

# Cornea transplant essay

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## **Biology Essay**

There are many types of organs in our body. Each organ has their own function and they are important. If an organ is damaged or diseased, without medical help, a person could die. The cornea is very special and is an important part of human body. It helps to protect the rest of the eye from germs, dust, and other harmful matter. The cornea acts as the eye's outermost lens. It functions like a window that controls and focuses the entry of light into the eye. The cornea also serves as a filter, screening out some of the most damaging ultraviolet wavelengths in sunlight.

Without this protection, the lens and the retina would be highly susceptible to injury from ultraviolet radiation. A cornea transplant is a surgical procedure to replace part of the cornea with corneal tissue from a deceased donor. Cornea transplant applies to people who have vision problems caused by thinning of the cornea, severe infections or injuries to scarring of the cornea, or vision loss caused by the cloudiness of the cornea. The method of cornea surgery is complex. Sometimes, the body rejects the transplanted tissue. This occurs in a small number of patients (The New York Times).

It occurs in about one out of three patients in the first five years (Medline Plus). According to the Alabama Eye Bank, more than 90% of cornea transplant operations successfully restore the recipient's vision. Other dangers for a corneal transplant are bleeding, infection of the eye, glaucoma (high pressure in the eye that can cause vision loss) and swelling of the front of the eye (Medline Plus). Certainly, the medical provider would take every

possible precaution to prevent such complications because it can permanently damage the eyes.

The surgery consists of the removal of a circular piece of the affected cornea and replacing it with a piece of donor cornea of exactly the same size or shape. It is sewn into place with very fine stitches. Eyes are never removed or replaced during the operation. The body can reject the new cornea sometimes and this is a very negative result of this surgery. 3% to 5% of people get scared and swollen in their eyes after the surgery according to Dr. Paul Driver. However, there are still some positives about corneal surgery. It improves people's vision and has a positive impact on their social and educational development. There are many benefits for patients who receive a cornea transplant. The recovery time of a corneal transplant is faster than other transplants. People who get the transplant can leave the hospital in a day. With almost all the other surgeries and other transplants, they require people to be hospitalized. Also, the success probability of cornea transplant is higher than other surgeries and patients enjoy good vision for many years (Winchester Hospital). Although the transplant has many benefits, it also has some limitations.

In some cases, the body rejects the new cornea. Recognizing the warning signs of problems is the best way to prevent corneal transplant rejection. Those symptoms are redness, pain, sensitivity to light and decreased vision that lasts more than 12 hours (Cleveland Clinic). Also, cornea infections are still a problem that science is trying to prevent. Eye drops are used to prevent infection but also prevent rejection. Rejection can be stopped in most cases,

especially if it is diagnosed and treated timely. If treatment fails, another transplant will be needed.

However, it is more difficult and the chances of success are not as good as with the first transplant (netdoctor). And still, there are cases when a donor cornea cannot be found to use in the transplant because the donors are not available. In Europe, an Opt-out approach has the greatest impact on the number of preventable deaths that occur because of the lack of donated organs. This approach requires each individual to make a minor action in declaring his or her desire to refrain from donating according to Opt-out laws. Family do not involve in this, it would not make any changes unless that person says no to donation.

In the United States, the system is the opposite of Opt-out, and it is called Opt-In. Many states find a way to encourage the donations to be made by allowing the agreement to be noted on the driver's license. Donor signs up for an individual's wish to be a donor. Individual people have to say yes to be a donor. This means the number of donors starts from a small number. It is a pure consent system rather than an extended opt-out system. (NHSBT) There are more than 10 million people waiting for corneas but there are fewer people contribute corneas (Sight Life).

Some people don't want to contribute it because of their religious beliefs make them think they cannot contribute anything on their body after death. Most people think that dead people do not need their organs anymore; they should give them to someone who does and prefer an Opt-out approach. The cornea transplant costs a lot of money. According to Eye Surgery Center, it costs 7500 to 10000 dollars to get a cornea transplant. This expensive price

also can be a problem. Some poor people cannot get a transplant because they do not have enough money. The situation can cause people to commit robbery.

Even some people kidnap because of this expensive operation prices. For example, on NTD Television in China on Aug. 1, 2012, there was a report about a Korean couple that visited China and the woman was kidnapped. After a few days, the woman was found dead with all of her organs removed. This kind of situation is a very serious problem. People commit crimes because of this expensive price that they cannot afford it. Over 111000 people need organ transplants. Thousands of people die each year before a transplant can be located and people have to wait for a long time.

Increasing the number of donors would help end the needless suffering and would save lives. I know it's hard to think about what are going to happen to your body after you die, but being an organ donor is a generous and worthwhile decision that can be a lifesaver.

## **Citation**

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