

I'VE GOT MY EYE ON YOU

*The eyes are the window to your soul.
Your eyes are the doorway to your heart.
Your eyes reflect your emotions and inner being.
-Sr. Judy Knapp, Clinical Trial Nurse.*

Whilst I was wondering what content to put into this article I cast my mind back to when I was doing my nursing training in the 70s. I was working in the eye ward and I remember being told that getting consent to donate one's eyes after death was not required as people would be reluctant to consent to this, however, other organs for transplant do require consent by either the patient or relatives. However that was the 70s and I thought that rules may have changed. To check what happens today I spoke with one of the organ transplant team here at the John Hunter Hospital and in fact the situation has changed with consent required for all organ donations.

In metropolitan NSW the supply of eyes for transplantation is readily met through donations, though more people are reluctant to donate their eyes than any other organ. So our eyes are very important to us. Of all the organs, it is the eyes that are identified of the site of sentience (the capacity to feel, perceive, or experience subjectively) and there is a long tradition of visual primacy and visual symbolism in virtually all aspects of culture.

So we must not take our eyes for granted and need to take special care to look after them. In this article we will touch on a variety of eye disorders that can occur with and without autoimmune disease.

Sjögren's is an autoimmune illness where the body's immune system attacks the moisture producing glands of the body such as the lacrimal glands and the ocular surfaces (cornea, conjunctiva and Meibomian glands). The condition primarily affects the eyes and mouth, however many other parts of the body can be involved. The key eye

feature is decreased tear production and altered composition of tears resulting in inadequate lubrication of the eyes. This lack of moisture can cause a range of symptoms, including discomfort, visual disturbance, tear film instability and potential damage to the ocular surface.

Systemic lupus is a chronic autoimmune disease that can affect any part of the body, including the eyes. The occurrence of eye problems in lupus can vary.

GENERAL CAUSES OF EYE PROBLEMS

One of the primary causes of eye problems in the general population is ageing. Whilst we cannot prevent getting older we can make some choices in our daily activities to lessen potential impacts of lifestyle choices and care for our eyes by protecting them from environmental damage and monitoring changes by getting regular eye checks.

Environmental influences include excessive exposure to wind, sunlight and ionizing radiation, such as that used in X-rays and cancer radiation therapy. In addition the excessive consumption of alcohol, chemical laden drinks such as soft drinks and smoking can also have an impact on eye health. Other impacts can be related to medical and family history, particularly if you have a history of cataracts, diabetes, high blood pressure and obesity.

Particular attention to eye health should also occur if you have had a previous eye injury, inflammation or eye surgery.

OTHER COMMON EYE DISORDERS

Allergic conjunctivitis ("pink eye") is an inflammation of the conjunctiva the thin membrane that lines the inner surface of the eyelids and the whites of the eyes (sclera). Conjunctivitis can affect children and adults and commonly is indicated by a red eye and discharge. There are many potential causes of conjunctivitis, including bacterial or viral infections as well as allergies. All types of conjunctivitis cause a red eye, although not everyone with a red eye has conjunctivitis. The term "pink eye" refers primarily to conjunctivitis caused by viruses (such as adenoviruses), rather than other causes. Therefore, this term should not be used when the underlying cause of the conjunctivitis is unknown or is not thought to be viral.

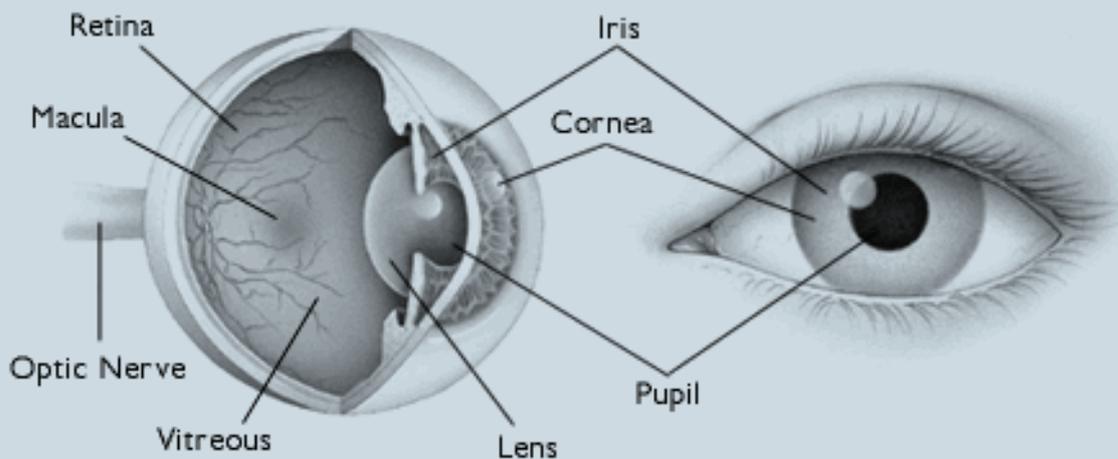
Eye floaters are spots in your vision that may appear like black or grey specks, strings or cobwebs that drift about when you move your eyes and appear to dart away when you try to look at them directly. Most eye floaters are caused by age-related changes that occur as the jelly-like substance (vitreous) inside your eyes becomes more liquid. Microscopic fibres within the vitreous tend to clump and can cast tiny shadows on your retina, which appear to you as floaters. If you notice a sudden increase in eye floaters, contact an eye specialist immediately — especially if you also see light flashes or lose your peripheral (side) vision. These can be symptoms of an emergency that requires prompt attention. These painless symptoms could be caused by a retinal tear, with or without a retinal

detachment — a sight-threatening condition that requires immediate attention. Most eye floaters don't require treatment.

A cataract is a clouding of the normally clear lens of your eye. For people who have cataracts, seeing through cloudy lenses is a bit like looking through a frosty or fogged-up window. Most cataracts develop when aging or injury changes the tissue that makes up your eye's lens. Some cataracts are related to inherited genetic disorders that cause other health problems and increase your risk of cataracts. Cataracts can also be caused by other eye conditions and medical conditions such as diabetes, trauma or past eye surgery. Long-term use of steroid medications may also cause cataracts to develop.

At first, stronger lighting and eyeglasses can help you deal with cataracts. But if impaired vision interferes with your usual activities, you might need surgery. Fortunately, cataract surgery is generally a safe and effective procedure.

Macular degeneration: Wet macular degeneration is one of two types of age-related macular degeneration. The other type, dry macular degeneration is more common and less severe. The wet type always begins as the dry type. Wet macular degeneration is a chronic eye disease that causes blurred vision or a blind spot in your visual field. It's generally caused by abnormal blood vessels that leak fluid or blood into the macula. The macula is in the part of the retina responsible for central vision.



MEDICATIONS THAT CAN CAUSE EYE PROBLEMS

Corticosteroids are commonly used as a medication to treat autoimmune illness however with long term use they can cause cataracts and increase the risk of glaucoma.

Plaquenil which is an antimalarial has been known to cause a decrease in vision, however this is a rare side effect with Plaquenil being a medication commonly used and well tolerated by most. It is very important to have regular eye checkups to track any changes early.

12 TIPS FOR HEALTHY EYES



1. Wear a hat and sunglasses when you are outdoors. Ultraviolet light can cause damage to your eyes and, in the long term, lead to eye conditions such as cataracts.
2. Wear eye protection at your workplace. 60% of all eye injuries occur at work. Jobs that involve handling hazardous chemicals or the use of machinery to cut, drill, grind, hammer, sand, spray or weld increase your chances of eye injuries.
3. Visit your eye care health professional regularly. Regular checks may help to detect problems at an early stage, which means you can potentially have treatment before any permanent damage occurs to your eyes.
4. Wear eye protection when playing sports. Eye injuries can easily occur when playing sports such as fencing, squash or high-speed ball sports. It is also a good idea to protect your eyes from road grit or projectiles when riding a bicycle.
5. Quit smoking Smoking damages your whole body, including the blood vessels that supply blood and nutrients to your eyes. If you are a smoker, it is not too late to improve your eye health by quitting.
6. Stick to a healthy diet and exercise routine. Eating fresh, healthy food and exercising regularly helps to keep your blood vessels, eyes and your body in good shape.
7. Avoid eye injuries at home. Wear eye protection when using power tools or chemicals or when doing home maintenance, renovations or work in the garden.
8. Control your blood sugar, blood pressure and cholesterol levels. Keeping your blood glucose, blood pressure and cholesterol levels low helps to keep your eyes and the rest of your body healthy.
9. Take regular breaks when working in front of your computer. Staring at the computer causes eyestrain and tired eyes and can cause long-term damage to your vision. Incorporate regular breaks and try some eye exercises to relax your eye muscles.
10. Make sure you have proper lighting. Position your lights correctly when reading or working at the computer. Low light or bright lights can cause eyestrain.
11. Remove eye makeup thoroughly
12. Try not to rub your eyes

THE EFFECTS LUPUS MAY HAVE IN AND AROUND THE EYES INCLUDE:

- Retinal blood vessel changes are the most common form of eye involvement in lupus and due to lack of adequate blood supply. This altered blood supply can cause decreased vision ranging from mild to severe in affects. Its presence can correlate with active disease processes.
- Dry eyes occur commonly and approximately 20% of people with lupus also have secondary Sjögren's.
- Changes in the skin around the eyelids, this is most often related to the discoid lupus erythematosus form of cutaneous lupus.
- Inflammation of the white outer layer of the eyeball (scleritis) which occurs in approximately 1% of people with lupus and may be the first sign of the disease.
- Damage to nerves in the muscles controlling eye movement and the nerves affecting vision.
- Medications that can cause eye problems depending on the population studied. The lowest incidence reported is 3%, and the highest is 28 % in those hospitalized for lupus-related complications².

AUTOIMMUNE DISEASES THAT AFFECT THE EYES INCLUDE...

SJÖGREN'S SYNDROME	This chronic inflammatory condition can lead to dryness of the eye due to an autoimmune attack on the tear-producing glands.
LUPUS	Eye inflammation is one of the many possible effects of lupus. Symptoms include blurred vision, headaches, sore eyes, dry eyes, and sensitivity to light.
MULTIPLE SCLEROSIS (MS)	"The connection between vision health and this autoimmune disorder is so strong that eye doctors may be the first ones to suspect an autoimmune disorder", advised John Rose, MD, director of the Centre for Autoimmune Disease Research at Johns Hopkins University in Baltimore. Initial symptoms of MS often include optic neuritis, which is a gradual or sudden loss of vision due to inflammation of the optic nerve – the large nerve entering the back of the eye.
PSORIASIS	Inflammation of the conjunctiva (the clear membrane covering the undersides of your lids and the whites of your eye) can cause redness and pain in your eye.
REITER'S SYNDROME	In addition to causing joint inflammation, reactive arthritis can cause inflammation of the front part of your eye.
RHEUMATOID ARTHRITIS (RA)	RA can cause dryness, inflammation of the white of the eye, thinning of the cornea, and other painful ocular conditions.
THYROID DISEASES	Autoimmune disorders that result in either high or low thyroid function increase the risk of glaucoma (a condition of high pressure inside the eye). Research to understand this relationship is ongoing, but it is thought that with hyperthyroid conditions such as Graves' disease, tissues build up around the eye increasing pressure. With low-thyroid disorders, the eye may not be able to circulate its fluids effectively, causing pressure to build up from the inside.
TYPE I DIABETES	This autoimmune disorder is one of the leading causes of blindness as poor blood sugar control can cause damage to small blood vessels in the back of the eyes.
ULCERATIVE COLITIS & CROHN'S DISEASE	About 5 percent of patients will have "nonspecific inflammation of the eye."
UVEITIS	This is an autoimmune disorder that directly affects the pigmented cells of the iris in the eye, and sometimes the middle layers of the eye as well. It causes inflammation, which can lead to blurred vision, "floaters," and redness of the eye. Uveitis can occur alone, or may be a symptom of another autoimmune disorder.
BEHCET DISEASE	This rare autoimmune disorder is another leading cause of blindness in some developing countries. Eye symptoms may be accompanied by mouth and genital sores.

THE USE OF EYE DROPS

Many people think that eye drops are very harmless, so they will use them every time their eyes feel dry, itchy, shed tears or when they come home from a drive or a swim. Over-the-counter eye drops work quickly to reduce redness, but do not eliminate the cause of the redness. Rebound redness results because the blood vessels in the eye dilate as the effects of the medication in the drops wears off. Overuse of eye drops to relieve the symptom without correcting the cause sets up a cycle of dependency and misuse. Eye drops should be used only as directed, and are not intended for long-term use.

Dilation of the blood vessels within the eye gives the appearance of redness on the surface of the eye. Common causes of red eyes include extremely dry air, sun exposure, dust, foreign body or an allergic reaction. Derivatives of the medication imidazoline, antihistamines and corticosteroids are ingredients found in many over-the-counter eye drops used to relieve eye redness, burning, irritation and dryness caused by exposure to environmental elements.

All eye drops and eye lubricants have a use by date and once opened are subject to potential contamination. Many of the commercial preparations may contain preservatives whilst others reduce this protective component. Regardless as to whether the product used has preservative, manufacturer "use by" instructions and dates should be followed to reduce the potential for secondary infection associated with their use.

Studies have shown that it takes 2 full minutes for the drop to completely penetrate the surface of the eye to get inside. The closed eyelids and pressure on the tear drainage duct avoids unwanted systemic side effects from the potent eye drop drugs by preventing the drop from getting inside the nose where it could enter the bloodstream rapidly.

Changes to the health of your eyes can happen gradually and you may not have any obvious signs of disease. It is important to have your eyes checked on a regular basis by an optometrist or other eye care health professional. Most vision problems are avoidable or can be treated. You can take action to keep your eyes healthy.

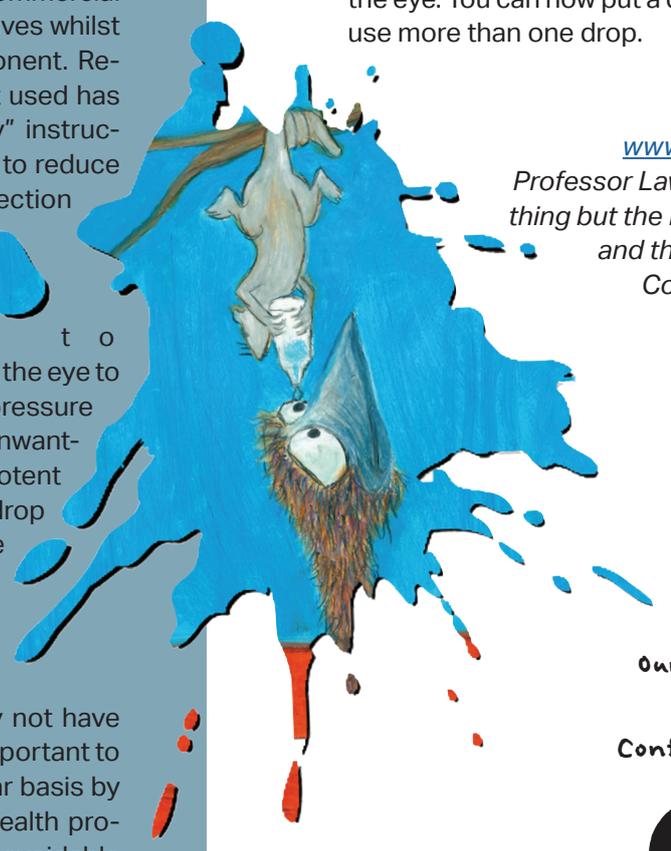
TIPS FOR USING EYE DROPS

To increase the chance that a single drop hits the eye:

1. Lay down flat on your back.
2. Only one drop is needed, not two, even if the bottle says, "one drop or two."
3. Gently pull your lower lid down to increase the amount of eyeball showing, bring the bottle about an inch above the eye surface (hold the bottle as vertical as possible), then gently squeeze the bottle until you see or feel the drop hit.
4. Be careful not to touch the bottle to your eye as this can transfer bacteria to the bottle tip.
5. To maximise effectiveness and minimise systemic side effects, use a 2-minute eyelid closure technique combined with closure of the tear drainage system.
6. Once the drop is on the eye, do not blink your eye or move it around to spread the drop
7. Gently close your eyes, place the pad of your most sensitive finger at the inside corner of the eyelid by the nose and press gently.
8. Leave the eyelids closed and the finger pressing gently for 2 full minutes.
9. Put the cap back on the bottle, with eyes still closed.
10. After two minutes, the drop is fully absorbed into the eye. You can now put a different drop in, if you use more than one drop.

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Professor Lawlor M, Kerridge, Anything but the Eyes: Culture, Identity and the selective Refusal of Corneal Transplantation



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