General Guidelines for Dry Eyes:

- Review medication list for medications that cause dry eyes and find a similar replacement drug if possible
- Avoid dry climates and humidify your immediate environment
- Minimize computer screen time or, if you cannot, take frequent screen breaks while using the computer and perform blinking exercises (when we concentrate on a screen, we blink much less frequently than when at rest)
- Perform Blinking Exercises. Each time you blink fully the tears are spread over the eye and the Meibomian glands that produce oil are squeezed, helping them to remain open. Instructions for one cycle of blinking exercises:
  1. Close the eyes fully – count 1,2
  2. Squeeze the lids together – count 1,2
  3. Open the eyes – count 1,2
  4. Repeat the exercise 5 times
When eyes are very dry, you may want to perform one cycle of exercises hourly. As they improve, you can reduce to 4 cycles a day.
- Placing warm compresses on the eyes can help liquefy oils blocking the ducts
- Flax seed oil, two tablespoons by mouth daily, can be mixed with juice or other foods
- 1000mg of omega 3s with EPA/DHA 6:4 ratio (so ~600mg EPA and ~400mg DHA)
- Occlusive eye wear / Moisture chamber eyeglasses or sunglasses (Protective lenses, goggles, light-adjusting eyewear and sunglasses may help to reduce the effects of light, sun, wind, fans and dust on dry eyes. Wraparound styles offer the best protection.)
Here are some options for eye wear from on-line vendors:
  - www.globalvision.us/catalog/safety/outfitter-ast-a-f
  - http://www.globalvision.us/catalog/goggles/nitro
  - http://www.sportclic.com
  - www.panoptx.com
  - https://www.eyewear-accessories.co.uk/
- Preservative-free Artificial Tears at least every 2 hours or more frequently if needed (i.e. Thera-Tears)
- Viscous ointment at night (i.e. Refresh PM, Celluvisc)

Prescription Medications for Dry Eyes:

- Lacriserts Cellulose Ophthalmic Insert (5 mg) with applicator (one application in each eye once daily)
- Restasis (cyclosporine eye drops, one drop in each eye twice a day)
• Prednisolone, or other steroid eye drops for short term use if tolerated (prolonged use may result in glaucoma, worsening vision, cataracts formation, high eye pressure and eye infections)

• Evoxac (cevimeline) 30 mg by mouth three times a day (begin once daily and gradually increased to three times a day as tolerated). Drug interactions and toxicities must be reviewed prior to starting treatment. **Contraindications: glaucoma, heart disease and asthma.**

**Other Interventions for Dry Eyes:**

• Cauterize/ plug tear ducts (Try lower ducts first; cauterizing upper ducts can add to symptom relief as needed)

• Autologous serum tears have helped many patients. A tube of blood is collected, and a specialty pharmacist or ophthalmologist makes eye drops from your blood. These are preservative-free and need to be refrigerated. Here are three options for autologous serum eye drops:
   - Seattle/Kirkland: Dr. Charissa Young 206-622-4828/425-821-8900

• PROSE (prosthetic replacement of the ocular surface), a gas-permeable contact lens that is a custom designed and fabricated prosthetic device that replaces or supports impaired ocular surface system functions (available in about a dozen cities in the US), [www.bostonsight.org](http://www.bostonsight.org)

• Scleral lenses: similar to the PROSE, but more widely available at ophthalmology practices.

• Bandage lenses: An occlusive lens available at some ophthalmology practices. These are non-gas permeable and require antibiotic drops throughout the day to prevent eye infection. Sometimes used prior to PROSE or other scleral lenses.

**Websites for learning more about Dry Eyes:**

[www.dryeyepain.com](http://www.dryeyepain.com)
[www.dryeyezone.com](http://www.dryeyezone.com)

**Eye specialists who have worked with LTFU patients in the past:**

Seattle: Dr. Jennifer Yu, Dr. Tueng Shen, Dr. Thellea Leveque and Dr. Tiffany Hollenbeck (scleral lenses) at the UW Eye Center (at Harborview) 206-520-5000

Seattle: Dr. Katherine Shen at Specialty Eye Care 206-622-4828

Seattle: Dr. Thomas Gilette at Eye Associates Northwest 206-215-2020

Kirkland, WA: Dr. Katherine Shen at Specialty Eye Care 425-821-8900

Bellevue, WA: Dr. Paul Jensen at Northwest Dry Eye Center 425-495-9344

Bellevue, WA: Dr. Harry Boparai at Overlake Eye Care, Dry Eye Center 425-643-2020

Bellingham, WA: Dr. Phil Bastian (scleral lenses) 360-676-4030

Spokane, WA: Kolten Kuntz at Spokane Dry Eye Center 509-456-0107

Portland, OR: Casey Eye Institute at OHSU 503-494-3000

Billings, MT: Dr. Rose-Cross (scleral lenses) 406-252-5058 or Dr. Kevin McBride (scleral lenses) 406-656-7605

Philadelphia, PA: Dr. Shelley Cutler (scleral lenses) 215-646-4459