

TOGETHER — WE SAVE LIVES THROUGH ORGAN AND TISSUE DONATION



MIDWEST  
TRANSPLANT  
NETWORK

# General Education Guide

**Midwest Transplant Network**

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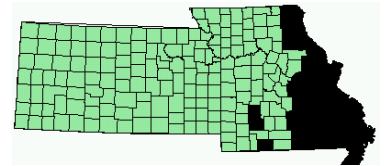
# Midwest Transplant Network Information

**Main Office** Westwood, Kansas

**Satellite Offices** Wichita, Kansas  
Columbia, Missouri  
Joplin, Missouri

**Histocompatibility Laboratories** Westwood, Kansas

**Service Area** Entire state of Kansas  
Western two-thirds of Missouri



## Transplant Centers within the Midwest Transplant Network Service Area

Children's Mercy Hospital 816-234-3000	Kidney Liver
Research Medical Center 816-276-4000	Kidney Kidney/Pancreas
St. Luke's Hospital 816-932-2000	Kidney Heart
University of Kansas Hospital 913-588-5000	Kidney Kidney/Pancreas Liver
University of Missouri Hospital/Clinics 573-882-4141	Kidney
Via Christi-St. Francis Regional Medical Center 316-268-7000	Kidney Kidney/Pancreas



# Appropriate Donation Terminology

In May 2005, the Donor Family Council of the Association of Organ Procurement Organizations (AOPO) approved the use of terminology that is donation-friendly when referencing donors. These terminology updates are unanimously supported by the American Society of Transplantation (AST) and American Society of Transplant Surgeons (ASTS) and have been adopted by the American Journal of Transplantation.

Appropriate Term – Usar	Inappropriate Term – No Usar
“recover” organs / recuperar ó recobrar órganos “recovery” of organs / recuperación de órganos “donation” of organs / donación de órganos	“harvest” organs / órganos cosechados “harvesting” of organs / cosecha de órganos
“donation after cardiac death” / “donación tras muerte cardiaca” “deteriorating to brain death” / “deteriorandose hacia muerte cerebral” “determine brain death” / “determinar la muerte cerebral” “death” / “muerte” o “fallecimiento”	“non-heart beating donation” / donación de un cuerpo sin latidos del corazón “progressing to brain death” / “progresando hacia la muerte cerebral” “declare brain death” / “se declaró la muerte cerebral” “legal death” / “muerte legal”
“consent given” / se dio consentimiento	“obtained consent” / obtuve consentimiento “got consent” / me dieron consentimiento
“facilitated a donation” / facilité una donación	“did a donor” / “conseguí un donante”
“mechanical” support / mantenimiento “mecánico” “ventilator” support / mantenimiento en aparato de ventilación artificial	“life” support / aparato que mantiene la vida
“donated organs and tissues” / “órganos y tejido donados” “transplanted organs per donor” / “órganos transplantados por cada donante”	“body parts” / partes o miembros del cuerpo “yield” / “rendimiento” “cosecha”
“deceased” donation / donación de un “fallecido”	“cadaveric” donation / donación de un cadáver “cadaver” donation / donación de cadaver
“deceased donor” / “donante fallecido”	“cadaver” (when used in a donation context) / “cadaver” (cuando se usa en dentro del contexto de la donación)
transplant	trasplante
requestors	peticionarios
consent	autorización, consentimiento
recovery agency	agencia de recuperacion



# Appropriate Donation Terminology continued

Appropriate Term – Usar	Inappropriate Term – No Usar
recipient	beneficiario, trasplantado
donor registry	registro de donantes



## Facts & Stats

- There are currently over 108,000 people on the United Network of Organ Sharing (UNOS) national organ transplant waiting list. More than 3,000 are in the Kansas and Western Missouri service area.
- Approximately 18 people die each day awaiting a life-saving organ transplant and a new name is added to the national waiting list every 11 minutes.
- In 2009, there were 8,021 deceased organ donors and 6,610 living organ donors resulting in 28,464 organ transplants. In 2008, there were 7,985 deceased organ donors and 6,220 living organ donors resulting in 28,465 organ transplants. There have been 5,829 donors resulting in 11,637 transplants from January – May 2010.
- In 2009, 59,784 corneal grafts were made available for transplant by eye banks within the United States. Last year, there were 42,606 corneal transplants performed in the U.S.
- One organ donor can save up to eight lives and one tissue donor can improve the lives of up to 50 others.
- As of December 2009, there are 2,558 Kansas residents and 7,374 Missouri residents on dialysis. Furthermore, an additional one in nine undiagnosed individuals are *at risk* of developing kidney disease due to uncontrolled high blood pressure and diabetes, and don't even know it.
- All minorities represent 49% of organ transplant candidates and more than 51% of those are awaiting kidney transplants. Native Americans have the highest rate of diabetes in the world. 1.2 million of all Mexican Americans have diabetes.
- African Americans comprise 12% of the total population, but represent 35% of kidney transplant candidates. Approximately 2.3 million African Americans have diabetes. Of those, one-third do not know it.
- Organs that may be donated are heart, kidneys, lungs, liver, pancreas, and small intestine.
- Tissue that may be donated *include* corneas, heart valves, bone, skin, tendons, cartilage, and veins. Please reference *Medical Applications of Donated Tissues for Transplantation* for a complete list.
- Living donors may donate bone marrow, blood, single kidney, partial lung, and partial liver.
- Approximately 1,000,000 tissue transplants are performed annually.
- All major religions support organ, tissue, and eye donation.



## Facts & Stats continued

- According to Donate Life America research, 98% of all adults have heard about organ donation, and 86% have heard of tissue donation.
- 90% of Americans say they support donation according to Donate Life America, but only 30% know the essential steps to take to be a donor.
- Each year in the United States, 1.25 million burn injuries require medical attention. Approximately 50,000 of these require hospitalization, and roughly half of those burn patients are admitted to a specialized burn unit. Up to 10,000 people in the United States die every year of burn-related infections; pneumonia is the most common infectious complication among hospitalized burn patients.
- Donated skin from deceased donors has long been the preferred option for a patient with the most severe burns. Donated skin is used as a temporary covering for the burned skin, allowing the patient's own healthy skin to begin healing. There are many applications for skin. They include skin grafts for burn victims, abdominal wall repair, breast reconstruction after mastectomy, and rotator cuff repair.
- Long bones may be used to replace those invaded by cancer. Without such a transplant, the limb may have to be amputated. Smaller sections of bone are used to strengthen areas of a deformed spine and to fill areas where bone has been lost due to conditions that have damaged existing bone. Damaged tendons and ligaments may be reconstructed as well, thus strengthening the joint and assisting the patient in walking or running. Skin can be life-saving for critically burned patients. It is also used for hernia repair, pelvic floor reconstruction, and for breast reconstruction following mastectomy. Heart valves are used to replace damaged heart valves. Saphenous and femoral veins from the legs are used in cardiac bypass surgery for patients who have suffered cardiovascular (heart) disease.
- Midwest Transplant Network by the Numbers  
2008
  - 🧵 213 organ donors
  - 🧵 691 tissue donors
  - 🧵 181 cornea-only donors
  - 🧵 10,000 tests performed at MTN lab
  - 🧵 760 donor family/recipient letters mailed
  - 🧵 250 programs/booths
  - 🧵 35,000+ people addressed by MTN Community Education staff and Ambassadors



## Facts & Stats continued

- Midwest Transplant Network by the Numbers  
2009

- 217 organ donors
- 757 tissue donors
- 428 cornea donors, of which, 229 were cornea only
- 10,102 tests performed at MTN lab
- 851 donor family/recipient letters mailed
- 323 programs/booths
- 60,147+ people addressed by MTN Community Education staff and Ambassadors



# The Challenge to Save Lives Continues

Despite the complexities involved in organ, tissue, and eye donation and transplantation, tremendous strides have been made. In the early days only siblings (specifically twins) could donate. Today, deceased and living donation among strangers is the norm. The age criterion has been extended, with donors as old as 92 on record. Donation after cardiac death, as opposed to brain death, is now possible in some cases, expanding the number of organs that can be donated. Still, with the miraculous success of transplantation, the need for donors continues to increase. In order to meet this need, it is essential that millions of people step forward to register as donors, and that the thousands of people who are asked to make the decision for their loved ones say 'yes' to donation.

To determine the public's attitudes toward donation and related actions, thus better understanding how to increase donation, Donate Life America, in partnership with Astellas Pharma US, Inc., commissioned an online survey of 5,100 adults in the United States. Fielded by Survey Sampling International in January 2010, and compared to the February 2009 survey, findings revealed both positive signs and continuing barriers among the public.

## Signs of Hope

- A majority of U.S. adults now wish to be organ or tissue donors—56% versus 50% in 2009.
- Among adults who have registered to be organ or tissue donors, 19% were previously reluctant or hesitant to do so.
- Three-fourths (75 %) of those surveyed want their donation wishes fulfilled regardless of family desires, up from 2009.
- The percentage of adults who believe the organ and tissue allocation system is fair has increased in the past year – 37% versus 32% in 2009.

## Challenges Ahead

- A majority of U.S. adults now wish to be organ or tissue donors—56% versus 50% in 2009.
- 19% of people are not sure they would be acceptable donors.
- Approximately half of adults (48%) believe a black market exists in the U.S. for organs and tissue, up from 44% in 2009.
- While only 16% believe a regular funeral is not possible following donation, this percentage is up from 13% in 2009 and 11% in 2004.
- 61% mistakenly believe it may be possible for a brain dead person to recover from his or her injuries.
- Despite the strong desire for first person consent, many barriers, including lack of urgency, exist regarding registration. 27% “just haven't done it” or “gotten to it.”
- Confusion on how to register and whether one is indeed registered are more common than expected. Among adults who wish to donate all or some of their organs or tissue but have not registered to do so, just over half (53%) say they do not know how to register, while another 25% are neutral.

With this knowledge in hand, our resolve grows ever stronger, and our work continues. Increasingly, Americans are enrolling in state donor registries, bringing new life and new hope that deaths on the waiting list will cease, and that there will be an organ, tissue, or eye available for everyone in need.



# Frequently Asked Questions

## **What is the Donor Registry?**

The Kansas or Missouri Organ, Tissue, and Eye Donor Registry is a secure and confidential database listing everyone who has indicated their decision to be an organ, tissue, and eye donor by signing up to be on the Donor Registry. Midwest Transplant Network, a nonprofit organization, facilitates organ, tissue, and eye donation in Kansas and the western two-thirds of Missouri.

## **Why is it important to join the Registry?**

It is important to join the Registry because it provides timely information about your decision to be a donor and guarantees that your decision will be known at the time of your death. It can also help relieve your family of additional pressure, and worry about knowing what your wishes were regarding donation at the time of your death.

## **What does it mean to join the Kansas or Missouri Organ, Tissue, and Eye Donor Registry?**

Kansas and Missouri state laws permit individuals of legal age to make decisions about donating anatomical gifts upon their death (transplantable organs and tissues). The laws provide for properly executed legal documents such as wills, donor cards, and drivers licenses to be used for this purpose. Because these documents are often not available at the time of a person's death and timing for donation is critical, both states have established searchable electronic donor registries to retrieve this information when it is needed. By taking the action to sign up in the Donor Registry you make the decision to help others with a gift of life after your death. Both states have a donor registry.

## **KANSAS REGISTRY** (Operated by Midwest Transplant Network / Kansas Division of Motor Vehicles)

Effective July 1, 2010, House Bill 2486 designated the Kansas statewide organ and tissue donor registry as **First-Person Consent**. Previously, the registry was intent only. The change to first-person consent means that an individual's decision to donate (also referred to as authorization) is legally binding, and no one else may reverse that decision if the individual is at least 18 years old.

A Kansas driver's license with the heart donor symbol or properly signed back or other legally-binding documents, such as a will or signed donor card, still constitute first-person consent to be an organ and tissue donor.



# Frequently Asked Questions continued

**MISSOURI REGISTRY** (Operated by Missouri Department of Health & Senior Services/Missouri Department of Motor Vehicles)

Missouri has a **First-Person Consent Registry**, which changed from an intent registry by legislation that took effect August 28, 2008. This change now allows Missouri citizens of legal age to register as a donor through the DMV when renewing their driver's license or anytime online. By registering, an individual gives consent for donation of anatomical gifts (transplantable organs and tissues) at the time of their death. Their registration is considered a valid, legal document of gift that cannot be revoked by others.

If you registered in Missouri prior to August 28, 2008, it is necessary that you re-register in order to be in the new First-Person Consent Registry. Please update your commitment to save lives by registering online or through the DMV.

## How Do I Sign Up in the Donor Registry?

In **Kansas**, sign up in the registry by going online at [www.mwtn.org](http://www.mwtn.org) complete a donor registry form and return it to Midwest Transplant Network or at any health fair, program etc. Midwest Transplant Network is participating in.

OR,

By saying "YES, I want to be an organ donor" when you obtain or renew your driver's license at the DMV. The words ORGAN DONOR and a heart symbol will be placed on the front of your license and your information will be electronically downloaded to the Kansas Donor Registry operated by Midwest Transplant Network.

In **Missouri**, sign up in the registry by going online at [www.missouriorgandonor.com](http://www.missouriorgandonor.com)

OR,

By saying, "YES, I want to be an organ donor" when you obtain or renew your driver's license at the DMV. A symbol of a heart and a green ribbon will signify that you are in the donor registry and consent to donation.

In both states, enrollment in the Donor Registry is not the only way to become a donor. If you wish to be a donor, but would prefer not to join the registry, it is important to tell your family about your decision. At the time of your death, your family will be contacted to make the decision to donate on your behalf.

- Your family will be informed of your decision to be an organ, tissue, and eye donor at the time of your death and will be asked to provide information about your medical and social history.

## Who may join the Registry and become an organ, tissue, and eye donor?

Anyone can join the Donor Registry. In Kansas and Missouri, those under 18 years old can join with the consent of a parent or legal guardian.



# Frequently Asked Questions continued

## **Who has access to the Registry?**

At the time of death, only official organ, tissue, and eye recovery agencies have access to the Registry. The only information available to these agencies is that which confirms a person's identity and decision to be a donor. Kansas/Missouri law prohibits Registry information from being sold or shared with any company or government agency.

## **Is the Registry information used and should I tell my family about my decision?**

The donor's family will be notified at the time of their loved one's death and informed of their decision to be an organ, tissue, and eye donor. The family will be asked to provide information about their loved one's social and medical history. It is important that you communicate your donation decision to your family so they can help honor and respect your choice.

## **Which organs and tissue can be donated?**

Organs that can be donated are the heart, kidneys, lung, liver, pancreas, and small intestines. Among the tissues that can be donated are corneas, bone, bone marrow, heart valves, tendons, saphenous veins, skin, fascia (muscle covering), and cartilage. Please reference *Medical Applications of Donated Tissues for Transplantation* for a complete list.

## **Are organs ever used for research?**

Some organs and tissues can be donated for medical research. Medical research is the stepping stone to discovering new treatment options for many diseases and disorders. The donation of an organ or tissue for research can result in helping many people for years to come.

## **Is there an age limit to being a donor?**

Everyone is evaluated at the time of death. Criteria changes frequently so no one is ruled out based solely on age; however, age is considered depending on the specific organs and tissues recovered.

## **Would chronic health problems make me ineligible for donation?**

No. One's health condition does not automatically rule out donation—even those with cancer, Hepatitis C, or diabetes can donate certain gifts. Medical suitability is determined at the time of death.



# Frequently Asked Questions continued

## **Does my religion support organ, tissue, and eye donation?**

Yes. Nearly all major religions approve of organ, tissue, and eye donation and consider it a gift, an act of charity. Many religions have position statements about donation. See page 19.

## **Does donation disfigure the body?**

Generally, there is no noticeable difference in the way the body looks for the funeral. There can be an open casket funeral after donation.

## **Are there any costs to my family for donation?**

No. Donation costs nothing to the donor's family or estate.

## **Will my decision to become an organ, tissue, and eye donor affect the quality of my medical care?**

No. Organ, tissue, and eye recovery takes place only after all life-saving efforts have been exhausted and death has been legally declared. The doctors working to save your life are entirely separate from the medical team involved in recovering organs and tissues.

## **Can I be a donor without being in the Registry?**

Yes. Enrollment in the Registry is not an absolute requirement for donation. If you decide to be a donor, but prefer not to join the Registry, it is important to tell your family about your decision. However, telling your family about your decision and joining the Registry is still the best action to take.

## **Can I take my name out of the Registry if I change my mind later?**

Yes. To remove yourself from the Kansas Donor Registry, call 913-262-1668 or 1-888-744-4531, for Missouri, call 1-888-497-4564.



# Frequently Asked Questions continued

## **What are tissue transplants, and do they work?**

Tissue transplants offer effective treatment for an extraordinary range of problems. Donated tissues include bone, tendons, ligaments, heart valves, skin, veins, cartilage, pericardium, and corneas. Tissue transplants are used to restore sight, mobility and heart action; to speed healing and to repair damaged skin, bone, and muscle; to prevent amputation of limbs damaged by cancer, infections and injuries. It is estimated that over 900,000 Americans benefit from tissue and cornea transplants each year.

## **Can people buy and sell organs?**

It's a federal crime to buy or sell organs. The punishment for violating the law is a fine up to \$50,000 and/or a maximum five years imprisonment.

## **What is living skin donation?**

After significant weight loss, excess skin can be donated to help others who need various medical procedures. Surgeons performing these reconstructive surgeries, upon the patient's request, can arrange for the donation of the skin by calling MTF at 800-581-2804 between 8 am to 4 pm EST). An MTF Surgical Donation coordinator will contact the patient to discuss details and schedule a medical assessment. There is no payment for the donation, the surgery or any part of the surgeon's fee, but donating will cost nothing extra. More information can be found at [www.mtf.org](http://www.mtf.org).



# Financial Aspects of Organ Donation

Public misunderstanding exists surrounding the financial aspects of organ donation and transplantation. The work that organ recovery agencies perform is vital to the overall donation and transplantation process; however, costs associated with the work are subject to misinterpretation. Recent media stories exposing the “high costs” of a particular organ may have adverse effects on public perception of the altruistic gift of organ donation.

- Organ recovery agencies bear the responsibility of coordinating the organ donation process. All are non-profit 501(c)(3) organizations, a federal designation indicating that income covers expenses incurred, including but not limited to salaries, medical supplies, hospital costs, medical testing, public education campaigns, and office operations.
- Donor families are never charged for costs associated with donation or transplantation. Organ recovery agencies absorb the costs of donation, generally beginning at the declaration of brain death and extending through the organ recovery process.
- All charges and expenses incurred by organ recovery agencies are regulated and audited by the federal Center for Medicare-Medicaid Services (CMS).
- All organ recovery agencies undergo an audit process on an annual basis.
- Most expenses are direct costs associated with recovery of organs. The recovery hospital's charges are billed to the organ recovery agency. These costs are combined with the organ recovery agency's recovery costs, and these “acquisition costs” are subsequently billed to the recipient's transplant center.
- Transplant hospitals charge the recipient's insurer for the acquisition cost of the transplanted organ.
- Acquisition costs vary by organ and geographic area, typically ranging from \$20,000 to \$35,000 per organ.
- Medicare generally covers the costs of kidney transplants under the End Stage Renal Disease (ESRD) Program and covers other transplants when the center is Medicare certified. This applies only to Medicare Patients. Other patients rely on whatever health coverage they possess.

Source: AOPPO *Association of Organ Procurement Organizations*



# Myths About Organ, Tissue, and Eye Donation

- Myth #1:** *“I have a history of medical illness. You would not want my organs or tissues.”*
- Reality:** At the time of death, Midwest Transplant Network will review medical and social histories to determine donor suitability on a case-by-case basis.
- Myth #2:** *“I am not the right age for donation.”*
- Reality:** Midwest Transplant Network’s current age criteria is from 0 to 85; however, MTN evaluates every case.
- Myth #3:** *“I heard about this guy who went to a party and woke up the next morning in a bathtub full of ice. His kidneys were stolen for sale on the black market!”*
- Reality:** There is no documented case of this ever happening. Period. First, it is illegal to buy and sell organs in the United States. “Public Law 98-507 prohibits the sale of human organs. Second, due to the complexity of transplantation, piracy is practically impossible. The process of matching donors with recipients, the need for highly skilled medical professionals to perform the surgery, and the need for modern medical facilities and support necessary for transplantation make it highly unlikely that this system could be duplicated in secrecy.” *Reference: United Network for Organ Sharing (UNOS).*
- Myth #4:** *“Rich and famous people get moved to the top of the waiting list, while ‘regular’ people have to wait a long time for a transplant.”*
- Reality:** The organ allocation and distribution system is blind to wealth or social status. “The length of time it takes to receive a transplant is governed by many factors, including blood type, length of time on the waiting list, severity of illness, and other medical criteria. Factors such as race, gender, age, income, or celebrity status are never considered when determining who receives an organ.” *Reference: UNOS.*
- Myth #5:** *“If I’m in an accident and the hospital knows I want to be a donor, the doctors won’t try to save my life.”*
- Reality:** The medical team treating you is separate from the transplant team. Midwest Transplant Network is not notified until all lifesaving efforts have failed and death is imminent.
- Myth #6:** *“My religion does not approve of donation.”*
- Reality:** The vast majority of organized religions support donation, typically considering it a generous act that is the individual’s choice.



# Myths About Organ, Tissue, and Eye Donation continued

**Myth #7:** *“I don’t want my family to have to pay if I want to donate my organs.”*

**Reality:** A donor’s family or estate is not charged for donation. If a family believes it has been billed incorrectly, the family should immediately contact Midwest Transplant Network at 913-262-1668 or 1-888-744-4531.

**Myth #8:** *“If I donate, I would worry that the recipient and/or the recipient’s family would discover my identity and cause more grief for my family.”*

**Reality:** Information about the donor and recipient is completely confidential. If both parties wish to communicate, a process is in place to exchange letters through Midwest Transplant Network.

**Myth #9:** *“I heard that they take everything, even if I only want to donate my corneas/eyes.”*

**Reality:** You may specify which organs and tissues you want donated. You can do this by communicating any exclusion to your family.

**Myth #10:** *“Organ, tissue, and eye donation means my body will be mutilated and treated badly.”*

**Reality:** Donated organs are removed surgically, in a routine operation similar to gallbladder or appendix removal. Donation doesn’t noticeably change the body’s appearance in a casket.

**Myth #11:** *“Only heart, liver, and kidneys can be transplanted.”*

**Reality:** Needed organs include the heart, kidneys, pancreas, lungs, liver, and intestines. Tissues that can be donated include the corneas/eyes, skin, bone, heart valves, and tendons.

**Myth #12:** *“I don’t need to tell my family that I want to be a donor because I have it written in my will.”*

**Reality:** By the time your will is read, it will be too late to recover your organs. Telling your family **now** that you want to be an organ, tissue, and eye donor is the best way to ensure that your wishes are carried out.



# Religious Views on Donation

A common question that arises when people are asked to consider donation of their organs and tissues, or those of their loved ones is: “Is my decision compatible with my religious beliefs?” Though the answers vary from one denomination to another research shows that the vast majority of religions do support donation and transplantation. Please contact your clergy person for more information. The following are some of the findings regarding the religious aspects of organ, tissue, and eye donation:

## ***AME & AME Zion (African Methodist Episcopal)***

Organ, tissue, and eye donation is viewed as an act of neighborly love and charity by these denominations. They encourage all members to support donation as a way of helping others.

## ***Amish***

The Amish will consent to transplantation if they believe it is for the well-being of the transplant recipient. John Hostetler, world renowned authority on Amish religion and Professor of Anthropology at Temple University in Philadelphia, says in his book, *Amish Society*, “The Amish believe that since God created the human body, it is God who heals. However, nothing in the Amish understanding of the Bible forbids them from using modern medical services, including surgery, hospitalization, dental work, anesthesia, blood transfusions or immunization.”

## ***Assemblies of God***

The church has no official policy in regards to organ, tissue, and eye donation. The decision to donate is left up to the individual. Donation is highly supported by the denomination.

## ***Bahá’í***

The belief system of the Bahá’í faith adheres to 12 basic societal values, all of which support the concept of charitable acts and human kindness, and that all life is equally valued. The core principles: the unity of God, the unity of religion, and the unity of mankind support the concept of giving unselfishly.

## ***Baptist***

Organ, tissue, and eye donation is supported as an act of charity. The Baptist Church leaves the decision up to the individual. The nation’s largest Protestant denomination, the Southern Baptist Convention, adopted a resolution in 1988 encouraging physicians to request organ donation in appropriate circumstances and to “...encourage voluntarism regarding organ donation in the spirit of stewardship, compassion for the needs of others and alleviating suffering.”



# Religious Views on Donation continued

## **Brethren**

While no official position has been taken by the Brethren denominations, according to Pastor Mike Smith, there is a consensus among the National Fellowship of Grace Brethren that organ, tissue, and eye donation is a charitable act so long as it does not impede the life or hasten the death of the donor or does not come from an unborn child.

## **Buddhism**

Buddhists believe that organ, tissue, and eye donation is a matter of individual conscience and place high value on acts of compassion. Reverend Gyomay Masao, President and Founder of the Buddhist Temple of Chicago says, “We honor those people who donate their bodies and organs to the advancement of medical science and to saving lives.” The importance of letting loved ones know your wishes is stressed.

## **Catholicism**

Catholics view organ, tissue, and eye donation as an act of charity and love. Transplants are morally and ethically acceptable to the Vatican. According to Father Leroy Wickowski, Director of the Office of Health Affairs of the Archdiocese of Chicago, “We encourage donation as an act of charity. It is something good that can result from tragedy and a way for families to find comfort by helping others.” Pope John Paul II has stated, “The Catholic Church would promote the fact that there is a fraternal love so long as ethical principles are followed.” As well, newly elected Pope Benedict XVI told an interviewer he has been a card-carrying donor for years, saying “to donate one’s organs is an act of love...”

## **Christian Church (Disciples of Christ)**

The Christian Church encourages organ, tissue, and eye donation, stating that we were created for God’s glory and for sharing God’s love. A 1985 resolution, adopted by the General Assembly, encourages, “...members of the Christian Church (Disciples of Christ) to enroll as organ donors and prayerfully support those who have received an organ transplant.”

## **The Church of the Nazarene**

The Church of the Nazarene encourages its members who do not object personally to support donor/recipient anatomical organs through living wills and trusts. Further, they appeal for a morally and ethically fair distribution of organs to those qualified to receive them (*Manual, Church of the Nazarene 1997-2001*, paragraph 904.2).

## **Christian Science**

The Church of Christ Scientist does not have a specific position regarding organ, tissue, and eye donation. According to the First Church of Christ Scientist in Boston, Christian Scientists normally rely on spiritual means of healing instead of medical. They are free, however, to choose whatever form of medical treatment they desire—including a transplant. The question of organ, tissue, and eye donation is an individual decision.



# Religious Views on Donation continued

## **Episcopal**

In 1982, the Episcopal Church passed a resolution recognizing the life-giving benefits of organ, blood, and tissue donation and encouraging all Christians to become organ, blood, and tissue donors “as part of their ministry to others in the name of Christ, who gave His life that we may have life in its fullness.”

## **Greek Orthodox**

According to Reverend Dr. Milton Efthimiou, Director of the Department of Church and Society for the Greek Orthodox Church of North and South America, “The Greek Orthodox Church is not opposed to organ, tissue, and eye donation as long as the organs and tissue in question are used to better human life, i.e., for transplantation or for research that will lead to improvements in the treatment and prevention of disease.”

## **Gypsies**

Gypsies are a people of different ethnic groups without a formalized religion. They share common folk beliefs and tend to be opposed to organ, tissue, and eye donation. Their opposition is connected with their beliefs about the afterlife. Traditional belief contends that for one year after death, the soul retraces its steps. Thus, the body must remain intact because the soul maintains its physical shape.

## **Hinduism**

According to the Hindu Temple Society of North America, Hindus are not prohibited by religious law from donating their organs. This act is an individual’s decision. H. L. Trivedi, in *Transplantation Proceedings*, stated that, “Hindu mythology has stories in which the parts of the human body are used for the benefit of other humans and society. There is nothing in the Hindu religion indicating that parts of humans, dead or alive, cannot be used to alleviate the suffering of other humans.”

## **Independent Conservative Evangelical**

Generally, Evangelicals have no opposition to organ, tissue, and eye donation. Each church is autonomous and leaves the decision to donate up to the individual.

## **Islam**

The religion of Islam strongly believes in the principle of saving human lives. According to A. Sachedina in his *Transplantation Proceedings* (1990) article, “Islamic Views on Organ Transplantation,” “...the majority of the Muslim scholars belonging to various schools of Islamic law have invoked the principle of priority of saving human life and have permitted the organ transplant as a necessity to procure that noble end.”

## **Jehovah’s Witnesses**

According to the Watch Tower Society, Jehovah’s Witnesses believe donation is a matter of individual decision. Jehovah’s Witnesses are often assumed to be opposed to donation because of their belief against blood transfusion. However, this merely means that all blood must be removed from the organs and tissues before being transplanted.



# Religious Views on Donation continued

## ***Judaism***

All four branches of Judaism (Orthodox, Conservative, Reform and Reconstructionist) support and encourage donation. According to Orthodox Rabbi Moses Tendler, Chairman of the Biology Department of Yeshiva University in New York City and Chairman of the Bioethics Commission of the Rabbinical Council of America, “If one is in the position to donate an organ to save another’s life, it’s obligatory to do so, even if the donor never knows who the beneficiary will be. The basic principle of Jewish ethics—‘the infinite worth of the human being’—also includes donation of corneas, since eyesight restoration is considered a life-saving operation.” In 1991, the Rabbinical Council of America (Orthodox) approved organ donations as permissible, and even required, from brain-dead patients. The Reform movement looks upon the transplant program favorably, and Rabbi Richard Address, Director of the Union of America Hebrew Congregation Bio-Ethics Committee and Committee on Older Adults, states that “Judaic Responsa materials provide a positive approach, and by and large the North American Reform Jewish community approves of transplantation.”

## ***Lutheran***

In 1984, the Lutheran Church in America passed a resolution stating that donation contributes to the well-being of humanity and can be “an expression of sacrificial love for a neighbor in need.” They call on “members to consider donating organs and to make any necessary family and legal arrangements, including the use of a signed donor card.”

## ***Mennonite***

Mennonites have no formal position on donation, but are not opposed to it. They believe the decision to donate is up to the individual and/or their family.

## ***Moravian***

The Moravian Church has made no statement addressing organ, tissue, and eye donation or transplantation. Robert E. Sawyer, President, Provincial Elders Conference, Moravian Church of America, Southern Province states, “There is nothing in our doctrine or policy that would prevent a Moravian pastor from assisting a family in making a decision to donate or not to donate an organ.” It is, therefore, a matter of individual choice.

## ***Mormon (Church of Jesus Christ of Latter-day Saints)***

The Church of Jesus Christ of Latter-day Saints believes that the decision to donate is an individual one made in conjunction with family, medical personnel, and prayer. They do not oppose donation. Jerry Cahill, Director of Public Affairs for the Mormon Church, says, “Mormons must individually weigh the advantages and disadvantages of transplantation and choose the one that will bring them peace and comfort. The Church does not interpose any objection to an individual decision in favor of organ, tissue, and eye donation.”



# Religious Views on Donation continued

## **Native American**

“God, Creator, Great Spirit. At the heart of American Indian spirituality is belief in an *Essence of Spirit: a Higher Power*, who is omniscient and immanent throughout the universe and who has created all that is seen and unseen.

All is Sacred, as All are Relatives. American Indian spirituality teaches that *Great Spirit* is immanent within all Creation and manifested and reflected in all aspects and elements of the created Earth and all its inhabitants: human, animal, fowl, plant life, the rocks, the waters; etc. thus, we are all relatives as *Great Spirit* is manifest and reflected in us.

Autonomy of the Individual. Spirituality for a Native American is an individual choice and a family matter. There are no intermediaries between the individual and Creator. American Indian Spirituality encourages the seeker to find his or her own truth and form his or her own personal relationship with *Spirit* assisted by personal mentorship of an elder.”

## **Pentecostal**

Pentecostals believe that the decision to donate should be left up to the individual.

## **Presbyterian**

Presbyterians encourage and support donation. They respect a person’s right to make decisions regarding their own body.

## **Protestant**

Protestants encourage and endorse organ, tissue, and eye donation. The Protestant faith respects an individual’s conscience and a person’s right to make decisions regarding his or her own body. Reverend James W. Rassbach, Lutheran Board of Communication Services, Missouri-Synod, says “We accept and believe that our Lord Jesus Christ came to give life and give it in abundance. Organ, tissue, and eye donations enable more abundant life, alleviate pain and suffering and are an expression of love in times of tragedy.”

## **Seventh-day Adventist**

Donation and transplantation are strongly encouraged by Seventh-day Adventists. They have many transplant hospitals, including Loma Linda in California. Loma Linda specializes in pediatric heart transplantation.

## **Shinto**

In Shinto, the dead body is considered to be impure and dangerous, and thus quite powerful. “In folk belief context, injuring a dead body is a serious crime...,” according to E. Namihira in his article, “Shinto Concept Concerning the Dead Human Body.” “To this day it is difficult to obtain consent from bereaved families for organ, tissue, or eye donation or dissection for medical education or pathological anatomy...the Japanese regard them all in the sense of injuring a dead body. Families are often concerned that they not injure the itai – the relationship between the dead person and the bereaved people.”



# Religious Views on Donation continued

## ***Society of Friends (Quakers)***

Organ, tissue, and eye donation is believed to be an individual decision. The Society of Friends does not have an official position on donation. Officials for the Quaker faith do not oppose organ, tissue, and eye donation and transplantation.

## ***Unitarian Universalist***

Organ, tissue, and eye donation is widely supported by Unitarian Universalists. They view it as an act of love and selfless giving.

## ***United Church of Christ***

Reverend Jay Lintner, Director, Washington Office of the United Church of Christ Office for Church in Society, states, “United Church of Christ people, churches and agencies are extremely and overwhelmingly supportive of organ sharing. The General Synod has never spoken to this issue because, in general, the Synod speaks on more controversial issues, and there is no controversy about organ sharing, just as there is no controversy about blood donation in the denomination. Any organized effort to get the General Synod delegates or individual churches to sign organ, tissue, and eye donation cards would meet with generally positive responses.”

## ***United Methodist***

The United Methodist Church issued a policy statement in regards to organ, tissue, and eye donation. In it, they state that “The United Methodist Church recognizes the life-giving benefits of organ, tissue, and eye donation, and thereby encourages all Christians to become organ, tissue, and eye donors by signing and carrying cards of driver’s licenses, attesting to their commitment of such organs upon their death, to those in need, as a part of their ministry to others in the name of Christ, who gave His life that we might have life in its fullness.” A 1992 resolution states, “Donation is to be encouraged, assuming appropriate safeguards against hastening death and determination of death by reliable criteria.” The resolution further states, “Pastoral-care persons should be willing to explore these options as a normal part of conversation with patients and their families.”

## ***Wesleyan Church***

The Wesleyan Church supports donation as a way of helping others. They believe that God’s “ability to resurrect us is not dependent on whether or not all our parts were connected at death.” They also support research and have noted that “one of the ways that a Christian can do good is to request that their body be donated to a medical school for use in teaching.”

## ***Wiccan***

There is a prevalent belief in the Craft that the soul not only transcends the body, but also immanently exists in the body’s parts. Therefore, it is likely that a Wiccan faced with receiving a transplant would undergo specific rites to purify their body prior to surgery, to thank the donor, and to focus on integrating an organ from another into themselves. The decision to donate organs is an individual’s choice.



# Medical Applications of Donated Tissue for Transplantation

<b>DONOR TISSUE</b>	<b>TRANSPLANTED TISSUE</b>	<b>TYPICAL APPLICATIONS</b>	<b>BENEFITS TO RECIPIENTS</b>
<b>EYE TISSUE</b>			
Eye	Sclera	Repair eyelid, reinforce wall of eye. Repair eardrum.	Restores vision eye function.
	Cornea	Replace diseased or damaged cornea.	Restores vision.
<b>MUSCULOSKELETAL TISSUE</b>			
Humerus	Whole Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, and fractures.	Prevents amputation, accelerates, promotes and allows healing.
	Humeral Head Dowels, Spacers	Total hip revision. Spinal fusion.	Restores mobility. Prevents collapse of bone, reduces pain, reduces chance of nerve damage.
Femur	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, and fractures, cartilage reconstruction.	Prevents amputation, accelerates, promotes and allows healing.
	Femoral Head	Reconstruction of damaged acetabulum, supplement for small defects.	Restores mobility.
	Dowels, Spacers	Spinal fusion.	Prevents collapse of bone, reduces pain, reduces chance of nerve damage.
	Cancellous	Filling defects, augments prosthetic device implant.	Accelerates, promotes and allows healing.
	Demineralized Powder	Filling defects, augments prosthetic device implant.	Accelerates, promotes and allows healing.
	Cortical Spacers	Spinal fusion.	Prevents collapse of bone, reduces pain. Reduces chance of nerve damage.



# Medical Applications of Donated Tissue for Transplantation continued

<b>DONOR TISSUE</b>	<b>TRANSPLANTED TISSUE</b>	<b>TYPICAL APPLICATIONS</b>	<b>BENEFITS TO RECIPIENTS</b>
Tibia	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, fractures and cartilage repair.	Prevents amputation, accelerates, promotes and allows healing.
	Cortical Strut	Augments large grafts and prosthetic implants.	Restores mobility, promotes healing.
	Cortical Spacers	Spinal fusion.	Prevents collapse of bone, reduces pain, reduces chance of nerve damage.
	Meniscus	Joint surgery.	Relieve pain, maintain joint space, and absorb shock.
Patella	Patella Wedge	Spinal fusion.	Prevents collapse of bone, reduces pain, reduces chance of nerve damage.
Fibula	Fibular Shaft	Repair of traumatic bone loss.	Restores mobility, promotes healing.
Iliac	Iliac Crest Wedge, Ilium Strip	Spinal fusion.	Prevents further collapse of bone, reduces pain, reduces chance of nerve damage.
	Cortical Cancellous	Filling defects, augments prosthetic device implant.	Accelerates, promotes and allows healing.
Acetabulum	Acetabulum	Acetabular reconstruction.	Restores mobility.
Rib	Rib	Mandible repair augment as a strut graft.	Restores normal facial appearance.
<b>CARDIOVASCULAR TISSUE</b>			
Heart Valves	Aortic and Pulmonary Heart Valve	Replacement for damaged heart valves.	Almost no rejection. Allows children to grow into graft (almost no second surgery for size). Graft doesn't calcify, or require anticoagulant therapy.
Veins	Saphenous Vein, Femoral Vein	CABG, below knee vascularization.	Vascularization, prevents amputation.



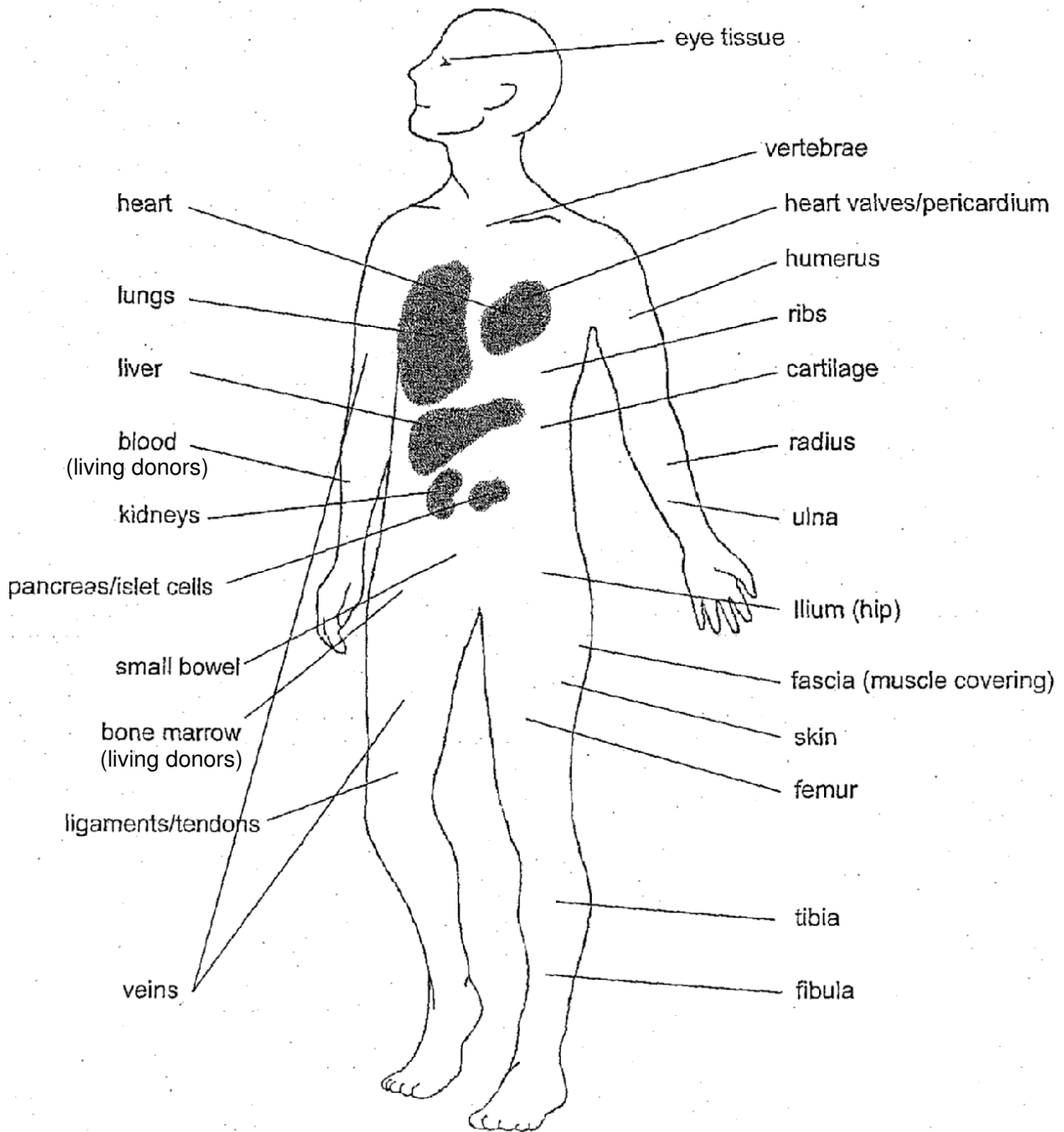
# Medical Applications of Donated Tissue for Transplantation continued

<b>DONOR TISSUE</b>	<b>TRANSPLANTED TISSUE</b>	<b>TYPICAL APPLICATIONS</b>	<b>BENEFITS TO RECIPIENTS</b>
<b>CONNECTIVE TISSUE</b>			
Patellar Tendon	Patellar Tendon	Replace ACL, PCL.	Returns mobility, restores independence in activities of daily living.
Tibialis Tendon	Tibialis Tendon	ACL reconstruction.	Returns mobility, restores independence.
Achilles' Tendon	Achilles' Tendon	Replace PCL, used as rotator cuff, replace Achilles' tendon.	Restores mobility, restores independence in activities of daily living.
Cartilage	Cartilage	Repair congenital and traumatic facial deformity; resurface knee joint.	Restores normal facial appearance. Restores mobility, decreases pain.
Fascia Lata	Fascia Lata	Used as tendon to repair injury; bladder incontinence.	Returns mobility, restores independence in activities of daily living.
Rotator Cuff	Rotator Cuff	Shoulder repair.	Independence in ADL's, mobility, and decreases joint pain (i.e., hip, knee, joint, wrist).
Hamstring	Hamstring	ACL repair.	Restores mobility.
<b>OTHER TISSUE</b>			
Pericardium	Pericardium	Neurosurgery (as alternative to using dura mater).	Protective covering replacement.
Skin	Skin, Collagen	Grafts for burn victims, incontinence, facial reconstruction.	Promotes healing, natural barrier to infection. Treats urinary incontinence, facial scarring.

*These examples are not meant to be all inclusive. This fact sheet was prepared by the Musculoskeletal Transplant Foundation, a non-profit service organization dedicated to providing quality tissue through a commitment to excellence in education, research, recovery, and care for recipients, donors and their families.*



# Transplantable Organs and Tissue



# Facts Regarding Cornea (Eye) Donation

## Transplantable tissue includes:

Cornea: *The thin clear layer of tissue at the front of the eye.*

- Corneal tissue is transplantable for up to 14 days.
- Typically the two corneas go to two separate recipients.
- Corneal tissue is nonvascularized (does not receive blood flow).
  - No need to crossmatch (match blood types).
  - This also allows most cancer patients to donate corneal tissue.
- Over 90% of corneal transplants are successful.

Sclera: *A tough protective outer coat known as “the white of the eye.”*

- Transplantable for up to one year.
- Often used to patch tympanic membranes (ear drum).
- Transplantable to four separate recipients.

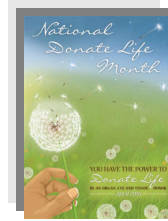
## General Facts:

- Cornea and sclera donation is still possible from individuals with:
  - History of cataract surgery.
  - Visual impairments requiring glasses or contacts.
  - Retinal disorders.
  - Non-corneal-related blindness.
- Tissue is placed with recipients in the Missouri, Kansas, and Illinois regions first, followed by other United States regions and international requests.
- Tissue determined unsuitable for transplantation is used for vital eye research with family consent.
- Most religions support donation as a humanitarian act.
- Donation should not interfere with funeral arrangements or viewings.
- People with diabetes and cancer can be donors.



# Calendar of Events

April National Donate Life Month



April Run for Life, Topeka, KS, Washburn campus (always the first Saturday of the month) [www.runforlife.us](http://www.runforlife.us)

Summer U.S. Transplant Games (biennial)  
[www.kidney.org](http://www.kidney.org)  
[www.transplantgames.org](http://www.transplantgames.org)



August 1<sup>st</sup> National Minority Donor Awareness Day  
[www.nationalmottep.org](http://www.nationalmottep.org)

November National Donor Sabbath (scheduled two weekends before Thanksgiving)



Many other events, celebrations, and programs are provided throughout the year. Please refer to the MTN website and MTN publications regarding these events.

[www.mwtn.org](http://www.mwtn.org)



# To Remember Me

The day will come when my body will lie upon a white sheet neatly tucked under four corners of a mattress located in a hospital busily occupied with the living and the dying. At a certain moment a doctor will determine that my brain has ceased function and that, for all intents and purposes, my life has stopped.

When that happens, do not attempt to instill artificial life into my body by use of a machine. And don't call this my deathbed. Let it be called the bed of life, and let my body be taken from it to help others lead fuller lives.

Give my sight to the man who has never seen a sunrise, a baby's face or love in the eyes of a woman.

Give my heart to a person whose own heart has caused nothing but endless days of pain.

Give my blood to the teenager who was pulled from the wreckage of his car, so that he might live to see his grandchildren play.

Give my kidneys to one who depends on a machine to exist from week to week.

Take my bones, every muscle, every fiber and nerve in my body and find a way to make a crippled child walk.

Explore every corner of my brain. Take my cells, if necessary, and let them grow so that, someday, a speechless boy will shout at the crack of a bat and a deaf girl will hear the sound of rain against her window.

Burn what is left of me and scatter the ashes to the winds to help flowers grow.

If you must bury something, let it be my faults, my weaknesses and all prejudice against my fellow man.

Give my soul to God.

If, by chance you wish to remember me, do it with a kind deed or word to someone who needs you.

If you do all I have asked, I will live forever.—by Robert N. Test



# Donation Websites

## General Information

Midwest Transplant Network  
[www.mwtn.org](http://www.mwtn.org)

Transweb  
[www.transweb.org](http://www.transweb.org)

Gift of Life  
[www.giftdonor.org](http://www.giftdonor.org)

United Network for  
Organ Sharing  
[www.unos.org](http://www.unos.org)

The Organ Procurement and  
Transplantation Network  
[www.optn.org](http://www.optn.org)

Donate Life America  
[www.donatelife.net](http://www.donatelife.net)  
[www.donevida.org](http://www.donevida.org)

American Society of Multicultural  
Health and Transplant Professionals  
[www.asmhpt.org](http://www.asmhpt.org)

Department of Health and  
Human Services  
[www.organdonor.gov](http://www.organdonor.gov)

Community Blood Center  
[www.savealifenow.org](http://www.savealifenow.org)  
816-968-4015 / 1-888-647-4040

Heartland Lions Eye Banks  
[www.hleb.org](http://www.hleb.org)  
816-454-5454 / 800-331-2636

Kansas Eye Bank & Cornea Research Center  
[www.kansaseyebank.org](http://www.kansaseyebank.org)  
316-260-8220

Eye Bank Association of America  
[www.restoresight.org](http://www.restoresight.org)

Polycystic Kidney Disease  
[www.pkdcure.org](http://www.pkdcure.org)

National Kidney Foundation  
[www.kidney.org](http://www.kidney.org)

## Resources for Donor Families

National Kidney Foundation's  
National Donor Family Council  
[www.donorfamily.org](http://www.donorfamily.org)

Lyric of Life  
[www.lyricoflife.org](http://www.lyricoflife.org)

## Resources for Recipients and Living Donors

UNOS  
[www.transplantliving.org](http://www.transplantliving.org)

National Council on Minority Education in Transplant  
[www.transweb.org](http://www.transweb.org)

National Kidney Foundation  
[www.livingdonors.org](http://www.livingdonors.org)

Organ Transplant Support Inc.  
[www.otsfriends.org](http://www.otsfriends.org)

National Foundation for Transplants  
[www.transplants.org](http://www.transplants.org)

Astellas  
[www.transplantexperience.com](http://www.transplantexperience.com)

Heart of America Donor Center of  
the National Marrow Donor Program  
[www.marrow.org](http://www.marrow.org)  
800-366-6710

Living Donors Online  
[www.livingdonorsonline.org](http://www.livingdonorsonline.org)



# Donation Websites continued

## **Organs for Research and Willed Body Programs and Studies**

National Development and Research  
Institutes, Inc. (NDRI) [www.ndriresource.org](http://www.ndriresource.org)  
800-222-6374

International Institute for The Advancement  
of Medicine (IIAM) [www.iiam.org](http://www.iiam.org)  
888-496-7033

XenoTech  
[www.xenotechllc.com](http://www.xenotechllc.com)  
913-473-3287

Cytonet  
[www.cytonet.de](http://www.cytonet.de) (Select *English* in header bar.)  
1-919-354-3161

University of Kansas Medical Center  
913-588-5000

Cleveland Chiropractic College  
913-234-0600

University of Missouri- Columbia  
573-882-4141



# Glossary of Terms

## A

### **ABDR**

The HLA antigens considered for most matching strategies between a potential recipient and a donor.

### **Allocation**

The process of determining how organs are distributed. Allocation includes the system of policies and guidelines, which ensure that organs are distributed in an equitable, ethical and medically sound manner.

### **Allograft**

An organ or tissue that is transplanted from one person to another of the same species: i.e. human-to-human. Example: a transplanted kidney.

### **Anoxia**

Usually refers to lack of oxygen to the brain.

### **Anti-Rejection Drugs (immunosuppressive drugs)**

Drugs that are used to prevent and/or treat rejection of a transplanted organ.

### **Antibody**

A protein molecule produced by the immune system in response to a foreign body, such as virus or a transplanted organ. Since antibodies fight the transplanted organ and try to reject it, recipients are required to take anti-rejection (immunosuppressive) drugs.

### **Antigen**

An antigen is any substance that causes your immune system to produce antibodies against it. An antigen may be a foreign substance from the environment such as chemicals, bacteria, viruses, pollen, or foreign tissues. An antigen may also be formed within the body, as with bacterial toxins.

### **Autograft**

A graft of skin or other tissue that is taken from the body of the person to be grafted rather than from another person.

### **Auxiliary Transplant**

A type of liver transplant in which the patient's liver remains within the body, while another whole or partial liver is transplanted just beneath or adjacent to the recipient's.

## B

### **Benign**

Not malignant.

### **Biliary atresia**

The congenital closure, or near closure, of the bile ducts. The most common indication for liver transplantation in children comprising 60 to 70 percent of all candidates.

### **Bilirubin**

A breakdown product of hemoglobin from blood cells, the results of which are used in the MELD and PELD calculations as a measure of the severity of liver disease.

### **Blood Type**

One of four groups (A, B, AB or O) into which blood is classified. Blood types are based on differences in molecules (proteins and carbohydrates) on the surface of red blood cells.

### **Brain Death**

Irreversible cessation of cerebral and brain stem function; characterized by absence of electrical activity in the brain, blood flow to the brain, and brain function as determined by clinical assessment of responses. A brain dead person is dead, although his or her cardiopulmonary functioning may be artificially maintained for some time.

## C

### **Candidate**

A person registered on the organ transplant waiting list. When an organ is offered on behalf of the candidate, he or she is then referred to as a Potential Transplant Recipient (PTR).

### **Cardiac death**

Death resulting from the cessation of heart function; an individual who suffers a cardiac death can donate organs if the organs can be promptly cooled.

### **Cold Ischemia Time (CIT)**

The amount of time an organ spends being preserved after recovery from the donor.

### **Creatinine**

Found in the blood, it is a waste by-product of muscle; creatinine level in the blood is one of the key measures of kidney function.



## **Criteria (Medical Criteria)**

A set of clinical or biologic standards or conditions that must be met.

## **Crossmatch**

A blood test to determine compatibility between donor and recipient. A positive crossmatch indicates incompatibility. If the crossmatch is "negative," then the transplant may proceed. Crossmatching is performed for many organ transplants.

## **Cryopreservation**

The use of low temperatures to preserve cells or tissue. Often a chemical substance is added to protect the cells from damage during the freezing and thawing of the materials.

## **D**

### **Deceased Donor**

An individual from whom at least one solid organ is recovered for the purpose of transplantation after suffering brain death or cardiac death.

### **Dialysis**

A mechanical process designed to partially perform kidney functions, including correcting the balance of fluids and chemicals in the body and removing wastes. See Hemodialysis and Peritoneal Dialysis.

### **Directed Donation**

The donation of an organ to a specifically identified recipient. These instructions are given by a donor or donor family member.

### **Domino Transplant**

A procedure in which an organ is removed from one transplant candidate and immediately transplanted into a second patient, with the first patient receiving a new organ from a deceased donor.

### **Donation after Cardiac Death (DCD)**

Recovery of organs and/or tissues from a donor whose heart has irreversibly stopped beating, previously referred to as non-heart-beating or asystolic donation.

### **Donation Service Area (DSA)**

The geographic area designated by CMS that is served by one organ procurement organization (OPO), one or more transplant centers, and one or more donor hospitals. Formerly referred to as Local Service Area or OPO Service Area.

### **Donor**

Someone from whom at least one organ or tissue is recovered for the purpose of transplantation. A deceased donor is a patient who has been declared dead using either brain death or cardiac death criteria, from whom at least one vascularized solid organ is recovered for the purpose of organ transplantation. A

living donor is one who donates an organ or segment of an organ for the intent of transplantation.

### **Donor Registries**

Available 24 hours a day, seven days a week, online registries provide authorized professionals access to a confidential database of registered organ donors, allowing easy and quick confirmation of an individual's consent to organ donation. All registries are voluntary and some are affiliated with the local motor vehicle bureau, while others are independently operated or OPO-based.

## **E**

### **End-Stage Organ Disease**

A disease that leads to the permanent failure of an organ.

### **Expanded Donor (ED)**

A donor whose characteristics may include general or organ specific factors such as advanced donor age, prior infection with hepatitis B or hepatitis C, a history of hypertension or diabetes mellitus, abnormal donor organ function, or non-heartbeating status of a deceased donor. The term "expanded" is used because an expansion of the donor pool is considered to increase transplantation and is preferred over the term "marginal donor."

## **F**

### **First Person Consent Legislation**

Legislation that allows donor designation to be indicated on a driver's license or an official signed donor document, which gives hospitals legal authority to proceed with organ procurement without consent from the family.

## **G**

### **Graft**

A transplanted organ or tissue.

### **Graft Survival**

The length of time an organ functions successfully after being transplanted.

## **H**

### **Hepatitis**

A viral infection or non-specific inflammation of the liver that can lead to liver failure. Hepatitis C is the leading cause of liver failure that leads to transplantation.

### **Hepatologist**

A specialist who is an expert in the diagnosis and treatment of liver diseases.



## **Heterotopic Transplant**

Transplantation of an organ to a site different from where it would ordinarily be located on the recipient's body.

## **Histocompatibility**

The examination of human leukocyte antigens (HLA) in a patient, often referred to as "tissue typing" or "genetic matching." Tissue typing is routinely performed for all donors and recipients in kidney and pancreas transplantation to help match the donor with the most suitable recipients to help decrease the likelihood of rejecting the transplanted organ. See Human Leukocyte Antigen System (HLA System).

## **Histocompatibility Antigens**

Molecules, also known as Human Leukocyte Antigens (HLA), found on all nucleated cells in the body. Inherited from one's parents, histocompatibility antigens help the immune system to recognize whether or not a cell is foreign to the body. These antigens are used to help determine the compatibility of kidneys and pancreata for transplantation from one individual to another. See Human Leukocyte Antigen System (HLA System).

## **HLA Mismatch (MM)**

In transplantation, a mismatch indicates the donor has at least one HLA-A, HLA-B, or HLA-DR antigen that is not present in the recipient.

## **Human Leukocyte Antigen (HLA)**

Molecules found on cells in the body that are inherited genetically. In donor-recipient matching, HLA help to determine compatibility between a donor and recipients.

## **Human Leukocyte Antigen System (HLA System)**

The system for using HLA helps to determine the compatibility of kidneys and pancreata for transplantation from one individual to another. Generally speaking, the smaller the number of HLA mismatches the better the compatibility between donor organ and recipient.

## **I**

### **Immunosuppression**

Prevention or inhibition of the immune system to respond to foreign substances in the body. Medications often used to prevent a recipient's immune system from rejecting a transplanted organ or tissue include prednisone, methylprednisolone, azathioprine, mycophenolate mofetil, cyclosporine, tacrolimus, and sirolimus, among others.

## **Informed Consent**

A person's voluntary agreement, based upon adequate knowledge and understanding of relevant information, to participate in research or to undergo a diagnostic, therapeutic, or preventive procedure.

## **J**

### **Joint Commission on Accreditation of Healthcare Organizations (JCAHO)**

An independent, nonprofit organization that evaluates and accredits health care organizations and programs in the United States including hospitals, nursing homes and home health agencies. The commission establishes guidelines for the operation of hospitals and other health facilities and conducts survey and accreditation programs.

## **K**

### **Kidneys**

A pair of organs that remove wastes from the body through the production of urine. All of the blood in the body passes through the kidneys about 20 times every hour. Kidneys can be donated from living and deceased donors and transplanted into patients with kidney failure.

## **L**

### **Liver**

The largest organ in the body, made up of a spongy mass of wedge-shaped lobes. The liver secretes bile, which aids in digestion, helps process proteins, carbohydrates, and fats, and stores substances like vitamins. It also removes wastes from the blood. A living donor can give part of their liver, after which the liver will regenerate itself in both the donor and recipient.

### **Living Donation**

When a living person gives an organ or a portion of an organ for use in a transplant. A kidney, or portion of a liver, lung, pancreas or intestine may be donated. See also Living Donor, Organ Donation.

### **Living Donor (LD)**

A living person who donates an organ for transplantation, such as a kidney or a segment of the lung, liver, pancreas, or intestine. Living donors may be blood relatives, emotionally related individuals, or altruistic strangers. These may also include domino heart or liver transplants. See Domino Transplant.

### **Living-Related Donor (LRD)**

A family member who donates a kidney, part of a lung, liver, pancreas, or intestine to another family member. Examples: a brother and a sister, or a parent and a child.



### **Living-Unrelated Donor**

A person who is not related by blood, who donates a kidney, part of a lung, liver, pancreas, or intestine to another person (such as a husband, wife, friend or in-law). In the last few years, stranger-to-stranger living unrelated donations have greatly increased.

### **Lungs**

The organs of respiration in which aeration of the blood takes place, consisting of a right and left lung divided into lobes. The right lung has three lobes and the left lung has two lobes.

## **M**

### **Match Run**

A computerized ranking of transplant candidates based upon donor and candidate medical compatibility and criteria defined in OPTN policies.

### **Match System**

The computerized algorithm used to prioritize patients waiting for organs. It eliminates potential recipients whose size or ABO type is incompatible with that of a donor and then ranks those remaining potential recipients according to the ranking system approved by the OPTN Board.

### **Multiple Listing**

Being on the waiting list for the same organ at more than one transplant center.

## **N**

### **Nephrologist**

A specialist in the treatment of kidney insufficiency and kidney disease.

## **O**

### **Omnibus Budget Reconciliation Act (OBRA)**

The federal law that allows an employee to continue health insurance benefits after COBRA, if he/she has elected COBRA coverage due to a Social Security approved disability. OBRA is an 11 month extension of COBRA. OBRA also established hospital procedures that require a designated person to approach family members about donation at the time of a patient's death. This practice is referred to as Routine Request. In 1987, OBRA was revised to require hospitals to notify OPOs regarding potential donors. See Consolidated Omnibus Budget Reconciliation Act (COBRA).

### **Organ**

A part of the body made up of tissues and cells that enable it to perform a particular function. Transplantable organs are the heart, liver, lungs, kidneys, pancreas and intestines.

### **Organ Donation**

To give an organ or a part of an organ to be transplanted into another person. Organ donation can occur with a deceased donor, who can give kidneys, pancreas, liver, lungs, heart, intestinal organs, and with a live donor, who can give a kidney, or a portion of the liver, lung, or intestine.

### **Organ Preservation**

Methods used to preserve organs while they are out of the body, between procurement from a donor and transplantation into a recipient.

### **Organ Procurement**

The recovery of organs from a donor for transplantation.

### **Organ Procurement and Transplantation Network (OPTN)**

In 1987, Congress passed the National Organ Transplant Act that mandated the establishment of the OPTN and Scientific Registry of Transplant Recipients. The purpose of the OPTN is to improve the effectiveness of the nation's organ procurement, donation and transplantation system by increasing the availability of and access to donor organs for patients with end-stage organ failure. The Act stipulated that the Network be a non-profit, private sector entity comprised of all U.S. transplant centers, organ procurement organizations and histocompatibility laboratories. These members along with professional and voluntary healthcare organizations and the representatives of the general public are governed by a Board of Directors which reports to the Division of Transplantation, HRSA and ultimately HHS. UNOS holds the OPTN contract.

### **Organ Procurement Organization (OPO)**

As an organization designated by the Centers for Medicare and Medicaid Services (CMS) and responsible for the procurement of organs for transplantation and the promotion of organ donation, an OPO serves as the vital link between the donor and recipient and is responsible for the identification of donors, and the recovery, preservation and transportation of organs for transplantation. OPOs are also involved in data follow-up regarding deceased organ donors. As a resource to the community, OPOs engage in public education on the critical need for organ donation. See also Donation Service Area (DSA).

### **Osteoarticular Graft**

An allograft that is composed of the bone, articular cartilage and tendons of a joint that is used to replace a diseased or damaged joint in the recipient. In many cases the use of an osteoarticular allograft can prevent the amputation of a limb.



## P

### **Pancreas**

Irregularly shaped gland that lies behind the stomach and secretes pancreatic enzymes into the small intestines to aid in the digestion of proteins, carbohydrates and fats. Islet cells within the pancreas secrete glucagon, which regulates blood sugar levels

### **Pancreas continued**

and insulin, which lowers blood sugar levels. If the pancreas fails, the individual becomes diabetic, and may need to take insulin. The pancreas can be donated and transplanted.

### **Pediatric End Stage Liver Disease (PELD) Scoring System**

A measure of illness severity used in the allocation of livers to pediatric candidates, established in February 2002. The PELD system uses three laboratory values (albumin, bilirubin and INR), a presence of growth failure (at least 2 standard deviations below average height or weight), and an indicator of whether the patient is less than one year of age to calculate a score predictive of the risk of death within three months on the liver waiting list for candidates under the age of 18. See Model for End-Stage Liver Disease (MELD).

### **Perfusion**

The passage of a fluid (blood or other) through the vessels of organs or tissues. Deceased donor organs are perfused with synthetic cold preservation fluid to keep them viable for transplant.

### **Peritoneal Dialysis**

A treatment technique for kidney failure that uses the patient's own body tissues inside of the abdominal cavity to act as a filter. The intestines lie in the abdominal cavity, the space between the abdominal wall and the spine. A plastic tube called a "dialysis catheter" is placed through the abdominal wall into the abdominal cavity. A special fluid is then flushed into the abdominal cavity and washes around the intestines. The lining (peritoneum) of the abdominal cavity and of intra-abdominal organs act as a filter between this fluid and the blood stream. By using different types of solutions, waste products and excess water can be removed from the body through this process.

### **Placement**

The process of allocating donated organs via the match system.

### **Plasmapheresis**

A process in which plasma is removed from blood and the remaining components, mostly red blood cells, are returned to the donor. The process may be used in transplantation to remove preformed antibodies.

### **Polycystic Kidney Disease (PKD)**

A hereditary condition that results in the formation of cysts throughout the kidneys. Patients with PKD often require kidney transplantation.

### **Procurement**

The surgical procedure of removing an organ from a donor. Also referred to as recovery.

## R

### **Recipient**

A person who receives a transplant.

### **Regions**

For the administration of organ allocation and appropriate geographic representation within the OPTN policy structure, the membership is divided into 11 geographic regions. Members belong to the Region in which they are located. The Regions are as follows:

- Region 1 - Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island
- Region 2 - Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Northern Virginia, West Virginia
- Region 3 - Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Puerto Rico
- Region 4 - Oklahoma, Texas
- Region 5 - Arizona, California, Nevada, New Mexico, Utah
- Region 6 - Alaska, Hawaii, Idaho, Montana, Oregon, Washington
- Region 7 - Illinois, Minnesota, North Dakota, South Dakota, Wisconsin
- Region 8 - Colorado, Iowa, Kansas, Missouri, Nebraska, Wyoming
- Region 9 - New York, Vermont
- Region 10 - Indiana, Michigan, Ohio
- Region 11 - Kentucky, North Carolina, South Carolina, Tennessee, Virginia

### **Rejection**

A phenomenon that occurs when a recipient's immune system attacks a transplanted organ, tissue, or cell. Immunosuppressive drugs help prevent or treat rejection.

### **Renal**

Having to do with, or referring to, the kidneys.



## S

### **Sensitization**

Potential recipients are “sensitized” if their immune system makes antibodies against a general donor pool. Sensitization usually occurs as a consequence of pregnancy, blood transfusions, or previous transplantation. The degree of sensitization is measured by panel reactive antibody (PRA). Highly sensitized patients are less likely to match with available donors and more likely to reject an organ than unsensitized patients.

### **Status**

An indication of the degree of medical urgency for patients awaiting heart or liver transplants. Examples: status 1A, status 1B, or status 2.

### **Stem Cells**

An embryonic or primitive cell that gives rise to all types of specialized cells.

## T

### **Time to Transplant (TT)**

The measure of time from wait-listing to transplantation. Time to transplant considers all candidates who are initially registered on the waiting list, and measures the time between waiting list registration and transplant date. See also Waiting Time (WT).

### **Tissue**

An organization of a great many similar cells that perform a special function. Examples of tissues that can be transplanted are blood, bones, bone marrow, corneas, heart valves, ligaments, saphenous veins, and tendons.

### **Tissue Type**

An individual's combination of HLA antigens. Matching for tissue type is used in the allocation system for kidney and pancreas transplantation.

### **Tissue Typing**

A blood test that helps evaluate how closely the tissues of the donor match those of the recipient.

### **Transplant Center**

A hospital that performs transplants, including qualifying patients for transplant, registering patients on the national waiting list, performing transplant surgery and providing care before and after transplant.

### **Transplant Program**

The organ-specific facility within a transplant center. A transplant center may have programs for the transplantation of hearts, lungs, liver, kidneys, pancreata, pancreas islets, and/or intestines.

## **Transplant Team**

The diverse group of professionals at the transplant center who work to make a transplant successful. Each person on the "transplant team" is an expert in a different area of transplantation. The transplant team includes all or some of the following professionals:

- Clinical transplant coordinators have responsibility for the patient's evaluation, treatment, and follow-up care.
- Transplant physicians are doctors who manage the patient's medical care, tests, and medications. He or she does not perform surgery. The transplant physician works closely with the transplant coordinator to coordinate the patient's care until transplanted, and in some centers, provides follow-up care to the recipient.
- Transplant surgeons perform the transplant surgery and may provide the follow-up care for the recipient. The transplant surgeon has special training to perform transplants.
- Financial coordinators have detailed knowledge of financial matters and hospital billing. The financial coordinator works with other members of the transplant team, insurers, and administrative personnel to coordinate and clarify the financial aspects of the patient's care before, during, and after the transplant.
- Social workers help patients and their families understand and cope with a variety of issues associated with a patient's illness and/or the various side-effects of the transplant itself. In some cases, the social worker may perform some of the financial coordinator duties as well.

## U

### **Uniform Anatomical Gift Act (UAGA)**

The 1968 Uniform Anatomical Gift Act (UAGA) provided the legal foundation upon which human organs and tissues could be donated for transplantation by execution of an anatomical gift authorizing document. Since 1972, all 50 states and the District of Columbia have adopted this Act, or amended forms of this Act.

### **United Network for Organ Sharing (UNOS)**

The private, nonprofit membership organization that coordinates the nation's transplant system through HRSA's OPTN contract. As OPTN contractor, UNOS is responsible for meeting all contract requirements. As contractor since the first OPTN contract award in 1986, UNOS has established and continually strives to improve tools, systems and quality processes that



support OPTN contract objectives and requirements. These include:

- Managing the national organ transplant waiting list
- Collecting, managing and reporting of sensitive clinical data in a secure, fail-safe environment
- Facilitating an open, inclusive forum for development and continuous refinement of evidence-based policies and standards
- Member and policy performance assessment to ensure equitable, safe treatment of candidates and recipients

### **UNOS continued**

- Increasing donation and making the most of every organ that is donated through professional education, outcomes research, patient services and resources and public and professional education
- Continuously improving the care, quality of life and outcomes of organ transplant candidates and recipients

## **V**

### **Ventilator**

A machine that "breathes" for a patient when the patient is not able to breathe properly.

## **W**

### **Wait List (WL)**

The list of candidates registered to receive organ transplants. When a donor organ becomes available, the matching system generates a new, more specific list of potential recipients based on the criteria defined in that organ's allocation policy (e.g., organ type, geographic local and regional area, genetic compatibility measures, details about the condition of the organ, the candidate's disease severity, time spent waiting, etc.).

### **Wait List Registration**

To be registered for a transplant, a patient undergoes a complete clinical evaluation by the transplant team. If a transplant is needed, the center registers that patient on the Wait List. Within ten days of evaluating a patient for transplant, the transplant center is required to send a letter informing the patient that he or she has or has not been registered on the Wait List. The following registration status categories are used to track waiting patients:

- Active, describing actively waiting patients whose conditions are favorable for transplant surgery;
- Inactive, describing patients experiencing conditions (e.g., infection) that temporarily rule out transplant surgery;

- Removal, describing patients removed from the Wait List a) by personal, voluntary choice, b) because they have become too ill to survive surgery or posttransplant immunosuppression, c) are recovering adequate organ function, d) have received a transplant, or e) have died.

### **Waiting Time**

The amount of time a candidate is on the Wait List. Waiting times can be influenced by many factors, including:

- blood type (some are rarer than others)
- tissue type
- height and weight of transplant candidate
- size of donated organ
- medical urgency
- time on the waiting list
- the distance between the donor's hospital and the potential donor organ
- how many donors there are in the local area over a period of time and
- the transplant center's criteria for accepting organ offers

Depending on the kind of organ needed, some factors are more important than others.

### **Warm Ischemic Time (WIT)**

Length of time during which the heart and lungs are functioning but not adequate to oxygenate blood and deliver it to the organs and tissues. Warm ischemia continues after heart function ceases until organs are removed.

## **X**

### **Xenograft**

An organ or tissue procured from a different species for transplantation into a human.

### **Xenotransplantation**

Transplantation of an animal organ into a human. Although xenotransplantation is highly experimental, many scientists view it as an eventual solution to the shortage of human organs.

## **Z**

### **Zero Antigen Mismatch (0MM)**

This occurs when the donor does not have any HLA-A, B, or DR antigens different from the transplant candidate.

*For more terms and definitions, please visit [www.unos.org/resources/glossary.asp](http://www.unos.org/resources/glossary.asp)*



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