PATIENT INFORMATION SERIES

SIMPLY speaking

Common Eye Problems

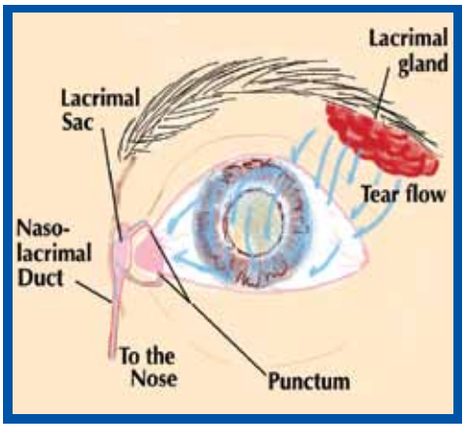
Tearing

The Tear Film

Tear fluid coming from the different lacrimal glands of the eye form a tear film over the surface of the eye, a complex liquid comprised of a watery layer, a mucoid layer, and an oily layer. Aside from keeping the surfaces moist and lubricated, the components of the tear film have antibodies that fight microbes, chemicals that react to foreign material that gets onto the surface, and oxygen from the atmosphere and nutrients that are eventually absorbed by the cornea. The cornea's outer surface has to be moist in order to remain clear and transparent. Corneal nerves relay the sensation of dryness, irritation or pain to the nervous system, triggering the production of more tears. Normally, there is a balance in the production and in the exit of the tear fluid. Some of the tears evaporate into the ambient air especially under windy conditions and the rest of the tears are driven into the puncta by blinking, eventually ending in the nasal passages via the nasolacrimal duct, a tubular structure surrounded by the nasal bones.

The Lacrimal System

The lacrimal gland is under the margin of the orbital bones in the upper outer portion of the eye. Microscopic tear glands are all over the surface of the transparent "skin" of the eye, the conjunctiva, on the inner surface of the eyelids, and, along the rim of both upper and lower lids. Blinking spreads the tears on the surface of the eye including the cornea. Blinking also propels the tear film toward the inner corner of the lids where openings, called the punctum, lead to tubular structures or ducts. The ducts drain the tears into the lacrimal sac, which is nestled behind the bony ridge of the nose. From the sac, the tear fluid is pushed down into the nasal cavity, and, thence dripping to the back of the mouth and swallowed. This is the reason some eye drops can be tasted after instillation.



Excessive Tear Production

Irritation of the surface of the eye (smoke) and the nasal passages (smell of onions) can trigger tear production that overflows and drips down our cheeks. The presence of a foreign body (dust, eyelashes, metallic fragments) or a wound on the cornea (abrasion or infection) will also cause excessive tear production.

Lacrimal Duct Obstruction

Infection in the lacrimal sac or nasolacrimal duct can obstruct the flow of tears into the nose causing tears to overflow despite normal rate of production. When acute or active, the tears will be accompanied by discharge and even pus. If infection damages the duct, the obstruction will be permanent, causing chronic tearing and, at times, a recurrent cystic swelling of the lacrimal sac, located somewhere between the eye and the base of the nose. Scarring of the punctum may also cause the same symptoms although even with only one functional punctum, drainage may still be adequate. Less frequently, obstruction to drainage may result from a congenital membrane within the nasolacrimal duct and this can cause tearing and recurrent infection in infants. Fractures in the nasal bones or a tumor in the area where the nasolacrimal duct opens into the nasal cavity might cause tearing too.

Dry Eye Syndrome

Abnormalities in the tear film, resulting from decreased tear production and evaporative loss, will cause the surface to dry. Dry spots on the cornea trigger increased tear production. That's why paradoxically, patients with dry eye may complain of tearing or the feeling that there is too much fluid along the lower lids. (See Dry Eye Syndrome)

Eyelid Problems

Paralysis of the muscles of the eyelid that prevents blinking or complete closure of the eye results in tearing from a combination of dryness of the surface since the tears do not spread evenly over the eye and the absence of the blinking mechanism that drives the tears to the puncta. Laxity of the lower lid can lead to pooling of the tears along the lid margins and eventual overflow. Loosening of the skin of the upper lids will divert some of the tears to flow to the outer corners of the eye. Constant wetting of the corners of the lids will soften or macerate the skin allowing opportunistic skin bacteria to cause infection (blepharitis) and discharge.

Treatment

Successful treatment will depend on the cause of the tearing. Sometimes several mechanisms are present and medical treatment might not be successful unless all are addressed. Severe duct obstruction may require surgery, either creating a new passage for the tear drainage into the nose or inserting a silicone tube through the duct to keep it patent. Eyelid surgery (blepharoplasty) may or may not cure tearing depending on the other causes also present. When the eyelids are involved in traumatic injuries, care must be taken so as not to compromise blinking and lid closure, and, to preserve the puncta and the lacrimal ducts.

Consultation Hours: 8:00am - 6:00pm, Monday - Saturday
G/F Belson House, 271 EDSA (near Connecticut St.), Mandaluyong City
Call for an appointment: Tel: 7217135 / 7216412
For more information about our facilities: http://www.galileoeyecenter.com

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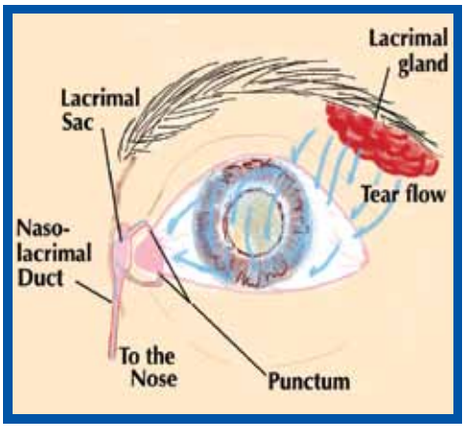

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