



EYE BANK OF BRITISH COLUMBIA

Legacy of Sight Program

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GENERAL INFORMATION

The Eye Bank of British Columbia is a provincial agency whose mandate is to procure, process, and distribute ocular tissue within the province. We are open 24 hours a day, 365 days a year. We are located at 2550 Willow Street in Vancouver in the Eye Care Centre Building within the Vancouver General Hospital site.

YEAR	NUMBER OF DONORS	NUMBER OF CORNEA TRANSPLANTS	NUMBER OF SCLERA TRANSPLANTS
2005	384	353	237
2006	490	507	219
2007	527	524	240

Currently, there are approximately 400 BC residents in need of a cornea transplant. This number is expected to increase due to the aging patient population. From these numbers, it is obvious that more needs to be done to increase the number of eye donors in BC. Your participation in the *Legacy of Sight Program* is essential to helping those in need of ocular transplants.

Donated eyes can be used for two types of transplants: cornea and sclera. The cornea is the clear portion of the eye, and once preserved, can be used up to eight days after death. The sclera is the white portion of the eye, and can either be preserved whole or cut into thirds. Once preserved, the sclera can be used up to one year after death. Each pair of eyes can produce two corneas and six pieces of sclera, and therefore, up to eight people can benefit from a single donation.

Under the *Human Tissue Gift Act of British Columbia - Consent to Donation Regulation*, any death that occurs in any hospital in BC is required to be reported to an organ donor agency (*i.e.* Eye Bank of BC). The Eye Bank, in conjunction with the hospital, then determines donor suitability. Various conditions would preclude donation. These include, but are not limited to:

- Infectious or potentially infectious diseases
 - HIV / AIDS
 - Hepatitis B / C or active Hepatitis A
 - Syphilis
 - Active viral encephalitis
 - Creutzfeldt-Jacob Disease
 - Rabies
 - Rubella
 - Reyes Syndrome
 - Subacute sclerosing panencephalitis (measles)
 - Septicemia (bacteremia, viremia, fungemia)
 - Progressive multifocal leukoencephalopathy
- Central Nervous System Disorders
 - Alzheimer's Disease
 - Multiple Sclerosis (MS)
 - Parkinson's Disease
 - Amyotrophic lateral sclerosis (ALS, Lou Gehrig's Disease)
 - Other CNS diseases of unknown etiology
- Malignancies
 - Leukemia
 - Lymphoma
 - Lymphosarcoma
 - Hodgkin's Disease
 - MOST OTHER TYPES OF CANCER ARE ACCEPTABLE FOR EYE DONATION

- Intrinsic Eye Disorders
 - Ocular inflammation (infection)
 - Corneal scarring
 - Prior refractive surgery (RK, PRK, LASIK)
 - Congenital or acquired eye disorders
 - Retinoblastoma
 - Malignant tumors of the anterior segment
 - CATARACTS AND GLAUCOMA ARE ACCEPTABLE FOR EYE DONATION

As well, the upper age limit for donors is 75. Time of death to time of retrieval must be less than 8 hours, and the time of death to time of preservation must be less than 16 hours.

If the death is reportable to a coroner, the coroner's permission is required prior to procurement. The most common reportable deaths are - but not limited to - sudden and unexpected deaths (e.g. MVAs, cardiac arrests, etc.)

If the potential donor does not have any ruleout conditions (and with the coroner's permission where applicable), the family is approached for consent. Studies suggest that families who are approached in person will agree to donation more often than those who are asked via telephone, since they are more comfortable with those who are familiar to them. From that perspective, we generally request that the primary care physician or nurse approach the next of kin for consent, but ancillary staff, such as social workers and pastoral care workers can be utilized as well. If this is not possible, the Eye Bank staff can approach the family via telephone. People who can consent must be 19 years old or older, and can be any of the following:

- Spouse
- Child
- Parent
- Sibling
- Grandchild
- Grandparent
- Nearest blood relative
- Legally authorized representative (i.e. Power of Attorney)

If the family declines, nothing further is done. If the family decides to donate, an Eye Bank staff member or designee is sent to perform the procedure once the family has said their final goodbye. The entire procedure takes about one hour to complete. The procedure **requires that the whole eyes be retrieved and replaced with conformer caps, which retain the shape of the eyes.** As well, a small amount of blood is taken for testing. Once the procedure is completed, there are usually no obvious signs that the donation took place, and viewing of the donor can take place afterwards.

Once the eyes are back at the lab, they are evaluated. If they can be used for transplants, they are processed and preserved in a storage medium. If the eyes cannot be used for transplantation, they then can be used for research, if allowed for in the consent.

Once the ocular tissues have been preserved, the blood sample obtained is sent off for testing. These tests include:

- HIV 1 and 2
- HTLV I and II
- Hepatitis B and C
- Syphilis

The blood tests must be negative in order for the tissue to be used for transplants.

The donor's doctor and / or family is contacted to answer a standard questionnaire about the donor's medical and social history.

Once the questionnaire and blood tests are suitably completed, the tissue can then be used for transplantation.

(cont.)

There are several different reasons for requiring a corneal transplant. Some of the more common are as follows:

- Keratoconus – a disease where the central cornea thins and bulges forward
- Fuch's Dystrophy – an hereditary disease in which the cells that maintain corneal clarity are gradually lost
- Aphakic and Pseudophakic bullous keratopathy – conditions where the cells that maintain corneal clarity are damaged as a result of cataract surgery
- Chemical / Physical injuries to the cornea

There are a few reasons for requiring a sclera transplant. The major ones are as follows:

- Ocular implantation after enucleation – a synthetic eye implant is wrapped in sclera. The muscles are then attached to the sclera, which allows the artificial eye to move with the companion eye.
- Lid retraction – the sclera is used to reconstruct the eyelid
- Glaucoma surgery – a Ahmed valve is inserted into the eye to reduce intraocular pressure. The valve is covered with a piece of sclera to allow movement of the eyelids across the implant.

Here are some of the most frequently asked questions:

1. Is the whole eye transplanted?
 - No, only the cornea (the clear, front part of the eye) is used for corneal transplants. The sclera (white part) is sometimes used for procedures such as glaucoma surgery and lid reconstruction. The rest of the eye can be used for research (if allowed from the consent) to aid in future treatment of eye disease.
2. Will a person be able to have an open-casket funeral?
 - Yes – no one will know there has been an eye donation unless you tell them. In very few instances there may be a bit of bruising or swelling, but otherwise there should be no visible signs following donation.
3. Is the family told who will receive the eyes?
 - No. A letter of appreciation is sent to the family. The actual identities of the donor and recipients are kept confidential under present laws. However, recipient and donor families can communicate with each other anonymously via the Eye Bank.
4. Can all blind people benefit from a corneal transplant?
 - No, only those whose eyes have a defective cornea.
5. Can patients who wear glasses and / or who suffer from cataracts / glaucoma donate?
 - Yes. Even totally blind people with healthy corneas can donate their eyes because there is no relationship between poor eyesight and donor eligibility.
6. Can cancer patients donate their eyes?
 - Yes, most cancer patients can donate. Only those who have leukemia, lymphoma, or ocular cancers are ruled out.
7. I have an ethical / moral issue with eye donation.
 - Although we appreciate that some are individually uncomfortable with the idea of eye donation, we emphasize that **the decision for eye donation is personal**. Please remember that if you do not refer any donors to us or refuse to approach the next of kin, you've taken that choice away from the family. In our experience, many donor families are unaware that they can donate and are grateful that they are able to help someone.

IN ORDER TO ALLOW US TO HELP OTHERS, WE REQUIRE YOUR PARTICIPATION IN THE LEGACY OF SIGHT PROGRAM!

Please note that your involvement in the program is essential for a variety of reasons:

- We need to increase the number of donors in order to reduce the cornea wait list - please remember to notify us regarding all deaths
- Studies suggest that consent rates approximately *double* when the next of kin are approached by a hospital staff member in person versus a "stranger" contacting them via telephone; as well, the next of kin often do not go home immediately afterwards, making a telephone consent much more difficult to achieve

If you have any more questions regarding eye donation, please call the Eye Bank of British Columbia at 604 875-4567 or 1-800-667-2060, or on the web at www.eyebankofbc.com.