

TerranearPMC Safety Share

Week of July 27, 2015 – Eye Injuries

Protecting your eyes from injury is one of the most basic things you can do to keep your vision healthy throughout your life. And the most basic step a person can take to protect his/her eyes is wearing the proper protective eyewear. According to a national survey by the American Academy of Ophthalmology, only 35 percent of respondents said they always wear protective eyewear when performing home repairs or maintenance; even fewer do so while playing sports.

Eye emergencies include: cuts, scratches, getting objects in the eye, burns, chemical exposures, and blunt injuries to the eye or eyelid. Certain eye infections and other medical conditions, such as blood clots or glaucoma, also represent serious conditions. Since the eye is easily damaged, any of these conditions can lead to vision loss.

A black eye is a bruise and usually caused by direct trauma to the eye or face. The bruise is caused by bleeding under the skin. The tissue around the eye turns black and blue, gradually, over a few days, it changes to purple, green, and yellow. The abnormal color disappears within 2 weeks. Swelling of the eyelid and tissue around the eye may also occur. Certain types of skull fractures may also result in bruising around the eyes, even without direct injury to the eye.

Sometimes, serious damage to the eye itself occurs from the pressure of a swollen eyelid or face and can result in a hyphema; which is blood in the front area of the eye. Trauma is a common cause of the condition and is often due to a direct hit to the eye from a ball.

A chemical injury to the eye can be caused by a work-related accident. It can also be caused by common household products, such as cleaning solutions, garden chemicals, solvents, or many other types of chemicals. Fumes and aerosols can also cause chemical burns. With acid burns, the haze on the cornea often clears with a good chance of full recovery. Alkaline substances -- such as lime, lye, drain cleaners, and sodium hydroxide found in refrigeration equipment may cause permanent damage to the cornea. It is important to flush out the eye with clean water or salt water (saline) while seeking medical care immediately.

The eye has three main layers. These layers lie flat against each other and form the eyeball. The outer layer of the eyeball is a tough, white, opaque membrane called the sclera (the white of the eye). The slight bulge in the sclera at the front of the eye is a clear, thin, dome-shaped tissue called the cornea. The middle layer is the choroid. The front of the choroid is the colored part of the eye called the iris. In the center of the iris is a circular hole or opening called the pupil. The inner layer is the retina, which lines the back two-thirds of the eyeball. The retina consists of two layers: the sensory retina, which contains nerve cells that processes visual information and sends it to the brain; and the retinal pigment epithelium (RPE), which lies between the sensory retina and the wall of the eye.

Depending on the type of injury, any of the following symptoms may be present: Bleeding or other discharge from or around the eye, bruising, decreased vision, double vision, eye pain, headache, itchy eyes, loss of vision(total or partial) in one eye or both, Pupils of unequal size, Redness -- bloodshot



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appearance, sensation of an object in the eye, sensitivity to light, and stinging or burning in the eye. The eye will often clear itself of tiny objects, like eyelashes and sand, through blinking and tearing. If not, medical professionals recommend these steps:

- Do not rub the eye and **wash your hands** before examining it.
- Examine the eye in a well-lighted area. To find the object, the affected person needs to look up and down, then from side to side.
- If the object cannot be identified, grasp the lower eyelid and gently pull down on it to look under the lower eyelid. To look under the upper lid, you can place a clean cotton-tipped swab on the outside of the upper lid and gently flip the lid over the cotton swab.
- If the object is on an eyelid, try to gently flush it out with clean water. If that does not work, try touching a second cotton-tipped swab to the object to remove it.
- If the object is on the eye, try gently rinsing the eye with clean water. If available, use an eye dropper positioned above the outer corner of the eye. Do not touch the eye itself with the cotton swab.

If there is an object that is embedded in an eye, leave the object in place. Do not try to remove the object and get medical help immediately. Do not touch it or apply any pressure to it. It is important that the affected person remain calm. This may mean that the person who is trying to help will need to talk to the injured person and reassure help is on the way. Both eyes need to be bandaged as covering both eyes will help prevent eye movement. If the object is large, place a paper cup or cone over the injured eye and tape it in place. Cover the uninjured eye with gauze or a clean cloth. If the object is small, cover both eyes with a clean cloth or sterile dressing.

For eye injuries due to a chemical exposure, first, flush with cool tap water right away. Turn the person's head so the injured eye is down and to the side. Holding the eyelid open, allow running water from the faucet to flush the eye for at least 15 minutes. If both eyes are affected, or if the chemicals are also on other parts of the body, the person should take a shower. If the person is wearing contact lenses and the lenses did not flush out from the running water, have the person try to remove the contacts after the flushing procedure.

Seek emergency medical care if, there appears to be a scratch, cut, or something has gone into (penetrated) the eyeball or if any chemical gets into the eye. If the eye is painful and red or if the affected person is experiencing nausea or a headache (along with the eye pain, this may be a symptom of glaucoma or stroke. Other symptoms that require medical attention is if there is any change in vision (such as blurred or double vision or uncontrolled bleeding.

Whenever you are doing any activity that can potentially damage your eyes, proper protection needs to be applied. Simple safety glasses may be adequate for physical activities, such as working with a hammer and nails or power tools or working with/around materials that can contact the eye (including tree branches). Liquids that represent splashes require goggles. Grinding operations should be performed with safety glasses AND a face shield. When in doubt, contact your S&H professional.

I shall allow no man to belittle my soul by making me hate him

Booker T. Washington