

FUCHS ENDOTHELIAL DYSTROPHY

This condition is Bilateral ie affecting both eyes and occurs in those over 65 with increasing frequency with age. Females are more affected than Males.

Fuchs' dystrophy is named after the ophthalmologist Ernst Fuchs (1851–1930 Austria Ophthalmologist), who first described the condition in 1910. Fuchs considered his syndrome to be a disease of the epithelium (the outer layer of the cornea), but by the 1920s it was understood to be an endothelial condition

CLINICAL Appearances

Corneal guttata and pigment dispersion in presence of corneal oedema.

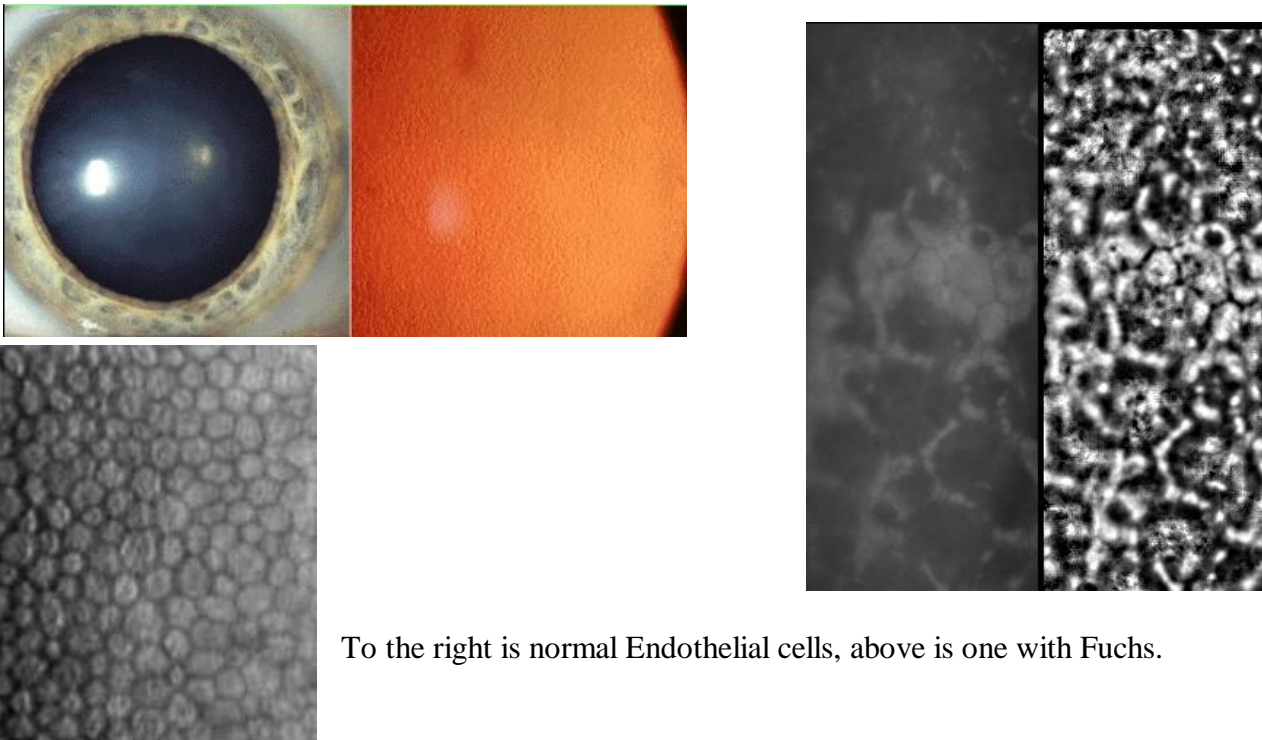
There is a typical 'beaten metal' appearance to Descemet's membrane (decompensation occurs when <800 cells/ sq mm)

Decreased vision occurs when the cornea is over 0.65mm thick.

Pain is secondary to the ruptured bullae

The condition is Associated with glaucoma in 15% of cases.

Below is a picture of a patient showing early guttata and mild stromal oedema and to the left the specular microscopy images of the abnormal endothelial cells.



To the right is normal Endothelial cells, above is one with Fuchs.

TREATMENT

Often none in mild cases - which is the majority.

Hypertonic saline 5% Ointment and hair dryer in early stages. If the IOP is raised then this needs to be decreased. Bandage contact lenses for comfort where there are fragile bullae Can help.

In advanced cases then the corneal endothelial cells can be replaced with the new operation of corneal endothelial cell transplant. The traditional treatment that may still be needed is corneal endothelial cell transplant ie replacing the whole of the cornea or window of the eye. This is a major operation and reserved for only the most advanced cases.

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Comment from Fran Harman Corneal Surgeon

“Yes I've found NaCl to be useful - only really in mild Fuchs with early decompensation though. The drop form isn't useful, doesn't stay long enough on surface to draw fluid out so use oc NaCl 5% qds, generic is fine.

See paper attached.

Also sounds a bit strange but some patients find blowing a hairdryer with no or very low heat on the eyes in the mornings helps. Patients often report some diurnal variation in acuity, improving in afternoon / evening due to increased evaporation from ocular surface with open lids, and the hairdryer can speed this process along slightly...

Regarding DSEK, depends a bit on surgeon, some operate at 6/9 which I find fairly scary! From about 6/18 onwards I would consider surgery. Does the patient have many central guttata? Sometimes these can contribute significantly to visual impairment due to light scatter.

If there is any cataract then this is usually removed at the same time.“

Patient Handout: Understanding Descemet's Stripping Endothelial Keratoplasty (DSEK)

What is Descemet's Stripping Endothelial Keratoplasty (DSEK)?

Descemet's Stripping Endothelial Keratoplasty, or DSEK, is an advanced eye surgery primarily used to treat conditions affecting the innermost layer of your cornea, known as the endothelium. This procedure is often recommended for conditions like Fuchs' Endothelial Dystrophy or pseudophakic bullous keratopathy, where the endothelium is damaged or diseased.

Why is DSEK Needed?

The endothelium works to keep your cornea clear by pumping out excess fluid. When it's damaged, the cornea swells with fluid, leading to blurred vision and discomfort. DSEK aims to replace the damaged endothelium with healthy donor tissue, helping restore clear vision and reduce symptoms.

The Procedure: What to Expect

- Before Surgery: You'll undergo a comprehensive eye examination. Inform your surgeon about your medical history and any medications you're taking. It's important to follow pre-operative instructions closely.

- During Surgery: DSEK is usually performed under local anaesthesia with sedation, meaning you'll be awake but relaxed and won't feel pain. The procedure involves removing the diseased endothelial cells and replacing them with a thin disc of donor cornea, which is carefully positioned and secured inside your eye.

- Duration: The surgery typically takes about an hour.

- After Surgery: You may need to lie on your back for a period after the operation to help the new endothelial layer attach properly. Your eye will be covered with a patch, and you'll be given specific post-operative care instructions, including medications to prevent infection and control inflammation.

Recovery and Aftercare

- Immediate Post-Operative Period: You might experience some discomfort and blurry vision initially. These symptoms generally improve over days to weeks.

- Follow-Up Appointments: Regular check-ups are crucial to monitor the healing process and the position of the donor tissue.

- Activity Restrictions: You'll need to avoid strenuous activities and follow specific instructions about posturing to ensure successful healing.

Risks and Complications

Like any surgical procedure, DSEK carries risks, including graft rejection, increased eye pressure, infection, or problems with the position of the graft. It's vital to report any unusual symptoms such as pain, redness, or a sudden decrease in vision to your ophthalmologist immediately.

Outcomes and Expectations

Many patients experience improved vision after DSEK, but the extent of improvement can vary. The final outcome also depends on the overall health of your eye, including other structures like the lens and retina.

Remember:

- DSEK is a specialised procedure and requires careful consideration and discussion with your ophthalmologist.
- Adhering to post-operative instructions and attending follow-up appointments are key to a successful outcome.
- It's important to have realistic expectations and understand that full recovery may take several months.

Contact Information

For any questions or concerns, please do not hesitate to contact your eye care provider.

Disclaimer: This handout is for informational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition.

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