A GUIDE TO THE ILLINOIS EYE-BANK
On the cover: Midwest Eye-Banks’ Donor Memorial Garden is a place for donor family members and others to pay tribute to loved ones, and to reflect upon the gifts they have made possible. If you would like to support the Illinois Eye-Bank and honor the memory of a loved one, special garden pavers can be purchased and engraved with a name or a personal message. For details, contact the Illinois Eye-Bank’s Fund Development office at development@illinoiseyebank.org or call (800) 247-7250.
Our mission is the restoration of sight.

The Illinois Eye-Bank is a division of Midwest Eye-Banks, a 501(c)(3), independent, not-for-profit organization dedicated to the restoration of sight.

We accomplish our mission through:

Recovery, evaluation and distribution of the highest quality eye tissue for transplantation, as well as for ophthalmic research and training.

Funding of peer-reviewed research grants in support of improved diagnosis, treatment and prevention of eye and vision disorders.

Provision of public and professional education to increase awareness of the continuing need for donation of eye tissue, as well as all other tissues and organs.

Support for the continued development of eye banking, domestically and internationally, and the continuing development of related professional disciplines.
What is a cornea?
The cornea is the clear, dime-sized tissue at the front of the eye. It functions as a window, enabling light to pass through the eye's surface.

How do I consent to donate my eye tissue?
Become a registered eye, organ and tissue donor by joining the Illinois Organ/Tissue Donor Registry. In addition, be sure to have a conversation with your family. Tell them of your final wishes regarding donation. Family members are consulted at the time of death, and a 10-second conversation with them now can help them make the important decision to donate when the time comes.

My vision is bad. Can I still donate my corneas?
Even if one's eyesight is poor, the corneal tissue may be completely healthy – healthy enough to save someone's sight. Moreover, with consent, donated corneas may be used to provide much-needed information for researchers or for those being trained in corneal tissue recovery, preservation and evaluation.

How do I know if I'm eligible to be a donor?
Anyone can donate eye tissue. Even if corneal tissue isn't transplantable, due to a donor's age or medical condition, it can be used for research and training purposes. However, special consent must be obtained from the donor's next-of-kin before donated eye tissue is utilized for research and training.

Do eye tissue recovery procedures affect the donor's appearance? What if the family wants to have a viewing as part of their funeral arrangements?
The donor’s appearance is not affected by eye tissue recovery. Extreme care is taken to protect the face and eyelids before, during and after the recovery procedure. Even when an entire eye is recovered, the recovery technician places a special orb under the donor's eyelid to preserve its appearance, so that funeral arrangements and viewings can proceed as usual.

Will doctors and healthcare staff still try as hard to save my life, if they know I am a registered donor and if they think my organs or tissues can be used?
Absolutely. In fact, by law, the team working to save a patient’s life is completely separate from the team who may recover donated organs and tissues after death has been pronounced. Eye, organ and tissue recoveries are pursued only after all lifesaving measures have been exhausted and the patient is officially deceased.
Is there a waiting list for transplantable corneas?
The patient waiting list for corneas has been virtually eliminated in the United States, thanks to advanced surgery scheduling processes and the advent of corneal tissue preservation media. Unfortunately, there are still waiting lists for other tissues and organs.

Is there a need to match blood type or eye color between donor and recipient?
No. Unlike other organs and tissues, the cornea is not nourished by blood, which means no matching is required. In addition, the cornea does not affect one's eye color, meaning the patient will retain his or her original eye color following a transplant.

What are the chances a cornea transplant will succeed?
More than 90 percent of all cornea transplants performed in the United States are successful. Corneal transplantation is the most frequently performed transplant procedure and, of all tissue transplants, cornea transplants are the most likely to be successful.

How much does it cost to get a cornea transplant?
There is never any charge for donated eye tissue. It is considered a gift from the donor and his or her family. The patient must pay the surgical facility or hospital for the operation itself, as one would pay for any medical procedure, and the transplant procedure is typically covered by health insurance or Medicare. The Eye-Bank receives a tissue processing fee from the surgical facility at which the operation is performed. This fee is meant to help offset the substantial costs involved in recovering, evaluating and distributing tissue. When patients lack medical insurance coverage and cannot afford corneal transplantation procedures, we work with surgeons and surgery centers to reduce or waive all fees, meaning no one in need of a sight-restoring cornea transplant will be turned away.

Can cornea transplant recipients communicate with donor family members?
Donor families often appreciate hearing from the transplant patients who received their loved one’s corneal tissue. Likewise, transplant recipients may have greater appreciation for the gift they’ve received when they hear from a donor’s family. However, because the identities of the donor, his/her family and the recipient must be kept confidential, the Eye-Bank acts as an intermediary for any correspondence. In some cases, if both parties agree to waive their rights to confidentiality, donor families and recipients can communicate directly with one another.
The Cycle of Sight

A Second Chance for Sight

Transplantation Procedures

Corneal Tissue Distribution

Laboratory Evaluation

Recovery of Donated Eye Tissue

Becoming an Eye, Organ and Tissue Donor

A Charitable Act

Spreading the Word: Public Engagement

Someone in Need

Illinois Eye-Bank

Founded in 1947, the Illinois Eye-Bank was the fourth organization of its kind established in the United States. A tiny space at Cook County Hospital originally housed the facility. Dr. William Hughes, a pioneer in the early development of transplant surgery, is widely considered one of the founding fathers of eye banking; his leadership was critical during the early years of the Illinois Eye-Bank.

Dr. Maurice F. Rabb became the Illinois Eye-Bank’s first Medical Director in 1969, and is recognized for his efforts to increase donation awareness while augmenting the organization’s involvement in research and professional training. In 1983, Joel Sugar, M.D. assumed the role of Medical Director for the Eye-Bank, and was instrumental in its 1985 affiliation with Midwest Eye-Banks.

Illinois Eye-Bank, Watson Gailey

Renowned ophthalmologist Dr. Watson Gailey was a pioneer in corneal surgery. He first opened his practice in Bloomington in 1908. Dr. Gailey’s commitment to improving the quality of care and treatment for eye conditions led to the formation of the Watson Gailey Eye Foundation.

The organization now known as the Illinois Eye-Bank, Watson Gailey was founded in 1952 by the Foundation. At that time, Dr. Gailey was still directly involved, and played a key role in the establishment of the Eye-Bank, then located at Mennonite Hospital. Four decades later, the Eye-Bank was located in the BroMenn Regional Medical Center and was known as the BroMenn-Watson Gailey Eye-Bank. It became a division of Midwest Eye-Banks in 1996 and, following a relocation to its own office and lab space in 2002, became known as the Illinois Eye-Bank, Watson Gailey.
Someone in Need

The work of an eye bank begins with the desire to help someone facing blindness. Since 1905, when the first successful cornea transplant was performed, we have known that human corneal tissue can be recovered from a donor for implantation into a recipient.

Corneal transplantation can treat blinding eye conditions that pertain to the cornea itself. This often includes eye injuries that result in scarring or other damage to the front surface of the eye, or diseases that distort the shape and clarity of the cornea.

Only about 10 percent of all blinding eye conditions can be corrected through corneal transplantation. That’s why the Illinois Eye-Bank also supports eye and vision research into the causes and cures of a variety of blinding eye conditions. Eye-Bank grant funding, as well as corneas donated for the purpose of research and training, enable researchers to lay the groundwork for us to help many more people in need.

Scleral tissue, or the white part of the eye, can also be recovered to help someone in need of certain kinds of reconstructive surgery.

A Charitable Act

The Illinois Eye-Bank can only fulfill its mission through the generosity of an eye donor and/or his or her family. Without consent to donate eye tissue, sight-restoring cornea transplants would not be possible. There is no substitute for human corneal tissue to replace a patient’s damaged cornea.

All major religions support eye, organ and tissue donation, and view donation as an act of charity – a selfless respect for others’ lives. Further, the families of eye, organ and tissue donors often express gratitude for the opportunity to give something meaningful and lasting following the tragic loss of a loved one.

The Illinois Eye-Bank is always grateful to those individuals and their families who consent to donate eye tissue, regardless of the outcome of the donation. As more and more people embrace the concept of donating eyes, organs and tissues at the time of death, a culture of donation is emerging. It is natural that we should choose to sustain and enhance the lives of others when our own lives come to an end.

Extreme care is taken to respect and support the donor’s family at their time of loss. The Eye-Bank realizes that the loss of a loved one is a tragic moment for any family, and is an especially difficult time to be faced with a decision to donate eyes, organs or tissues. Every effort is made to comfort the family, and to ensure that they fully understand the option of donation.
Joining the Illinois Organ/Tissue Donor Registry is the best way to ensure your wishes regarding donation will be carried out. The Illinois Eye-Bank works with Gift of Hope Organ & Tissue Donor Network, the Illinois Secretary of State Office and other agencies to help give residents the information they need to join the state’s Donor Registry. As a result, there are many online and print resources that all have the same destination and purpose.

The Illinois Eye-Bank has launched a special campaign to promote the Illinois Donor Registry. Our “I Joined!” program is designed to encourage participation in the Registry, and to provide Illinois residents with all the information they need to join. You can visit www.IJoined.org or the Eye-Bank’s Web site, www.illinoiseyebank.org, for links that go directly to the Donor Registry’s online sign-up page.

If you prefer to join by mail, the Illinois Secretary of State publishes Donor Registry pamphlets, available through the Eye-Bank and at the Secretary of State Office, that can be completed and returned. In addition, visitors to any Illinois Secretary of State Branch Office can join the Donor Registry during their visit.

Recovery of Donated Eye Tissue

For eye, organ and tissue recoveries to be successful, time is of the essence. When someone passes away, Gift of Hope Organ & Tissue Donor Network, the state’s official organ and tissue agency, collaborates with the hospital or other facility involved in caring for the deceased person. As soon as possible after the death is reported, Gift of Hope staff members consult with the Illinois Secretary of State Office to determine whether the individual had registered as an eye, organ and tissue donor.

If the individual’s name appears on the Donor Registry, his or her family is notified by the Eye-Bank’s Communications and Logistics Center (CLC) staff, and medical history information is gathered. The CLC is the communications portal between donor family members, hospitals, technicians, transporters, surgeons’ offices and other important contacts. CLC staff members answer and process incoming calls 24 hours a day, seven days a week. Throughout the process, CLC staff members also keep hospitals, funeral homes, organ procurement organizations, hospices and others informed of the status of each case.

To protect transplant recipients, healthcare workers and Eye-Bank technicians, a blood sample is also taken and tested for such communicable diseases as HIV and hepatitis.
Eye tissue is not recovered from donors whose medical history contains evidence of communicable diseases like these. Medical history information comes from patient records available at the time of death, as well as interviews with the donor’s family.

If no adverse medical conditions are found and the donor’s next-of-kin gives consent, the donation can proceed. Consent is normally documented on a signed form; however, if the next-of-kin can only be reached by telephone, an official verbal consent may be recorded. The Illinois Eye-Bank does not recover eye tissue without documentation of consent.

The Illinois Eye-Bank employs a team of specially-trained eye tissue recovery technicians who are on call 24 hours a day, seven days a week. These technicians must travel to hospitals and other facilities on a moment’s notice, day or night, to recover donated eye tissue.

Eye tissue must be recovered and preserved within a few hours of the patient’s death. Healthcare professionals caring for the donor’s body are also trained to help keep the donor’s eyes irrigated and prepared for recovery. When the Eye-Bank technician arrives, he or she confirms consent for donation and determines the type of procedure to perform. A corneal excision involves using tiny scissors to gently separate only the cornea from the rest of the donor’s eye. This is the procedure used when the Eye-Bank anticipates that the cornea may be suitable for transplantation.

An eye enucleation is the removal of the donor’s entire eye, also known as the globe. This procedure is normally performed when transplantation of the donor’s cornea is not a possibility, but when the globe can be helpful for specialized research or training purposes.

After eye tissue is recovered, the technician carefully places it in a special container, where it is submerged in a chemical preservation solution to help keep it healthy during transport, storage and laboratory evaluation.

The solution used to preserve eye tissue was developed especially for that purpose, and marks one of the most significant advances in eye banking technology. In the early days of eye banking, recovered eye tissue could only be preserved for a few hours. A network of volunteer transporters set up relay networks, using their own vehicles, to rush eye tissue from the donor to the laboratory in Chicago. This often meant driving dozens or hundreds of miles in all kinds of weather, at all hours of the day and night.

Today, thanks to the advent of modern preservation media, corneas can be preserved for up to 14 days after recovery from a donor, if properly stored and refrigerated. However, corneas are usually transplanted into a patient in a much shorter time frame.
Laboratory Evaluation

The Illinois Eye-Bank’s laboratory is staffed by technicians around the clock. The laboratory is divided into functional spaces for eye tissue evaluation, packaging and unpacking, information management and communications.

Although microscopes and other clinical equipment are a dominant feature of the lab, one of the key laboratory functions is the management of information pertaining to each recovered eye tissue. Every cornea, every globe, every piece of scleral tissue receives its own special identification. This ID is used to keep track of the tissue throughout the entire donation and transplantation process, even long after its recipient has recovered from transplantation surgery. Tissues utilized for research and training, or those that simply cannot be used, are also tracked in compliance with Federal and eye banking regulations.

The management of information pertaining to donated eye tissue is a critical step in maintaining the quality of our services and, most importantly, protecting the patient’s health. The Illinois Eye-Bank was a pioneer in eye banking information systems with its creation of the Eye-Bank Information System (EIS) in the early 1990s, followed by the launch of Midwire in 2006-07.

Eye banks are regulated by the Food and Drug Administration (FDA), and most, including the Illinois Eye-Bank, are accredited by the Eye Bank Association of America (EBAA). Our laboratory operates in full compliance with these regulations, and is inspected periodically by both FDA and EBAA officials.

Nearly all Illinois Eye-Bank technicians are certified by the EBAA. They receive their Certified Eye Bank Technician (CEBT) accreditation after completing rigorous training and testing. In the lab, they are called upon to perform a variety of tasks, including packaging tissue for safe transport, screening potential donors, performing advanced data entry and evaluating corneas intended for transplantation. After donated corneas arrive in the lab, they are carefully unpacked, evaluated and rated on a rating scale that helps transplant surgeons assess the condition of the tissue. Evaluation requires the use of both slit lamp and specular microscopes. The slit lamp can help to detect imperfections in the donor cornea, such as mild scarring or infiltrates, that may cause vision problems after transplantation into a patient’s eye. The specular microscope is used for cell counting, and can illustrate the number of individual cells within a square millimeter of the cornea’s surface. We are born with a finite number of corneal
cells which, as we age, begins to diminish. Therefore, corneas recovered from older donors tend to have fewer cells, while those recovered from younger donors tend to have more cells remaining. Surgeons often prefer to use corneas from younger donors when treating younger patients, as there is a greater probability that the cornea will remain clear and healthy throughout the patient’s life.

In addition to its own clinical staff, the Eye-Bank is fortunate to work with a team of volunteer Medical Directors, all of whom are Board-certified ophthalmologists with expertise in corneal transplantation. Our Medical Directors are available for consultation when questions arise regarding tissue suitability for transplantation, patient follow-up and other matters.

**Corneal Tissue Distribution**

The Eye-Bank does not employ surgeons and does not perform transplant procedures. Corneal surgeons working in hospitals and surgery centers come to us when a patient is in need of eye tissue for transplantation.

We have a team of Tissue Distribution Coordinators who work with surgeons, hospitals and surgery centers to coordinate the timing of transplant surgeries with the delivery of corneal tissue.

Corneas are distributed on either a routine or an emergency basis. Certain types of eye injuries necessitate emergency cornea transplants and, in those cases, our staff works with a network of couriers to rush the tissue safely to where it is needed.
Transplantation Procedures

Traditional Procedures

A traditional cornea transplant is a *full-thickness* graft of the cornea, meaning the patient’s entire damaged or diseased cornea is removed before the healthy, donated cornea is put in place. The operation is also referred to as *penetrating keratoplasty*, or PKP, and it is normally performed on an outpatient basis with only a local or general anesthetic and a sedative. In a full-thickness graft, the healthy cornea is stitched into place using tiny sutures that are finer than a human hair.

New Breakthroughs

One of the newest breakthroughs in corneal transplantation is a procedure called Endothelial Keratoplasty, or EK. This procedure is a *partial-thickness* graft that involves replacing only the innermost layer of a patient’s cornea with a layer of a healthy, donated cornea. Surgeons performing this relatively new procedure must undergo highly-specialized training. A tiny incision is made in the patient’s cornea, and the incredibly thin layer of donor tissue is carefully folded and inserted through the incision. Once it is in place, the new tissue layer is able to return to its original shape, and does not usually require suturing to stay in place. The incision can heal by itself.

EK is not an option for all patients in need of corneal transplantation. Again, the corneal surgeon must make this determination. However, when EK is possible, it often means faster and more effective recovery for the patient, because it is a less invasive procedure.

As EK began to become popular among eye surgeons, the Illinois Eye-Bank invested in the special equipment and staff training necessary to prepare donated corneas for the procedure. Today, we are one of few eye banks offering this service to surgeons, and our technicians are called upon to prepare corneal tissue for EK at all hours of the day and night. The demand for EK tissue has grown quickly, and we have been consistently able to meet this demand, thanks to the skill and dedication of our staff.

Endothelial Keratoplasty (EK)

A circular disk of diseased membrane is removed through a tiny incision site. The taco shaped EK donor tissue is inserted into the anterior chamber through the tiny surgical incision. The air filled anterior chamber is needed to hold the transplant tissue in position.

*Endothelial Keratoplasty images provided by Dr. John Goosey, Houston Eye Associates*
Patients recovering from a cornea transplant are normally allowed to return to work or resume other normal activities within a few days of the operation. Of course, there are certain restrictions that are carefully explained by the patient’s eye doctor.

Some patients report an immediate improvement in vision, while others experience a more gradual improvement. Graft rejections do occur, although they are infrequent. The Eye-Bank works with surgeons to track post-operative outcomes for several months following the operation. Surgeons schedule regular post-operative visits with patients to check the graft for signs of failure, and to monitor the patient’s vision. Many transplant recipients must wear glasses to maintain visual clarity, although some experience a return to near-perfect vision.

Depending on the type of procedure performed and on the patient’s health in general, it may be a matter of weeks or months before he or she is considered fully recovered. Eye drops and other medications may be prescribed.

Also, depending on the condition that first led to a cornea transplant, it is not uncommon for patients to require multiple re-transplants. Even successfully-transplanted corneas may eventually become clouded or distorted if the patient had pre-existing conditions that caused the cornea to fail in the first place.

### Spreading the Word: Public Engagement

An important part of the Illinois Eye-Bank’s mission is spreading the word about donation and transplantation. This is how we inform the public about the tremendous need for eye, organ and tissue donors, and also let people know that we are a community resource for those in need. Those who have been touched by donation, either because their loved one gave the gift of sight or because they have received this precious gift, often choose to get involved in our efforts to spread the word and, in doing so, they have brought the donation and transplantation process full-circle.

Our Ambassador Program is designed to coordinate volunteer efforts with Eye-Bank events and campaigns. Anyone can volunteer as an Ambassador, and Ambassadors can choose from a variety of important community engagement activities. These may include speaking to a Lions Club or other community group, giving Eye-Bank materials to the editor of a local newspaper or company newsletter, staffing an Eye-Bank display at a health fair, attending a special Eye-Bank event… the possibilities are nearly endless. Thanks to their history of support, Lions and Lioness Clubs have always been key partners in our efforts to promote eye, organ and tissue donation and, in particular, the Illinois Organ/Tissue Donor Registry.

Illinois Eye-Bank promotional items are often available upon request. These items can help our volunteers bring attention to our mission, and can help spark important conversations about eye, organ and tissue donation.

Want to be an Ambassador? The Illinois Eye Bank has many volunteer opportunities through its Ambassador Program. For more information, visit www.illinoiseyebank.org or send an email to ambassador@illinoiseyebank.org.
Community Partnerships

Lions Clubs

The Illinois Eye-Bank values its relationships with Lions Clubs throughout Illinois, who contribute to the Eye-Bank through donations and fundraisers. They also volunteer their time at donor drives, encouraging people to join the Illinois Organ/Tissue Donor Registry. The Illinois Eye-Bank and Lions Clubs of Illinois share the goal of sight restoration, and dedicate themselves to enhancing the lives of those in the communities they serve.

The Illinois Eye-Bank continues to build its relationship with the Illinois Lions. Through its I Joined! program, the Eye-Bank has been visiting numerous Lions Clubs throughout the state to encourage Lions to join the Illinois Organ/Tissue Donor Registry and share the message of donation with their communities.

Donate Life Illinois

Donate Life Illinois is a coalition of agencies responsible for organ, tissue, eye, blood and marrow donation, as well as donor education and registration in Illinois.

The Illinois Eye-Bank is proud to be a part of this group, which also includes the American Liver Foundation-Illinois, the Biological Resource Center of Illinois, Gift of Hope Organ & Tissue Donor Network, Heartland Lions Eye Bank, Illinois Coalition of Community Blood Centers, Illinois Secretary of State Organ/Tissue Donor Program, LifeSource, Mid-America Transplant Services, the Musculoskeletal Transplant Foundation, the National Kidney Foundation of Illinois and the National Marrow Donor Program.

The Illinois Eye-Bank partners with Donate Life Illinois for numerous events throughout the year. This partnership allows the Illinois Eye-Bank to reach a broader audience.

Illinois Secretary of State

The Illinois-Eye Bank is fortunate to be located in a state that receives such strong support from its Secretary of State’s office. Secretary of State Jesse White has shown strong support of eye, organ and tissue donation. He implemented changes to the Registry system that allow Illinois residents to take proactive steps in ensuring their donation wishes are carried out after death.

Throughout the year, Secretary of State branch offices host donor drives to encourage Illinois residents to join the Illinois Organ/Tissue Donor Registry. Additionally, the branch offices display educational materials provided by the Illinois Eye-Bank.