

OcuLetter



When the Cornea Bends the Rules!

Keratoconus is a progressive thinning of the cornea, leading to cone-like bulging, distorted vision, and irregular astigmatism. Usually diagnosed in teens to 30s. Exact cause is unclear, but genetics, excessive eye rubbing, and certain conditions (like allergies, connective tissue disorders) may contribute. Treatment includes rigid contact lenses, corneal cross-linking to halt progression, and in severe cases, corneal transplantation.

MYTH

"Carrots are the best food for perfect vision."



V S

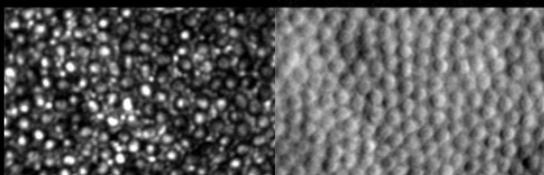
FACT

While carrots are rich in beta-carotene (a precursor of vitamin A), which is essential for retinal function, a balanced diet with leafy greens, fish rich in omega-3s, and antioxidants provides broader protection against age-related eye diseases.

Spotlight on Technology

Adaptive Optics Imaging

Adaptive optics, borrowed from astronomy, allows visualization of photoreceptors at a cellular level. This technology is now being used to study early macular degeneration, tracking progression before clinical signs are visible.



DID YOU KNOW

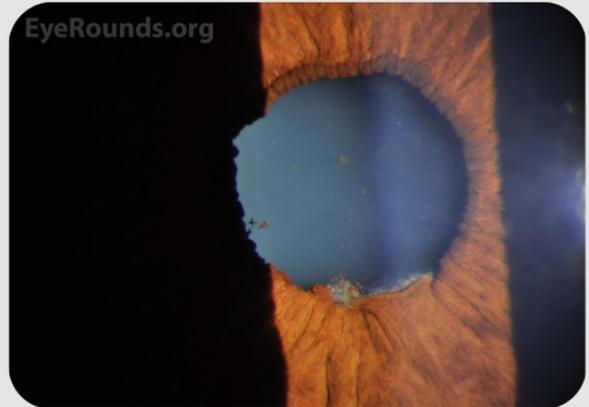
Due to its transparent nature, the cornea does not normally contain blood vessels. It gets most of its oxygen directly from the air and tears, and nutrients from the aqueous humor inside the eye.

CASE

of the month

Recurrent Red, Painful, Light-Sensitive Eye in a Young Adult

A 30-year-old African American male experienced recurrent episodes (3–4 in the past year) of redness, pain, and photophobia in his left eye. He was diagnosed with iridocyclitis and managed initially with prednisolone 1% and cyclopentolate drops



Diagnosis: Acute anterior uveitis (AAU) associated with **HLA-B27–positive ulcerative colitis**. The ocular inflammation heralded underlying IBD, which was later confirmed after the patient developed gastrointestinal symptoms and systemic complications.

Etiology: **HLA-B27** is the most frequently associated systemic biomarker for AAU, present in **up to ~50% of AAU cases**; in the context of IBD, positivity elevates risk for ocular involvement.

Clinical Presentation: Sudden, unilateral episodes of pain, redness, and photophobia with anterior chamber inflammation (cells and flare), typically non-granulomatous, recurrent, and alternating between eyes.

Management Overview:

Acute phase: Aggressive topical corticosteroids (e.g., prednisolone acetate 1% every 1–2 hours) plus cycloplegics for comfort and to prevent synechiae.

Recurrent or systemic disease: Consider systemic immunosuppression (e.g., for IBD or vision-threatening flares), and coordinate with rheumatology or gastroenterology.

Complications: Watch for steroid-induced ocular hypertension or glaucoma, synechiae, and chronic vision impairment

EYE- OPENING INSIGHTS



Characteristics of ocular-related emergency department visits: Five-years data from a tertiary care center in Riyadh, Saudi Arabia

doi:
[10.1371/journal.pone.0310179](https://doi.org/10.1371/journal.pone.0310179)



Public Knowledge and Practices Regarding Eye Injuries in Saudi Arabia: A Cross-sectional Study

doi:
[10.4103/ATMR.ATMR_30_25](https://doi.org/10.4103/ATMR.ATMR_30_25)

Our latest publications

A landmark Study

Early Treatment Diabetic Retinopathy Study (ETDRS)

Conducted between 1980–1993, ETDRS was a pivotal randomized clinical trial that enrolled over 3,700 patients with diabetic retinopathy. It answered two major questions: (1) When should panretinal photocoagulation (PRP) be initiated in proliferative diabetic retinopathy? and (2) Does focal/grid laser help in diabetic macular edema?

Key Findings: (a) Early PRP reduced risk of severe vision loss in high-risk proliferative DR but could reduce vision if given too early. Hence, treatment is recommended once high-risk signs develop. (b) Focal/grid laser significantly reduced moderate vision loss in clinically significant macular edema (CSME). (c) ETDRS also introduced ETDRS visual acuity chart, now standard worldwide.

Impact: These findings remain the backbone of diabetic retinopathy management and global treatment guidelines.

Quiz

A 25-year-old man presents after blunt trauma to the eye with decreased vision. **What is the primary pathophysiology of this condition?**

A Retinal artery occlusion

C Vitreous hemorrhage

B Disruption of photoreceptor outer segments

D Central serous chorioretinopathy

