



BOSTON FOUNDATION *for* SIGHT



Chronic GVHD and the Eyes

GVHD Webinar
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www.bostonsight.org

Restoring Sight | Reclaiming Lives



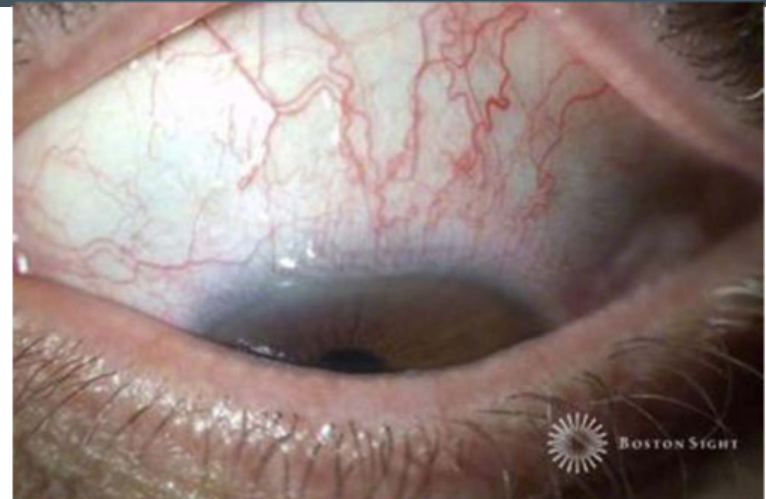
Disclosures

- Ryan Ridges, M.D. is a salaried, full-time employee of the Boston Foundation for Sight, a 501(c)3 non-profit organization.
 - Free care is available to qualified uninsured and underinsured patients
- Ryan Ridges, M.D. has no proprietary or financial interest in any contact lens or prosthetic device.



Ocular cGVHD – The Problem

- Ocular Surface Disease that is
 - Chronic
 - Debilitating
 - (Very rarely sight-threatening)

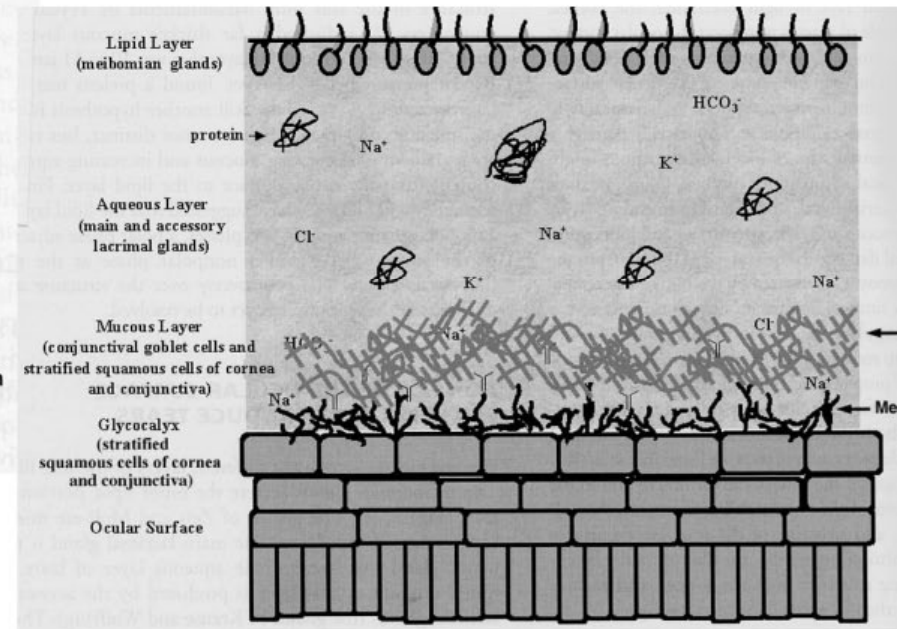
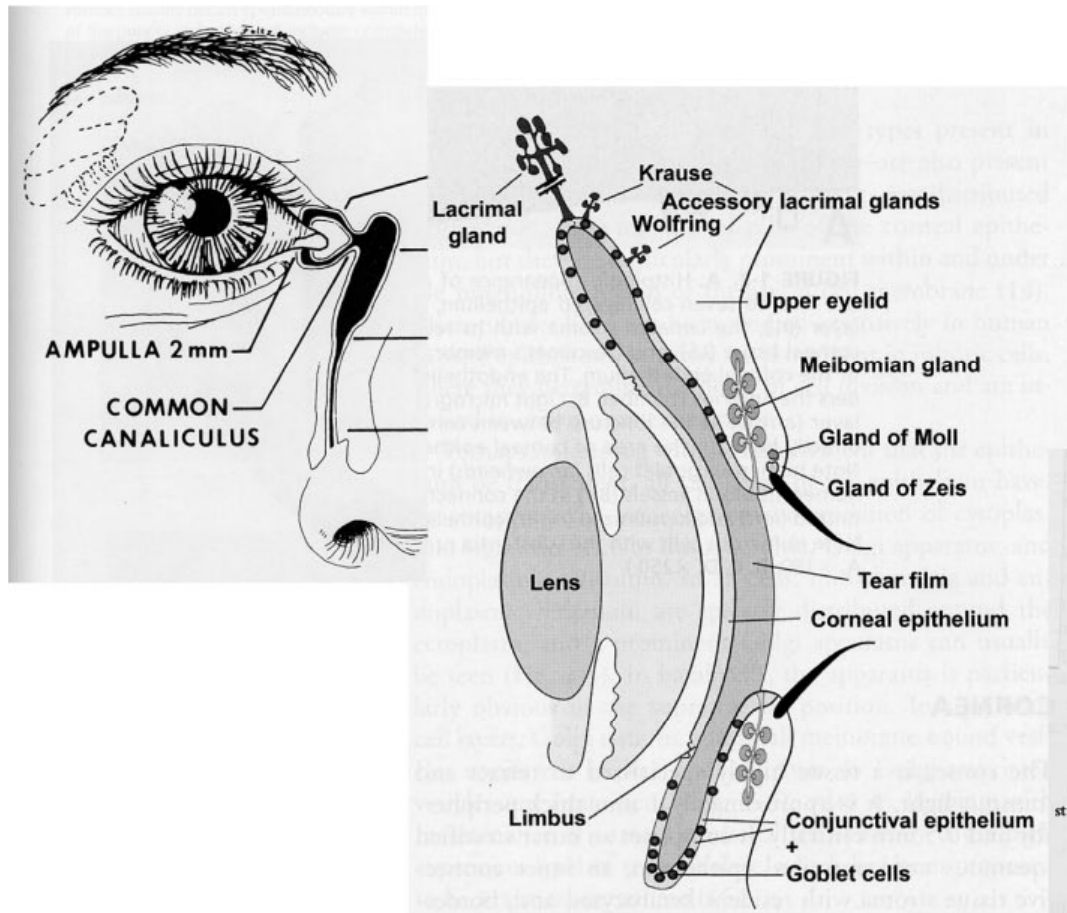


Ocular Surface Disease or Dry Eye Syndrome

- White blood cells from donor damage:
 - Tear glands and mucus producing glands
 - Conjunctiva - thin membrane covering the eyeball and lining the lids
- True “keratoconjunctivitis sicca”
 - kerat- = cornea
 - conjunctiv- = conjunctiva
 - itis= inflammation
 - sicca = dry
- Reduced tears, altered tears, altered mucus



Dry Eye 101



cGVHD and the Eyes

- Despite attentive care patients may have
 - Surface-related blurry vision (like a windshield with a faulty wiper blade)
 - Disabling foreign body sensation
 - Disabling burning or dry sensation
 - Disabling photophobia (light sensitivity)



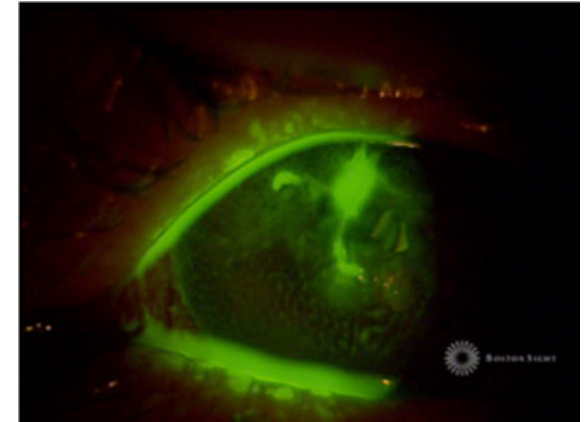
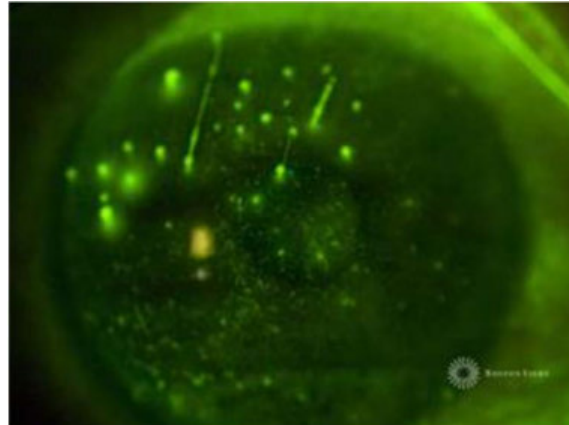
Goal: Prevention

- Prevent systemic GVHD
 - Eliminate sensitization
 - Conditioning regimens
 - Tissue matching
- Prevent local disease
 - Eliminate sensitization
 - Local immunosuppression
 - Before/during immediately after engraftment (promising reports on topical cyclosporine)
- Prevent progression or end organ damage



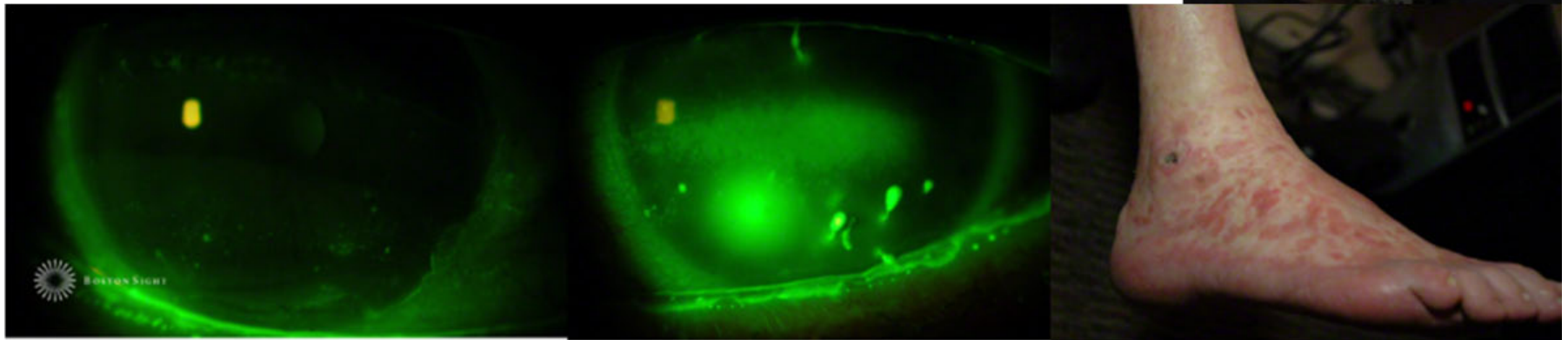
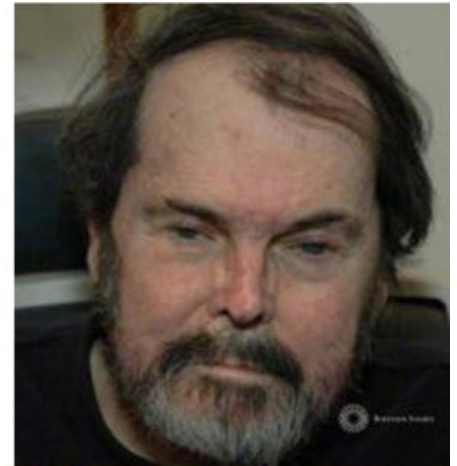
Clinical Manifestations

- Chronic conjunctivitis (“pink eye”)
- Superficial punctate keratopathy
(dry spots associated with foreign body sensation)
- Filamentary keratitis (stringy mucus that feels like needles)
- Superior limbal keratoconjunctivitis (dry spots and foreign body sensation under upper lid)
- **(Very rare) Corneal ulceration**



Presentation:

- Generally both eyes, often one eye worse
- Independent of systemic manifestations
- In absence of systemic manifestations
- May herald systemic flare of cGvHD
- May appear as systemic agents tapered
- (often with skin and/or mouth activity)



“You can show my eyes and face, only if you show my foot!”



Treatment

- Treatment route
 - Local (ophthalmologist) or systemic (oncologist)
 - Can do both at once
 - Local spares systemic drugs and side effects
 - Local is preferred if eyes the worst /only organ
- Treatment goals
 - Treating underlying disease
 - Reducing symptoms
 - Can do both at once



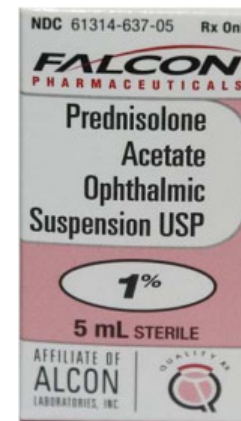
If Sight-Threatening or Systemic Flare

- Add or increase systemic agents
 - Corticosteroids
 - Immunosuppression
 - Cyclosporine A
 - tacrolimus, sirolimus
 - mycophenolate mofetil
 - Biologics
 - rituximab
 - Photopheresis



Local Treatment

- Topical Steroid
 - Potential side effects
 - Cataract
 - Glaucoma
 - Drops and ointment forms
- Topical Immunosuppression
 - Restasis (Cyclosporine A) – (disappointing)
 - “Off-label” Elidel or Protopic ointments or drops
 - Investigational IL1-Ra (Kineret)
- Serum tears (Beneficial healing/soothing factors?)
 - Hard to get, risk of contamination and infection



Local Treatment for Symptoms

- Lubricants, Lubricants, **Lubricants** !!!!!!!
- Punctal Occlusion
- Glasses and Goggles
- Therapeutic Contact Lens
- Prosthetic Replacement of the Ocular Surface Ecosystem (PROSE)
- Minimal likelihood of side effects

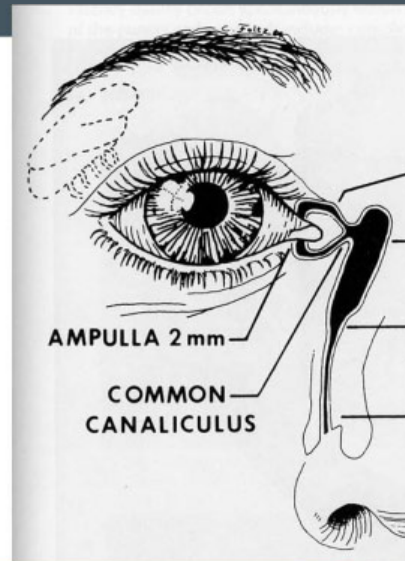


Local Treatment for Symptoms



Local Treatment for Symptoms

- Punctal Occlusion
 - Dissolving plugs
 - Collagen – days
 - Polymer- months
 - Silicone Plugs
 - May fall out, irritate
 - Cautery



Local Treatment for Symptoms



Local Treatment for Symptoms

- Bandage soft contact lens
 - Some eyes too dry; they fall out or are uncomfortable
- Scleral lens
 - Not possible to fit all eyes
 - Need specialty fitter
- PROSE Treatment
 - Highly customized prosthetic device
 - Available in MA, TX, CA, MI, NY, IL, FL – (more soon!)



Therapeutic Lenses / PROSE Goals

- Promote corneal healing
- Mechanical protection and support
- Maintenance of hydration
- Relief of pain
- (Side effect: visual rehabilitation)



Insurance Issues

- Contact lens (cosmetic) typically not covered
- Therapeutic (medically necessary) lens differs
 - Some payers do cover, most eventually will
 - May require appeal
 - Must be stubborn and persistent!
- PROSE is a medical treatment and should be covered.

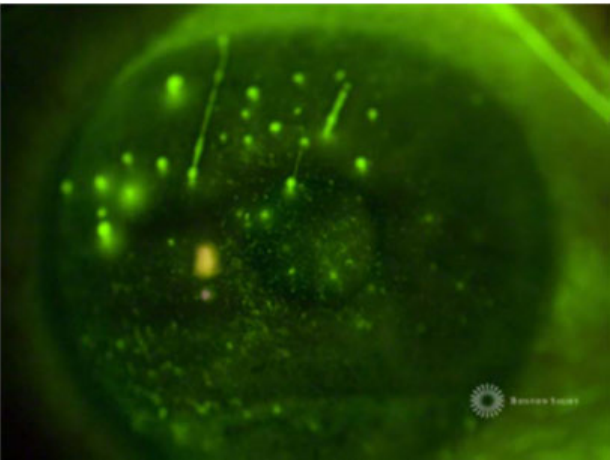
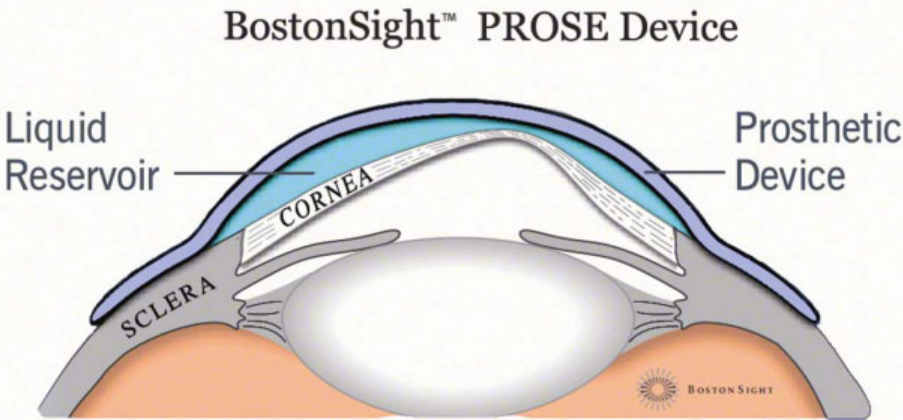


BostonSight PROSE

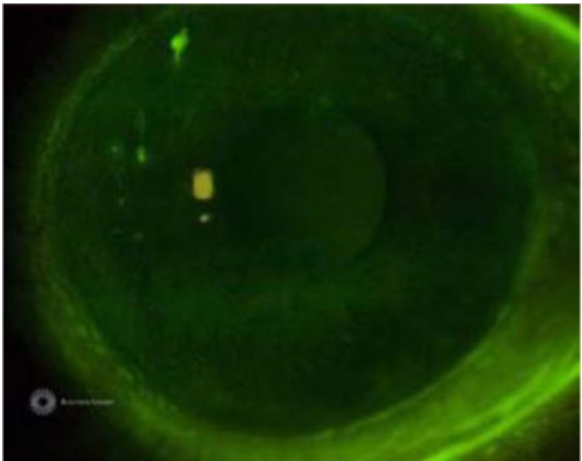
- Prosthetic replacement of the ocular surface ecosystem
- Treatment model to
 - restore vision
 - support healing
 - reduce symptoms
 - improve quality of life
 - for patients suffering with complex corneal disease



cGVHD and the Eye



Before treatment



After 4 hours of treatment



BostonSight PROSE: Recent Reports for you and your doctors



Jacobs DS, Rosenthal P Boston scleral lens prosthetic device for treatment of severe dry eye in chronic graft-versus-host disease. *Cornea*. 2007;26:1195-9. (Boston)

Takahide K, Parker PM, Wu H, Hwang WY, Carpenter PA, Moravec C, Stehr B, Martin PJ, Rosenthal P, Forman SJ, Flowers ME Use of fluid-ventilated, gas-permeable scleral lens for management of kerato-conjunctivitis sicca secondary to chronic graft-versus-host disease. *Biol Blood Marrow Transplant*. 2007;13:1016-21. (Hutchinson / City of Hope /Boston)

Russo PA, Bouchard CS, Galasso JM Extended-wear silicone hydrogel soft contact lenses in the management of moderate to severe dry eye signs and symptoms secondary to graft-versus-host disease. *Eye Contact Lens*. 2007; 33: 144-7.(Loyola, Chicago)

Schornack M, Baratz K, Patel, S, Maguire L Jupiter Scleral Lenses in the management of chronic graft versus host disease. *Eye & Contact Lens* 2008; 34: 302-5. (Mayo,Rochester)



Clinical Experience

- 2005, Retrospective mail/phone survey
- All cGvHD patients who received PROSE treatment in 2002-2004
 - Reached 33/34 in database
- Marked improvement in pain, photophobia
- Marked improvement in driving, reading

References : Jacobs DS, Rosenthal P *Boston scleral lens prosthetic device for treatment of severe dry eye in chronic graft-versus-host disease.* *Cornea.* 2007;26:1195-9



CGVHD and the Eyes

- Despite attentive care patients may have
 - Surface-related blurry vision
(like a windshield with a faulty wiper blade)
 - Disabling foreign body sensation
 - Disabling burning or dry sensation
 - Disabling photophobia
(light sensitivity)



cGVHD and the Eyes

- Treatment is available that improves quality of life
- See an eye care provider who is
 - informed about treatment options
 - experienced with cGVHD

