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### DRY EYE INFORMATION

Dry eyes are by far the most common eye problem in the Eastern Sierra. Usually they are not any more exotic than chapped lips or dry skin, but are much harder to treat since you can't use thicker chapstick or moisturizer on your eyes. **AND** once you let them get dried out it can take days for the cells on the surface of your eye to recover (just like bad chapped lips). Prevention of this drying/chapping of your eyes is extremely important.

Dry eyes can cause *tearing*, gritty, scratchy sensation, burning, stinging, fluctuating vision (especially with blinking), light sensitivity, pain or burning in the middle of the night or upon awakening, blurring of your vision, or discomfort during windy conditions or places with low humidity such as air conditioned or heated buildings or airplanes.

Excess *tearing* from dry eyes is confusing. If the tears responsible for maintaining constant lubrication are not enough, the corneal nerves (front of eye) become irritated prompting the tear glands to release large volumes of tears. These excess tears are not the right quality, do not moisturize the eye, and wash away the protective mucous and oil layer, just like water does not moisturize your hands. These excess tears do not maintain lubrication. It's important to prevent this tearing.

Blurring with reading, computer, watching TV, driving may be confusing as well. The cells on the surface of your eye are extremely irregular, like a horribly scratched camera lens. Only a good tear film over the top makes a good focusing "lens" for your eye. If the cells get dried out and "chapped" the surface is even more irregular, cells die and become cloudy blurring your vision. Think a nice waxed car compared to an oxidized car.

*Prevent* these symptoms by using artificial tears ***in advance*** (just as skin and lips are better ***prevented*** from drying, cracking and chapping) ***before*** you do the tasks that bring them on (reading, watching TV, driving, working on the computer, living in the desert). You may need to use the tears every 1-3 hours all day to make a difference.

Contributors include: medications (heart, blood pressure, and stomach acid medicines; decongestants, antihistamines, diuretics, antidepressants;), eye drop preservatives (BENZALKONIUM CHLORIDE in cheaper/generic artificial tears, "red eye drops," and glaucoma drops), contact lenses, smoke, lid and eye abnormalities, eye infections, and eye surgery (especially LASIK). The main factors are sunny, dry, windy conditions, high altitudes, air conditioners, heaters, and age.

**There is no cure for dry eyes.** Symptoms can be improved. Each item below only helps about 5-20%. Multiple options are needed to get a significant (50%) improvement.

**Artificial tears are the first treatment.** There are many different types (see dryeyezone.com). The best ones are preservative-free (Refresh Plus, Celluvisc, Endura) or have a mild preservative (GenTeal, Refresh Tears, Tears Naturale, TheraTears).

Dr. Reid likes thicker tears with carboxymethylcellulose and glycerin (equate Restore or Refresh Optive Advanced) or ones with oil to prevent evaporation (Soothe, **Systane BALANCE**). Use them as often as needed. Other variations some people like include: GenTealGel (especially for overnight rehydration), Nature's Tears Eye Mist (a spray), and Tears Again Liposome Spray.

**Step 2** is staying well hydrated. **Step 3** is taking krill, fish or flax oil capsules, 2-3 grams daily. **Step 4** is wrap-around glasses or goggles. **Step 4** is Restasis, a prescription drop that decreases inflammation and *over 6 months of use* can significantly increase tear production. **Step 6** is a simple in office procedure to close off the tear *drainage* ducts. It helps about half of patients.

Dr. Reid asks that you give all the above a good try first before considering and discussing further options. Dr. Reid examines every patient initially, but if you are still having unacceptable symptoms you should return for reexamination (**Step 7**). There are other eye problems that can contribute significantly to dry eyes such as, Bell's palsy, lagophthalmos (poorly closing lids), extra conjunctiva, blepharitis, rosacea, trichiasis, ectropian, floppy lid syndrome, mucous fishing syndrome, etc.

**Blepharitis** is the most common of these. It is overgrowth of the normal body bacteria (or Demodex mite) on the lashes and causes **granular debris and red eyelids**. If you have this, daily lid washes with a soft washcloth, hot water, and "no tears/baby" shampoo can help significantly. There are also packaged lid washes, like OcuSoft Lid Scrubs (or tea tree oil products like Cliradex for Demodex).

**Step 8**, further options include AzaSite, steroid drops, Lacriserts, specially compounded eye drops (medroxyprogesterone, DHEA, or vitamin A), oral medications (Salagen), moist chamber goggles, and the Boston sclera lens.

If you also have dry mouth, fatigue, joint pain, gastrointestinal problems, shortness of breath or a family history of autoimmune disease, you should see your primary care provider to consider a workup for **Sjogren's Syndrome**. Sjogren's can be treated, but if not treated can cause other serious problems with kidneys, gastrointestinal system, blood vessels, lungs, liver, pancreas, the central nervous system and peripheral neuropathy.

**ITCHING** (especially the inside corner of the eyes) is common due to high amount of very irritating airborne dust and pollen locally. **Zaditor (ketotifen)** is my favorite over the counter antihistamine to treat **eye allergies**. However, it is also slightly drying. Try artificial tears first to wash out the pollen/dust. If the itching does not stop use Zaditor. Then 15 minutes later use artificial tears to prevent worsening of dry eye symptoms. Most other over the counter "itchy, red eye" drops have vasoconstrictors which damage goblet cells worsening dry eyes and actually making the eye MORE RED if used daily. Dr. Reid has used Zaditor up to 8 times a day with no problems. If itching is really bad you can also put the drops in the refrigerator (cold drops stop the itch sooner).