

AI Assisted Article

Organ Donation: A Gift of Life

Gunjan Joshi

First Year MBBS Student, RUHS College of Medical Sciences and Associated Hospitals, Jaipur, Rajasthan, India

DOI:10.37821/ruhsjhs.8.1.2023.527

Organs are the vital tissues that make our entire body function and when a particular organ fails, it requires a new and healthy organ for donation. Organ donation is a lifesaving gift. It is one of the most selfless things a person can do for humanity, but its power is undervalued. Organ donation is the act of donating tissue to another person, typically to someone who needs a transplant.]

History:

The first-ever organ donation was done in 1954 when Ronald Lee Herrick donated a kidney to his identical twin brother. Doctor Joseph Murray conducted the procedure for which he has also won the Nobel Prize in Physiology or Medicine in 1990 for advances in organ transplantation. In 2015, a newborn baby became the youngest ever organ donor after he donated his kidneys to an adult with renal failure. The boy just lived for just 100 minutes after being born. The oldest known donor has been in Scotland where a 107-year-old woman donated cornea after her death in 2016. The oldest known organ donor for an internal organ was a 95-year-old West Virginia man, who donated his liver after he died.

The need for organ donor is huge. More than 1,50,000 people waiting for organ transplants across the world. Of those, about 20,000 die each year waiting for an organ transplant and to make matter worse every 10 minutes another person is added to the national organ transplant waiting list.

There are several reasons why someone might choose to donate their organs. Some people might donate in order to help save the life of another known/unknown person, while others might donate in order to help in advancements in the field of medicine and surgery. Although live donors and donation after brain death account for the majority of organ donors. In recent years there has been a growing interest in donors who have severe and irreversible brain injuries but do not meet the criteria for brain death. As of 2019, Spain has the highest organ donor.

The Indian government enacted the transplantation of Human Organs Act in 1994, which allows organ donation and legalized the concept of brain death. Organs and tissues that can be transplanted are the liver, kidney, pancreas, heart, lung, intestine, corneas, middle ear, skin, bone, bone marrow, heart valves, connective tissue, vascularized composite allografts (transplant of several structures that may include skin, uterus, bone, muscles, blood vessels, nerves and, connective tissue).

Anyone irrespective of age, caste, religion, and medical condition can donate his/her organs. However, a person suffering from cancer, HIV, active infection, or intravenous drug user can't be a donor. Usually, brain-dead patients are most suitable for organ donation and if harvested within the critical time, a person can donate vital organs like the heart, liver, pancreas, kidney, and lung.

Procedure to donate an organ:

The steps for organ donation are:

- **Registration:** Registration for organ donation at the National Organ and Tissue Transplant Organization (NOTTO). Registration at the website; <https://notto.gov.in/registration>. The organization aids organ donation and transplant activities across the country. On this site, donor can also seek information regarding the hospital user manual, donor pledge user manual, and how the donor card looks.
- **Brain death testing:** If the patient is not responding to treatment and stimuli, doctors will perform a series of tests to determine if brain death has occurred. A patient who is brain-dead has no brain activity and cannot breathe on his or her own. Brain death is death and it is irreversible. Only brain-dead patients can become potential organ donors.
- **Authorising donation:** The healthcare authorities check if the deceased is registered as a donor on their registry. In India, the family's consent is mandatory for organ donation and has the final say.

- **The matching process:** Healthcare specialists determine whether the organ is medically suitable for transplant. A series of tests on various parameters is done to help match an organ to a suitable recipient for transplant.
- **Recovering the organ:** After removing the organ, surgeons connect it to a machine that keeps them working artificially. Doctors take utmost care while removing the organs. Most organs have limited life spans as below: heart: 4-6 hours, liver: 12-24 hours, kidney: 48-72 hours, heart-lung: 4-6 hours, lung: 4-6 hours.
- **Transporting the organs:** Surgical teams work round the clock to coordinate between the retrieved organ and the recipient for a successful transplant. In some cases, a green corridor is created for an organ transplant. It is a demarcated, cleared-out special road route created for an ambulance to enable the retrieved organ meant for transplant to reach the destined hospital within the stipulated time.

Donation saves life:

One person can save eight lives and enhance 75 others through organ, eye, and tissue donation. On average, 150 people are added to the nation's organ transplant waiting list each day is one every 10 minutes. More than 1 million tissue transplants are performed each year and the surgical

need for tissue has been steadily rising. Corneal transplants restore sight to 50,000 people each year.

Challenges of organ donation:

The major challenges are compounded by the lack of awareness, superstitions beliefs, and misconceptions. and lack of facilities. Organ shortage is the also greatest challenge facing the field of organ transplantation today.

A variety of approaches have been implemented to expand the organ donor pool including live donation, a national effort to expand deceased donor donation, split organ donation, paired donor exchange, national sharing models, and greater utilization of expanded criteria donors.

In conclusion, organ donation is the greatest gift post-death, and one can still brighten life long after one ceases to exist on this earth. Increased public awareness, improved efficiency of the donation process, greater expectations for transplantation, expansion of the living donor pool and the development of standardized donor management protocols have led to unprecedented rates of organ procurement and transplantation.

Corresponding Author

Gunjan Joshi, MBBS Student, Batch-2022, RUHS College of Medical Sciences, Jaipur, Rajasthan, India. PIN-302033.

email: gunjanjoshi9102003@gmail.com.