



Organ and Tissue Donation: *The Transplantation Basics*

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Introduction

Organ and tissue donation saves the lives of thousands of people every year. At times, organ transplantation may be the only method that saves the life of a person or prevents the failure of an organ. Organ donation has become widely accepted by society due to its life-saving potential.

Statistics also show how important organ donation has become in American society. Every day, about 79 people receive organ transplants. About 18 people die waiting to receive the organ transplant that they need. Every 10 minutes, a person is added to the waiting list at www.organdonor.gov as they search for an organ donor.

Numerous people selflessly donate their organs every year. These donors help prolong the lives of many people. Organ donors can range in age from one year old to over 65 years old. The majority of people who donate organs are from 18 to 64 years old. In 2012, over 1,095 living donors existed in the 18-34 year old age group. About 2,059 living donors existed in the 50-64 year old age group in that year. A total of 28,051 individuals received organ transplants in 2012. See <http://www.organdonor.gov/about/data.html>.

The list of organ donors continues to increase every year. Over 100 million people are currently on the organ donor list in the U.S. The transplant nurse plays an important role in helping people to register to become organ donors and to also connect those on waiting lists with donors. A registered nurse helps a living donor to prepare for a transplantation procedure. The nurse makes the donor aware of any risks associated with the process. Transplant nurses also provide care for those who are the recipients of organs, such as a kidney or heart. The transplant nurse provides essential care in the recovery phase for a patient who has received an organ for transplantation.

Becoming a Transplant Nurse

Those who are interested in working in this dynamic field of medicine will need to obtain a nursing diploma, associate's degree in nursing or B.S. degree in nursing. One will also need to pass the National Council Licensure Examination (NCLEX-RN). After successfully taking this exam, a nurse must also pass the Transplant Nurse Certification Exam that is administered by the American Board for Transplant Certification. Nurses should also gain experience in emergency room care or surgical nursing before applying for the Clinical Transplant Nurse certification. Upon completing the necessary work hours and exam requirements, one will be able to become a Certified Clinical Transplant Nurse.

What Is Tissue Donation and Transplantation?

Organ donation is the process of extracting tissue or an organ from a deceased or living human body for the purposes of a transplantation procedure. A surgeon performs an operation on the human body for the purpose of extracting tissue and organs used for future transplantation procedures. The laws governing organ donation vary depending on the particular country handling the donation or transplantation. In addition, organ donation laws also vary amongst the U.S. states. However, the U.S. does have an overarching federal law that requires the consent of any family members before donating organs of a deceased person to one in need.

The use of cloning and embryonic stem cell research may hold promise for duplicating human tissue and organs. However, bioethical issues still exist behind these topics. Scientists are also considering the idea of creating a person for the sole purpose of procuring organs. Serious ethical issues also exist behind this idea, and cloning a human being for the purpose of organ donation is not legal in the U.S.

Donated tissue and organs can either save the life of a person in need or drastically improve the quality of life for that person. Numerous organs and tissue within the body may be donated for the purpose of transplantation. Some of these organs include:

- Cornea
- Eyeball
- Skin
- Veins
- Heart valves
- Bone
- Upper body bone
- Intestine
- Kidneys
- Liver
- Lungs
- Pancreas
- Cartilage
- Fascia
- Ligaments
- Pericardium
- Tendons

Currently, organs may not be sold in the U.S. The laws may differ in other countries. The National Organ Transplant Act prevents people from selling their organs for commercial gain. Those who violate the Act may be subject to up to five years in federal prison and also have to pay fines up to \$50,000. The national waiting list is used to administer organs for people in need. The waiting list does not give priority to people based on their gender, religion, race or financial status. See http://www.lifepoint-sc.org/facts_what.htm. See also <http://donatelifecalifornia.org/education/how-donation-works/what-tissues-can-be-donated/>.

How a Person Becomes a Donor

Those who wish to become organ donors will need to follow the registration procedures set by their state government. In South Carolina, for example, organ donors must register with their legal consent to be on the South Carolina Organ and Tissue Donor Registry. Registration can be completed online or at the South Carolina Department of Motor Vehicles (SCDMV). Many states have DMV locations that can register a person for organ donation. The DMV will update one's license to reflect that he or she is an organ donor. The DMV typically places a small symbol, such as a heart surrounded by a circle, on a license to indicate that a person is an organ donor. In addition, a person may also indicate that he or she wants to be an organ donor within a will. By placing a clause discussing organ donation in one's will, any confusion can be avoided upon a person's death.

A majority of people qualify to become organ donors. Even if a person has a pre-existing medical condition, he or she likely still qualifies to be an organ donor. Newborn babies to elderly adults can be organ donors. A majority of religions throughout the world support a person's right to become an organ donor. Those who have questions about whether organ donation is allowed under the doctrine of a religion should meet with a priest or spiritual advisor to discuss these concerns.

Those who decide to become organ donors may be able to assist numerous people. Various organs may be disbursed to patients in need upon one's death. This may ensure that five or six patients are saved due to the donations of one person.

The Role of the Registered Nurse

Nurses play a variety of important roles that facilitate the organ donation process. A nurse may work as a coordinator to assist in the process of collecting and harvesting organs. This type of nurse may be helpful in discussing the benefits of organ donation with prospective donors and ultimately persuading them to submit their names to the national donor registry.

Some nurses also specialize in working with patients who have already received organ transplants. They may provide aftercare for the patient and help patients understand how to care for their bodies that have an organ transplant.

Hospital nurses may work in specific floors that are dedicated to organ transplants. Registered nurses who work on this floor will meet with family members to respond to any questions or concerns about organ donation. Family members may be concerned that a loved one's organs will be donated prior to the death of the loved one. The governing guideline that hospitals use to proceed with removal of organs from a person's body is the irreversible cessation of brain function. Numerous events can lead to brain cessation, and these include a head injury, stroke, drug overdose, hanging, heart attack, drowning or aneurysm. The brain does not receive blood flow after the occurrence of one of these events, and it ceases to function as a result.

Once a person's brain functions have ended and may not be revived, medical professionals can proceed to facilitate organ donation. Nurses who work on an organ transplant floor may also respond to the requests of family members for organ donations. If a family member expresses an interest in securing an organ donation for a loved one, then the nurse will notify the transplant team in the hospital. Hospital nurses also assist in preparing patients for a surgery and in providing follow-up care.

The transplant nurse works in a specialized unit. He or she works with the donor or recipient. If the nurse is working with the donor, he or she may have to see the donor on a regular basis. The nurse needs to act as the mediator between the patient and surgeon.

The transplant nurse makes sure that the patient receives all of the care he or she requires leading up to the transplant. The transplant nurse informs the patient about the operation and makes the patient aware of his or her rights. The nurse may also provide moral support for a patient as he or she goes through different emotions prior to the transplantation. A transplant nurse may provide emotional support for family members who are worried about whether a loved one will receive the organ donation that he or she needs. Family members may need areas in which they can discuss the issues related to a potential organ donation or transplant procedure. A transplant nurse may also coordinate private conversations with a chaplain or social worker. These individuals may provide additional information about the definition of “brain cessation” and whether a loved one has brain functions that have ceased.

A specialist nurse may also facilitate the Potential Donor Audit (PDA). This process entails the completion of an audit to determine whether a person’s organs are suitable for donation.

Identifying Prospective Organ Donors

The OPO coordinator is responsible for evaluating potential organ donors. He or she must work with other nurses and surgeons to make sure that a donor is identified. Families also must be aware of their opportunity to donate organs. The OPO coordinator has the difficult task of identifying changes in a patient’s health that may occur due to brain death. He or she also watches over cadaver donors to make sure that organs may be recovered from the body. One of the reasons for a major increase in the number of organ donors in the U.S. is due to the identification of potential organ donors in emergency rooms, clinics and hospitals. Nurses and surgeons now work together to determine whether a patient is likely to suffer from an imminent death. If imminent death is apparent, then the appropriate organ donation organizations are notified.

The organ donor identification process also entails conducting a preliminary assessment of the patient's medical condition to determine suitability for organ donation. After the OPO coordinator records this information, he or she may then approach family members to discuss the option of donation.

The most suitable organ donors are typically those who have suffered from fatal injuries to the brain. These individuals may have suffered an aneurism or stroke and still have functioning organs in the body. The ideal candidate has cardiovascular function. The OPO coordinator ensures that a potential organ donor also meets other criteria, such as:

- Age
- Brain cessation
- Free from infections
- No history of brain tumors
- Normal organ functions
- Salvageable organs

Family members need to be notified about the condition of a loved one before organs may be extracted. If family members feel that their needs and emotions have been understood by a compassionate nurse, they may be more likely to provide consent for an organ donation.

All medical professionals involved in facilitating an organ donation must have a thorough understanding of brain cessation. Brain cessation is a controversial topic, and it is often at the heart of numerous political, social and religious debates. The physician is responsible for determining and pronouncing brain cessation. The nurse is also responsible for providing factual information about brain death to the family. A family member may only legally consent to organ donation if he or she understands and accepts that the cessation of brain function is brain death.

Working with a Healthcare Facility, Organ Procurement Organization and Tissue Bank

A registered nurse must work with various entities to plan an organ donation. Immediately prior to a person's death, the nurse may be in touch with a healthcare facility or organ procurement organization. The organization may prepare for accepting the cadaver if it passes the tests required for organ donation. The nurse may also determine whether a living person may still donate certain organs that he or she does not require for survival, such as an extra kidney. Donors may also give an extra lobe of the liver, a lung, pancreas, intestines or even a heart. One may only donate a heart if he or she is receiving a replacement. The typical case would involve someone who has been diagnosed with severe lung disease and will have a greater chance of survival with the heart transplant. Live individuals can also schedule a donation for many types of tissue in the body. This body tissue may include bone marrow, blood, blood stem cells, umbilical cord blood, skin and amnion.

Clinical Expertise Required for Those Working in the Organ and Tissue Donation Field

Those who work in the organ and tissue donation field may need to be familiar with the clinical neurologic examination. This examination is used to determine whether brain functioning has ceased. Brain death is the governing legal standard that is used to assess the suitability of a candidate for organ donation. A doctor can only proceed with the clinical neurologic examination if certain factors are present. The examination can only be conducted if certain medical conditions, such as endocrine disturbances, have been ruled out. Also, the body may not be suffering from severe hypothermia. A patient may not be hypotensive or have suffered from drug intoxication or poisoning.

Medical professionals refer to certain criteria for determining brain cessation after an assessment of the preliminary factors. The criteria for brain cessation include a coma and the absence of a gag reflex, oculovestibular reflex, corneal reflex, pupillary reflex, spinal cord reflex, coughing and sucking reflex. For infants, medical professionals may need to conduct two confirmatory tests to determine brain cessation. The use of confirmatory tests is optional for those who are one year or older.

After this determination is completed, a nurse may need to continue to perform a comprehensive review of the potential donor. Any tattoos or piercings must be further investigated for potential infection in the body. The existence of any active infection will prevent an organ donation from moving forward. The body must be free of active infection. A body must also be free of sexually transmitted disease. The nurse must assess the body for any existence of cytomegalovirus infection, syphilis, HIV infection, Hepatitis B virus and Hepatitis C virus.

The OPO coordinator will continue to devise a medical history of the organ donor. He or she will try to elicit important information from the family members. The OPO coordinator may try to locate any past medical files of the organ donor.

Organ Donation Laws that Nurses Should Know

The development of organ donation laws in the U.S. has changed dramatically throughout the years. In 1968, the legislature enacted the Uniform Anatomical Gift Act. This Act created the procedure for the donation of organs. The Act also provides the manner in which a person may express his or her intention to become an organ donor. One may carry an organ donor card in a wallet that features this information. An organ donor can also carry a driver's license that is imprinted with donor information. One who decides to donate organ or tissue may also use a written contract. The written document must be signed by the donor and be witnessed by two other people.

Individual Legal Rights of the Nurse

If a patient has not stated whether he or she is an organ donor, a nurse has the right to discuss the option of organ donation with the patient's family members. The nurse may speak with the family members or patient for the purpose of clarifying an intention to proceed with organ donation or decline this option.

Individual Legal Rights of the Patient

A patient who is donating his or her organs has the right to provide consent prior to the removal of organs. No patient may be compelled to provide organs if he or she has not registered in the national donor bank. A dying patient has the right to decide to donate his or her organs in the moments prior to death. The dying patient may communicate this intention to his or her physician. A caveat of this rule is that the physician may not be the same one who is proceeding with the removal or transplantation of the organs.

An organ donor also has the right to revoke his or her intention to make an organ donation through writing or an oral statement. If one has not expressed the intention to donate his or her organs, a guardian may decide to make a gift of the organs. No individual has the right to sell his or her organs for compensation.

Family members and potential organ donors must be made aware of their right to discuss organ donation and also the right to decline this option.

Conclusion

Every transplant nurse who handles organ donations and transplants should be aware of the various federal and state laws governing organ transplants. State laws may outline specific steps that must be taken to determine whether a person qualifies as an organ donor. State law also defines the process for registering as an organ donor. Nurses should be aware of the Living Organ Donor Bill of Rights and also take time to familiarize themselves with this document.

Under the Living Organ Donor Bill of Rights, every patient has the right to receive respectful and considerate care. He or she also has the right to consult with a donor advocate team. The living donor also has the right to informed consent at each stage of the donation process, and nurses should be sure to receive the consent of patients or family members at all stages.

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