

# What Sets Us Apart

Few centers, if any, are tracking the volume and quality of data on cornea transplant outcomes that we are. Our reputation for innovation and research enable us to offer the following:

## + History of Innovation

Helped pioneer current treatment Descemet Membrane Endothelial Keratoplasty (DMEK) and early iterations of DSO

## + Leader in Optimization

Conducted dozens of studies to ensure DMEK provides the best possible vision to patients while minimizing complications

## + Looking to the Future

While DMEK provides excellent visual results, research shows that DSO may be a better option for some patients

# Key Research Areas

- ✓ Fuchs' dystrophy
- ✓ Cataracts
- ✓ Presbyopia
- ✓ Refractive Surgery
- ✓ Steroid-induced Glaucoma
- ✓ Artificial Iris
- ✓ Dry Eye

# About Us

*Innovating solutions and pioneering advancements in vision research for over 30 years*

Since 1988, the Cornea Research Foundation of America, a 501(c)3 nonprofit (tax ID 31-1243592), and its research partner, Price Vision Group, have helped develop new treatments for complex corneal conditions that are being adopted across the world.

Price Vision Group is an internationally recognized center in the field of corneal and refractive surgery. Through its partnership with the Cornea Research Foundation and dedication to cutting-edge research, outstanding patient care, and superb visual outcomes, more cornea transplants are performed here than any other vision center in North America.



Call our Research Partner:

 Price Vision Group

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Cornea Research  
Foundation of America



# Descemet Stripping Only (DSO)

"THAT ALL WHO LOOK MAY SEE."®

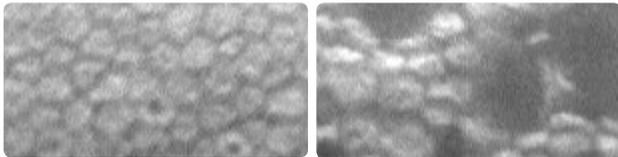
[CORNEA.ORG](http://CORNEA.ORG)

# What is...

## Fuchs' dystrophy?

Fuchs' dystrophy affects the cornea, the clear window on the front of your eye, and is currently the leading cause of corneal transplantation in the USA. The cornea is comprised of 3 main layers each with a specific function. The back layer, known as the endothelium, is a specialized layer of cells tightly packed together whose job is to pump fluid in and out of the front portion of the eye keeping the "window" clear.

In Fuchs' dystrophy, abnormal, vision-distorting deposits called "guttae" form on the basement membrane supporting the corneal endothelium, damage cells, and result in vision loss. *If the cornea is the windshield of your eye, the guttae are rain drops or frost that can't be removed with windshield wipers.*



Healthy endothelial cells vs. diseased cells with guttae

## DMEK... Tried and True

Since 2007, endothelial keratoplasty (DSEK and DMEK) has been the preferred treatment for Fuchs' dystrophy. In DMEK, your surgeon removes the unhealthy endothelium and adjacent Descemet membrane and replaces it with a healthy donor tissue. This provides rapid visual rehabilitation (days to weeks) with a low rejection rate (1%), but requires corticosteroid eye drops to prevent rejection. These drops can be expensive and increase intraocular eye pressure (IOP) in up to 30% of users.



## Descemet Stripping Only

An alternative to DMEK or DSAEK is for your surgeon to remove a smaller area of unhealthy central endothelium and Descemet membrane in a technique called Descemet Stripping Only (DSO). Rather than using donor corneal tissue which generally provides visual recovery in 1 to 2 weeks with DMEK, you wait for your own endothelial cells to move from the periphery to cover the central area where your endothelium and guttae were removed. This may take several weeks to months and the cornea may not fully clear after DSO.

There are two benefits to DSO. First, there would be no risk (0%) of graft rejection since we are not using a donor cornea so there is no response to foreign tissue. Second, the need to use corticosteroids to prevent graft rejection is eliminated thereby reducing the side effect of high IOP which is the primary complication with a cornea transplant like DMEK.

If your cells migrate into the area where guttae were removed successfully, your vision should recover. If they do not, you would then have DMEK to replace your cells with donor cells. Two small studies found that the use of a "ROCK inhibitor" eye drop available outside the US seemed to help the cornea clear faster and more reliably.

## DSO vs. DMEK

Both are designed to resolve vision loss associated with Fuchs' dystrophy. DSO may prevent or delay the need for DMEK.



### Surgery Day

There are many similarities in the procedures except DSO removes a smaller portion of cells and guttae than DMEK and no donor tissue is inserted. Both procedures are billed to insurance and can be combined with cataract surgery.



### Post-Op

With DMEK, an air bubble is inserted to hold donor tissue in place. You must lie flat for approximately 48 hours. DSO recipients do not. DSO will generally require longer healing.



### Eye Drops

After DSO, you may use a "ROCK inhibitor" eye drop for several weeks to months which may help the cornea clear faster and more reliably. After DMEK, most patients use a corticosteroid indefinitely.



### Study Opportunities

Our doctors will let you know if you may qualify for a DSO study with the Cornea Research Foundation or you may call 317-814-2996. All DMEK transplants are followed in the Cornea Transplant Database.