

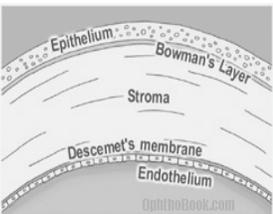
What is Recurrent Corneal Erosion Syndrome (RCES)?

RCES is characterized by blisters forming at the surface of the cornea, which break and expose the cornea nerves.

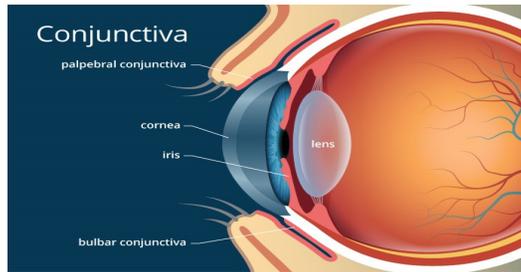
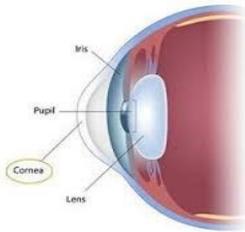
Symptoms include:

- 1) Sharp eye pain
- 2) Tearing (especially upon waking up)
- 3) Light sensitivity

The **Cornea** is the transparent front part of the eye that covers the iris, pupil, and the other front components of the eye, known as the anterior chamber.



The **epithelium** is the outermost layer of the cornea. The epithelial basement membrane anchors down the epithelium to the loose connective tissue underneath.



Causes and Risk Factors:

Mechanical trauma to the corneal surface causing disruption to the adhesions in the corneal epithelium.

Anterior Basement Membrane Dystrophy (ABMD). A hereditary condition that prevents the anterior epithelium from adhering well to the basement membrane. This creates a loose epithelial

layer, prone to shifting and tearing.

Risk Factors:

Patients with **dry eye** can have their eyelids stick to their corneal epithelium that put them at risk.

Sometimes the doctor will need to treat the dry eye first with artificial tears or punctal plugs to allow the eye to properly heal.

Treatment:

Your doctor will decide what the best course of treatment is based on your circumstances.

Non-invasive treatment:

- 1) Lubrication using artificial tears combined with ointment at bedtime. Both can be chilled for pain relief.
- 2) Low dose steroid eyedrops can be used to smooth out the rough areas of the cornea. Studies show medical therapy helps 50-65% of patients after 4-6 weeks of treatment.
- 3) If there is an acute epithelial attack on examination, an antibiotic ointment can be applied. Eyedrops can also be used with a band-aid contact lens.

Minimally invasive treatment:

Punctal Occlusion prevents further attacks by promoting more rapid healing of the epithelium, thereby increasing residence time of lubricating treatment.

Bandage Soft Contact Lenses (BCL) combined with antibiotic eyedrops can help patients without mild to moderate symptoms.

Treatment (Cont):

- 1) **Debridement and Superficial Keratectomy** is an outpatient procedure using a topical anesthetic. Gentle polishing clears away loose anterior epithelium, leaving a rim in the surrounding epithelium in place to re-grow. BCL is placed until all the cells regrow, and a topical antibiotic is applied four times daily.
- 2) **Diamond Burr Therapy** is performed under local anesthetics. In this process, the cells are removed, and a diamond-dusted round-tip burr is then used to re-surface the cornea (*illustrated above*). It is similar to restoring antique furniture where wood can be smoothed out and refinished. A BCL is applied and patients use antibiotic eye drops 4 times a day for 2 weeks, as well as anti-inflammation eyedrops for comfort 2-4 times a day for 5 days. Research by Drs. Pramanik and Pillar have shown a 98% success rate with this method.



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