MIDWEST TRANSPLANT NETWORK

General Education Guide

Midwest Transplant Network
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Register to be a donor at YesTheyWantMe.com

2017

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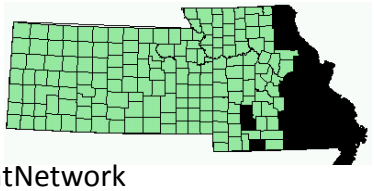
Midwest Transplant Network Information

Headquarters	Westwood, Kansas
Satellite Offices	Wichita, Kansas Columbia, Missouri Joplin, Missouri
Service Area	Entire state of Kansas Western two-thirds of Missouri
Social Media	Facebook.com/MidwestTransplantNetwork Twitter @MWTransplant YouTube.com/mwtxnetwork



Transplant Centers within the Midwest Transplant Network Service Area

Children's Mercy Hospital	Heart Kidney Liver Bone Marrow
Research Medical Center	Kidney Kidney/Pancreas
St. Luke's Hospital	Heart Kidney Liver
University of Kansas Hospital	Kidney Kidney/Pancreas Liver Bone Marrow
University of Missouri Hospital/Clinics	Kidney

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.

What to Say	What Not to Say
recover organs recovery of organs donation of organs	harvest organs harvesting of organs
donation after circulatory death deteriorating to brain death determine brain death death	non-heart beating donation progressing to brain death declare brain death legal death
authorization	consent
mechanical support ventilator support changing goals of care to comfort	life support withdrawing care
donated organs and tissues	body parts
deceased donation	cadaveric donation cadaver donation
deceased donor	cadaver (when used in a donation context)

Facts and Stats

- There are currently more than 121,000 people on the United Network of Organ Sharing (UNOS) national organ transplant waiting list. More than 2,400 are in the states of Kansas and Missouri.
- Approximately 22 people die each day awaiting a lifesaving organ transplant and a new name is added to the national waiting list every 10 minutes.
- In 2015, there were 24,982 deceased organ donors and 5,986 living organ donors resulting in 30,973 transplants performed nationwide.
- In 2015, there were more than 49,000 corneal transplants performed in the U.S.
- In 2015, more than 66,000 corneal grafts were made available for transplant by U.S. eye banks.
- Almost anyone between the ages of two and 75 can be a cornea donor, even if you have most types of cancer or poor vision.
- One organ donor can save up to eight lives and one tissue donor can improve the lives of up to 50 others.
- Currently, there are 2,000 Kansas residents and 7,000 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.
- Minorities represent 54 percent of organ transplant candidates and more than 51 percent of those are awaiting a kidney transplant. African Americans comprise 12 percent of the total population, but represent 35 percent of kidney transplant candidates. There are over 76,000 multicultural patients awaiting a transplant.
- At nearly 17 percent, American Indians and Alaska natives have the highest age-adjusted prevalence of diabetes among all U.S. racial and ethnic groups. Approximately 2.3 million African Americans have diabetes—of those, one-third do not even know it. More than 1 million of all Mexican Americans have diabetes (American Diabetes Association).
- Organs that may be donated are heart, kidneys, lungs, liver, pancreas, and small intestine.

Facts and Stats, continued

- Tissues that may be donated *include* corneas, heart valves, bone, skin, tendons, cartilage, and veins. Approximately 1 million tissue transplants are performed annually. 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.

- All major religions support organ, eye and tissue donation.

- According to Donate Life America research, 98 percent of all adults have heard about organ donation, and 86 percent have heard of tissue donation.

- Of the 90 percent of Americans who say they support donation, only 34 percent know the essential steps to take to be a donor.

- Each year in the U.S., 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.

- Donated skin from deceased donors has long been the preferred option for a patient with the most severe burns. Donated split-thickness skin is used only for burns and wound healing. There are many applications for dermis. Dermis is used for (in the order of most to least use) abdominal wall reconstructions and hernia repairs, breast reconstructions post-mastectomy, reconstructive plastic surgery of the face or other parts of the body, and replacement or reconstruction of any fascia or tissue layer of the body.

- 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 lifesaving 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.

Facts and Stats, continued

- Midwest Transplant Network by the Numbers
  2015
  - 200 organ donors
  - 1,057 tissue donors
  - 526 cornea donors
  - 1,107 donor family/recipient letters mailed
  - 16,634 tests performed at MTN Lab
  - 212 programs/booths
  - 35,358+ people addressed by MTN Community Education staff and Ambassadors

- Midwest Transplant Network by the Numbers
  2014
  - 217 organ donors
  - 1,111 tissue donors
  - 671 cornea donors
  - 16,175 tests performed at MTN lab
  - 1,194 donor family/recipient letters mailed
  - 221 programs/booths
  - 61,607+ people addressed by MTN Community Education staff and Ambassadors

- Midwest Transplant Network by the Numbers
  2013

  - 220 organ donors
  - 1,333 tissue donors
  - 516 cornea donors
  - 15.048 tests performed at MTN Lab
  - 1,055 donor family/recipient letters mailed
  - 288 programs/booths
  - 54,818 people addressed by MTN Community Education staff and Ambassadors

- Midwest Transplant Network by the Numbers
  2012

  - 209 organ donors
  - 1,018 tissue donors
  - 477 cornea donors
  - 11,490 tests performed at MTN Lab
  - 888 donor family/recipient letters mailed
  - 282 programs/booths
  - 48,673+ people addressed by MTN Community Education staff and Ambassadors

Frequently Asked Questions

What is the Registry?

The Kansas or Missouri Donor Registry is a secure and confidential database listing everyone who has indicated their decision to be an organ, eye and tissue donor.

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 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 Registry you make the decision to help others with a gift of life after your death.

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 authorization**. Previously, the registry was intent only. The change to first-person authorization means that an individual's decision to donate 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 other legally-binding documents, such as a will or signed donor card, still constitute first-person authorization 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 Authorization 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 authorization 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 Authorization Registry. Please update your commitment to save lives by registering online or through the DMV.

How Do I Join the Registry?

In **Kansas**, join the registry by going to YesTheyWantMe.com.
OR,
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 Registry.

In **Missouri**, join the registry by going to DonateLifeMO.com.
OR,
Saying, "YES, I want to be an organ donor" when you obtain or renew your driver's license at the DMV. An optional symbol of a heart and a green ribbon will signify that you are in the registry and consent to donation.

In both states, enrollment in the 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.

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

Anyone can join the Registry in Kansas and Missouri. If 17 years of age or younger, consent of a parent or legal guardian is required in order to donate.

How can I confirm that I joined the Registry?

Go to YesTheyWantMe.com or DonateLifeMO.com to confirm your status.

Frequently Asked Questions, continued

Who has access to the Registry?

At the time of death, only official organ, eye and tissue 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.

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, eye and tissue 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.

Can I be a donor without being in the Registry?

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

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

Yes. To remove yourself from the Kansas Registry, go to YesTheyWantMe.com or call 913-262-1668 or 1-888-744-4531 for instructions. An official removal form is required. For Missouri, go to DonateLifeMO.com or call 1-888-497-4564.

Which organs and tissue can be donated?

Organs that can be donated are the heart, kidneys, lungs, 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* (page 26) 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.

Frequently Asked Questions, continued

Is there an age limit to being a donor?

Regardless of age, 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. A health condition does not automatically rule out donation. Even those with cancer, Hepatitis C, or diabetes can donate certain gifts. HIV patients can receive donations from HIV donors. Medical suitability is determined at the time of death.

Does my religion support organ, eye and tissue donation?

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

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, eye and tissue donor affect the quality of my medical care?

No. Organ, eye and tissue recovery takes place only after all lifesaving 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.

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 more than 1 million Americans benefit from tissue and corneal transplants each year.

Frequently Asked Questions, continued

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 of up to $50,000 and/or a maximum of 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 MTF.org.

How can a person become a living donor?

Living kidney donors must be physically fit and in general good health. They must be free from cancer, diabetes, and kidney, lung, and heart disease and between 25 and 60 years of age.

Potential donors will participate in a psychological/social interview and medical evaluation to ensure they are making their decision freely and meet initial medical criteria.

Read MTN's *SHARING LIFE Living Donor Program* brochure and learn more by visiting MWTN.org.

Is there a national registry for organ, eye and tissue donation?

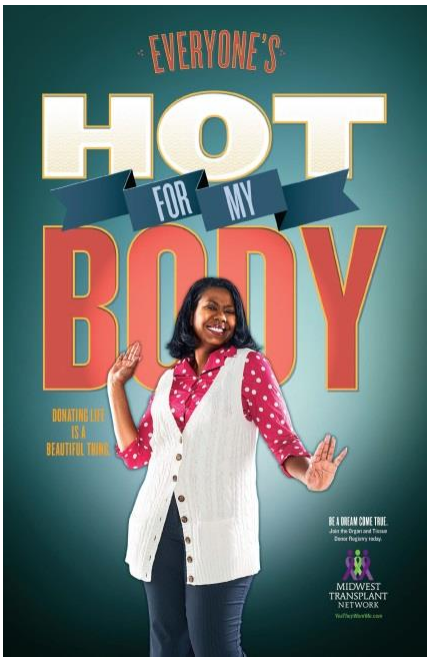
In 2015, Donate Life America launched a national registry. You can join the national registry at RegisterMe.org.

Missouri and Kansas Recent Legislative History

On August 28, 2008, a Missouri law went into effect allowing residents to provide their full legal consent to become organ and tissue donors. Prior to the passage of this legislation, Missouri residents could only express their intent to become organ or tissue donors following their death, but ultimately, the final decision was left to the patient's next-of-kin.

In Kansas, effective July 1, 2010, House Bill 2486 designated the statewide organ and tissue donor registry as first-person authorization. Previously, the registry was intent only. The change to first-person authorization 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 other legally-binding documents, such as a will or signed donor card, constitutes first-person authorization to be an organ and tissue donor.

"Everyone's Hot For My Body" Campaign



Midwest Transplant Network launched a campaign in our service area to increase awareness for donation and encourage residents to go to YesTheyWantMe.com and join the registry. The concept's stopping power comes to life as it presents images of people that counteract the "hot" reference. It promotes the idea that you don't have to be in shape, or good-looking, or special at all to be a donor. This creative direction shows very regular-looking individuals being flattered in their own way realizing they can become a donor.

If you look past the headline, you can engage in the real message. Remember the headline is to attract your attention, then we can ask for your help and engage you with the sub-headlines and call-to-actions. They represent the essence of the concept and allow the donors to feel good about making that choice to say "yes."

The campaign is featured in a number of locations throughout Missouri and Kansas, including the Division of Motor Vehicle bureaus, paid advertising, website and collateral materials, and a variety of sponsorships.

If you have questions or would like more information, please visit YesTheyWantMe.com, or contact Brooke Connell, MTN Manager of Public Affairs.

Financial Aspects of Organ Donation

Public misunderstanding exists surrounding the financial aspects of organ donation and transplantation. The work that organ recovery agencies, like Midwest Transplant Network, 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: *Association of Organ Procurement Organizations* (AOPO)

Organ, Eye and Tissue Donation Myths

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 age criterion is generally 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. 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.

Organ, Eye and Tissue Donation Myths, 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 going to donatelifeks.com or donatelifemo.com and communicating any exclusion to your family.
Myth #10:	"*Organ, eye and tissue 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** and signing an advanced directive or living will that you want to be an organ, eye and tissue donor will better 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, eye and tissue donation:

AME & AME Zion (African Methodist Episcopal)

Organ, eye and tissue 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, eye and tissue 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, eye and tissue 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, eye and tissue 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, eye and tissue 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, eye and tissue 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, eye and tissue 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."

Christian Science
The Church of Christ Scientist does not have a specific position regarding organ, eye and tissue 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, eye and tissue donation is an individual decision.

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).

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, eye and tissue 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, eye and tissue 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, eye and tissue 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."

Religious Views on Donation, continued

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.

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, eye and tissue 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.

Religious Views on Donation, continued

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, eye and tissue donation."

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, eye and tissue 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, eye and tissue 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.

Religious Views on Donation, continued

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 regards 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.”

Society of Friends (Quakers)

Organ, eye and tissue 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, eye and tissue donation and transplantation.

Unitarian Universalist

Organ, eye and tissue 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, eye and tissue donation cards would meet with generally positive responses.”

United Methodist

The United Methodist Church issued a policy statement in regards to organ, eye and tissue donation. In it, they state that “The United Methodist Church recognizes the life-giving benefits of organ, eye and tissue donation, and thereby encourages all Christians to become organ, eye and tissue 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.”

Religious Views on Donation, continued

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

DONOR TISSUE	TRANSPLANTED TISSUE	TYPICAL APPLICATIONS	BENEFITS TO RECIPIENTS
		EYE TISSUE	
Eye	Sclera	Repair eyelid, reinforce wall of eye. Repair eardrum.	Restores vision eye function.
	Cornea	Replace diseased or damaged cornea.	Restores vision.
		MUSCULOSKELETAL TISSUE	
Humerus	Whole Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, and fractures.	Prevents amputation, accelerates, promotes and allows healing.
	Humeral Head	Total hip revision.	Restores mobility.
	Dowels, Spacers	Spinal fusion.	Prevents collapse of bone, reduces pain, and 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, and 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

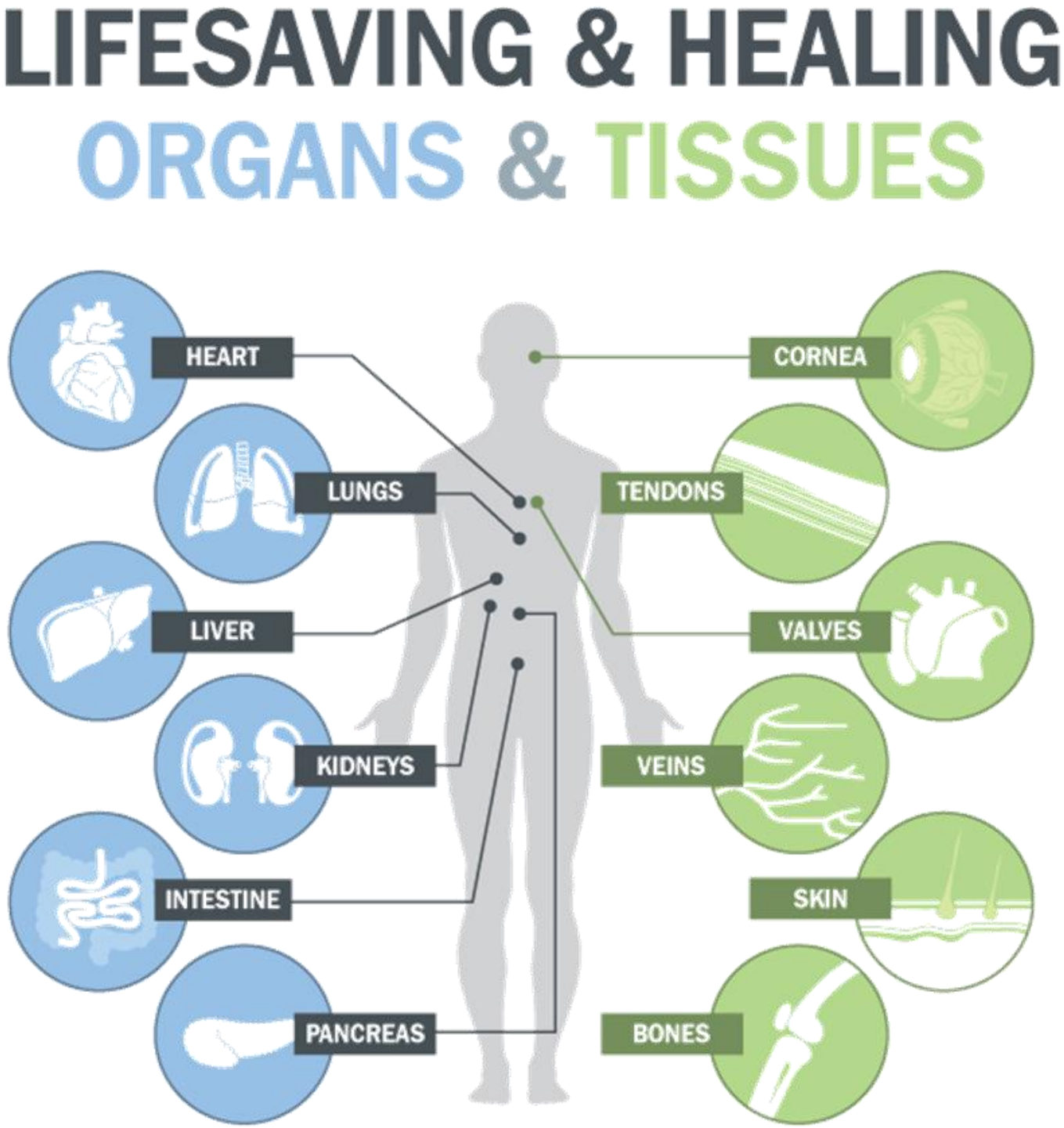
DONOR TISSUE	TRANSPLANTED TISSUE	TYPICAL APPLICATIONS	BENEFITS TO RECIPIENTS
Tibia	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, fractures and cartilage repair.	Prevents amputation, accelerates, promotes and allows healing.
	Cortical Strut	Augments large grafts and prosthetic implants.	Restores mobility, promotes healing.
	Cortical Spacers	Spinal fusion.	Prevents collapse of bone, reduces pain, and 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, and reduces chance of nerve damage.
Fibula	Fibular Shaft	Repair of traumatic bone loss.	Restores mobility, promotes healing.
Ilia	Iliac Crest Wedge, Ilium Strip	Spinal fusion.	Prevents further collapse of bone, reduces pain, and 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.
		CARDIOVASCULAR TISSUE	
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

DONOR TISSUE	TRANSPLANTED TISSUE	TYPICAL APPLICATIONS	BENEFITS TO RECIPIENTS
		CONNECTIVE TISSUE	
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, and wrist).
Hamstring	Hamstring	ACL repair.	Restores mobility.
		OTHER TISSUE	
Pericardium	Pericardium	Neurosurgery (as alternative to using dura mater).	Protective covering replacement.
Skin	Skin, Collagen	Grafts for burn victims, incontinence, and 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 cross match (match blood types).
  - This also allows most cancer patients to donate corneal tissue.
- More than 90 percent 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:

- Corneal 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 U.S. regions and international requests.
- Tissue determined unsuitable for transplantation is used for vital eye research with family consent.
- Most religions support corneal donation as a humanitarian act.
- Corneal donation should not interfere with funeral arrangements or viewings.
- People with diabetes and cancer can be corneal donors.

The two eye banks serving the MTN service are:

Kansas Eye Bank & Cornea Research Center, Inc.

Saving Sight®

National Observances

The need for organ, eye and tissue donors is on-going, so join Donate Life America by participating in one of our many observances throughout the year! Together, through spreading the word and educating others about donation, we can take small steps each day towards saving more lives. Below are downloadable images you can use throughout social media and links to other resources for you to utilize within your local and online community.

National Donor Day – **February 14, 2017**

National Donor Day is a time to focus on all types of donation – organ, eye, tissue, blood, platelets and marrow – by participating in blood/marrow drives or donor registration events. It is also a day to recognize our loved ones who have given the gift of donation, have received a donation, are currently waiting or did not receive an organ in time.

National Donate Life Month – **April**

National Donate Life Month (NDLM) features an entire month of local, regional and national activities to help encourage Americans to register as organ, eye and tissue donors and to celebrate those that have saved lives through the gift of donation.

National Donate Life Blue & Green Day – **April 21, 2017**

The public is encouraged to wear blue and green, hold events and fundraisers, and partner with local restaurants, malls, media, and community organizations in an effort to spread awareness about organ, eye and tissue donation and transplantation.

Donate Life ECHO – **July 9-22, 2017**

Donate Life ECHO, which stands for **E**very **C**ommunity **H**as **O**pportunity, is a nationwide observance designed to reach multicultural communities. Through the ECHO concept of reiteration and repetition—with people sharing the message of donation within their community—more lives will be saved and healed.

National DMV Appreciation Week – September 25-29, 2017

The first-annual National DMV Appreciation Week took place in 2016. The DMV partnership remains the primary source of donor registrations. DMV and driver's licensing partners are the people on the front lines of service who have helped register more than 130 million donors. DMV Appreciation Week is a time for the Donate Life Community to say thank you and show its appreciation of DMV partners across the country through national and local events and outreach.

National Donor Sabbath – **November 10-12, 2017**

This three-day observance seeks to include the days of worship for major religions practiced in the United States, in order for congregations to come together to learn about and celebrate donation and transplantation, and pray for those affected by it.

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

Resource Websites – General Information

Midwest Transplant Network
MWTN.org

United Network for Organ Sharing
UNOS.org

Donate Life America
DonateLifeAmerica.net
DoneVida.org

Department of Health and Human Services
OrganDonor.gov

Kansas Eye Bank & Cornea Research Center
KansasEyeBank.org

Eye Bank Association of America
RestoreSight.org

Kansas Hospital Association
KHA-net.org

National Foundation for Transplants
Transplants.org

Scientific Registry of Transplant Recipients
SRTR.org

Association of Organ Procurement Organizations
AOPO.org

The Organ Procurement & Transplantation Network
OPTN.Transplant.HRSA.gov

International Society for Heart & Lung Transplantation
ISHLT.org

Community Blood Center
SaveALifeNow.org

Saving Sight
Saving-Sight.org

Gift of Life
GiftDonor.org

Missouri Hospital Association
web.MHAnet.com

American Transplant Foundation
AmericanTransplantFoundation.org

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. 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 (self) 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 (not cancerous).

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.

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).

Circulatory Death (Cardiac Death)
Death resulting from the cessation of heart function; an individual who suffers a circulatory 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.

Cross match
A blood test to determine compatibility between donor and recipient. A positive cross match indicates incompatibility. If the cross match is "negative," then the transplant may proceed. Cross matching 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

Death by Neurological Criteria
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.

Deceased Donor
An individual from whom at least one organ or tissue is recovered for the purpose of transplantation after suffering brain death or circulatory 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 Circulatory 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 circulatory death criteria, from whom at least one organ or tissue is recovered for the purpose of transplantation. A living donor is one who donates an organ or segment of an organ or tissue 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, state- 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-heart beating 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 Authorization 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 Authorization
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 or tissue for use in a transplant. A kidney, or portion of a liver, lung, pancreas, intestine, or tissue may be donated. See also Living Donor, Organ Donation.

Living Donor (LD)
A living person who donates an organ or tissue for transplantation, such as a kidney or a segment of the lung, liver, pancreas or intestine, or tissue. 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, or tissue 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, or tissue 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 living 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 systems 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 and tissue for transplantation and the promotion of organ and tissue 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 and tissue 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 osterarticular 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 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
- 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

Vascular Composite Allografts (VCA)
The use of specialty grafts such as faces, hands, fingers for transplant.

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 optn.transplant.hrsa.gov/resources/glossary.asp