

# **Donation Guide for Funeral Directors**



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## Introduction

The availability of organs, tissue, and eyes for transplantation provides a source of life for ill, injured and dying Americans. Every year, tens of thousands of people are treated for life-threatening conditions with the gift of donated organs. Hundreds of thousands more benefit from healing and function-restoring transplants of donated tissues.

Donation and transplantation are processes involving many professionals, and no one is more important to this process than the funeral director/embalmer. You are the individuals who help the families of donors through their most painful period of grieving, and your involvement is essential to make the donation experience a positive one for family members and friends. The positive attitude you convey about donation will impact a family's feelings about their decision to donate.

We understand that funeral service professionals are affected by changes in medical practice and the mechanisms of death. Rapid developments in medical technology, high-speed accidental deaths, and organ and tissue donation all impact services. Medications, hydration, transfusions, surgical intervention and prolonged hospitalization can cause difficulties in embalming and funeral planning. Organ, tissue and eye donation presents its own special challenges to embalming and preservation. These difficulties may necessitate some changes in funeral service protocols and modifications of embalming techniques that enable you to provide the services your clients want, including open casket viewing.

This manual is intended to assist you with the management of donors, services for donor families, and your interactions with hospitals, Nebraska Organ Recovery System (NORS), Lion's Eye Bank of Nebraska (LEBN) and other related agencies. Every effort will be made in the procurement process to minimize additional procedures on the part of the embalmer and to preserve as much of the circulation and natural appearance of the body as possible. In detailing procedures, we have provided an overview of the donation process as well as specific treatment information for the embalmer. Embalming techniques included here represent generally accepted procedures but should not be regarded as absolute.

NORS and LEBN recognizes the integral role of the funeral professional in the donation process, therefore it is our desire to support you in your efforts to serve the donor families. This guide is one of many resources and supports we wish to offer you.

## Caring for the Donor Family

Donation is a humanitarian gift. It also provides the families of donors with the comfort of knowing that their loved ones have contributed so much to the lives of others in need. With the support of caring funeral service and health care professionals, families can gain enormously from the consolation that donation provides.

Recently, a number of studies have been conducted regarding the attitudes of families toward organ, tissue and eye donation. These studies clearly demonstrate that when the entire donation process, including funeral arrangements and services, is handled with care and sensitivity, donor families can achieve important immediate and long-term benefits.

For virtually all donor families, donation affirms the fundamental humanity and generosity of their loved ones. In many cases, particularly the deaths of children and young people, donation gives parents and family members the comfort of knowing that some good has resulted from their tragic and seemingly pointless loss.

Organ and tissue procurement organizations make every effort to fully inform families about the donation process before it takes place, and to follow up with post-donation information about results of their gift. While the names of organ and tissue recipients are not revealed, NORS and LEBN will provide information about organ recipients (age, career field, family, health status, etc.) and about the disposition of donated tissues and eyes.

As a care-giving professional, the funeral director can provide critical support to donor families by providing information to help families with their decisions by respecting the family's donation decision and their confidentiality. Although donation could affect the appearance of the body to some degree (depending on the nature and extent of the donation), families should be assured that the body has been reconstructed as completely as possible, and that donation itself should not interfere with plans for open casket services. Questions about scheduling of visitation and services will also be discussed and need to take the donation process into account.

The NFDA publicly supports and encourages its members to support the concept of donation. The funeral director should respect the family's wishes to donate. If the funeral director takes exception to a specific donation, he/she should communicate his/her concerns to NORS or LEBN before expressing them to the donor family. Ideally, the funeral director will view donation as an integral part of the donor family's efforts to deal with the loss and as an aid in the progression of the grieving process. NORS and LEBN have an obligation to be cognizant of the manner in which donation and its effects on the donor body are discussed with the families. NORS and LEBN will refrain from telling families absolutely no change to the donor's appearance is guaranteed. The NORS or LEBN representative will also be aware of the timing of the donation process and its effect on the funeral service itself.

In surveys and focus group studies, donor families repeatedly stated that they want, need and can handle full information about the donation both before and after they give consent. Answering their questions directly and completely should be an integral part of the services provided by their health care professionals, procurement agencies and funeral directors. NORS and LEBN does provide support services for donor families and does help families contact community-based services—grief counseling, support groups, education programs, etc. Funeral directors can assist families by encouraging them to utilize the resources available through NORS.

## Legal Determination of Death and Consent for Donation

In law, there are three primary areas governing donation: the definition, documentation and pronouncement of death; consent to donation; and consent from medical examiner or coroner.

Diagnostic criteria for death, based on cessation of neurological functioning (brain death) and cardiopulmonary functioning, are enumerated in state law based on principles approved by the American Medical Association and the American Bar Association. As with all patients, the determination of the death of a potential organ and/or tissue donor is the legal responsibility of the attending physician, medical examiner or coroner.

Organ donation is possible only when the patient has been diagnosed and pronounced brain dead or meets the criteria for organ donation after cardiac death. This will always occur in a hospital where artificial cardiopulmonary support is available. Tissue donation can take place when a donor has suffered brain death (in conjunction with or independent of organ donation) and also when cardiopulmonary death has occurred. This fact substantially enlarges the pool of potential tissue donors to include people who have died in a variety of circumstances and locations including many situations when a medical examiner or coroner has jurisdiction.

By state and federal law, hospitals are required to report all deaths to their local organ procurement organization

(OPO), which is Nebraska Organ Recovery, who will determine if a person may be eligible to donate organs, tissue, and/or eyes. In those cases where a deceased person may be a potential donor, donation opportunities will be presented to the family. Donation is the right of every American. In some instances, donation requires the consent of the donor's next-of-kin. However, in Nebraska, legislation provides first person consent through a donor registry for those individuals that wish to express their consent to donate their organs, tissues and eyes prior to their death. In either case, the families of the deceased are very much involved in the donation process.

Nebraska has enacted the Revised Uniform Anatomical Gift Act (UAGA) which allows all persons aged 18 or older to donate organs and tissues after death for transplantation, research and educational purposes. Signing a driver's license, the online donor registry, a donor card, or a living will indicates a person's wishes regarding donation and registers the individual with the state's donor registry. This is recognized by state law as legal consent.

Where necessary, however, consent must be obtained from the potential donor's legal next-of-kin. In order of priority, the Revised Uniform Anatomical Gift Act lists next-of-kin as:

- An agent of the donor, unless the power of attorney for health care or other record prohibits the agent from making an anatomical gift
- The spouse of the decedent
- Adult children of the decedent
- Parents of the decedent
- Adult siblings of the decedent
- Adult grandchildren of the decedent
- Grandparents of the decedent
- The persons who were acting as the guardians of the person of the decedent at the time of death
- An adult who exhibited special care and concern for the decedent other than any medical personnel caring for the decedent at the time of or immediately leading up to the decedent's death
- Any other person having the authority to dispose of the decedent's body

In cases when a medical examiner or coroner has jurisdiction, unexplained deaths or deaths by other than natural causes, permission for organ and tissue recovery must be obtained from the medical examiner or coroner. NORS and LEBN will work with the coroner to determine recovery timing and donation restrictions.

## Organ and Tissue Donation Process

In order to facilitate the organ/tissue donation process and accommodate the specific requirements of a funeral service and burial, the American Association of Tissue Banks (AATB) and the Association of Organ Procurement Organizations (AOPO) and the National Funeral Directors Association (NFDA) have adopted the following “processes.” Mutual support and recognition of the roles each organization plays in the donation process is imperative in order for all organizations to succeed.

The donation and transplantation process involves many people performing a wide variety of tasks within a short time frame. As funeral service professionals, you are key participants. Your needs and concerns will be considered.

It is important for your business and donor families that lines of communication are open and information is clear. Given the range of situations, it is impossible to lay down hard and fast rules that will work for every funeral director in every community.

Please do not hesitate to ask questions of or express concerns to NORS, and LEBN. Remember, that donation is a complex process accomplished under strict constraints, and as a participant in the process, your responsibility is to get all of the information you need to provide your services efficiently.

- 1) Hospitals are required by Federal and State laws to notify NORS and/or LEBN of all inpatient deaths when death is imminent and/or within 1 hour death pronouncement.
- 2) This triage call is answered by a contracted answering service in order to obtain basic patient demographics and cause of death.
  - a) 80% of all initial phone referrals to this answering service are not suitable for donation. If unsuitable for donation, the funeral home will be contacted by the hospital at this time for pickup.
- 3) The remaining 20% of referrals that are still eligible for donation are then screened by trained donation coordinators who obtain and review all patients’ medical information trying to determine final donation eligibility.
- 4) Once this screening is complete, the coroner is contacted if necessary to determine when the autopsy is scheduled and any donation restrictions.



- 5) For organ donors, the funeral home will be notified after consent is obtained and funeral home information is provided by the family to the donation coordinator.
  - a) The donation coordinator will provide an estimated timeline for the recovery completion. This generally takes 18-36 hours.
  - b) Recovery timelines can vary depending on the number of organs and/or tissues anticipated to be recovered for transplant, hospital operating room availability, recipient availability and transplant recovery surgeon availability.
  - c) The donation coordinator will provide details to include which organs and/or tissues that are expected to be recovered.
  - d) The donation coordinator will contact the funeral director after the organ recovery is complete and inform them if a tissue recovery will take place.
  
- 6) For tissue and eye donors, the funeral home will be notified that the patient has the potential to be a donor and the process moving forward.
  - a) If hospital is in agreement, NORS prefers the body be left at the hospital until donation decision is made to eliminate unnecessary transports of a body.
  - b) Some hospitals do not have room to hold bodies for extended periods of time. In these cases, NORS may ask the funeral home to pick up, hold and not embalm until a donation decision is determined.
    - i) NORS protocol requires the body to be cooled within 12 hours after death in order to maintain tissue integrity. If willing, funeral homes may be asked to place ice on the bodies to preserve the donation opportunity for the families.
      - (1) The icing protocol usually involves placing bagged ice on the eyes, chest and abdomen.
      - (2) Expenses for ice can be invoiced to NORS.
  
- 7) After donation eligibility has been determined, NORS and/or LEBN will contact appropriate legal decision maker to offer the opportunity of donation and to complete the necessary legal paperwork.
  - a) NORS and/or LEBN make every effort to contact families in a timely manner. Often time's challenges exist in making contact with families to offer the donation opportunity.

- 8) If the family agrees with donation, they are informed there are many factors that may impact the timing of the funeral, including the timing of the recovery procedure and/or autopsy that needs to be completed.
  - a) If the patient is not a registered donor, the following paperwork is completed:
    - i) Consent
      - (1) The consent process discussion and the consent form, includes an explanation regarding the impact the donation process may have on burial arrangements and on the appearance of the body. The NORS consent form currently states the following: ...“there is a possibility of bruising and swelling around the eye area as a result of the eye recovery. NORS makes every effort to minimize any changes to your loved one’s appearance or delay funeral arrangements as a result of the anatomical gift.”
      - (2) The family will be encouraged to discuss any particular needs in relation to the timing of the funeral, clothing preferences and other related issues with their funeral director.
      - (3) The anatomical gift consent form signed by a family is specific and describes the organs/tissues/eyes to be recovered.
    - ii) Thorough medical social history questionnaire
      - (1) This questionnaire is required by the FDA to accurately assess the suitability of the potential donor. It is similar to paperwork completed when one donates blood and includes the same detailed and sensitive questions.
      - (2) This medical social history questionnaire often times is the final piece of information needed in order for NORS and/or LEBN to proceed with the donation process.
  
- 9) The NORS or LEBN representative will notify the funeral director handling the funeral arrangements for the donor family as soon as details of the anticipated recovery are known. The notification should follow the consent process for the donation. In the event that a funeral home is not known at the time of consent, this notification will take place as soon as the donor family has determined a funeral home.
  - a) The NORS or LEBN representative handling the donation will inform the funeral director of the following:
    - i) The nature of the donation;
    - ii) The location of the donation recovery;
    - iii) The anticipated timing of the donation recovery;
    - iv) A contact person or number for the funeral director to call for updates, questions or concerns; and
    - v) Next of kin information, if needed.
  - b) Further, the NORS or LEBN representative will contact the funeral director as the situation develops or changes, especially as it relates to the pick-up time and/or location of the donor body.

- 10) The tissue recovery must be performed within 24 hours of death and in an environment where a sterile field can be maintained. This is always performed in an operating room either at a hospital or the NORS surgical suite.
  - a) The surgical recovery procedure usually takes 4-5 hours.
  - b) All recovered bones are replaced with prostheses.
    - i) The prosthetics used by NORS are safe to be used in crematoriums.
  - c) Any additional reconstruction requests will be considered if known prior to donor reconstruction.
  - d) A head block is used to elevate the head especially with eye recovery or a prolonged recovery process.
  
- 11) Finally, the NORS or LEBN representative will contact the funeral director/home when the body is ready for pick-up.
  - a) The chosen funeral home must set up arrangements with other trade services/funeral homes if needed.
    - i) NORS cannot be held responsible for relaying special transportation/embalming arrangements between companies.
  - b) This information should be relayed to the NORS or LEBN coordinators so they can release the body to the desired individual/company.

## Uses for Donated Organs and Tissues

Most people are familiar with the dramatic advances made in organ transplantation since the 1960s. Less publicized, but equally impressive are the medical uses for transplanted tissues. The first transplants recorded in modern times were skin grafts in the mid-19<sup>th</sup> century. Early tissue banks were initially associated with the U.S. military, or with orthopedic departments at major university hospitals. The early 1980s ushered in the concept of free-standing tissue banks. Over the last ten years, we have seen more organ procurement organizations becoming involved in tissue recovery, and currently, over 80% of OPOs recover tissue in addition to organs.

In 2010, 28,662 successful organ transplant surgeries were performed in the United States. In Nebraska, there were 303 successful organ transplants and over two thousand tissue transplants. More than one million donated tissue allografts are distributed annually. The most frequent transplant procedures performed today use donated bone, tendons and ligaments. Bone and soft tissue transplants provide healing, repair and restoration of physical function for a rapidly expanding variety of conditions, often saving patients from the need for amputation of limbs. Human skin grafts promote faster, safer healing from burn victims. Some 42,500 Americans receive corneal transplants each year restoring vision.

In Nebraska the need for organ, tissue and eye donors is increasing. On average, 45 people die each year while waiting for a life-saving organ transplant. NORS averages 100 tissue donors per year yet Nebraska hospitals and surgical centers use roughly 150 donors worth of transplantable tissue. This data proves the need for transplantable tissue grafts far exceeds the current supply of donors. In 2010, the NORS contracted tissue processor distributed over 2,000 allografts for transplant to hospitals and surgical centers in Omaha, Lincoln, Kearney, Scottsbluff, Fremont, Hastings, Columbus, Norfolk, McCook, West Point and O'Neill. The tissue made available for transplant was recovered by NORS from donors in Nebraska. In 2010, LEBN recovered 330 corneas for transplantation and 273 corneas were able to be transplanted.

The challenge is to encourage more Americans to make the gift of donation. While the vast majority of Americans approve donation, the need for donated organs and tissues far exceeds supply. The United Network for Organ Sharing (UNOS) reports that there are over 110,000 people on its national waiting list. Literally hundreds of thousands of tissue transplants are performed each year with many more patients waiting.

The following list of uses for donated tissues illustrates the extent to which donation can save and enhance lives for people in need:

# Sources and Applications of Donated Organs, Tissues, and Eyes

<b>Organs</b>			
<i>Donor Organ</i>	<i>Transplanted Organ</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Heart	Heart	Replacing a failing or non-functioning heart due to coronary artery disease, cardiomyopathy, heart failure, and other heart problems.	The recipients will have an extended quantity and quality of life. They will be able to experience life outside of mechanical perfusion machines and hospitals.
Lung	Lung	Replace failing or non-functioning lungs due to cystic fibrosis, pulmonary fibrosis, COPD, and other lung and airway problems	The recipients will have an extended quantity and quality of life. They will be able to experience life outside of hospitals, off of ventilators and able to be breath on their own.
Kidney	Kidney	Replace a non-functioning kidney due to diabetes, malignant hypertension, infection, polycystic kidney disease, lupus, or other problems.	The recipients will have an extended quantity and quality of life without dialysis.
Liver	Liver	Replace a failing liver due to cirrhosis, portal hypertension, hepatitis (various types) and other causes of liver failure.	The recipients will have an extended quantity and quality of life. The recipient would have died if they did not receive a liver transplant.
Pancreas	Pancreas	Treat diabetes that cannot be controlled by insulin, diet and exercise.	The recipients will have an extended quantity and quality of life. Recipients often would have had a fatal outcome from a diabetic side-effect if they did not receive a pancreas.
Small Bowel	Small Bowel	Replace bowel due to short bowel syndrome caused by necrotizing enterocolitis, Crohn's disease, and other problems.	The recipients (often children) will have an extended quantity and quality of life by being able to digest food, and avoid the side-effects of tube feeding.

<b>Eye Tissue</b>			
<i>Donor Tissue</i>	<i>Transplanted Tissue</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Eye	Sclera	Repair Eyelid, reinforce wall of eye	Prevents blindness, restores vision
	Cornea	Replace diseased or damaged cornea	Prevents blindness, restores vision

<b>Bone Tissue</b>			
<i>Donor Tissue</i>	<i>Transplanted Tissue</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Humerus	Whole Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases and fractures	Prevents amputations; accelerates, promotes and allows healing
	Humeral Head	Total hip revision	Restores mobility
Radius/Ulna	Cervical Spacers	Cervical spinal fusion	Preserves intervertebral space during healing
Femur	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases and fractures	Prevents amputations; accelerates, promotes and allows healing
	Femoral Head	Reconstruction of damaged acetabulum, supplement for small defects	Restores mobility
	Spinal Dowel, PLIF	Spinal Fusion	Prevents collapse of bone, reduces pain, reduces chance of nerve damage.
	Cancellous Bone Chips	Filling defects, augments prosthetic device implant	Accelerates, promotes, and allows healing
Tibia	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases and fractures	Prevents amputations; accelerates, promotes and allows healing
	Cortical Strut	Augments large grafts and prosthetic implants	Restores mobility, promotes healing
Fibula	Fibular Shaft	Repair of traumatic bone loss	Restores mobility, promotes healing
Pelvis	Iliac Crest Wedge, Ilium Strip	Spinal Fusion	Prevents further collapse of bone, reduces pain, reduces change of nerve damage.
	Cortical Cancellous	Filling defects, augments prosthetic device implant	Accelerates, promotes, and allows healing

<b>Cardiovascular Tissue</b>			
<i>Donor Tissue</i>	<i>Transplanted Tissue</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Heart Valves	Aortic & Pulmonary Heart Valves	Replacement for damaged heart valves	No long term anticoagulant therapy. Almost no rejection. Allows children to grow into graft (no 2nd surgery for size)
Saphenous Vein	Saphenous Vein	CABG, below knee vascularization	Vascularization, prevents amputation

<b>Connective Tissue</b>			
<i>Donor Tissue</i>	<i>Transplanted Tissue</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Patellar Tendon	Patellar Tendon	Replace ACL, PCL	Returns mobility, restores independence in activities of daily living
Achilles Tendon	Achilles Tendon	Replace PCL, used as rotator cuff, replace Achilles tendon	Restores mobility, restores independence in activities of daily living
Tibialis Tendons	Anterior/Posterior Tibialis Tendons	Replace ACL, PCL	Returns mobility, restores independence in activities of daily living
Other Tendons	Semitendinosis, Gracilis and Peroneus Longus Tendons	Replace ACL, PCL. Ligament Reconstruction	Returns mobility, restores independence in activities of daily living
Cartilage	Cartilage	Repair damaged cartilage. Repair congenital and traumatic facial deformity	Reduces joint pain. Restores normal facial appearance
Fascia Lata	Fascia Lata	Used as tendon to repair injury. Used as suspension for bladder and uterus.	Returns mobility, restores independence in activities of daily living
Rotator Cuff	Rotator Cuff	Shoulder Repair	Independence in activities of daily living, mobility and decreases joint pain, i.e., hip, knee joint, wrist.

<b>Other Tissue</b>			
<i>Donor Tissue</i>	<i>Transplanted Tissue</i>	<i>Typical Applications</i>	<i>Benefits to Recipients</i>
Pericardium	Pericardium	Neurosurgery (as alternative to using dura mater)	Protective covering replacement

# Embalming Techniques

## **Long Bone and Connective Tissue Recovery and Embalming**

Long Bone recovery is the most dramatic of all tissue recovery. It involves a great amount of time, not only for the procurement, but for the treatment by the embalmer. When the remains are received by the funeral home, the long incisions on the arms, shoulders, thighs and lower legs are sutured. The embalmer may encounter some leakage from the incision sites when he initially receives the body from the recovery agency. The body has form because the bones have been replaced with prostheses by the recovery team. The extent of the donation and tissue recovery will influence the embalmer's plan as he performs his pre-embalming assessment. If there has been an autopsy, or if other visceral organs have been removed for transplantation, regional injection may well be necessary. If there has been no autopsy and no other organs have been donated, standard embalming injection sites can be used.

Prior to arterial injection, open all incisions and remove the prosthesis to assess the extent of tissue damage and vascular disruption. Drain any excess body fluids encountered. Pack all exposed tissue with phenol cauterant soaked cotton packs. Allow these packs to work on the tissue during the embalming process. Because of the postmortem delay and the potential for significant circulatory disruption, a higher than normal index embalming fluid in a more concentrated solution should be used, and pre-injection solutions should be avoided. Dye may be added to the arterial solutions to help monitor the degree of fluid distribution. Arterially inject as though it was an autopsied case, clamping leaking vessels to help build intravascular pressure. Utilize additional arteries distally as necessary to achieve maximum distribution, followed by supplemental hypodermic injection as indicated. Tissue donors will undoubtedly require hypo-injection from the ankles distally in most every case.

Upon completion of the embalming process, remove the cauterant packs and assess the degree of tissue fixation. Additional localized hypodermic injection may be necessary at this time. Apply hardening compound/drying agents and sealants as indicated. Replace the prosthesis and tightly suture all incisions. You will want to cover all incisions with cotton and incision seal to insure a water tight closure.

Additional drying compound in the plastic garments may be beneficial, both as added insurance against leakage, and to counteract the condensation that normally occurs inside plastic garments.



## **Organ Removal and Embalming**

Bodies in which one or more organs have been removed from the thoracic or abdominal cavity must be considered separately, in light of several factors:

1. Heparin has been run through the vascular system. This decreases postmortem clotting.
2. There has been a delay between death and embalming. Consequently, a more concentrated, higher index arterial solution is required.
3. Circulation may be interrupted, requiring multi-point injection with drainage at the injection site using moderate to strong arterial solutions. Tracer dyes may be needed to determine the extent of fluid distribution. You may follow autopsy protocols utilizing internal arteries with which you are familiar.

## **Heart/Lung Removal and Embalming**

An embalmer may use the following protocol in embalming a body following heart-lung removal:

1. Inject, from inside the thoracic cavity, the right and left subclavian arteries to preserve the arms and shoulders.
2. Inject the right and left common carotid arteries to preserve the head.
3. Inject down the abdominal aorta to preserve the abdominal viscera, trunk walls and legs OR inject down the right femoral artery distally to embalm the right leg and then inject superiorly toward the trunk. Clamp off the abdominal aorta in the thoracic cavity. This procedure embalms both legs, abdominal contents and trunk walls.
4. If the walls of the thoracic cavity require additional fluid; use hypodermic injection.
5. Fill the thoracic cavity with hardening compound. The walls may also be painted with autopsy gel.
6. Be sure that all cavities have been injected, re-aspirated, treated and readied for closure.

## Eye Enucleation and Embalming

One of the tissues most commonly transplanted today is the human cornea. Approximately, 42,500 individuals undergo corneal transplantation every year. The need for corneal tissue, like all other organs and tissues, continues to grow. Although the cornea itself can be removed from the organ donor; the entire eye is usually enucleated.

The first step in excising the eye is separation of the conjunctiva from the eyeball. Next, the four rectus muscles and the two oblique muscles that control the eyeball movement are cut. The final step in removing the eyeball from the orbital cavity is to cut the optic nerve. This procedure can be carried out under nonsterile conditions and is one of the few procedures performed in this manner. The eye is then placed in a container, refrigerated and immediately delivered to an eye bank.

Swelling is the most common problem encountered in treatment of the enucleated eye. In addition, bruising may be present, and there is always the possibility of small lacerations. To help control swelling of the eyelids during the embalming and to prevent leakage following embalming, the following procedures are recommended:

1. Keep the head elevated at all times during transport to the funeral home and during the embalming process. The elevated head minimizes swelling, leakage and bruising of the eye tissues from the blood gravitation into the orbital cavity.
2. Remove all packing from the orbital cavities.
3. Saturate pieces of cotton with phenol cauterant or autopsy gel and pack the orbital cavity.
4. Fill the orbital cavity with enough cotton to recreate the normal appearance of the closed eye.
5. Apply liberal amounts of massage cream to the eye area.
6. Avoid excessive manipulation of the lids prior to and during embalming.
7. Avoid lanolin containing or humectant type fluids.
8. Use restricted cervical injection, with the previously mentioned fluids, via the carotid arteries to control swelling.
9. After arterial injection, remove the cauterant packs and dry out the orbit.
10. Use a small trocar button or mortician's putty to seal the orbit.
11. Insert cotton ball or mortician's putty to seal the orbit.
12. Adjust the height of the eyes as appropriate with additional cotton or putty.
13. Use eye cap as indicated and approximate the lids with gentle stretching and adhesive cream to maintain closure.

## **Cornea Removal and Embalming**

When only the cornea has been removed, the preparation work is greatly reduced. The body can be embalmed using whatever injection technique and arterial solution strength the embalmer feels necessary. The eyes should always be set prior to the arterial injection, even if this is a temporary procedure.

As the front of the eye is opened when the cornea is removed, the embalmer may aspirate the fluids from the eye to prevent leakage, if necessary. A hypodermic needle can be used to aspirate these fluids through the opening created by the removed cornea. The eye is then filled with mortician's putty. An eye cap can then be placed over the eyeball to recreate the natural convex curvature of the eye. The height of the eye can be adjusted using additional putty or cotton as needed.

## Compensation

NORS provides reimbursement to funeral directors for the additional preparation work associated with donation. NORS reimburses \$200 for tissue donors, \$100 for organ donors and \$50 for heart valve only donors. To receive the reimbursement an invoice must be submitted within 30 days to NORS at 8502 West Center Road, Omaha, NE 68124 or faxed to 402-733-9142.

Donor families are not billed for any charges associated with the donation. The family is responsible for all normal funeral charges as well as the costs of medical treatment for the donor. NORS and LEBN work very hard to assure that no charges associated with the donation appear on any bills to the family. The costs of the donation are passed on to the transplant patient and his/her insurance company or other third party payer including Medicare and Medicaid.

## Interacting With Other Organ, Tissue and Eye Recovery Agencies

Most deaths in Nebraska are referred to NORS and/or LEBN to facilitate the donation process. However, some Nebraska hospitals have contracted the South Dakota Lions Eye Bank (SDLEB) to facilitate the donation process. Deaths that occur outside of Nebraska are referred to the local organ procurement organization and affiliated tissue and eye banks. These other organizations including SDLEB have different processes and recover different tissues. NORS does not recover skin, spine, nerves or brain. There will be instances where other organizations recover these types of tissue. If a Nebraska resident dies in another state the family may choose a Nebraska funeral director to carry out the funeral preparations. Concerns related to the recovery of these tissues should be directed to these other organizations.