

Ophthalmology Department

Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK)

Background

The cornea is the clear window at the front of your eye. To keep the cornea thin and clear, cells lining the inside of the cornea (called endothelial cells) pump fluid from the cornea to prevent the cornea swelling.

When there are too few endothelial cells, the clarity of the cornea cannot be maintained and eventually the vision becomes cloudy.

About the procedure

Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) is a technique where the diseased endothelial cells are removed from your eye and selectively replaced with a new layer of these cells. These new cells are held in place temporarily by a bubble of air inside your eye.

A full thickness corneal transplant has previously been the preferred technique. However, this procedure requires stitches, a full thickness wound, which will remain weak, and a prolonged recovery time.

Since surface corneal incisions and sutures are not used in this more recent technique, the corneal shape is preserved which allows more rapid visual recovery than a full thickness corneal graft.

Will I be suitable for this procedure?

Usually, patients who have diseased endothelial cells due to Fuchs' dystrophy or following cataract surgery, with no scarring of the cornea, are suitable for this procedure.



Patient Information

What are the benefits of this procedure?

- Visual improvement
- Avoids the need for a full thickness corneal graft, which means:
 - Better visual outcome
 - Less need for prolonged steroid drops after surgery and less chance of graft rejection
 - Fewer surgical complications.

What are the risks?

Corneal grafting is a complex surgery and there are many possible risks involved. It is possible that this surgery may worsen your vision. Some of the major risks associated with corneal transplantation include:

General risks with any eye surgery:

- Bleeding inside the eye during the operation
- Imbalance in vision between the two eyes
- Swelling in the retina located in the back of the eye (cystoid macular oedema)
- Retinal detachment
- Rare (1 in 1000) risk of partial or total loss of vision or loss of the eye
- Drooping of the upper eyelid
- Discomfort or possible pain
- Infection, which may result in, reduced vision even when it is treated
- Additional surgery to treat complications

Graft surgery related risks:

- Rejection of the donor cornea (5 - 30% depending on your eye condition before surgery)
- Clouding of the cornea (graft failure) resulting in reduced vision
- High astigmatism requiring glasses or contact lenses to correct vision
- Elevated eye pressure (glaucoma) that may require medical or surgical intervention seen in 5% of cases

Patient Information

- Cataract formation
- Sutures related problems, which may require second corrective procedure
- Rarely, transmission of infectious diseases such as Hepatitis B/C, Human Immuno-deficiency Virus (HIV) and Syphilis (despite routine screening tests of donor for these diseases before the tissue is approved and released for transplantation)

Anaesthesia associated risks

There are some risks associated with anaesthesia, whether general or local. General anaesthesia can result in heart and breathing problems, and in very unusual and rare instances, death or diminished brain function can occur.

Complications of local anaesthetic injections around the eye may include: damage to the eyeball, bleeding and damage to retina, drooping of the upper eyelid, rarely can cause interference with retinal circulation resulting in possible visual loss.

About the operation

This procedure usually takes about 90 minutes and may be carried out either under local or general anaesthesia, depending on your preference.

You will need to stay in hospital as an inpatient for one day following surgery, unless there is a need to reposition the corneal graft (which is needed in 20-30% of our patients), and that requires staying for a further one or two days.

After the operation

You will be asked to lie flat as much as possible, for first 24hours after surgery, as we usually leave an air bubble in the eye to push the new endothelial graft into position. This air bubble is usually absorbed in 24-48 hours.

You will also be given two more drops (an antibiotic and a steroid) to use four-eight times a day, which will be tailed off gradually, as prescribed by the corneal surgeon. Please make sure these are preservative free preparations only.

Patient Information

Your vision will be misty for the few days after surgery, but it will improve over the next three to four months, as the cornea gradually clears up.

How will I feel after surgery?

If you have a general anaesthesia, you may have a sore throat for couple of days because of the anaesthetic tube, which will not be the case with local anaesthesia.

When can I resume normal activities?

Work, sports, hobbies etc. you should refrain from these activities for four weeks.

Flying: you should be able to fly three days after the surgery, once the air bubble we leave in at the end of the surgery has been absorbed.

Further information

For further information about the risks of anaesthetics please see the booklet 'You and your anaesthetic': <http://www.rcoa.ac.uk/document-store/you-and-your-anaesthetic> or visit the Royal College of Anaesthetists' website: www.rcoa.ac.uk

If you have any further questions or concerns please contact the eye department on **024 7696 6508 / 6627**.

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 024 7696 6627 and we will do our best to meet your needs.

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