

# THE SENIOR'S CORNER

Your Sight Is Our Vision

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A wise patient in her 80's once said to me, "Vision is something we take for granted. We don't fully appreciate it until we begin to lose it." For most of us over 40 year of age, we are reminded that our eyes are not like the original equipment we were born with. Subtle changes begin to happen and we begin to wonder what could possibly be going wrong with our eyes. The following are changes that happen with normal aging:

**1) PRESBYOPIA** ("old vision") – This is the big one that affects everyone. The lens inside the eye loses its flexibility and cannot alter its shape enough to focus on objects both far away and up close. The human lens has its maximum flexibility at about age 16 years and then gradually becomes larger and more rigid as time goes on. By age 60 years, our lenses have pretty much lost any flexible focusing ability. We don't usually begin to notice the changes, until we reach our early 40's, give or take a few years. Many people who haven't worn glasses before will start to need reading glasses and those who already wear glasses for distance will require progressive or bifocal lenses. The few lucky people who can still see up close without help are just naturally nearsighted in one or both eyes.

**2) PUPIL SIZE DECREASES** – The pupil governs the amount of light that reaches the back of the eye. As we age, the pupil size becomes smaller. The light adapted eye of a 20 year old receives 6 times more light than that of an 80 year old. In dark-adapted conditions, the 20-year-old eye receives about 16 times more light. One may ask, why does the pupil size decrease when older people require more light to see in the first place? Perhaps the answer can be compared to how a camera works. The smaller the aperture of a camera is, the more things at different distances are in focus (greater depth of field). So, the advantage of more things being in focus for the ageing eye usually outweighs the disadvantage of losing more light.

**3) MORE FLOATERS** – The fluid inside the eye is called the vitreous humour. In a young person, the vitreous is clear and gel-like, similar in consistency to egg whites. With normal aging the vitreous becomes more liquid-like and cellular debris (floaters) are more likely to be seen drifting around in a person's vision. Eventually the vitreous liquefies and shrinks enough so that it pulls away from the retina at the back of the eye. If this "vitreous detachment" happens abruptly enough, flashes and floaters can be seen by the individual and an examination by an eye doctor should be sought out to distinguish this from a retinal detachment, which can be much more serious.

**4) CATARACTS** – The changing lens described in presbyopia above, also undergoes a gradual loss of clarity. By age 60 year, nearly all of us will have some form of cloudy lens or cataract.

The cloudy lens is often yellow in colour and therefore makes it more difficult to discriminate colours especially in the blue range. The cloudy lens also reduces contrast sensitivity in older people resulting in poorer vision. In addition, the cloudy lens makes oncoming headlights more distracting by producing glare. The sun will also cause much more glare since the light hitting the cloudy lens will scatter, much like a dirty windshield in a car.

**5) EYE DISEASE** – As our eyes age, they become more likely to develop disease. The most common eye diseases that occur in aging eyes are cataracts (more of a condition than a disease), glaucoma (optic nerve disease usually related to high eye fluid pressure), and macular degeneration (a breakdown in the central part of the retina that is most capable of seeing detail). We will discuss these diseases in more detail in a future newsletter.

There are other more subtle changes that occur in the aging eye; however, the ones mentioned here are the most widespread and significant. At South Island Optometry Centres, we take many measures to assist older eyes perform to their maximum ability. You can start by seeing your optometrist on a regular basis.

In our next SIO newsletter, we will discuss treatments for these various eye-aging changes - stay tuned.



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## BACK TO SCHOOL

September is back to school time and seeing properly is essential for students to focus on successful learning. Good vision and eye health are critical to a child's development. Parents need to add eye exams to children's back to school checklist.



### Did you know the following facts?

1. More than 80 percent of a child's learning is based on vision.
2. One in five children has a vision disorder.
3. Not knowing any differently, many of these children accept poor vision and other eye problems as normal.
4. If left unchecked, serious long-term effects can result. Children who are full of potential may lag behind, become withdrawn or disruptive.
5. One out of six children diagnosed with a learning disability actually has a correctable vision problem.

A thorough eye examination will determine if your child's visual skills are developing properly. At South Island Optometry we recommend that children be seen by the age of three, before starting kindergarten and yearly thereafter. We look forward to seeing your little ones.

## AMBLYOPIA

In some children, sight does not develop properly in one eye even though the eye is structurally normal. This condition, called amblyopia, or «lazy eye,» affects approximately 5% of children. Amblyopia causes no discomfort, and one eye sees normally, therefore, the decreased vision may go unnoticed by the child. Since the child does not complain, parents are not often aware of any visual problem. Amblyopia may not be discovered until the child's first eye exam. A child with amblyopia may not be able to perform well in school, sports and other activities as problems such as skipping lines while reading and poor depth perception may occur. Amblyopia that is not addressed at an early age will result in permanent visual problems. This is one of the many reasons that children should have a full eye exam at a young age. In our office, we recommend a child be seen by age 3 years.

### WHAT CAUSES AMBLYOPIA?

Amblyopia can occur when an eye does not receive proper stimulus during its development. Normally, each eye sends a slightly different visual image to the brain. When the images are similar enough, they can be combined into a single image by the brain. If one eye is receiving a poor image, it may be suppressed by the brain so that the connections between that eye and the brain do not develop properly. The poor eye is ignored by the brain and only the image from the good eye is perceived.

Two main situations result in a poor stimulus for one eye. One is strabismus, where one eye turns in or out. The other is anisometropia, where the two eyes are very differently focused - for example, one may be normal and the other may be very farsighted or nearsighted. When one eye is turned in or out, or is out of focus, the neural connections from that eye to the brain do not develop properly.

### HOW IS AMBLYOPIA TREATED?

It is very important that treatment for amblyopia begin as early as possible to give the amblyopic eye the best chance of regaining normal vision. The visual system is most receptive to change before 9 years of age. If the cause of the lazy eye is due to different optical powers, spectacles will be prescribed so that each eye receives a clear, focused image. If the eyes are misaligned, as in strabismus, glasses may help to straighten them; however, in certain cases, surgery may also be required. A vigorous program of «patching» (covering) the good eye is often necessary to train the child to use the amblyopic eye. By covering the good eye, neural connections from the poor eye to the brain will begin to form and vision in the amblyopic eye should improve. This can take a lot of patience, as the child is encouraged to use an eye that sees poorly. (The patching does not correct any eye misalignment or eliminate the need for prescription eyeglasses.)

### PROGNOSIS

Prognosis is far better when amblyopia is identified and treated at an early age. After approximately 9 years of age, it is more unlikely that vision can be improved in an amblyopic eye. An older child, or an adult with amblyopia, who never received proper treatment, can rarely expect to achieve perfect vision, even with glasses or contact lenses. Children should be followed annually with a full eye examination.



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# Spotlight on *contact lenses and spectacles*



Even as summer comes to a close and fall begins, many of us still continue to enjoy the great outdoors and staying active still remains important. Whether it is hiking, biking, swimming, golfing or any other outdoor activity, South Island Optometry can help you continue to enjoy it to the fullest.



Many people enjoy wearing their contact lenses for outdoor activities. Perspiration on ones' glasses can lead to fogging and impaired vision. This is greatly reduced when wearing contacts. Similarly, anyone wearing bifocal or progressives glasses will notice blurry or obstructed vision when looking down through the reading portion of the lens, but, again, this is not the case with contact lenses on. This is a distinct advantage when golfing or when walking or hiking.



As fall begins, many swimmers move from the outdoors to the indoors. For swimmers and water sport enthusiasts who would like to wear contacts, properly fitting, snug swimming goggles should be used. Goggles that fit properly should stay in place for at least a second or two when pressed against your face without the straps on. If they don't stay in place-they're not right for you. Swimmers should also watch for strongly chlorinated pools. Correct levels of chlorine should not smell. Over chlorinated water becomes acidic and can cause eye irritation. After swimming, wash your face with soap to decrease risk of eye infections.



Contact lenses can be worn by patients of almost any age or prescription (Rx), even those with astigmatism. Astigmatism typically occurs when the eye is more oval or football shaped rather than perfectly round or softball shaped. The lenses used to correct astigmatism are called "toric" lenses.

Introducing...

## ACUVUE® OASYS for ASTIGMATISM Brand Contact Lenses

- Crisp, clear vision all day long
- Breakthrough Accelerated Stabilization Design helps keep lens positioned correctly
- Provides Class 1 UV blocking\*\*
- Allows nearly 100% of oxygen through the lens and is unbelievably soft
- Approved for extended wear



For people preferring glasses, there are many options available, as well. It's been shown that golfers that wear the bifocals or progressives on the course can often shave a few strokes off their round simply by switching to single vision distance glasses. This allows better fixation on the ball during the swing. A Transition tint (lenses that darken when outside) can be a valuable, comfortable and healthy option with these glasses – or separate Rx sunglasses altogether. An anti-reflection/antiglare coating, such as the Crizal Avance, also helps to improve the sharpness of vision. For cyclists, there are wrap around sunglasses with inserts for your prescription lenses. Some even have exchangeable tints available. These are also great for tennis, hiking and when out on the water, especially when polarized thereby reducing the surface glare even further. Divers and swimmers also have the option of prescription masks and goggles.

# Things that make you say *hmmm?*

## Will my computer harm my eyes?

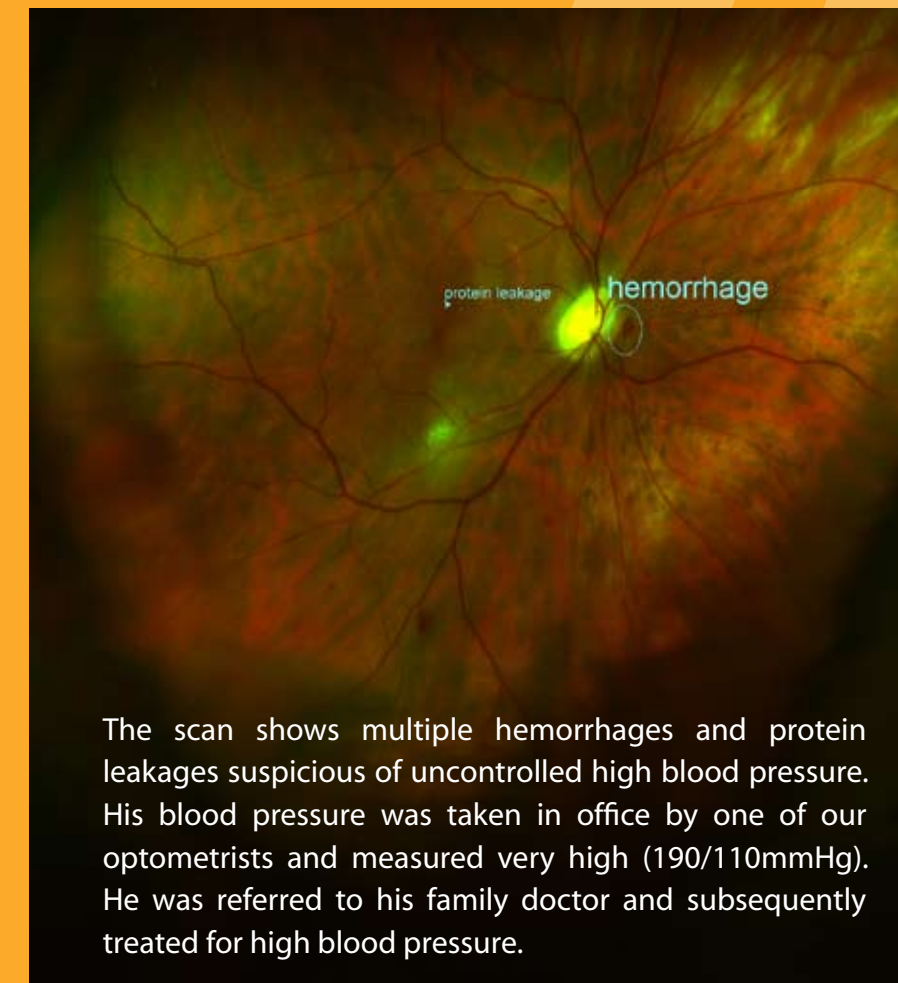
There is no scientific evidence that computer screens emit hazardous radiation, however, long hours of work can be fatiguing to the eyes, neck and back, trigger headaches and cause your eyes to dry out. Monitor glare from light sources can also be a problem. Excessively bright light coming in from outside and excessively bright light inside can cause eyestrain. If possible, position your monitor so windows are at the side of it instead of in front or in back. It is often helpful to take periodic breaks to focus in the distance and to make sure the angle and height of the monitor is ergonomically adjusted. Occasionally, artificial tears lubrication drops can be used if the eyes become particularly dry and burning.



# OPTOMAP CASE STUDY #2

As mentioned in our last newsletter, the Optomap is a retinal scanning device using leading edge technology. It takes an ultra-wide digital photograph of the back of the eye. There are only two of these instruments in Victoria, one in our Colwood location and the other in our Gordon Head location. The scan is included as part of our routine eye examinations. Each newsletter will highlight a case where the Optomap helped detect eye disease.

A 54year old male came to our Colwood office for a routine eye exam. He had no visual complaints and no unusual symptoms. An optomap retinal scan of his eyes revealed the following:



The scan shows multiple hemorrhages and protein leakages suspicious of uncontrolled high blood pressure. His blood pressure was taken in office by one of our optometrists and measured very high (190/110mmHg). He was referred to his family doctor and subsequently treated for high blood pressure.

# Sun Protection *and Your Eyes*

Yes, even in the fall and winter months sun protection continues to be important. In the summer, we all know the importance of using sunscreen to protect our skin from the sun's harmful rays, but what about our eyes? Year-round, sun protection for our eyes is important. The most common source of ultraviolet light (UV) is the sun. UV is high intensity electromagnetic radiation that is outside the visible spectrum. The sun gives off UV-A, UV-B and UV-C. Most of the UV-C is absorbed by the earth's ozone layer, but with thinning of the ozone, more UV-C is reaching the earth.

Prolonged exposure to the sun's UV rays without protection may cause eye conditions that can lead to vision loss such as cataract or age-related macular degeneration, cause damage to your corneas and retinas, and even cause eyelid cancers. Sunglasses and wide-brimmed hats are a great protection against UV related vision problems. Make sure sunglasses have labels indicating to block at least 99% of both UV-A and UV-B. Otherwise, the dark tint will simply cause the pupils of the eye to dilate allowing more UV in –doing more harm than good. UV radiation is more intense between 10am and 4pm and at high altitudes. UV can be reflected off water, sand and even cement, so



simply wearing a wide-brimmed hat is not enough. In any environment closing your eyes is no protection from UV. There is no substitute for proper UV blocking eyewear.



**At South Island Optometry,** we have a great selection of sunglasses for people of all ages. Come in and see us-we would love to take care of your sun protection needs.