symptoms. This information will help your doctor decide whether to perform dry eye tests. These tests use diagnostic instruments, which allow a highly magnified view of your eyes and sometimes use special dyes. Your doctor will evaluate the quality, the amount and the distribution of tears to detect signs of dry eyes.

### **Can “dry eye” be cured?**

Dry eye usually cannot be cured, but your eyes’ comfort can be improved and eye health maintained through use of artificial tears. For more severe dry eye, gels and ointments can be used, especially at bedtime. In some cases, small plugs may be inserted in the corner of the eyelids to slow drainage and loss of tears. Treating any underlying systemic disease, or a change of diet can also be helpful at times.

### **Will “dry eye” harm my eyes?**

If dry eye is untreated, it can harm your eyes. Excessive dry eye can damage tissue and possibly scar the cornea of your eye, impairing vision. Dry eye can make contact lens wear more difficult due to increased irritation and greater chance of eye infection. To keep dry eye symptoms in check, you and your Doctor of Optometry need to work together. Follow your doctor’s instructions carefully. If you have increased dryness or redness that is not relieved by the prescribed treatment, let your optometrist know as soon as possible.

### **What is eye coordination?**

Eye coordination is the ability of both eyes to work together as a team. Each of your eyes sees an ever so slightly different image and your brain, by a process called fusion, blends these two images into one three-dimensional picture. Good eye coordination keeps the eyes in proper alignment. A minor misalignment of your eyes can cause symptoms.

### **What causes poor eye coordination?**

Eye coordination is a skill that must be developed. Poor eye coordination results from a lack of adequate vision development or improperly developed eye muscle control. Although rare, an injury, disease, tumor or other trauma can cause poor eye coordination.

### **How does poor eye coordination affect vision?**

Since the images seen by each eye must be virtually the same, a person usually compensates for poor eye muscle control by subconsciously exerting extra effort on the muscles to maintain proper alignment of the eyes. In more severe cases, the muscle cannot adjust the eyes so that the same image is seen and double vision occurs. Since the brain will try to avoid seeing double, it eventually learns to ignore the image sent by one eye. This can result in amblyopia, a serious vision condition commonly known as lazy eye.

### **What are signs/symptoms of poor eye coordination?**

Some signs / symptoms that may indicate poor eye coordination include double vision, headaches, eye and body fatigue, irritability, dizziness and difficulty in reading and concentrating. Children may also display characteristics that may indicate poor eye coordination including covering one eye, head tilting, skipping lines or losing their place while reading, poor sports performance, avoiding tasks that require close work and tiring easily.

### **How is poor eye coordination diagnosed?**

Since poor eye coordination can be difficult to detect, periodic optometric examinations beginning at age 3 are recommended. A comprehensive examination by a Doctor of Optometry will determine the extent, if any, of poor eye coordination.

### **How is poor eye coordination treated?**

Poor eye coordination is often successfully treated through vision therapy, contact lenses and/or other optical aids. If detected early enough, the success rate for achieving proper eye coordination is quite high. In some cases, eye coordination will improve when other vision conditions like nearsightedness or farsightedness are corrected. In some cases, surgery may be necessary.

### **What is farsightedness?**

Farsightedness, or hyperopia, as it is medically termed, is a vision condition in which distant objects are usually seen clearly. But close ones are not brought into proper focus.

### **Why does farsightedness occur?**

If the length of your eyeball is too short or the cornea has too little curvature, near objects cannot be brought into a sharp and clearly focused image. Some theorists believe that farsightedness is hereditary and others believe that it may result from environmental factors.

### **How does farsightedness affect vision?**

If you are farsighted, you involuntarily exert extra effort to maintain clear distance vision and even greater effort to see clearly at close range. This extra effort can cause fatigue, tension and discomfort. If the crystalline lens of the eye cannot bring the object into focus, blurred vision occurs.

### **How common is farsightedness?**

Many people have some degree of farsightedness. The condition is only a problem if it significantly affects a person's ability to see. It is estimated that over half the people who wear glasses are wearing them because of a focusing problem due to farsightedness or presbyopia, a natural decrease in focusing ability.

### **What are the signs / symptoms of farsightedness?**

Common signs / symptoms of farsightedness include difficulty in concentrating and maintaining a clear focus on near objects, blurred vision, eye strain, fatigue and / or headaches after close work, aching or burning eyes, poor reading ability and general tension.

### **How is farsightedness detected?**

Farsightedness can be effectively diagnosed during a comprehensive optometric examination. Common vision screenings, often done in schools, are generally ineffective in detecting farsighted people. This is because these individuals can identify the letters on an eye chart with little difficulty.

### **How is farsightedness treated?**

In mild cases, your eyes may be able to compensate adequately without the need for corrective lenses. In more severe cases, your optometrist may recommend glasses or contact lenses. For appropriate candidates, laser surgery can be considered.

### **How will farsightedness affect my lifestyle?**

If glasses or contact lenses are prescribed, it may take a few days to adjust to them. After that, farsightedness will probably not significantly affect your lifestyle.

### **What are floaters and spots?**

Floaters (often called spots) are small, semi-transparent specks or particles within the eye that become noticeable when they fall within the line of sight. They may also appear with flashes of light.

### **Does everyone have floaters?**

Almost everyone sees a few floaters at one time or another. They can occur more frequently and become more noticeable as you grow older. If you notice a sudden change in the number or size of floaters, you should contact your Doctor of Optometry right away, so you can be sure they are not the result of a more serious problem.

### **What causes floaters?**

The inner part of your eye is made up of a clear, jelly-like fluid known as the vitreous. Occasionally, small flecks of protein and other matter become trapped in the vitreous during the formation of the eye before birth and remain in the vitreous body. Floaters and spots may also be caused by the deterioration of the eye fluid or its surrounding parts, or by certain injuries or eye diseases.

### **What do floaters look like?**

Floaters are generally translucent specks of various shapes and sizes. They may also appear as bugs, threadlike strands or cobwebs within the eye. Since they are within the eye, they move as the eye moves and seem to dart away when you try to look at them directly.

### **Can these floaters cause blindness?**

Most floaters are normal and rarely cause blindness. But, floaters can be indications of more serious problems, such as a retinal hole, tear or detachment, and if you see them you should have a comprehensive optometric examination to determine the cause.

### **How are floaters detected?**

As part of a comprehensive eye examination, your Doctor of Optometry will thoroughly evaluate the vitreous and retina of your eyes. Your optometrist uses these instruments to examine the health of the inside of your eyes and may also observe the floaters within your eye. This is often done after the doctor puts special drops in your eyes to make the pupils larger (called dilation) to allow a fuller view of the inside of your eyes.

### **What is glaucoma?**

Glaucoma is an eye disease in which it is thought the internal pressure of your eye rises to a point that the optic nerve is damaged. The pressure that builds up is due to a problem in the production, flow or drainage of fluid normally produced in your eye. Glaucoma is one of the leading causes of blindness in Canada.

### **What causes glaucoma?**

The exact cause of glaucoma is not known. For some reason, there is an overproduction of fluid and / or the passages that normally allow fluid within your eye to drain out become clogged or blocked. This results in fluid building up within your eye and increasing pressure on the optic nerve. The nerve fibers and blood vessels in the optic nerve can easily be damaged by this pressure. An injury, infection or tumor in or around the eye can also cause the pressure to rise.

### **Who gets glaucoma?**

Glaucoma most frequently occurs in individuals over the age of 40 and there is a hereditary tendency for the development of the disease in some families. Primary open-angle glaucoma causes damage at an earlier age and leads to blindness at a much greater rate. There is also a greater risk of developing glaucoma when you have diabetes, high blood pressure and eye

injuries. Regular optometric examinations are important for all ages to assess your risk for glaucoma.

### **Why is glaucoma harmful to vision?**

The optic nerve, at the back of the eye, carries visual information to the brain. As the fibers that make up the optic nerve are damaged, the amount and quality of information sent to the brain decreases and a loss of vision occurs.

### **Will I go blind from glaucoma?**

If diagnosed at an early stage, glaucoma can be controlled and little or no further vision loss should occur. If left untreated, side awareness (peripheral vision) and central vision will be destroyed and almost complete blindness may occur.

### **How can I tell if I have glaucoma?**

Primary open-angle glaucoma often develops painlessly and gradually. There are no early warning signs. It can gradually destroy your vision without you knowing it. Acute angle-closure glaucoma may have symptoms such as nausea, eye pain, red eyes, blurred vision and haloes around lights.

### **How is glaucoma detected?**

A comprehensive ocular health examination is often the only way to detect glaucoma. Your optometrist can include in your examination a simple and painless procedure called tonometry, which measures the internal pressure of your eye. Your optometrist will also look into your eye to observe the health of the optic nerve and measure your field of vision.

### **How is glaucoma treated?**

Treatment via eye drops and surgery is usually effective in maintaining your remaining vision. Once vision is lost due to glaucoma, it cannot be restored. This is why regular preventive eye exams are so important.

### **What are styes (Hordeolum)?**

A small area of redness and pain on the margin of your eyelid may indicate that you have a sty, known in medical terms as an external hordeolum. A sty is a blocked gland at the edge of the lid that has become infected by bacteria, usually *Staphylococcus aureus*.

The area of redness and pain will eventually form a 'point'. Until this occurs, warm compresses should be applied to the area for 15 minutes three-to-four times a day. The compresses should be followed by the application of sulphonamide or antibiotic ointment to the sty, available by prescription. Check with your eye care practitioner.

Once the sty has 'pointed', it can usually be expressed (squeezed gently to empty its contents), after which the lids should be cleaned. Treatment with the ointment should be continued until symptoms have cleared. Sometimes it is necessary for the sty to be lanced to assist with expression.

## **What is Keratoconus**

Poor vision that cannot be corrected fully with glasses may indicate a condition known as conical cornea or keratoconus. A rare condition, keratoconus primarily affects people in their early 20's.

With keratoconus, the cornea, the "clear window" at the front of the eye, may become thin and bow outwards. It is this irregular distortion of the cornea that makes vision correction with glasses less than optimal. For this reason other means of correcting vision are often necessary.

### **Vision correction with rigid gas permeable lenses.**

Mild to moderate keratoconus is best corrected with rigid gas permeable contact lenses, which provide a smooth surface in front of the cornea, making clear vision possible. Because the lens is rigid, the tears between the lens and the cornea form a 'liquid lens,' which smoothes the irregularities of the cornea and makes clear vision possible again. Soft lenses, which 'wrap' onto the cornea and take up its shape much more closely than rigid lenses, are less successful at correcting keratoconus.

### **Corneal replacement surgery may be necessary**

As keratoconus progresses, some scarring of the cornea can occur. Eventually, contact lenses may no longer be a successful treatment. Instead, the cornea may need to be replaced surgically with a cornea of more regular shape. The prognosis for corneal replacement surgery is generally very good.

## **What is macular degeneration?**

The macula is the central most part of the retina that is responsible for detailed sharp vision. It is used for reading, driving, recognizing people's faces and fine work. Macular Degeneration is a condition that causes the centre of your vision to blur while the side or peripheral vision is unaffected. It is generally related to the aging process, and is also commonly referred to as Age-related Macular Degeneration (AMD). It is the leading cause of blindness in North America in adults over the age of 55.

### **What are the symptoms of Macular Degeneration?**

Initially, the most common symptom is slightly blurred vision when performing tasks that require seeing detail. A blurred spot or sense that there is dirt in the way of clear vision may develop. Over time, the blurred spot may increase in size and interfere with reading and recognizing faces. Wet AMD causes a straight line to look wavy or distorted, and dark spots may blank out portions of the central vision. There is no pain with AMD.

### **Are there different forms of Macular Degeneration?**

There are two types of AMD: dry and wet. The most common is the dry form. This is the milder form where there is a gradual degeneration of the tissue cells that make up the macula and symptoms generally develop slowly over time. The wet form is a severe leakage, or even bleeding, from weak blood vessels under the macula and symptoms progress rapidly. Wet AMD

accounts for approximately 10 percent of all cases, but the dry form can develop into the wet form over time.

### **Who is at risk of developing Macular Degeneration?**

The risk of developing AMD increases with age. High risk groups include smokers and people who have had extensive UV exposure. AMD is also associated with conditions such as high blood-pressure, arteriosclerosis, and those with a family history of AMD.

### **How can I prevent Macular Degeneration?**

Lifelong UV protection and general nutrition are believed to play a key role in preventing AMD. Living a healthy lifestyle by keeping your blood pressure down, reducing your intake of fatty foods and not smoking are all recommended. A diet high in antioxidants such as beta-carotene (a form of vitamin A), vitamins C and E, zinc, lutein, zeaxanthin and selenium can also help prevent AMD. Most of these antioxidants are found in fruits and leafy green vegetables. Regular eye examinations are also important in the early detection of AMD. Early stages of AMD may be found during an eye examination even if no symptoms are noticed. Your optometrist can discuss ways to minimize the possibility of vision loss due to AMD.

### **Is there treatment for Macular Degeneration?**

Currently, dry AMD has no treatment. Many cases of wet AMD can be treated with Photodynamic Therapy (PDT). Early detection and prompt intervention are crucial to the success of PDT for wet AMD. Certain vitamins can assist in slowing down the progression of AMD. It is important to realize that the use of vitamins will not reverse any vision loss that has already occurred, nor will it stop the progression of AMD completely. Regular eye examinations and counseling from your optometrist will let you know of any new treatments that become available.

### **Is there help available?**

Many patients with sight loss due to AMD can benefit from low vision aids. Your optometrist can prescribe magnifying devices to enhance both distance and reading vision. These aids will not restore sight to normal levels but they allow people to maximize their remaining vision. Your optometrist may also train you to use the Amsler grid, which is a tool that can assist in testing the progression of AMD.

### **What is nearsightedness?**

Nearsightedness, or myopia, as it is medically termed, is a vision condition in which near objects are seen clearly, but distant objects do not come into proper focus.

### **Why does nearsightedness occur?**

When your eyeball is too long or the cornea has too much curvature, light entering the eye is not focused properly. Some evidence supports the theory that nearsightedness is hereditary. There is some evidence that nearsightedness may also be caused by the stress of too much close vision work.

### **How common is nearsightedness?**

Nearsightedness is a very common vision condition that affects nearly 30 percent of the Canadian population. It normally occurs in school age children. Since the eyes continue to grow during childhood, nearsightedness usually occurs before the individual reaches the age of 20.

### **Will I have to wear glasses?**

You may need glasses part-time or full-time to enable you to see more clearly. If your condition warrants, your Doctor of Optometry will prescribe corrective lenses for you. You may only need them for certain activities, like watching television, going to a movie or driving a car.

### **Will glasses/contact lenses cure nearsightedness?**

Eyeglasses or contact lenses optically correct the problem by altering the way the light images enter your eyes, but they do not cure nearsightedness. At present there are no proven cures for nearsightedness. Surgical procedures such as LASIK and / or ocular implants may eliminate your need for glasses.

### **How is nearsightedness diagnosed?**

Nearsighted people will often have trouble seeing the chalkboard, the movie screen, the television set or other distant objects. When your optometrist gives you a comprehensive eye examination, it will include a test for nearsightedness.

### **How will nearsightedness affect my lifestyle?**

If glasses or contact lenses are prescribed, it may take up to 2 weeks to adjust to seeing clearly with them. Some nearsighted people may find that they are restricted from some occupations e.g. police officer or fire fighter, due to their nearsightedness. In these cases, laser surgery may be useful for some people. Contact lenses are very helpful for correcting nearsightedness and are ideal for people with more active lifestyles.

### **What is presbyopia?**

Presbyopia is a vision condition in which the crystalline lens of your eye loses its flexibility. This results in difficulty in focusing on close objects.

### **What causes presbyopia?**

The lens in your eye continues to grow and produces more and more cells. Eventually the lens loses most of its elasticity and therefore, loses most of its focusing ability.

### **At what age does presbyopia occur?**

It varies from person to person. Although presbyopia may seem to develop suddenly, the actual decline takes place over the course of many years. Presbyopia usually becomes apparent to people in their early to mid-forties.

### **What are signs/symptoms of presbyopia?**

Some signs/symptoms of presbyopia include the tendency to hold reading materials at arms length, blurred vision at normal reading distance and eye fatigue along with headaches when attempting to do close work.

### **Can presbyopia be prevented?**

Unfortunately not. Presbyopia is a natural part of the aging process.

### **How is presbyopia diagnosed?**

A comprehensive eye examination by a Doctor of Optometry will include testing the quality of your near vision. This will determine the extent, if any, of presbyopia.

### **How is presbyopia treated?**

To compensate for presbyopia, Doctors of Optometry prescribe reading glasses, bifocals, trifocals or contact lenses. Since presbyopia can complicate other common vision conditions like nearsightedness, farsightedness and astigmatism, your optometrist will perform other tests to determine the specific lenses that will allow you to see clearly. Laser surgery can be used to provide “mono vision” for patients. By doing this, one eye is corrected for distance vision and one eye is corrected for near vision. This can also be done with contact lenses. Mono vision does not work well for all people. People who require good distance visual acuity with both eyes, such as pilots or police officers, may not be suitable candidates for mono vision. Your optometrist can discuss mono vision with you to help determine if this is the right option for you.

### **Will I have to wear glasses all the time?**

This will depend on a number of factors, including any other vision conditions you have. You may only need your glasses for reading, sewing or other close work. However, you may find that wearing your glasses all the time is more beneficial and convenient for your vision needs.

### **Can I still wear contact lenses?**

You will likely be able to wear contact lenses part time or full time, depending upon your prescription and your daily visual needs. Your Doctor of Optometry will tell you about your options and help you decide what is best for you.

### **Why are frequent lens changes necessary after 40?**

The effects of presbyopia constantly change the ability of the crystalline lens to focus properly. As a result, approximately every 2-3 years, changes in your eyewear are necessary to maintain correct vision between ages 40-60.

### **What is Retinoblastoma?**

Retinoblastoma is a rare cancer of the eye that typically affects children between birth and five years of age. The incidence of RB is 1 in 15,000 live births, with about 23 children being affected in Canada each year. The retinoblastoma tumor(s) originate in the retina, the light sensitive

layer of the eye which enables the eye to see. When the tumors are present in one eye, it is referred to as **unilateral** retinoblastoma, and when it occurs in both eyes it is referred to as **bilateral** retinoblastoma.

Parents are often the first to notice the signs and symptoms of retinoblastoma. These include:

- The most common indicator of RB is whiteness reflected in the pupil, particularly noticeable when the pupil is dilated. Many parents refer to this reflection as “cat’s eye”. Medically, what is being observed is known as leukocoria.
- One or both of the child’s eyes may turn inward or outward. This is often described by parents as “lazy eye,” “crossed eyes,” or a wandering eye. The medical name for this is strabismus.
- More rarely, a child’s retinoblastoma may be indicated by redness and/or swelling of the eye(s).

None of these indicators is conclusive of retinoblastoma, but if a parent notices these symptoms in their child, a visit to an optometrist or a referral to an ophthalmologist should be sought immediately.

### **What is strabismus?**

Strabismus, more commonly known as crossed-eyes, is a vision condition in which your eyes are not properly aligned with each other. For a variety of reasons, one or both of your eyes turn in, out, up or down.

### **What causes strabismus?**

Coordination of your eyes and their ability to work together as a team develops in your first six years. Failure of your eyes (or more precisely, your eye muscles) to adjust properly can lead to crossed-eyes. Strabismus may also have a tendency to be hereditary.

### **Who is affected by strabismus?**

Children under 6 are the ones most affected by crossed-eyes, but this often first appears between birth and age 21 months. It is estimated that five percent of all children have some type or degree of strabismus. Although rare, strabismus sometimes begins in adulthood, but this is usually the result of a stroke, tumor or other vascular disease.

### **Will a child outgrow strabismus?**

This is a common misconception. A child will not outgrow crossed-eyes. In fact, the condition may get worse without treatment.

### **What are the effects of strabismus?**

Children with strabismus may initially have double vision. This occurs because both eyes are not focusing on the same object. In an attempt to avoid double vision, the brain will eventually disregard the image from one eye. In time, the ignored eye will become unable to function

normally and will become largely unused. This may result in the development of lazy eye (amblyopia).

### **How is strabismus diagnosed?**

Parents may be the first to notice a slight wandering of one or both of a child's eyes. A comprehensive vision examination by a Doctor of Optometry is recommended by the age of three, as parents often will not notice it. The examination can determine if strabismus is present.

### **How is strabismus treated?**

Treatment for strabismus can include eyeglasses (regular or bifocal), prisms, vision therapy, and in some cases, surgery. Strabismus can be corrected with excellent results if detected and treated early.

### **What is a vision therapy?**

Vision therapy is an individualized treatment program prescribed to improve conditions like crossed-eyes (strabismus) or lazy eye (amblyopia) and to help you learn, relearn or reinforce specific vision skills. Such skills include eye movement control, focusing control, eye coordination and teamwork of the two eyes.

### **How does vision therapy work?**

Like many of our skills, visual skills are developed. Since they are developed, they can generally be improved via proper therapy. In vision therapy, the optometrist prescribes individually appropriate visual tasks / exercises to be practised regularly. Repetition of these tasks enhances vision by coordinating, strengthening and improving eye movement, focusing ability and by straightening the eye alignment.

### **How successful is vision therapy?**

Vision therapy has proven to be an effective treatment for many problems that cannot be treated with eyeglasses or contact lenses alone. It can help people see more clearly, efficiently and comfortably. Success, however, is not guaranteed. Much of the improvement depends on the patient's willingness to follow the optometrist's instructions. For patients who do so, significant progress toward more efficient and comfortable vision usually results.

### **What are some vision therapy procedures?**

In addition to the use of lenses, prisms and filters, there are many different procedures that can be used in vision therapy. Some, using stereo-viewers or video games, may seem like child's play. More sophisticated equipment and instrument are also used to increase the eye's ability to see and the brain's ability to understand the visual information.

### **How long does vision therapy take?**

The length of time required for completion of vision therapy program, including the number of visits per week, the length of each visit and the amount of out-of-office therapy, varies. This is dependent upon the type of vision problem(s), how long the condition has existed, the

motivation of the patient and the level of improvement desired. A typical program may take from a few weeks to several months.

**How will vision therapy affect my lifestyle?**

Depending upon your vision condition, therapy can have a profound effect on your lifestyle. By undergoing vision therapy, you may find yourself looking at life in a whole new way. Your Doctor of Optometry can provide you with more specific information about how vision therapy can help improve your vision.