



# FORESIGHT 2020



Newsletter of GREWAL EYE INSTITUTE

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## The Country that Supplies Eyes

To restore sight to damaged eyes, we often need to transplant the cornea - the transparent front glass of eye - from a donor's dead body. There is a worldwide shortage, but one country, Sri Lanka, is doing its best to satisfy demand, without seeking any reward - at least in this life.

-Source: BBC Magazine

Thirteen years ago, Malingam, a shop owner from central Sri Lanka, cut his eye with steel wire. Last year, he injured the same eye with a piece of wood. After both accidents, a new cornea from a donor saved his sight.



The cornea is the clear front part of the eye, which lets in light and helps focus images on the retina. When it's damaged, as a result of injury or disease, a person's sight deteriorates, sometimes to the point of blindness.

Often the only solution is a transplant, but in many countries donated corneas are in short supply - a situation aggravated by the fact that cornea have a brief shelf-life.

Harvesting of the eye from donor must happen within a few hours of death and the cornea itself must be used on a patient within few days, depending on the storage method.

Malingam waited four days for his new cornea and is recovering at Sri Lanka's main eye hospital in the capital, Colombo.

"After the surgery, I was reborn to the world," he says.

A few doors down from his ward, Viswani Pasadi, a student, is preparing for a different kind of rebirth, by filling out a form at the National Eye Bank pledging her eyes

when she dies. Like most Sinhalese - who make up 75% of Sri Lanka's population - Pasadi is Buddhist. She believes in a cycle of birth, death and rebirth, and sees this donation as a sound investment in her future.

"If I donate my eyes in this life," she says, "I'll have better vision in my next life."

Preethi Kahlewatte, a book keeper has also taken the similar step.

"Whatever good things we do in this birth, that will carry onto the next birth," she explains. "When the person needs something, we like to donate. Without hands, we can work. Without legs, we can work. Without eyes, what can we do?"

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Some of the biggest connections we make with people are through the eyes - they feel really personal.

According to the Eye Donation Society - a non-profit organisation founded by a young doctor, Hudson Silva, in 1961 - one in five Sri Lankans have pledged to donate their corneas. This does not include those, like Pasadi, who have signed up with the National Eye Bank, a separate institution which opened five years ago.

The eagerness of Sri Lankans to offer their corneas to others means that the country has long harvested more than it needs and has been able to send the surplus to other countries. •



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## The Vivid Colors of Sunset

**T**he vivid colors of sunset, the rainbow in the sky and the splash of colors at Holi are scenes to cherish and remember. The world is so colorful. But, not for all. Not for the color-blind. Color blindness means that you have trouble seeing red, green, blue or a mix of these colors.

Colors are seen by three types of cells in retina called cones. Each type senses either red, green, or blue light. Information from these cones creates the sensation of complete colors. If one of these types of cone cells is absent, you fail to perceive that basic color. If they are deficient, the altered colors are perceived. You may see a different shade of that color or a different color.



Color vision deficiencies are usually inherited and present at birth. Rarely, they may be acquired. It can also result from aging, glaucoma, AMD, cataract or diabetic retinopathy. About 8 percent of males, but only 0.4 percent of females are color blind.

For color deficient individuals, the names red, orange, yellow, and green are simply different names for the same color. Among the colors most often confused are pink/gray, orange/red, white/green, green/brown, blue green/gray, green/yellow, brown/maroon, and beige/green. Pastels are difficult to distinguish.

A person may not be able to distinguish brown socks from green socks, a red traffic light from an amber one, or green grass from brown soil by color alone. The vision of color blind may be compared to images produced by a color printer that has run out of the ink in either the magenta cartridge or the yellow cartridge.

A color blind learns to see the world with limited colors and may not feel any problem in his day to day life. They are able to make out the differences between different colors

based on contrast and texture differences. In rare cases, one may see only shades of grays.

However, color blindness makes it difficult or impossible for a person to engage in certain occupations in which color perception is an essential part of the job (mixing paint colors), or in which color perception is important for safety (operating vehicles in response to color-coded signals).

Color vision is important for occupations using telephone or computer networking cabling, as the individual wires inside the cables are color-coded. Electronic wiring, transformers, resistors are color-coded.

The Ishihara color test is most often used to diagnose red-green color deficiencies. It consists of a series of pictures of colored spots.

It is important to check color vision at age of five years since it can affect learning and reading ability of child. As a parent you may not notice it. Before you plan a carrier for your child, it is important to know if your child is color-blind. Inherited color vision problems cannot be treated or corrected. •

## What if I suddenly loose Vision?

**I**f you have blurred vision that happens suddenly and persists, consider this an emergency. See your eye doctor, or visit an emergency room / urgent care center.

If your vision becomes blurry or goes dark suddenly, like a curtain coming down, consider it an emergency and get your eyes checked immediately as emergency. If painless, it could indicate a retinal problem, like a detachment, obstruction of blood flow in arteries or veins, sudden maturation of cataract, some inflammation of retina or even a stroke of area of brain concerned with vision.

If associated with pain, it could be acute attack of glaucoma, acute uveitis, inflammation of optic nerve or fulminant corneal ulcer.

All these conditions are an emergency and need immediate consultation. No procrastination please.

Transient attacks of black out should also be taken seriously as they may be precursor to total and permanent loss of vision. •

## Pain in, and Around Eyes

I frequently examine patients who complain of pain in their eyes, but its true source is not the eyes. Pain arising from the sinuses situated in the skull or teeth, severe hypertension, neuralgias, or migration is often mistaken for pain in eyes. Pain can be radiating or referred. Radiating pain is one that starts in one area and spreads until a large area hurts. Referred pain is one that is perceived at a location other than the site of disease. Migraine is an example of referred pain. Migraine can often be preceded by a visual aura where one may see jagged zigzag pattered of shimmering lights. Sinusitis is another example of referred pain. Infection of sinuses can cause pain in eyes and forehead. The resulting eye pain and headache is usually dull, aching, and throbbing. Bending can worsen the headache.

Shingles (janueu/herpes) may present as severe pain in eye without any other signs. Shingles refers to a reactivation of the chicken pox virus along the distribution of a nerve. Redness of skin a rash or blisters will appear along the distribution of that nerve. Note that the blister never crosses the midline of the forehead. The pain associated with herpes is usually severe.

Diseases of the join at your jaw (temporomandibular joint) can also cause eye pain. Cervical Spondylosis. stretching or spasm of neck muscles can cause frontal headache and painful eyes. Degeneration of cervical spine causes pain that can radiate to eyes. Trigeminal neuralgia is an attack of severe pain affecting one side of the face, often near the eye, and can be severe, sharp, cutting and excruciating.

Eye pain associated with decrease of vision, painful eye movements, swelling of eyelids, eye discharge, redness, or severe headache or suggestive of pain due to an eye disease. These significant associated symptoms call for urgent consultation with an ophthalmologist. Cataract, Glaucoma, Age Related Macular Degeneration (AMD) ar usually not associated with pain. If the ophthalmologist confirms that the eye is normal and not the source of pain you should visit a dentist, or an orthopaedics doctor. You can visit a general physician or neurologist to rule out other causes of pain. CT scan of the head and neck may be requested to rule out a disease or tumour in the brain. •

## Don't instill eye drops yourself. Somebody should do it for you.



Your hands should be washed with soap & water before instilling eye drops.



Read the name and instruction of the eye drops. Check expiry date on the vial.



Hold the vial between your thumb and fingers, and make its tip does not touch the eye.



Ask the patient to lie down and look up or down before instilling the eye drops.



Pinch & pull the lower lid down to create pocket and instill 1 drop into the pocket.



Keep the lid held for a few seconds while the drop settles into the pocket.



Blink your eye couple of times.



Keep your eyes closed for another 5-10 seconds.



The excess drops/tears can be dabbed with a clean tissue paper.



Keep the eyes gently closed along with puncta occluded. (Only for glaucoma patients.)



## IGNORANCE: A Barrier to treatment

**W**e generally believe that a quick recovery from disease needs an accurate diagnosis and good management from the doctor. However a good doctor is only half the story and patient factors are equally important. And the one parameter that patients are usually not aware of is, IGNORANCE. Ignorance of disease, ignorance of treatment, ignorance of risks and even ignorance of precautions and restrictions. Ignorance deters patients from accepting the best treatment.

Often eye drops are prescribed but they are not explained how to instill them. Eye drops have the desired effect only if they are instilled properly. There are several examples in which ignorance deters patients from accepting the best treatment.

I recently had a chance to treat a patient with uncontrolled diabetic eye disease. The angiography test and laser was performed on him. I counseled him on the significance of controlling the blood sugar and simple tips on how to go about it. A month later his blood sugar was controlled. While thanking me he commented that it was so easy since he knew what to do. It was lack of knowledge about role of diet, drug and exercise that prevented him from controlling the diabetes initially.

Spring catarrh or seasonal allergy of the eye is common in kids, many parents will report back saying that the redness appears if the medicine is stopped.

Probably they were not educated in detail about the time frame for which the medicine was to be used and the deleterious effects of repeated interruptions in treatment.

Glaucoma (Kala Motia) is another disease where patient education goes a long way in preserving vision. Many patients are not aware that the treatment and monitoring of glaucoma is to be continued for their entire life, and that vision can only be preserved and not restored.

Education is also critical for setting realistic expectations from the treatment. I feel the level of compliance to treatment among the citizens of Chandigarh is very high. It needs to be reinforced, by the treating physician or surgeon, with more emphasis on patient education. •

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Owner, Publisher, Printer : Dr. S.P.S Grewal, Editor : Dr. Gupta, Printed at : Savitar Press, 160, Industrial Area, Phase II, Chandigarh & Published at S.C.O 168-169, Sec 9 C, Chandigarh.