

Corneal Donation



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Rocky Mountain Lions Eye Bank

- clear, front part of the eye where a contact lens would sit
- responsible for 75% of the focusing power of the eye
- has 5 layers, but two of the most important are the *epithelium* and the *endothelium*

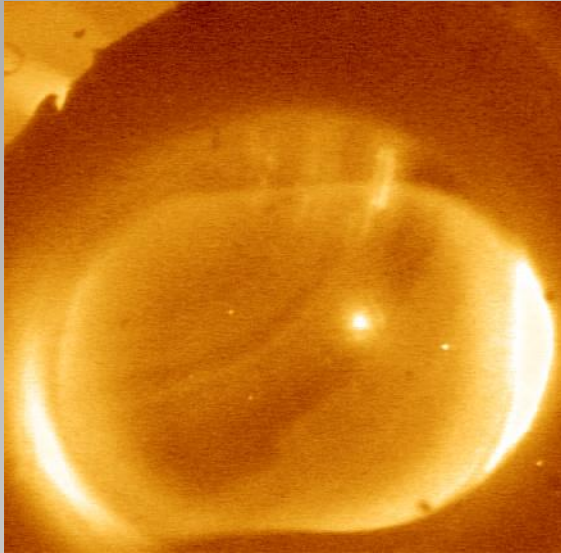
The cornea

The Epithelium

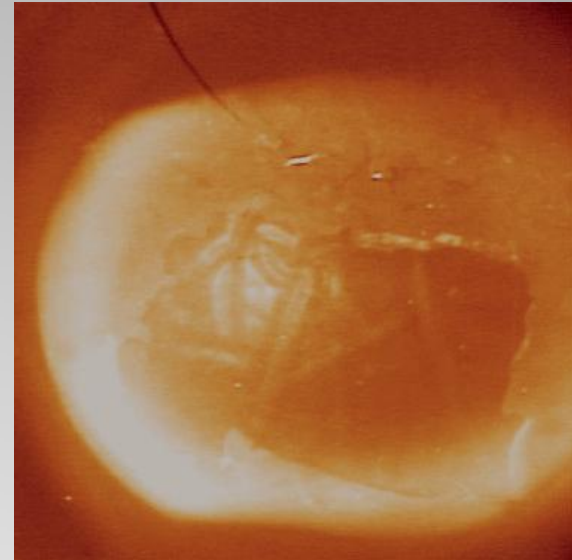
- forms the protective, outer covering of the cornea
- cells are continually sloughed away and replaced

The Endothelium

- single-cell layer on the back of the cornea
- cells' job is to pump water out of the cornea, thus keeping it clear



- healthy, donated cornea
- translucent and smooth

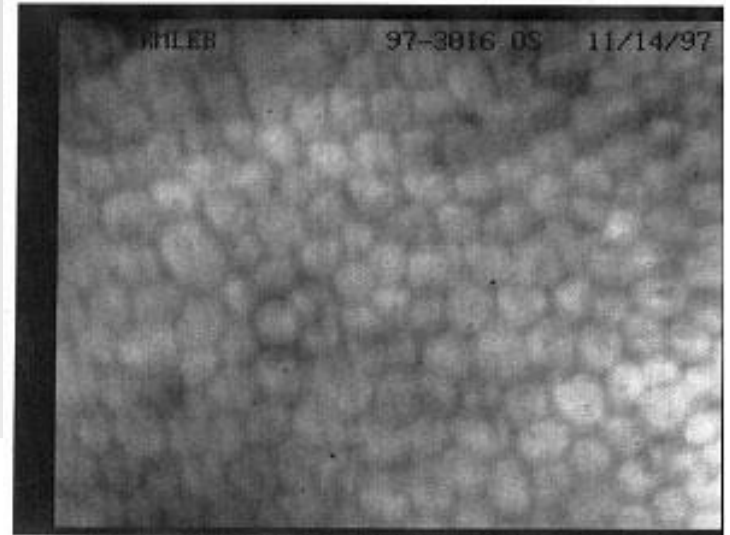


- long death to preservation time
- large area of the epithelium sloughed away
- white haze in the lower right corner is an infiltration of white blood cells

epithelium

- endothelial cells continue to be viable for several hours after death
- living cells are critical to a successful transplant
- extended death to preservation times can put the endothelium in danger

endothelium



- cornea recovery only on coroner cases
- look for and document petechiae, iris color, pupil sizes and abnormalities in the eye at the time of recovery
- collect vitreous fluid as evidence, seal it in tamper-evident envelopes and leave it with the body
- no tubes/lines or bandages are moved or removed
- a noose would most likely not hinder recovery
- techs are willing to testify in court

Eye bank does not destroy evidence

Vitreous fluid draw

- drawing vitreous fluid BEFORE cornea recovery destroys the endothelium because the eye can collapse
- if you intend to allow the recovery of the cornea, please do not draw vitreous fluid

Release for cornea donation post-autopsy is too late

- time is our worst enemy
- 5.5-8.5 hours is goal
- coroner cases move ahead of non-coroner cases

- National Association of Medical Examiners advocates release for cornea donation in all cases
- contact your pathologist with questions

**Cornea is not useful in
determining cause of death**

Pre-recovery prep

- no lines, tubes or bandages removed
- wash the eye area with saline & iodine: 1" above the brow and 1" below lower lid

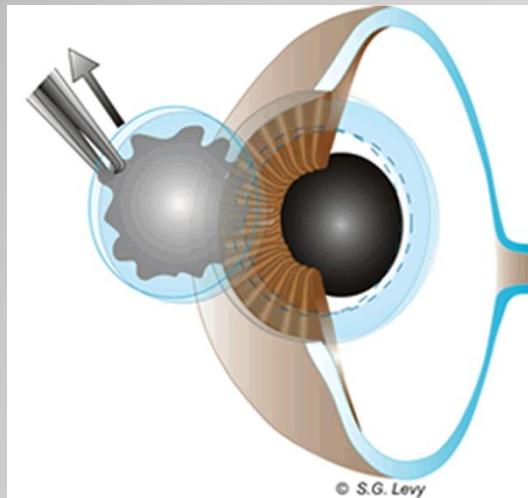
Coroner Protocol

- need protocol agreements with each county in the state
 - Wyoming statute 35-5-222(f)
 - goal is to maximize the opportunity to recover anatomical gifts for transplantation from donors under coroner jurisdiction
- agreement is to benefit both RMLEB and the coroner
 - template protocol that will serve as a basis from which to work out a final agreement
 - based on both current practices and the guidelines given in the statute

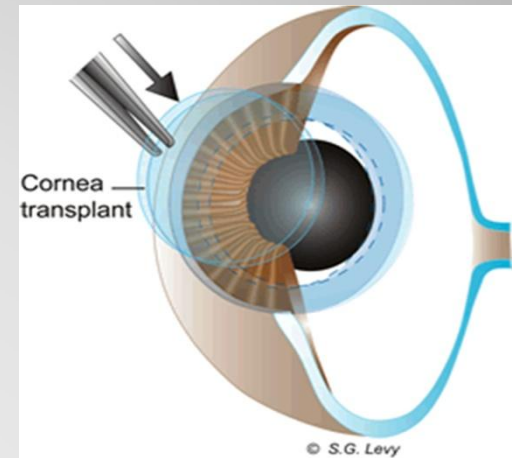
Who needs a cornea transplant?

- Trauma
 - Sharp object poke to eye
 - Sand/dirt
 - Infection
 - Pink eye
 - Shingles
 - Acanthamoeba keratitis
- Disease
 - Keratoconous
 - Fuch's Dystrophy

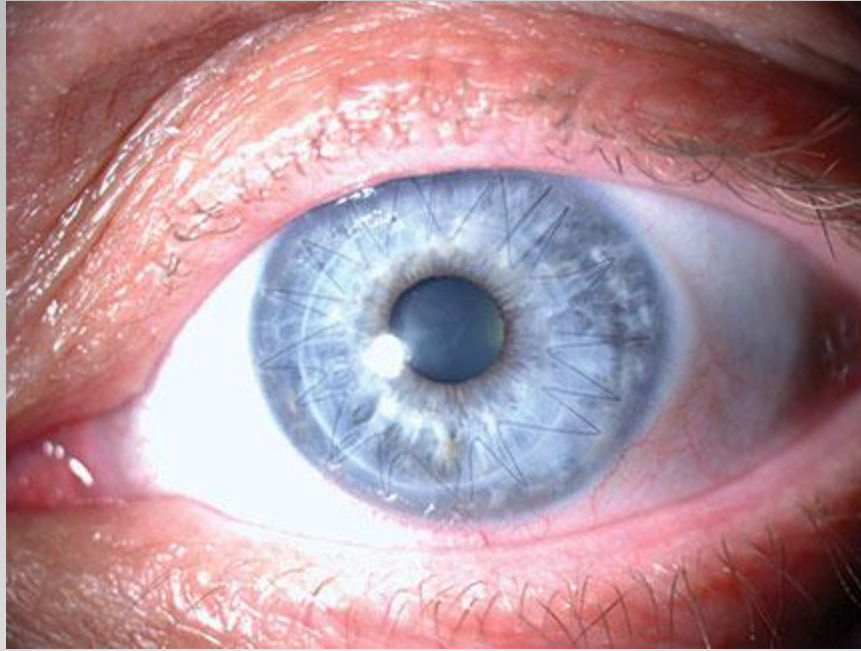
- diseased or damaged cornea is removed from the recipient



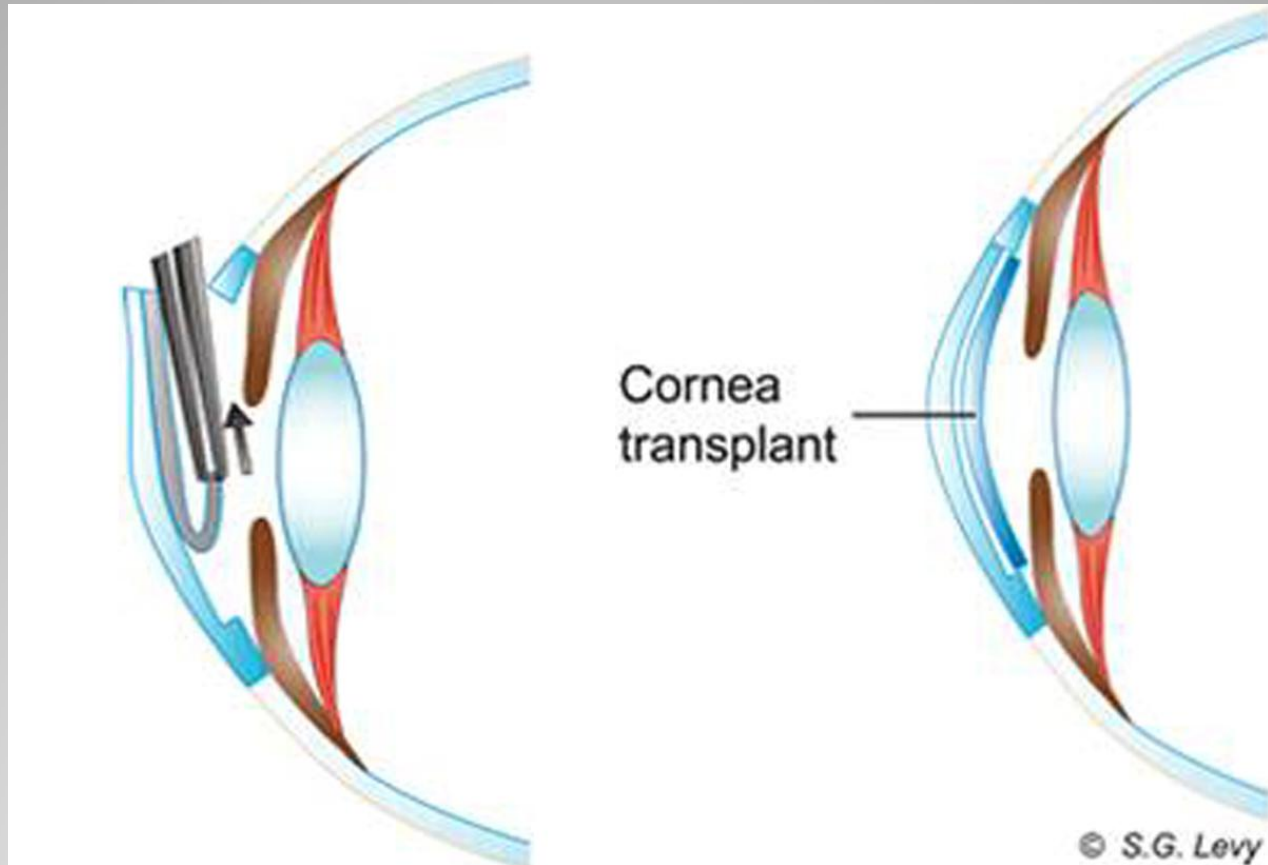
- similarly sized graft from the donor cornea is made in the same manner and then placed into the recipient's eye



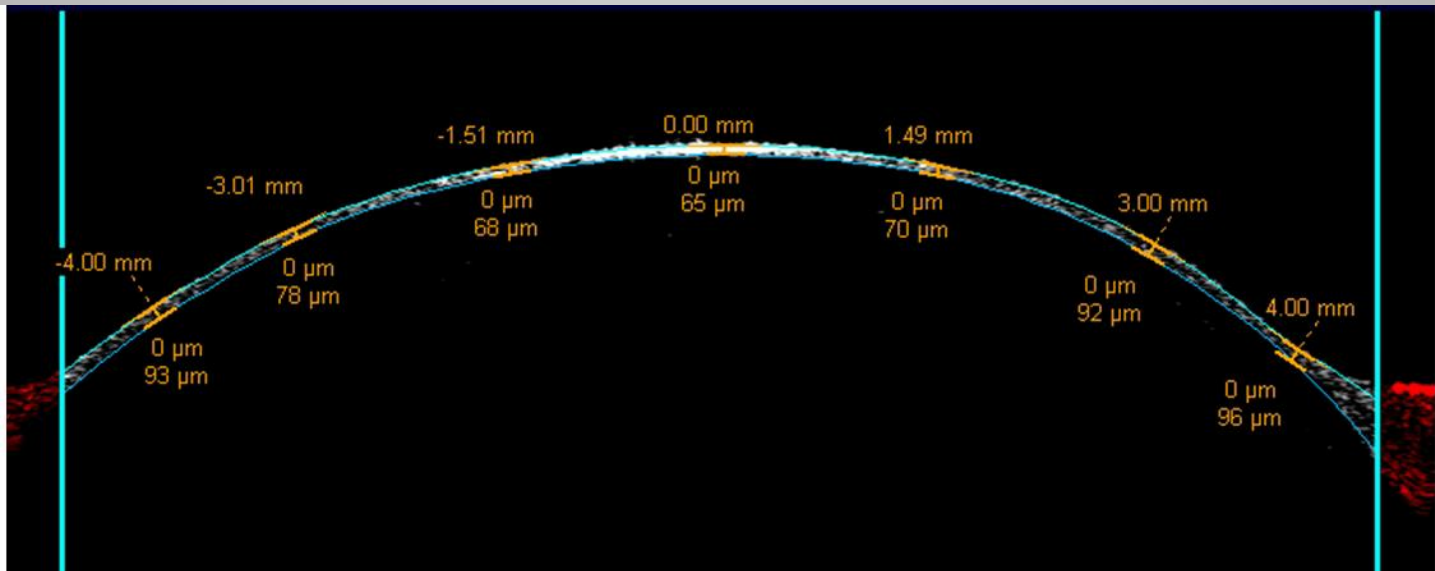
Cornea Transplantation



The result



Endothelial Keratoplasty



Thinner than a human hair