

# Living Donor Kerato-Limbal Stem Cell Transplant

**For patients who want to learn more about living donor kerato-limbal stem cell transplant**

This pamphlet includes information for both the donor and recipient.

Read this pamphlet to learn more about:

- the benefits and risks of the surgery
- the living donor assessment process
- what happens during the surgery
- how to take care of the eye after the surgery
- who to contact if you have questions

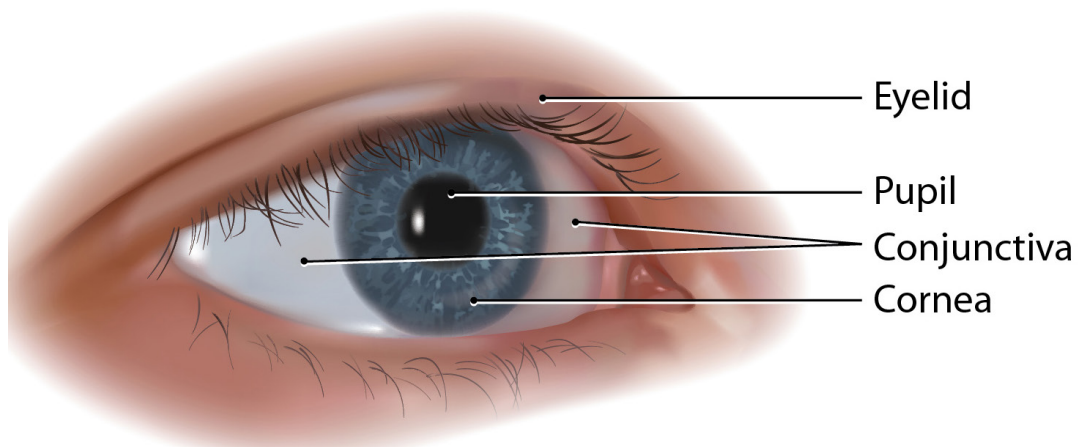


## What is a living donor kerto-limbal stem cell transplant?

This surgery is done to treat limbal stem cell deficiency.

The limbal stem cells are found around the cornea (the clear dome that covers the coloured iris of the eye). When the cells are damaged or don't work properly, you may have:

- trouble seeing
- eye pain, redness or tearing that does not go away
- a feeling that you have something in your eye
- light sensitivity (bothered by bright light)



## What are the benefits of having this surgery?

After having this surgery, the outer layer of the cornea should grow back normally. Also, your symptoms should get better.

## What are the risks of having this surgery for the recipient?

A 'risk' is the chance that something might go wrong after the surgery.

The risks of the surgery for the **recipient** include:

Risks	How to help prevent this
Infection	<ul style="list-style-type: none"><li>• We will give you antibiotic drops for your eye.</li></ul>
Inflammation  (red and swollen)	<ul style="list-style-type: none"><li>• We will give you topical steroid drops for your eye.</li></ul>
Slower healing of the cornea	<ul style="list-style-type: none"><li>• You may need to wear a bandage contact lens.</li><li>• You may need to use eye drops.</li><li>• Your surgeon may need to sew a special protective thin covering over the eye.</li></ul>
Rejection of the living donor cells	<ul style="list-style-type: none"><li>• We will give you pills that lower your immune system's ability to attack the donor cells</li><li>• If the living donor cells are rejected, we will give you a higher dose of the anti-rejection pills and stronger topical steroid eye drops</li><li>• If the rejection is not reversible, you may need to have the transplant done again. Your organ transplant specialist will talk to you about the risks when you meet with them.</li></ul>

## What are the risks of having this surgery for the donor?

Donating your limbal stem cells is considered a routine surgery because only a very small area of the surface of the eye is handled (not the inside of the eyeball).

The risks of this surgery for the **donor** include:

<b>Risks</b>	<b>How to help prevent this</b>
Infection	<ul style="list-style-type: none"><li>• We will give you antibiotic drops for your eye.</li></ul>
Inflammation (red and swollen)	<ul style="list-style-type: none"><li>• We will give you topical steroid drops for your eye.</li></ul>
Slower healing of the cornea	<ul style="list-style-type: none"><li>• You may need to wear a bandage contact lens.</li><li>• You may need to use eye drops.</li><li>• Your surgeon may need to sew a special protective thin covering over the eye.</li></ul>
Nausea or fatigue from the anesthesia given through the intravenous (IV)	<ul style="list-style-type: none"><li>• The anesthesia doctor will give you more information when you meet them.</li></ul>

**It is very unlikely that a patient can go blind after the surgery.**

## What is the Living Donor Assessment Process?

### Step 1

An ophthalmologist (eye surgeon) examines your eye. If there are no problems with your eye and you are a good candidate to donate your corneal limbal stem cells, the ophthalmologist gives you more information.



### Step 2

You call the living donor office at 416 340 4800 ext. 6581 to let them know you want to be a donor.



### Step 3

You fill out a Donor Health History Questionnaire.



### Step 4

You have blood tests (including blood typing and testing for any infections). You may also need to do other tests such as a chest x-ray, ECG and urine tests.



### Step 5

A different ophthalmologist then examines your eye.

**This assessment process protects the donor. It ensures they fully understand the surgery and that there will be no harm done to their eye.**


## What can I expect when having the living donor surgery?

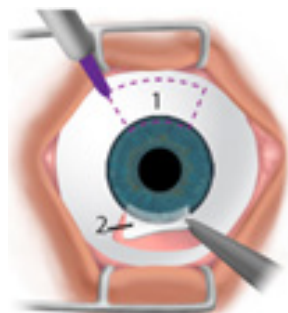
This surgery usually lasts about 30 to 60 minutes. Most patients go home the same day.

### On the night before your surgery

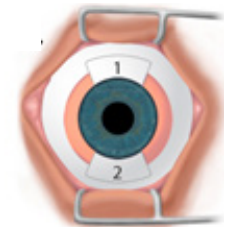
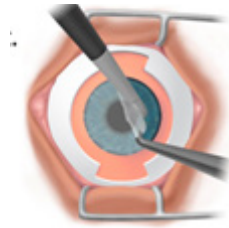
- Do not eat any food or drink any fluids after midnight

### On the day of your surgery

- Please arrive at the Toronto Western Hospital at the time written in your package. You will have received a package in the mail about 1 month before the day of your surgery.
- In the pre-operative waiting room area, a nurse will put an IV into your arm and check your blood pressure and vital signs.
- The anesthesia doctor or assistant will speak to you about the type of anesthesia you will have (either general anesthesia or sedation) and how to cope with any discomfort after the surgery.
- We will transfer you to the operating room. We give you medication through the IV to help relax.
- We give you eye drops to completely numb (freeze) the eye which will be providing the donor tissue.
- Your ophthalmologist will take 2 small pieces of tissue from the eye that are about 6 mm by 4 mm. Or, about this size:  This tissue has the limbal stem cells. The tissue are stored in a special solution for the recipient's surgery.



- The surgeon closes the wounds with a few stitches or tissue glue and puts antibiotic drops into the eye. You may need to wear an eye patch for a few hours or overnight.
- For the recipient's surgery, the ophthalmologist will remove any scar tissue over the surface of the cornea.
- Then using a few stitches and/or tissue glue, the ophthalmologist secures the small pieces of donated tissue with the limbal stem cells.



**It is normal to have:**

- a scratchy and burning feeling in the eye
- tearing of some bloody tears
- mild pain

We will give you pain medication to take if needed. Your ophthalmologist may give you more information about how to cope with your pain.

**On the morning after your surgery:**

- Your ophthalmologist will examine the operated eye.
- It is normal for the eye to:
  - be red, or feel scratchy or burning
  - have blurry vision (this will go away)
  - have increased tearing
  - have some eyelid swelling

## **1 or 2 weeks after your surgery:**

- Your ophthalmologist will give you instructions about when you can stop taking the eye drops.
- Your ophthalmologist's office will arrange a follow-up appointment with you.
- Once the donor has recovered, you may continue to see your local optometrist or ophthalmologist for routine eye care.

## **Who can I call if I have questions?**

### **If you are the recipient, phone:**

Julie Cissell, Nurse Coordinator  
416 340 4800 extension 4577

### **If you are the donor, phone:**

Melissa Ruttan, Multi Organ Transplant – Live Donor Program  
416 340 4800 extension 6581



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