Introduction

The ethical questions raised by organ transplantation are multiple and complex. Three of the main ethical issues related to organ transplantation include the fundamental morality of transplanting body parts, the ethics of organ procurement, and the ethics of allocation. Does organ transplantation take too much control of science and lead to a scenario of playing God? The technological and medical advancements associated with organ transplantation have saved the lives of many people, but scarce organ resources have lead to many social issues regarding allocation. There are around 70,000 candidates on the waiting list in the United States and the organ supply is scarce. Who should get the available organs and by what criteria should this decision be made?

Student Learning Objectives:

1. Understand the different methods of organ donation and the different definitions of death.
2. Understand different religious and ethical concerns about organ donation.
3. Think critically and formulate opinions about which issues are most important to consider in the determination of allocation.

Procedures & Activities

This unit uses a student-centered and interactive approach to teaching, in order to allow for a maximum degree of student participation. Each activity is marked as an individual, partner, or group activity, or as a teacher-directed class discussion.

The following icons are used to designate the different types of activities:

- Individual Activity
- Partner Activity
- Group Activity
- Teacher-Directed Class Discussion

A. Pre-Unit Questions

Individual Activity

Students should answer these questions individually at the start of the unit. The purpose of the activity is to collect the student’s individual thoughts before being presented with any information in the unit, so teachers should avoid answering too many questions about terminology that is used.

1. Is there anything fundamentally wrong with organ transplantation? Does it overstep the boundaries of medicine?
2. What should matter more in the process of allocation: who is the best match for the organ or factors of justice such as time on waiting list?
3. Should everyone be required to donate his or her organs?
4. What ethical concerns are most important in the retrieval of organs for donation?
5. What system should be used to convince more people to donate organs?
B. Definitions of Death & Current Systems of Donation

Teacher-Directed Class Discussion

The purpose of this activity is to provide background on the various definitions of death and the current systems in place to acquire organs for transplantation. This section will help students fully understand the complex nature of this topic as well as helping them form opinions about which definitions they think should be used.

Definitions of Death

Information from:


In the last two decades, four major definitions of death have emerged.

1. **Traditional**
   A person is considered dead when he is no longer breathing and his heart is not beating. Put more simply, death is defined by permanent cessation of breathing and blood flow. This can also be referred to by the more modern name: the circulatory-respiratory definition of death. Once the donor has been without circulation for long enough that autoresuscitation is impossible, the cessation of circulation quickly becomes irreversible.

2. **Whole-brain**
   Death viewed as the irreversible cessation of all brain functions. There is no electrical activity in the brain, including the brain stem.

3. **Higher-brain**
   Death is considered the permanent loss of consciousness. Someone in a persistent vegetative state would be considered dead, even though the brain stem is still regulating breathing and heartbeat and other functions.

4. **Personhood**
   Death occurs when an individual ceases to be a "person." Criteria for personal identity or for being a person typically include activities such as reasoning, remembering, feeling emotion, possessing a sense of the future and interacting with others. This definition is more concerned with individual function than brain function.

Systems of Donation

Information from:

Cadaver Donation
This is the most popular form of donation in the United States. The Uniform Anatomical Gift Act, passed in 1984, allows for the use of a donor card to grant medical sta permission to use a person's organs for transplantation after death. Donor information is included on driver's licenses in order to ensure that this information more easily. However, since this system is voluntary, a large portion of Americans do not sign up to be organ donors for one main ethical reason: the fear that if they agree to donate, they will receive suboptimal care so their organs can be obtained sooner. This form of donation is categorized under the traditional (circulatory-respiratory) definition of death.

Non Heart-Beating Cadaver Donors
This is the most common kind of cadaver donation. The donor is declared dead by brain criteria, either whole-brain death or higher-brain death, and has effective circulation until the organs are harvested. Such donors are terminal patients who will not survive once their life-sustaining interventions are withdrawn. These patients are brought into the operating room, where the life support is withdrawn and then they are declared dead by the circulatory-respiratory definition when their blood flow and breathing stops. The organs are then removed for transplantation.

Live Donation
Live donors undergo extensive education about the procedure and its risks as well as a medical and psychological evaluation. This process is in place to ensure that the decision to donate is informed, free, and altruistic, and also that the donor is a medical match for the recipient.

C. Religious and Cultural Perspectives

Teacher-Directed Class Discussion

Group Activity

The purpose of this activity is to provide a background on religious perspectives regarding organ donation and transplantation. This section is important for understanding the full picture of organ donation because most decisions about
donation involve, at least to some degree, the religious beliefs of the donor and the family. Even though some families are not preoccupied with the religious aspects, it is still an important thing for physicians consider.

Information from:

All of the major faith traditions can be split up into two main groups: Eastern and Middle Eastern. Eastern religions include: Hinduism, Buddhism, Shinto, and the Chinese traditions of Confucianism and Taoism. Middle Eastern religions include: Judaism, Christianity, and Islam.

Hindu, Buddhist and Shinto beliefs
Since continual rebirth, or reincarnation, is a common belief in Hinduism and Buddhism, questions about the resurrection of the dead are not an issue. According to the Hindu Temple Society of North America, individuals are not prohibited by law from donating organs. In fact, “Hindu mythology has stories in which the parts of the human body are used for the bene t of other humans and society. There is nothing in the Hindu religion indicating that parts of humans, dead or alive, cannot be used to alleviate the su ering of other humans.” In Japan, where both Buddhism and Shinto are prominent, religious leaders have not taken a strong stance on the matter but there is little that could be used to show that they have an active position on organ donation. In general, the altruistic traditions and high value placed on compassion in these religions leads to general support of organ donation.

Chinese Beliefs
Chinese culture is strongly shaped and acted by Confucian ethics and the Taoist tradition. A high regard is placed on li, which provides a great barrier to organ donation. In this culture, your body is sacred and does not belong to you but rather it is a gift that is inherited from one’s parents and ancestors. Due to these strong beliefs, organ donation is not supported because a person is not allowed to damage the body or place it at risk.

Judaism
Conservative and Reform beliefs not only permit but also encourage donation. For the Orthodox sector, there is no consensus regarding the criteria for death but some leaders have come out in favor of brain death, thus making organ donation possible. Additionally, Orthodox Rabbi Moses Tendler, Chair of the Bioethics Commission of the Rabbinical Council of America, has gone on to assert that “if one is in the position to donate an organ to save another’s life, it’s obligatory to do so.” Saving a human life is considered one of the noblest acts a human can perform, providing further support for organ donation.

Christianity
All three branches of Christianity—Catholic, Protestant, and Orthodox—support and encourage donation. The national Conference of Catholic Bishops for the United States a rms that organ donation is morally permissible, encouraging it as an act of charity. Other Christian groups who do not have explicit views about organ donation believe that it is an individual choice for people to decide on their own.

Islam
The majority of Muslim scholars promote the value of saving human life and hence allow organ transplantation as a necessary means to attain a noble end. However, there is not unanimous support amongst the community. Some Muslims believe that the body should be returned to Allah without change.

Once the information about each religion is explained to the class, split the students up into equal groups to fill out the following chart:

<table>
<thead>
<tr>
<th>Religion</th>
<th>Yes to Donation</th>
<th>No to Donation</th>
<th>No Strong Stance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buddhism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shinto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese Beliefs (Confucianism and Taoism)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judaism (Reform, Orthodox, Conservative)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christianity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
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</tbody>
</table>

Optional Assignment: have each group research and nd a news story about a case where one of the religions listed in the “no” column interfered with a decision about organ donations.

D. Allocation
The purpose of this section is to present the social impact of organ donation. The background on the medical decisions as well as religious views will help students formulate their decisions on how organs should be allocated.

Information from:

Teacher-Directed Class Discussion

About 25,000 people per year receive transplants at the nation's 278 transplant centers. However, about 7,000 people die each year while waiting for organs. At any given time, about 100,000 people are on the organ transplant waiting list, with 35,000-40,000 people registering each year. For every transplant given, three more people sign up on the list, leading to the death of 10 waiting list patients per day.

The United Network for Organ Sharing (UNOS) is a federally funded group that is responsible for allocating organs for transplantation. The group continues to alter its policy to find a proper balance between social utility and justice. These two principles, which are used to govern allocation, are explained below:

Social Utility
Allocating organs solely on the principle of maximizing social utility would involve giving newly available organs to the person with the best HLA tissue match. This principle is supported by most of the medical community because it would lead to the highest possible number of successful transplants.

Justice
Under this principle, all people should have an equal right to the benefits of the transplant program regardless of their genetic makeup including race, gender, or HLA pattern. People who support justice-based allocation systems tend to support adjustments in the UNOS system that would provide more equal access. Such adjustments might include adding weight to factors such as time on the waiting list, blood type, and a marker for previous exposure to foreign tissue that decreases the chance of finding a suitable organ. It is mainly non-physicians that support this system.

Balancing Social Utility and Justice
The UNOS committee has been unable to explicitly decide which principle is more important so they reached a compromise. Half the weight in the allocation process is given to social utility and the other half to considerations of justice.

Criteria Chart

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Important to Consider</th>
<th>Not Important (because...)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
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<tr>
<td>Quality of HLA tissue match</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Condition of Recipient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place of Residence/Proximity to transplant site</td>
<td></td>
<td></td>
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<tr>
<td>Personal Accomplishments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worth to Community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifestyle choices: Smoker, Alcoholic, or Obese</td>
<td></td>
<td></td>
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<tr>
<td>Intelligence</td>
<td></td>
<td></td>
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</tbody>
</table>

Group Activity

Students should fill out this chart individually and then discuss in small groups. The purpose of this activity is to determine which criteria are most important for determining which recipient is most deserving of the organ. This activity should help the students figure out if they think the principle of justice or social utility is more important.

E. Increasing Supply

Partner Activity

Teacher-Directed Class Discussion

Clearly, the major obstacle to the organ transplant system is simply that there are not enough organs for everyone who needs them. In this section, present students with the different possibilities for increasing supply that are explained below. Then, split them up into pairs to answer the following questions:

1. Which current system do you think is best?
2. Come up with and design a system that would work better. Suggestions include: technological solutions, animal transplantation, and stem cells.
3. What are the potential ethical problems that might come up with your new system?

After they have answered these questions in pairs, bring the class back together and discuss all potential ideas together.
Information from:

Potential Solutions:

Required Request and Required Response Laws
The Uniform Anatomical Gift Act plays an important role in this option because it governs organ donations for transplantation and also governs the making of anatomical gifts of one's cadaver to be used to study medicine. Now, virtually all states promote laws to increase donation. In 1997, a new federal law mandated that organ donor cards be included with tax refund checks. However, permission from immediate family is still required in order to follow through with the donation.

Non-heart Beating Donors
This system was devised at the University of Pittsburgh and involves asking on the requests of patients (and their representatives) to remove their organs when their hearts stop beating even if they may not yet be brain-dead. An example of this would be a patient on a ventilator who wants to be weaned even though this weaning will result in death. The ventilator would be removed in the operating room and three minutes after the heart stopped, organs would be removed for transplant. However, it is not usually this simple because most of the time patients are brain dead in this situation and permission from the family is required.

Organ Protection Before Obtaining Consent
This is an extremely innovative but controversial approach. It involves injecting organ-protective drugs and preservatives into patients who died in the emergency room or on their way to the emergency room. The organs would not be removed but rather preserved to gain more time to get family permission. Critics of this technique claim that hospitals do not always determine that the patient is dead before injecting the drugs and that they can cause harm to living patients. Defendants say that it gives the family more time to recover from the shock of losing a loved one and allows for them to make better decisions. In this sense, it is more humane than asking the family immediately after death.

Selling Organs
There are many different possibilities for this scenario. Either the patient can arrange payment for the posthumous use of their organs before their death or families might sell the organs after death. Another proposal is that the donor or their family should receive tax credits. However, the public typically reacts negatively to these ideas because of the fear that it would result in the open auction of organs. In 1984, the National Organ Transplan-
tation Act made the sale of organs for transplant illegal in the United States. An additional, less severe option involves allowing living donors to sell non-vital organs for money. The main concern with this scenario however is that it would most likely be poor people that did this to help support their families. Is it ethical to take advantage of poor people in order to get more organs?

Presumed Consent
This system involves a state or federal law that would allow hospitals to assume that a deceased person has agreed to donate unless the person had indicated otherwise or the family objects. This system has been adopted in many European countries but it is unclear if it would actually increase the number of available organs for transplant.

Altruistic Donation
Many argue that the current system in place is the most effective and that families who donate can be satisfied knowing that the death of their loved one brought some benefit to others.

F. Debate Topic

Students should read the following articles (both of which can be found in Intervention and Re cion):


Split the class into two groups to debate the following statement: Convicted felons and ordinary citizens should have equal access to organs on the transplant list.

G. In The News

Students should read the following articles (both of which can be found in Intervention and Re cion):


Split the class into two groups to debate the following statement: Convicted felons and ordinary citizens should have equal access to organs on the transplant list.
different topics. Split the class up into three equal groups, one for each article. They should read and prepare a presentation for the class that includes the following:

-Brief summary of the story
-How it relates to the topics learned in this section
-Their personal opinion on the topic

1. The Controversy Surrounding Steve Jobs’ Liver Transplant
   http://www.nytimes.com/2009/06/23/business/23liver.html?adxnnlx=1320642848-cXihiC1poFOc1n0UvyPhA
   a. Should some people get preferential treatment and do you think this was the case for Steve Jobs?
   b. Should transplants be given even when it hasn’t been proven that it will be helpful?
2. Heart Transplants in infants
   a. Was this an ethical thing to do?
   b. What was valued more: social utility or justice?
3. Recipient gets HIV shortly after kidney transplant
   a. Who is at fault?

H. Conclusion

Teachers should have their students return to the original questions:

1. Is there anything fundamentally wrong with organ transplantation? Does it overstep the boundaries of medicine?
2. What should matter more in the process of allocation: who is the best match for the organ or factors of justice such as time on waiting list?
3. Should everyone be required to donate his or her organs?
4. What ethical concerns are most important in the retrieval of organs for donation?
5. What system should be used to convince more people to donate organs?

Based on the activities in this unit, have your answers changed?

References


