Organ and Tissue Donation and Recovery

LEARNING OUTCOME AND OBJECTIVES: Upon successful completion of this continuing education course, you will be able to describe the clinical aspects of organ and tissue donation and recovery. Learning objectives for this course include:

- Discuss the issue of supply and demand of donor organs and tissues.
- Outline the process of organ and tissue donation and recovery.
- Describe barriers to successful organ and tissue procurement among the public and healthcare professionals.
- Outline the role of nursing in the organ and tissue donation process, including collaboration with organ procurement organizations.

In 1869 the first skin transplant was performed. The first tissue transplant of a cornea was performed in 1906. In 1954 an identical twin donated a kidney to his brother, resulting in the first successful organ transplant. In 2015, the most complex full face and scalp transplant ever done was successfully performed. Over these years, many thousands of tissue and organ transplants from both living and deceased donors have been successfully performed (UNOS, 2015; LiveOn NY, 2016; NYU Langone Medical Center, 2016; USDHHS, 2016a).

In the United States in 2015, 30,973 organ transplants occurred, and 16,446 transplants were performed in the first six months of 2016. Nearly 42% of the 2015 recipients of organ donations were ages 50 to 64, and 6.1% were 17 years of age and under (DLA, 2016a; UNOS, 2016).

Most organ donations come from deceased donors, but a living donor can donate a single kidney or part of a liver, lung, pancreas, or intestine. Tissues can also be transplanted. Unlike organs, which need to be used within hours of harvesting, tissue can be stored for later use. A single deceased donor can save up to nine lives via organ donation and benefit more than 50 persons through tissue donation (McCarthy, 2015).
## ORGANS, TISSUES AND BODY PARTS FROM DECEASED AND LIVING DONORS

<table>
<thead>
<tr>
<th>From Deceased Donors</th>
<th>From Living Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organs</strong></td>
<td></td>
</tr>
<tr>
<td>• Heart</td>
<td>• Single kidney</td>
</tr>
<tr>
<td>• Lungs</td>
<td>• Heart*</td>
</tr>
<tr>
<td>• Liver</td>
<td>• Part of liver, lung, pancreas, and intestine</td>
</tr>
<tr>
<td>• Intestines</td>
<td></td>
</tr>
<tr>
<td>• Kidneys</td>
<td></td>
</tr>
<tr>
<td>• Pancreas</td>
<td></td>
</tr>
<tr>
<td><strong>Tissues</strong></td>
<td></td>
</tr>
<tr>
<td>• Heart valves</td>
<td>• Blood</td>
</tr>
<tr>
<td>• Bone</td>
<td>• Platelets</td>
</tr>
<tr>
<td>• Cornea</td>
<td>• Blood stem cells from bone marrow, the bloodstream, or from a baby’s umbilical cord</td>
</tr>
<tr>
<td>• Skin</td>
<td></td>
</tr>
<tr>
<td>• Ligaments</td>
<td></td>
</tr>
<tr>
<td>• Tendons</td>
<td></td>
</tr>
<tr>
<td>• Cartilage</td>
<td></td>
</tr>
<tr>
<td>• Veins</td>
<td></td>
</tr>
<tr>
<td>• Middle ear</td>
<td></td>
</tr>
<tr>
<td><strong>Body Parts</strong></td>
<td>Uterus</td>
</tr>
<tr>
<td>• Hands</td>
<td></td>
</tr>
<tr>
<td>• Face</td>
<td></td>
</tr>
<tr>
<td>• Skull</td>
<td></td>
</tr>
<tr>
<td>• Scalp</td>
<td></td>
</tr>
<tr>
<td>• Penis</td>
<td></td>
</tr>
<tr>
<td>• Uterus (trials have begun in U.S.)</td>
<td></td>
</tr>
</tbody>
</table>

*It is very rare, but in one instance a living person can donate a heart. Individuals with severe lung disease and a healthy heart have been found to do better when a combined heart-lung transplant is done rather than a lung transplant alone. This means the person’s healthy heart is to be removed, which can then be donated to someone else.

## AN ISSUE OF SUPPLY AND DEMAND

The demand for organ transplants has increased far more than the supply, resulting in an enormous shortage. As a result, on average 22 people die each day while waiting for a transplant, and every 10 minutes another person is added to the national transplant waiting list. As of 2016, approximately 120,000 people were on this list waiting for a life-saving organ (UNOS, 2016; DLA, 2016b).

Around the world, efforts to increase the number of donors have been ongoing, but demand continues to remain greater than the supply.
Federal Efforts

The issue of supply and demand in the United States was addressed in 1984 when the National Organ Transplant Act (NOTA) was passed by Congress. This act established the Organ Procurement and Transplant Network (OPTN) to guarantee the fair distribution of donated organs. A contract with the federal government to oversee the OPTN was granted to the United Network for Organ Sharing (UNOS). The goals are to:

- Increase the number of transplants
- Provide equitable transplant access
- Improve the outcomes for waitlist patients, living donors, and transplant recipients
- Promote living donor and transplant recipient safety
- Promote the effective management of the OPTN (USDHHS, 2016b)

In 1986, in an attempt to increase organ donations, the Omnibus Budget Reconciliation Act was signed into law requiring hospitals to establish protocols for offering deceased patients’ families the opportunity to donate their family members’ organs. Over time, however, this law has been mostly ignored by hospitals, resulting in little impact on increasing donor organs (USDHHS, 2016b).

In 1998 the Centers for Medicare and Medicaid Services issued its Hospital Condition of Participation, requiring participating hospitals to refer all deaths and imminent deaths to the local organ procurement organization (OPO) so that families could be approached to be given the opportunity to donate tissues and organs. This regulation was based on a Pennsylvania law that was found to have increased organ donations by 40% (USDHHS, 2016b).

In a further effort to increase organ donation, a series of Breakthrough Collaboratives began in 2003 to establish, among other aims, collaboration between OPOs and donor and transplant hospitals. These collaboratives initially proved to be a highly effective way of rapidly disseminating best practices supported by research. This effort has since evolved into the Donation and Transplantation Community of Practice (DTCP), whose focus is on sustaining and increasing the achievements made by the collaboratives, as well as institutionalizing best organ donation practices, which include:

- Prompt identification of imminent death patients
- Timely notification to the OPO (within one hour of identifying an imminent death patient)
- Notifying the OPO about every death
- Early and aggressive potential donor management
- Timely and designated family approach (USDHHS, 2016c; Razdan et al., 2015)
State Efforts

Individual states’ efforts to increase the supply of donor organs have also been undertaken. In 1968 the first OPO was established in Massachusetts. Today there are 58 state OPOs that arrange for the recovery of all organs and tissues that become available for transplant. These organizations are members of the OPTN, federally designated, nonprofit, and state-licensed (USDHHS, 2016d). (See “Resources” at the end of this course for a link to state OPOs.)

DONATION AND RECOVERY PROCESS

The donation process begins when individuals make the decision to register as an organ donor. This often involves signing up directly with the state OPO or when applying for or renewing a driver’s license or state ID. Once a decision has been made to become a donor, family members should be informed so that they can cooperate with the hospital staff regarding the donor’s wishes.

Determining Brain Death

When a potential donor enters a hospital with an illness or, for example, following an accident and all possible efforts at saving his or her life have failed, testing begins to determine whether brain death has occurred. In most circumstances, a neurologist, neurosurgeon, or intensive care specialist establishes the irreversibility of coma in such cases.


The first step in determining brain death is to establish irreversible and proximate cause of coma by history, examination, neuroimaging, and laboratory tests, including drug screening or drug plasma levels.

A neurological assessment must show that the patient lacks all evidence of responsiveness, which includes:

- Absence of brainstem reflexes:
  - Pupillary responses
  - Ocular movements
  - Corneal reflex
  - Facial muscle movement in response to noxious stimuli
  - Pharyngeal and tracheal reflexes
- Absence of respiratory drive confirmed by formal apnea testing
Other tests that may be done for confirmation are:

- Four vessel cerebral angiography
- Electroencephalography
- Transcranial Doppler ultrasonography
- Cerebral scintigraphy

Brain function cessation should persist for at least 6 hours according to some protocols, and others may require periods of up to 24 hours (Young, 2015).

When brain death has been confirmed, the hospital notifies the local OPO. If the patient is a potential donor, an OPO representative immediately goes to the hospital and searches the state’s donor registry for legal consent. If the patient is not registered and there is no other legal consent, consent from the family will be required. When this is obtained, medical evaluation continues.

**Donation After Cardiac Death (DCD)**

A DCD donor is a patient with minimal brain function who is not expected to survive, cannot breathe without a ventilator, and the family wishes to discontinue mechanical support. After a physician has determined that a patient has no chance for recovery, the family, physicians, and OPO staff determine the time and place of ventilator withdrawal. This generally occurs in the OR, where the organ procurement process can immediately take place after cardiac death is declared (CORE, 2016).

**Completing a Medical Evaluation**

General screening of a potential donor is done and includes:

- Basic lab values
- ABO blood typing
- HLA typing
- Blood cultures
- Sputum gram stain, culture, and sensitivities
- Urinalysis, culture, and sensitivities
- HIV, Epstein-Barr virus, cytomegalovirus, human T cell leukemia virus type 1, hepatitis B and C, VDRL or RPR

Once a potential donor has been evaluated and accepted, additional assessments are done for the donation of specific organs.
Determining Contraindications to Donation

Very few absolute contraindications to donating organs exist, and most potential donors are evaluated on a case-by-case basis. Regional transplant centers have different sets of absolute and relative criteria for excluding potential organ donors.

- **Absolute Contraindications**
  - Age older than 80 years for corneal transplant
  - Age older than 60 for heart valves and tendon donations
  - Presence of HIV infection
  - Encephalitis
  - Creutzfeldt-Jakob disease
  - Malaria
  - Tuberculosis
  - Active metastatic cancer
  - Prolonged hypotension or hypothermia
  - Disseminated intravascular coagulation
  - Sickle cell anemia or other hemoglobinopathy

- **Relative Contraindications (use caution)**
  - Malignancy other than in the central nervous system or skin that is in remission (>5 years)
  - Hypertension
  - Diabetes mellitus
  - Physiologic age older than 70 years
  - Hepatitis B or C
  - History of smoking

  (Finger, 2016)

The Matching Process

Following medical evaluation for contraindications, the OPTN is contacted by the OPO in order to begin a search for matching recipients. The OPTN matching process includes:

- Blood type
- Tissue type
- Height and weight
- Length of time on the waiting list
- Severity of the recipient’s illness
- Distance between the donor and recipient hospitals

When a list of possible matching recipients is obtained, the donation is offered to the first patient on the list.

**Organ Recovery**

During the above process, the donor is maintained on artificial support. The condition of every organ is monitored by hospital medical and nursing staff along with the OPO coordinator, who also arranges arrival and departure times of both surgical teams. When the surgical team arrives, the donor is taken to the OR, and under sterile technique, organs and tissues are recovered and all incisions closed.

The tissue and organs are then transported rapidly by commercial or contracted airplanes, helicopters, and/or ambulances to the hospital where the transplant recipient is waiting and may be prepped and ready in the OR (USDHHS, 2016g).

**BARRIERS TO DONOR RECRUITMENT**

Although a very high percentage of Americans say they support organ and tissue donation, the percentage of those who have taken steps to become a donor is quite low.

**Common Reasons Individuals Do Not Donate**

There are many reasons given by individuals for not becoming a donor. Multiple surveys have been done to uncover those reasons and have found the following:

**Religious belief systems.** Many people feel their religion encourages donations as an altruistic act, but many nondonors cite religious beliefs as the basis for not registering to be organ donors. Although the donation or receipt of organs from living or deceased donors is not forbidden by any of the major religions, it can be a barrier when people are simply unaware of their religion’s stance regarding organ donation and believe their religion does not allow it.

Some people believe that donating organs is interfering with God’s plans—that if a person is dying it is “meant to be” and should not be interfered with. Others believe that the body must remain whole after death in order to enter the next life. Still others believe that God is the rightful owner of their body and that they do not have the right to give away parts of it.

**Cultural beliefs.** Cultural beliefs are not connected to any particular stance on religion but involve broader concerns regarding healthcare, death, and dying. Often these beliefs are based on superstition. Such superstitions may be that talking about death or signing a donor card can lead
to one’s own demise (the “jinx” factor). Others believe that the spirit will transfer from the donor to the recipient.

**Family influences.** Family members can strongly influence the decision to be an organ donor, and some people feel the need to ask permission from family members before making a choice. Many others believe that organ donation will significantly impair the family’s grieving process.

**Body integrity.** Unconnected to religion, many people see removing organs, even after death, as a violation of physical integrity. Some are concerned that family members would be traumatically affected by the thought of an organ removal process that involves “being cut up” (the “ick” factor). And still others mistakenly believe that donating organs precludes an open coffin wake, especially if the eyes are removed for donation of the corneas.

**Mistrust of the healthcare system and professionals.** Because some people have had negative experiences with the medical system (e.g., discrimination, racism), they have negative views concerning organ donation. The most commonly expressed concern was that being a registered donor would negatively affect the treatment one would receive in the hospital (e.g., that healthcare personnel would declare death prematurely for the sole purpose of harvesting their organs).

An often-mentioned concern involves fear about the validity of brain death determination and suspicion of those providers who make that decision. There are others who do not believe that brain death, a requirement for organ donation, can be considered true death, while others believe that a brain-dead person can recover.

Another fear is that one’s organs might go to an “undeserving” recipient or be used for research instead of saving lives. These beliefs are most often expressed among minority populations, who often have a sense of being marginalized from the system.

**Misconceptions about the organ donation process.** Although in the United States it is illegal to buy or sell organs, people fear a black market that is eager to harvest organs or that their organs may be sold without their receiving compensation.

Lack of knowledge is apparent when individuals state that their age, illness, or physical or mental defects can prevent them from being an organ donor, or that people who are rich or are celebrities move up the waiting list more quickly. Others think their families will incur the cost of donating (Mayo Clinic, 2016; Harrison & Sanders, 2016; Quick et al., 2016; USDHHS, 2016e).

**Barriers that Limit Living Donor Recruitment**

Beyond the reasons listed above for which individuals choose not to become donors upon death, there are additional barriers that reduce the number of living donors.

**Socioeconomic status** has been found to be an important barrier to living donation. Lower-income populations have lower rates of donation compared with higher-income populations.
Economic and financial issues related to the direct and indirect costs associated with living donation affect the number of donors. Such costs typically include travel, lodging, meals, childcare, and other service-related costs incurred during a donor’s recovery. Lost wages are also a problem for living donors, even those with short-term disability or medical leave benefits. Out-of-pocket expenses are reported to range from $40 to $20,000, with an average of approximately $5,000 when all costs are considered.

Health reasons that medically preclude kidney donation, for example, have contributed to a shrinking pool of potential living donors. Likewise, the increased incidence of obesity, hypertension, and diabetes in the population contributes to a reduced pool of possible donors, even though people with such conditions are willing to undergo the process of organ donation (ATF, 2016).

Lack of Clarity about Decision-Making Authority

An important barrier to donation involves the ultimate responsibility for making the decision to donate. In the United States, the system of deceased-donor organ donation is based on “explicit consent.” That means an individual is assumed not to be a donor unless he or she has indicated his or her wishes by registering to donate (i.e., “opt in”). Some countries have a system whereby all individuals are assumed to be donors unless they have “opted out,” however, studies have found that donor shortages remain under this system as well (Shepherd et al., 2014).

The Uniform Anatomical Gift Act (UAGA) of 2006 provides the legal framework for determining consent for organ donation. As of 2014, 47 states, including New Jersey, have enacted some form of this act, which specifically prevents any family member or otherwise responsible party from revoking an individual’s first-person consent.

Despite the laws supporting the wishes of the deceased, however, it is common practice for family members to be given the power to override these wishes. Factors that may influence physicians or OPOs to allow a family’s wishes to override the individual’s consent may include discord produced by family refusal and potential generation of conflict between the family and physician. Concerns about potential lawsuits and the controversy and adverse publicity that may result are considered potentially damaging to the efforts to increase organ donations.

Organ transplant agencies also have the right to decline the organs if they believe that the negative impact of accepting an organ under controversial circumstances would outweigh the value of the organ itself (USDHHS, 2016f; Chon et al., 2014).

Process Breakdowns among Healthcare Professionals

When best practices are not followed, a deviation from the organ donation protocol may jeopardize organ recovery. These deviations are known as process breakdowns and include:

- Missed referrals due to the failure to notify the OPO about the deceased
• **Untimely referrals** when the OPO is not notified about an imminent death within one hour of such determination or within one hour of a patient’s death

• **Suboptimal request** for donation due to a poorly timed request or because a requester is untrained

• **Hemodynamic stability not maintained** and life-saving measures discontinued despite a timely referral

• **Patient withdrawn from a ventilator** and extubated before the family is offered the opportunity to donate
  
  (Razdan et al., 2015)

**Healthcare Professional Attitudes and Perceptions**

While there is little research or consensus, limited studies indicate certain ethical concerns and conflicts among both physicians and nurses that interfere with the organ donation process. Such concerns and conflicts include the following:

• Lack of knowledge about the organ donation process, causing a negative impact on attitudes that can lead to failure to identify potential donors

• Difficulty accepting “brain death” as death (i.e., belief that as long as a patient’s heart is beating, the patient is still alive and should continue to receive care)

• Difficulty removing a ventilator for a donation after cardiac death when there is still minimal brain activity (i.e., belief in the possibility that the person may recover)

• Difficulties among the multidisciplinary team during the organ donation process related to:
  
  o Lack of commitment on behalf of healthcare professionals to the process
  
  o Lack of knowledge regarding how to carry out brain death protocol and doubt about when to begin the process
  
  o Resistance to starting the brain death protocol due to personal difficulties dealing with death

  (Araujo & Massarollo, 2014)

**ROLE OF THE NURSE IN ORGAN RECOVERY AND TRANSPLANT**

Nurses are critical members of the interdisciplinary team involved in organ recovery and transplantation. Nurses skilled in caring for transplant donors and recipients include:

• Critical care and emergency/trauma nurses

• Designated requestors
• Clinical transplant nurses
• Clinical transplant coordinators
• Advanced practice transplant professionals

**Critical Care and Emergency/Trauma Nurses**

The nurses in critical care or emergency/trauma settings are essential in the collaborative process of organ donation and recovery. These nurses are involved in:

• **Identifying** a potential donor and making a referral to the local OPO
• **Partnering** with the local OPO by introducing themselves to the coordinator, asking for information and resources, and working collaboratively to implement changes
• **Participating** in activities to increase awareness of organ donation among colleagues and in the community
• **Advocating** for patients and their families and honoring the patient’s last wishes
• **Upholding** the family’s right to be offered the option of organ donation
• **Promoting** compassionate communication between the healthcare team and families
• **Being knowledgeable** about the relevant issues surrounding organ donation (Jawoniyi & Gormley, 2015)

**Designated Requestors**

It is a federal regulation that a specially trained, designated hospital staff member, known as a “designated requestor,” approach the family to discuss the option of organ donation. Many requestors are registered nurses who have completed a course offered or approved by the OPO. The requestor lets the family know the patient is registered to be an organ donor and that those wishes will be carried out after death is pronounced. The family is also given clarification of the definition of brain death and informed that the patient will remain on life support after death is pronounced (CFR, 1998).

**Clinical Transplant Nurses**

Clinical transplant nurses provide patient care primarily at the bedside, in inpatient units, and in operating rooms. They may also practice in outpatient clinics. In all settings, the focus of this nurse is delivery of direct care and education to recipients, donors, and/or their families (NATCO, 2015).
Transplant Nurse Coordinators

Transplant nurse coordinators provide direct as well as indirect patient care and are responsible for synchronization of all aspects of transplant care across all settings to ensure high-quality, effective, and safe care. These nurses focus on the provision of care for recipients or donors (NATCO, 2015).

TRANSPLANT RECIPIENT COORDINATORS

Transplant recipient coordinators practice in outpatient and clinical settings, with responsibilities extending into the community. Their role is to guide candidates for organ transplantation through the pre-transplant evaluation, which includes making certain all necessary pre-transplant tests and procedures have been completed, providing educational information and emotional support, as well as following patients during their post-transplant recovery period (NATCO, 2015).

PROCUREMENT NURSE COORDINATORS

Procurement nurse coordinators may practice in intensive care, emergency and trauma, or operating room settings. They may also travel to outlying centers to provide patient and staff education and to assist in organ procurement. They have a major role in the provision of follow-up support and advocacy for donor families (NATCO, 2015).

LIVING-DONOR NURSE COORDINATORS

The living-donor nurse coordinator practices primarily in clinics or outpatient settings, preparing and educating potential donors about organ donation. Following donation, the nurse follows patients for varying lengths of time to help promote full recovery both physically and mentally (NATCO, 2015).

Advanced Practice Transplant Professionals

The advanced practice nurse works in multiple settings, including inpatient units, outpatient clinics, and the community. These nurses are generally the most experienced and deliver an advanced level of patient care within the specialty of transplantation (NATCO, 2015).

CASE

Dianne is a nurse in the emergency department (ED). Late one night, Roland, a 35-year-old man, is admitted with multiple head injuries following an auto accident. The patient’s driver’s license does not indicate he is an organ donor. Dianne alerts the ED physician of this fact.

Jackie, Roland’s wife, arrives while resuscitation efforts are underway. Dianne provides her with a quiet place to sit and talk while the team works to save her husband. After the team declares Roland brain dead, Jackie is given a thorough explanation of this diagnosis and how it
was determined. Dianne sits with Jackie, holding her hand while she cries and listening to her talk about her husband. After Jackie is a little calmer, Dianne calls the local OPO to make a referral.

Following referral to the OPO, Anthony, the designated nurse requestor for the hospital, is notified. Anthony meets with the deceased patient’s wife, Jackie, to discuss consent for organ donation. At first, Jackie is unsure about donation and expresses concern about the physical appearance of her husband after organs are obtained. Anthony reassures Jackie that if her husband’s organs are donated, he can still have an open-casket funeral. Anthony empathizes with Jackie about how difficult this is and offers her printed material on organ donation. He asks if Jackie needs anything else and states he will return later. He gives Jackie his cellphone number and tells her to call if she has any questions.

A while later, Anthony returns to the ED and takes Jackie to see her husband one last time. Jackie expresses concern that he does not look dead and is still breathing. Anthony again discusses the diagnosis of brain death and the need to keep Roland’s organs and tissues healthy. Jackie pulls the sheet over her husband’s face as a final goodbye and says that her husband will live on in other people if his organs and tissues are donated. She agrees to sign consent.

**BREAKING DOWN THE BARRIERS**

All nurses can play an active, integral part in breaking down barriers and increasing the donation rate by:

- Increasing awareness about the need for organ and tissue donation among colleagues, friends, and family
- Advocating for or organizing a unit- or hospital-wide formal education plan about the organ donation process and nurses’ roles in the process
- Learning about criteria for organ donation
- Being familiar with the local protocols for in-hospital deaths (i.e., calling the OPO for every death)
- Understanding issues surrounding brain death
- Understanding ethical concerns regarding organ donation (particularly withdrawal of life support)
- Dealing with their own personal feelings about death and mortality
- Registering to be an organ donor
CONCLUSION

Organ transplants have offered the gift of life to many people over the last century and into the twenty-first century. But without cooperation and collaboration among healthcare professionals, federal and state governments, and society, the benefits of transplantation would not be possible.

The issue of supply and demand is quite complex. It is dependent upon understanding and providing education to dispel individual attitudes, myths, and other barriers that stand in the way of becoming an organ donor.

Nurses and other healthcare professionals must increase their knowledge about becoming a donor, the process of organ donation and recovery, and in particular the concept of brain death. These individuals must learn to become advocates for their patients and families; they can also demonstrate their advocacy for the donation process by registering themselves to be organ donors.

Nurses are an integral part of and have significant roles in the process of organ procurement and transplantation, requiring specialized skills and training. They are effective collaborators within the transplantation team, and these transplant nurses often have the most one-on-one contact with transplant patients.

RESOURCES

Donate Life America
http://www.donatelife.net

Organ Procurement and Transplantation Network
https://optn.transplant.hrsa.gov

State OPOs
http://www.organdonor.gov/awareness/organizations/local-opo.html

U.S. Government information on organ donation and transplantation (U.S. DHHS)
http://organdonor.gov

REFERENCES


© 2016 WILD IRIS MEDICAL EDUCATION, INC.


DISCLOSURE

Wild Iris Medical Education, Inc., provides educational activities that are free from bias. The information provided in this course is to be used for educational purposes only. It is not intended as a substitute for professional healthcare. Neither the planners of this course nor the author have conflicts of interest to disclose. (A conflict of interest exists when the planners and/or authors have financial relationship with providers of goods or services which could influence their objectivity in presenting educational content.) This course is not co-provided. Wild Iris Medical Education, Inc., has not received commercial support for this course. There is no “off-label” use of medications in this course. All doses and dose ranges are for adults, unless otherwise indicated. Trade names, when used, are intended as an example of a class of medication, not an endorsement of a specific medication or manufacturer by Wild Iris Medical Education, Inc., or ANCC. Product trade names or images, when used, are intended as an example of a class of product, not an endorsement of a specific product or manufacturer by Wild Iris Medical Education, Inc., or ANCC. Accreditation does not imply endorsement by Wild Iris Medical Education, Inc., or ANCC of any commercial products or services mentioned in conjunction with this activity.

ABOUT THIS COURSE

You must score 70% or better on the test and complete the course evaluation to earn a certificate of completion for this CE activity.

ABOUT WILD IRIS MEDICAL EDUCATION

Wild Iris Medical Education offers a simple CE process, relevant, evidence-based information, superior customer service, personal accounts, and group account services. We’ve been providing online accredited continuing education since 1998.

ACCREDITATION INFORMATION FOR WILD IRIS MEDICAL EDUCATION
TEST

[ Take the test online at wildirismedicaleducation.com ]

1. Which organ or tissue can be transplanted from a living donor to a recipient?
   a. Spleen
   b. Ligaments
   c. Part of a liver
   d. Middle ear

2. The recovery of organs and tissues is coordinated in each state by that state’s:
   b. Organ procurement organization (OPO).
   c. Board of Medicine.
   d. Donation and Transplantation Community of Practice (DTCP).

3. To establish brain death, the neurological assessment must show that the patient lacks all evidence of brainstem reflexes, which include:
   a. Cheyne-Stokes respiration.
   b. Deep tendon reflexes.
   c. Pupillary responses.
   d. Lazarus reflex.

4. Which is considered a relative contraindication for organ donation?
   a. Presence of HIV infection
   b. Diabetes mellitus
   c. Prolonged hypothermia
   d. Active metastatic cancer

5. Which is a correct statement about barriers to donor recruitment?
   a. Most major religions forbid organ donation.
   b. Continuation of life-saving measures jeopardizes organ donation.
   c. Organ donation destroys body integrity and precludes an open coffin wake.
   d. Individuals fear the validity of brain death determination.
6. Barriers that have been found to preclude living donor recruitment include:
   a. Mental illness.
   b. Age older than 50 years.
   c. Higher socioeconomic status.
   d. Health reasons.

7. First identifying a potential donor and making a referral to the local OPO is usually carried out by which member of the interdisciplinary team?
   a. Clinical transplant nurse
   b. Designated requestor
   c. Critical care and emergency/trauma nurse
   d. Clinical transplant coordinator

8. Which nurse is responsible for synchronizing all aspects of transplant care across all settings?
   a. Transplant nurse coordinator
   b. Clinical transplant nurse
   c. Procurement nurse coordinator
   d. Advanced practice transplant professional