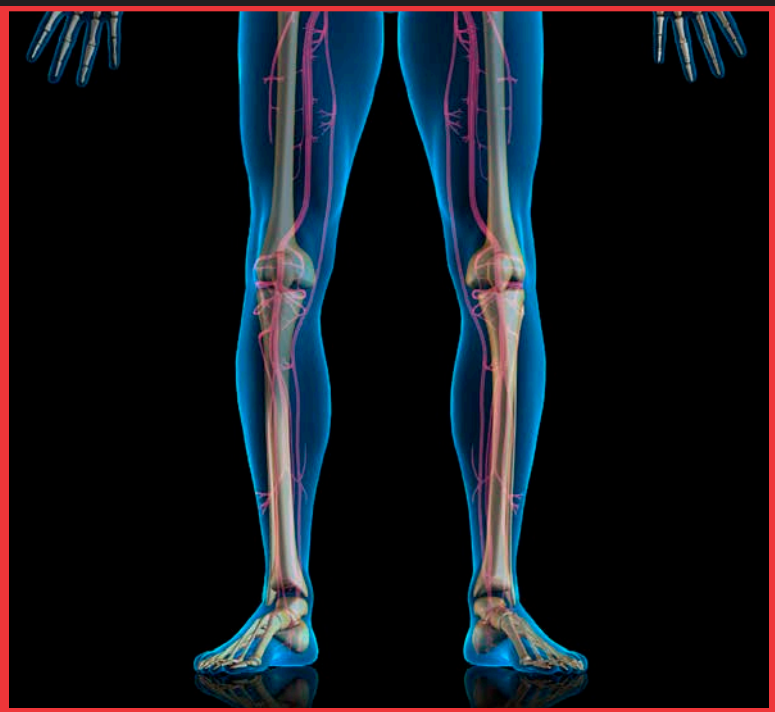
The Facts About Organ, Eye & Tissue Donation

MIDDLE SCHOOL

Transplantation Science

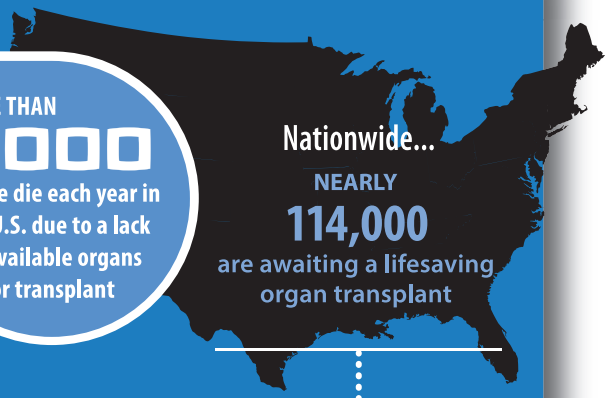
The Facts About Organ, Eye & Tissue Donation



IN THE U.S.

THE NEED IS GREAT

MORE THAN **7,000** people die each year in the U.S. due to a lack of available organs for transplant



A new name is added to the national transplant waiting list every **10 minutes...**

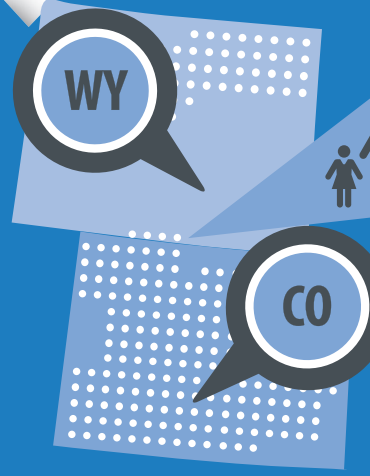
...that's **52,500** patients each year

It would take 1½ stadiums the size of **Sports Authority Field at Mile High** to seat them all

84% of all patients waiting are in need of a kidney. The average wait time is nearly **2.5 years**

12% of patients are in need of a liver transplant

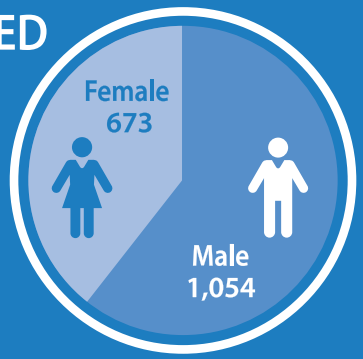
IN COLORADO & WYOMING



Nearly **2,000** are waiting for lifesaving organ transplants

Over 90% of Colorado & Wyoming families say **DONATION IS IMPORTANT**

THOSE IN NEED



63% of Wyomingites

69% of Coloradans

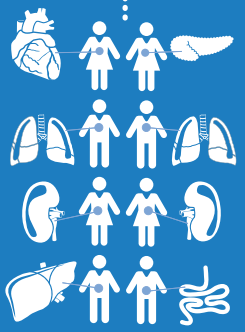
are registered organ, eye and tissue donors

THE LIFESAVING IMPACT OF ORGAN, EYE & TISSUE DONATION

A single donor can...

save and heal up to **8** lives through organ donation

save and heal more than **75** lives through tissue donation

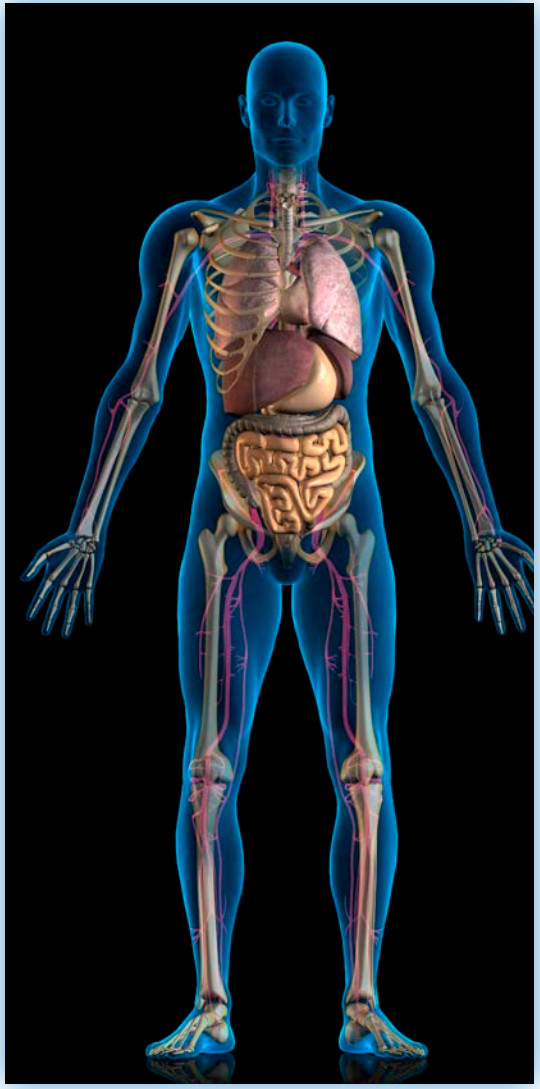


On average, **450 lives are saved each year thanks to organ donors from Colorado and Wyoming**

Approximately **100,000 lives are saved and healed each year** thanks to local CO and WY tissue donors

STATION 1

ORGANS



FACTOIDS

There are six different transplantable organs:
Kidneys (2), Liver, Heart, Lungs (2), Pancreas and Intestines.

The majority of **organs for transplant** come from **deceased** donors; however, a living donor may be able to give a kidney, a section of their pancreas or intestine, a part of their liver or lobe of their lung.

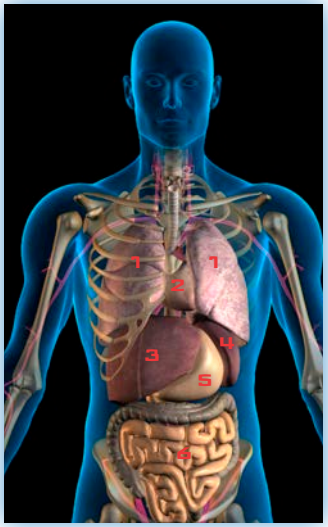
Nearly **114,000** people are awaiting a lifesaving organ transplant in the United States. Nearly **2,000** people are on the waiting list in Colorado and Wyoming.

The kidney and liver are the organs most in need. As of June 2019 more than **80%** of the patients on the list are waiting for kidneys and **12%** are waiting for livers.

Every year, more than **30,000** people receive lifesaving organ transplants in the United States.

organs for transplant: taking organs from one person and using them to save someone else's life
deceased: describes someone who has died

Organ donation is the process of giving an organ or part of an organ for the purpose of saving someone's life through transplantation into another person with organ failure. Every 10 minutes, another person is added to the national transplant waiting list to wait for an available organ. Sadly, 20 people die every day while waiting.



How it happens

When a patient arrives at a hospital with a severe brain injury and meets certain criteria, the hospital's critical care staff contacts the local organ procurement organization (OPO). This is required by law for all deaths and **imminent** deaths.

The hospital staff makes all attempts to save the patient's life. While they continue lifesaving efforts, the OPO determines whether the patient is registered as an organ, eye and tissue donor and whether they are medically able to become a donor. Only healthy organs can be transplanted. The OPO and hospital staff work together to make sure the patient's family is cared for and that if the patient's death is declared, they are offered the option to donate.

Unless the family brings up donation first, it is only after the family has been informed of the patient's imminent death and after the patient is medically evaluated that the opportunity to donate is discussed.

SIX TRANSPLANTABLE ORGANS

1. Lungs
- Organs of respiration (breathing)
- Bring oxygen into the blood and remove carbon dioxide
- 4-6 hours for transplant

2. Heart
- Pumps blood to all body systems
- 4-6 hours for transplant

3. Liver
- Instrumental in energy regulation
- Makes proteins and bile
- Removes waste from blood
- The largest internal organ
- 8-12 hours for transplant

4. Kidneys
- Filter waste from the blood and turn it into urine
- Produce important hormones
- Up to 72 hours for transplant if able to put on the specially designed pump system

5. Pancreas
- Makes enzymes necessary for digestion
- Secretes insulin that helps regulate blood sugar
- 12-18 hours for transplant

6. Intestines
- Digestive organ that absorbs water, electrolytes and nutrients for the body
- 8-12 hours for transplant

imminent=likely to happen at any moment

WHAT ORGANS CAN BE DONATED WHILE LIVING?

The kidney is the most common organ donated by living donors, because it is possible to live a healthy life with only one kidney. Other organs that can be donated are a lobe of the lung, part of the liver, part of the pancreas (rare) and part of the intestine.

The decision to become a living donor must be made carefully. Many people want to become living donors so their friend or loved one does not have to wait on the national transplant waiting list for an organ from a deceased donor. This list is long, and some patients die before they can get the transplant they need.

WHO CAN BE A LIVING DONOR?

While many people are willing to be living donors, not everyone is able to be the one.

Each **potential** donor is evaluated by a **physician prior to** surgery. The donor must be physically and psychologically healthy and free from **ailments** such as high blood pressure, diabetes, cancer, kidney disease and heart disease.

Individuals considered for living donation are usually between 18 and 60 years old. The evaluation of living donors is different from deceased donors and done through a transplant center. There is no age limit for deceased donation.

One person can save up to eight lives through organ donation!

TYPES OF LIVING DONATION

When a blood relative of the patient (for example: a sister, father or cousin) donates an organ, it is called **living-related** donation.

When an individual who is not related by blood to the patient donates an organ (for example: a spouse, friend or acquaintance) it is called **non-related** living donation.

When a person who does not know the recipient donates an organ, it is called **non-directed** living donation. This is also referred to as anonymous or altruistic, meaning it is unselfish or selfless.

INTERESTING TO KNOW

When a person donates a kidney, the remaining kidney will enlarge slightly to do the work of two healthy kidneys.

The liver has the ability to regenerate and regain full function in both the donor and recipient.

Lungs do not regenerate, but donors usually don't have problems with reduced function.

The usual recovery time after surgery is shorter for the living donors and they can usually resume many normal activities within two to six weeks.

potential=possible **physician**= doctor **prior to**= before **ailments**= illnesses

TRANSPLANTABLE ORGANS

GOAL: Discover and identify each of the six transplantable organs.

DIRECTIONS

1. **LOOK at the specimens and models at this station.**
2. **TURN to page 6 in this handbook and read about each of the organs that can be transplanted.**
3. **MATCH the name of the organ with its function in the body.**
4. **WRITE the letter of the best choice in the line provided.**

A. Intestines B. Liver C. Lungs D. Heart E. Pancreas F. Kidneys

____ These filter waste products from the blood and turn it into **urine.** We have two of them.

____ This **cleans** the blood of poisons and toxins (like drugs and alcohol) and also makes bile to aid in the digestion of food. It is the largest **internal** organ in the body.

____ These bring **oxygen** into the blood and remove carbon dioxide. We have two of these.

____ This **pumps** blood to all the cells in the body.

____ This small organ makes digestive enzymes and an essential chemical called **insulin**, which keeps blood sugar at the correct levels.

____ This is responsible for **absorbing** nutrients from digested food.

STATION 1 ACTIVITIES

TRANSPLANTABLE ORGANS

GOAL: Discover what organs you can donate while still living.

DIRECTIONS

1. **TURN to page 7 in this handbook and read about living donation.**
2. **WRITE the answers in the lines provided.**

Which one whole organ can you donate, and live a healthy life without it?

1. _____

Why?_____

Which four organs can you donate a part of and still live a healthy life?

1._____

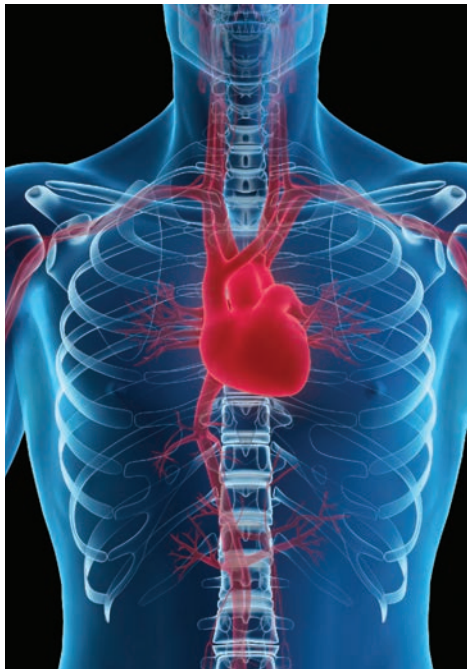
2._____

3._____

4._____

STATION 2

ORGAN ALLOCATIONS



THE HEART is a muscular organ that is about the size of an adult fist. It pumps blood throughout the body and is located behind the breastbone between the lungs. **Deoxygenated** blood flows from the heart to the lungs where it gives up carbon dioxide and is freshly oxygenated. From there, the blood returns to the heart and is pumped to the rest of the body.

FACTOIDS

As of 2016, the longest a person has survived with a single heart transplant is 35 years.*

Average waiting time for a heart transplant is more than 4 months. In some parts of the country, as many as 40% of adult patients die while waiting.

Failure to take post-transplant medication properly is the third leading cause of transplant failure.

A heart must be transplanted into the recipient within **approximately** four to six hours after recovery.

In 2018, 1,489 heart transplants were performed in the USA.

According to the Department of Health & Human Services, since 2008, 29,240 heart transplants have been performed in the USA.

deoxygenated=without oxygen
approximately=about

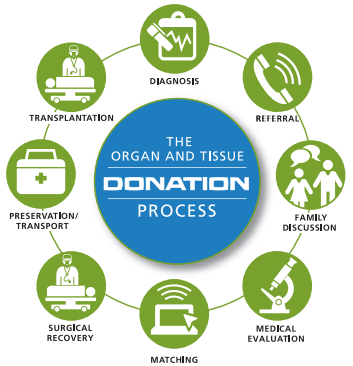
*Source: Bagot, Martin (2019, July 17). Britain's longest surviving heart transplant patient... *Mirror*

THE DONATION PROCESS

DIAGNOSIS Death can occur in one of two ways: cardiac death, when the heart is no longer able to beat on its own; and brain death, the irreversible loss of function of the brain, including the brain stem.

REFERRAL When a patient arrives at a hospital with a severe brain injury and meets certain defined clinical triggers, the hospital critical care staff contacts the local Organ Procurement Organization (OPO) as required by federal law. While the hospital continues lifesaving efforts, the OPO determines medical suitability and whether the patient is a registered organ, eye and tissue donor.

ORGAN ALLOCATION Unless the family brings up donation first, it is only after the family has been informed of the patient's imminent death, and the patient is evaluated for medical suitability, that the opportunity to donate is discussed. If the patient is a registered donor, the OPO team informs the family and explains how the donation process works. If the patient is not a registered donor, the family is presented with the donation options and the donation process proceeds only after the family has granted authorization.



MEDICAL EVALUATION Organ donor management is a complex, highly-specialized area of medical practice. The process begins with Donor Alliance's medical evaluation of a potential organ donor, assessing function of all organs and insuring medical suitability. Once care needs are determined, all procedures and medications necessary to assist with organ function are provided.

MATCHING When a deceased organ donor is identified, a donor coordinator from an OPO accesses the national matching system and enters medical information about the donor including height, weight, blood type, lab values and genetic matching. The system then generates a ranked list of patients who are suitable to receive each organ.

SURGICAL RECOVERY Once a match has been accepted for each transplantable organ of a donor, an Organ Recovery Coordinator (ORC) schedules the organ recovery surgery with surgical transplant teams. In most cases, transplant surgeons will travel to the hospital where the recovery will take place. Before beginning the surgical process, the family shares a moment of honor with the recovery team.

PRESERVATION/TRANSPORT As soon as the surgical process begins, the clock starts ticking and organs have to be treated with great care. Each organ is packed on ice in a specific way. The ORC works carefully to make sure that the cooler is packaged and labelled appropriately. Most organs travel to the hospital of the waiting recipient with the transplant surgeon that will be performing the transplant.

TRANSPLANTATION Once the transplant surgeon receives the organ they will perform a final inspection prior to transplanting it to ensure it is a good match for the recipient. After the transplant surgery, it will take healthy living, follow-up doctor appointments and some medications to ensure that the organ functions properly throughout the rest of the recipient's life.

ORGAN ALLOCATION

There are many people with **organ failure** and there are not enough organ donors, so there is a waiting list for patients to receive transplants.

A patient's place on the waiting list is determined by how sick they are, how long they have been waiting, their blood type and their potential for a match. A patient's income, race or social status are **never** taken into account when **determining** who will receive an organ.

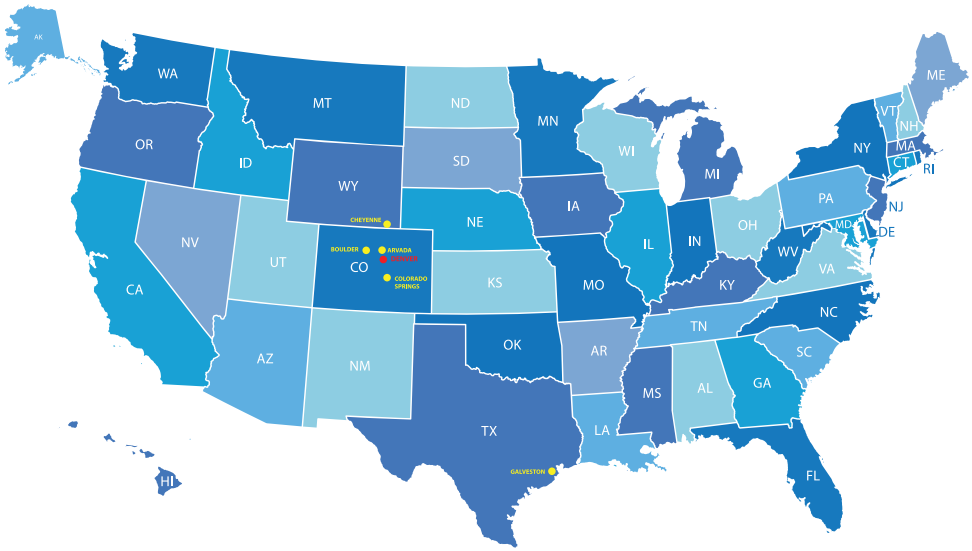
There is a limited amount of time in which the organs must be transplanted into the recipients. The heart and lungs must be transplanted more quickly than organs like the kidneys. Turn to p. 6 to review the amount of time available for transplant for each organ.

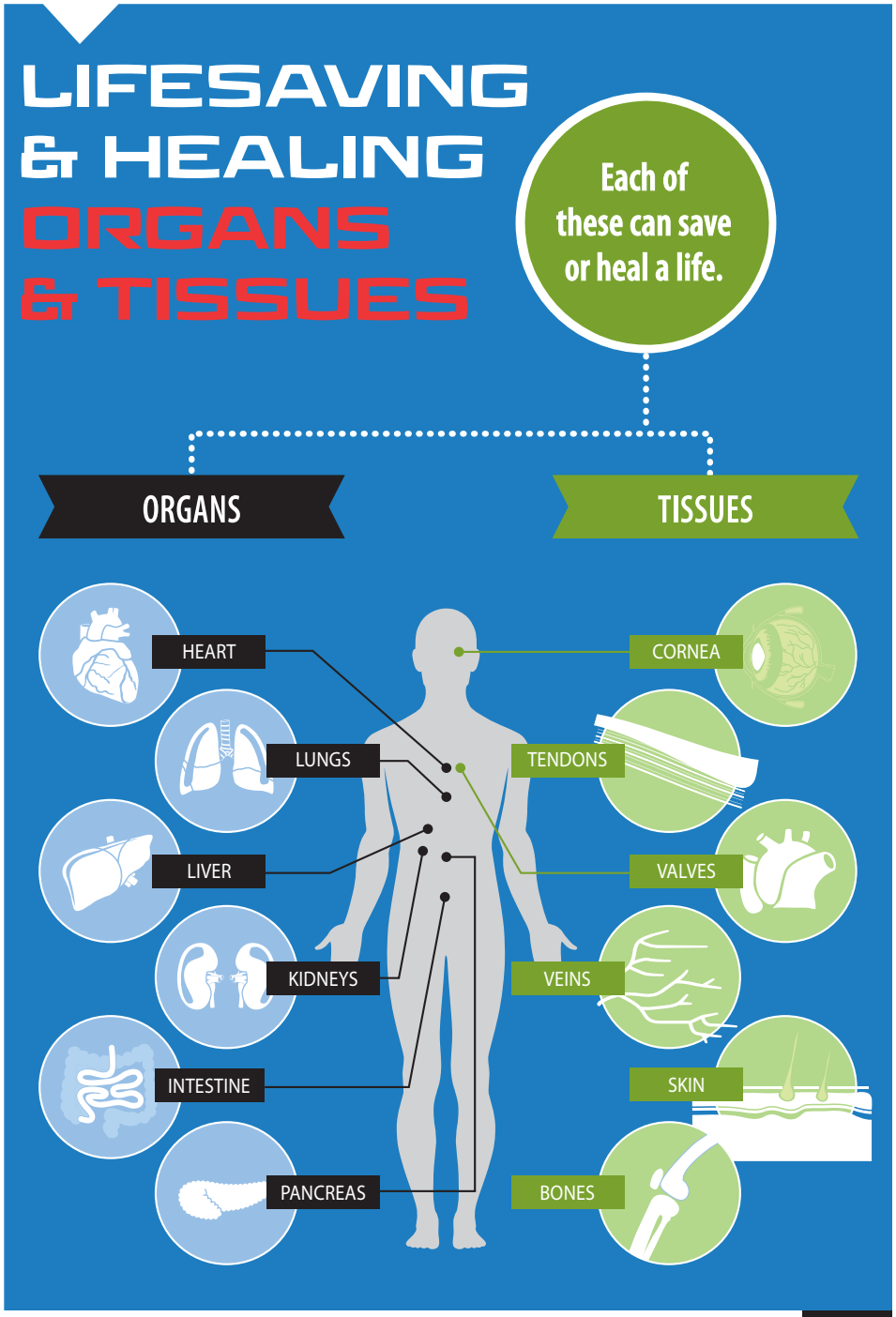
Organ, eye and tissue donation does not become an option until death has been declared.

Donor Service Areas in the United States

Distance between the donor and recipient matters when allocating an organ. Please take the following into consideration when considering geographic location:

- **Denver to Galveston, TX = 16 hours driving, or 2 hours flight + 1 hour drive**
- **Cheyenne, WY to Denver = almost 2 hours driving**
- **Colorado Springs to Denver = 1.5 hours driving**
- **Boulder to Denver = 30-45 minutes driving**





organ failure=when an organ stops working
determining=deciding

EXERCISE

DIRECTIONS

Use the information about the organ donor and the criteria below to determine the best match for the donor heart. Base your decision on science not emotion.

BACKGROUND OF DONOR

A young man who lives in Denver, Colorado suffers a brain injury caused by a motorcycle accident. He is pronounced brain dead at a local hospital and his heart is now available for transplant. He is 30 years old, 6 feet tall, approximately 155 pounds. On page 14 there are people who are potential matches to the donor. Using the criteria listed below, determine which candidate is best for this heart transplant.

CRITERIA

The donor and family are treated with the utmost care, respect and dignity throughout the donation process.

› Height and weight (body size)

Are there any candidates that are the wrong size to receive this organ? If so, you must rule them out and they must continue to wait for a better match.

REMEMBER: A person's heart is roughly the size of their closed fist. Imagine how large each of the candidates hearts would be. The size of the heart they receive must be a close match for a successful transplant. Who is an automatic rule-out for this donor's heart?

› Age

Are the remaining candidates too young or too old to receive this organ? If so, you must rule them out and they must continue to wait for a better match.

REMEMBER: A person is never too old or too young to donate or receive a transplant. Doctors will do their best to match the age of the recipient with the donor. However, the match has to make sense.

› Geographic location

Look at the map on page 12. Who is in a state near the donor? A heart must be transplanted within 4-6 hours. Who can get the heart in time?

REMEMBER: A person can be listed in more than one region. Transplant candidates are often asked to live within a few miles of the hospital while on the waiting list.

› Current state of health

Are all of the remaining candidates healthy enough to endure the transplant procedure? If they aren't, they must continue to wait.

REMEMBER: A person who has an active infection would be considered high risk for receiving a transplant and be temporarily removed from the waiting list. Once the infection has been successfully treated, the patient could again be listed for transplant.

› Urgency of need Of the remaining candidates, who needs it right away?

STATION 2 ACTIVITIES

The names and photos of all of the people below have been changed to protect their identities.

STEVEN

AGE: 14 years old
HEIGHT: 5'8"
WEIGHT: 140 lbs.
LIVES IN: Galveston, TX

PERSONAL INFORMATION:

- Freshman at Galveston Central High School
- Member of the tennis team and drama club
- Has 10-year-old twin sisters
- Parents both work at Wal-Mart
- Has damaged heart valves from a strep infection when he was little
- Has been on the Transplant Waiting List for 3 months

DEBBIE

AGE: 31 years old
HEIGHT: 5'6"
WEIGHT: 154 lbs.
LIVES IN: Cheyenne, WY

PERSONAL INFORMATION:

- Mother
- Husband works in sales and travels 3-4 days per week
- Must pay a Home Health Aide to help care for home and children when husband is away
- Has an enlarged heart
- Has been on the Transplant Waiting List for 5 months

DAVID

AGE: 40 years old
HEIGHT: 6'2"
WEIGHT: 220 lbs.
LIVES IN: Denver, CO

PERSONAL INFORMATION:

- Firefighter for 18 years
- Volunteers in a homeless shelter
- Likes bicycling and snowboarding with his girlfriend
- He is currently being treated with antibiotics for a blood infection
- Has been on the Transplant Waiting List for 6½ months

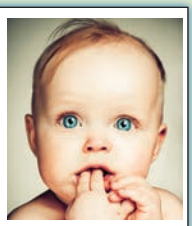
PETER

AGE: 22 years old
HEIGHT: 5'11"
WEIGHT: 158 lbs.
LIVES IN: Boulder, CO

PERSONAL INFORMATION:

- Senior at the University of Colorado, Boulder
- After graduation, plans on becoming a counselor for at-risk teens
- Only child
- His heart disease is advancing rapidly
- Has been placed on the Transplant Waiting List for immediate heart transplant

ISABELLA



AGE: 6 months old
HEIGHT: 20"
WEIGHT: 5 lbs. 3 oz.
LIVES IN: Colorado Springs, CO

PERSONAL INFORMATION:

- Has 2 healthy siblings, ages 5 and 3
- Father, Ed, is stationed at Fort Carson Army Base
- Mother, Candy, works part-time in a dentist office
- She was born with a heart defect which requires transplant
- Has been on the Transplant Waiting List since birth

SUSAN

AGE: 13 years old
HEIGHT: 5'2"
WEIGHT: 101 lbs.
LIVES IN: Arvada, CO

PERSONAL INFORMATION:

- Has one healthy sibling, age 9
- Parents have been happily married for 27 years
- Currently a 7th grader at Arvada Central Junior High School
- A bacterial infection caused her to be placed on the Transplant Waiting List for immediate heart transplant

8 FACTS OF ORGAN, EYE & TISSUE DONATION

1
Anyone can register to be an organ, eye and tissue donor, regardless of age, race, or medical history.

2
An individual's donation status does not affect medical care. The first priority of medical professionals is to save lives.

3
Organ, eye and tissue donation does not become an option until death has been declared.

4
All major religions in the United States support donation and view it as a final act of love and generosity.

5
There is no cost to the donor or their family for organ, eye or tissue donation.

6
An open casket funeral is possible for organ, eye, and tissue donors.

7
The donor and family are treated with the utmost care, respect, and dignity throughout the donation process.

8
A "living donor" can also save lives by donating a kidney or a part of the liver, intestine, lung, or pancreas.

STATION 3

THE EYE

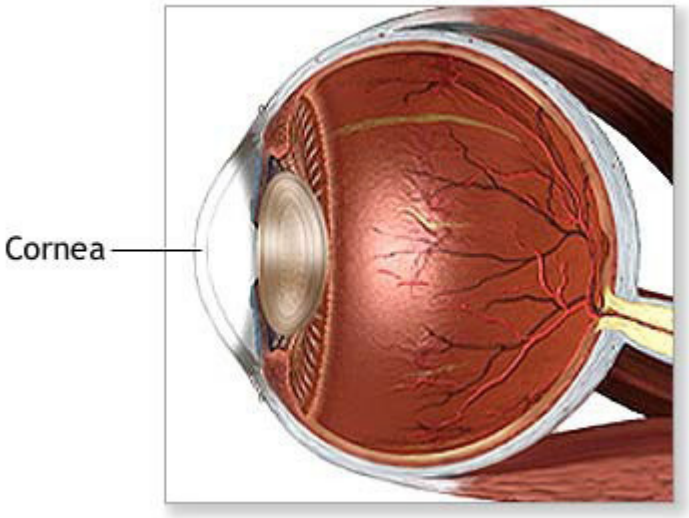
CORNEA

WHAT IS THE CORNEA?

The cornea is the clear front window of the eye. If it is healthy, the cornea allows rays of light to pass through and be focused on the retina. The cornea is about as wide and thick as a dime and has a slight dome shape.

Many eye conditions affect the cornea and may damage it. Injuries, infection, **inherited** conditions or aging changes may cause clouding or distortion of the cornea that makes it harder for a person to see clearly.

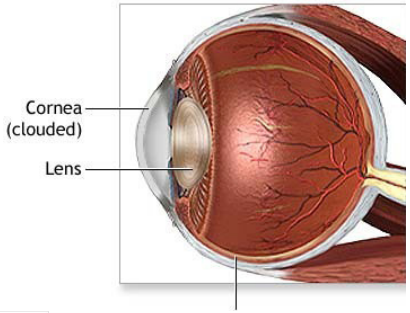
Sometimes the vision can be improved with glasses, a contact lens or medications. However, when those don't work, a corneal transplant may be necessary to improve vision.

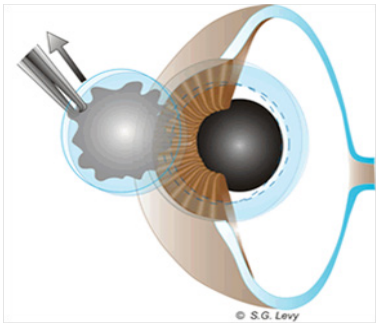


inherited=received from a family member

What is a Corneal Transplant?

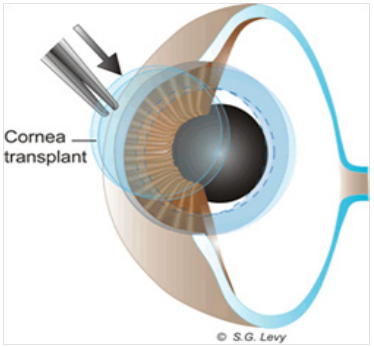
1. The diseased cornea is removed, as shown on the left, and replaced with a clear cornea donated by a deceased donor. The new cornea is held in position with very fine **suture** material that may remain in place for months or years.

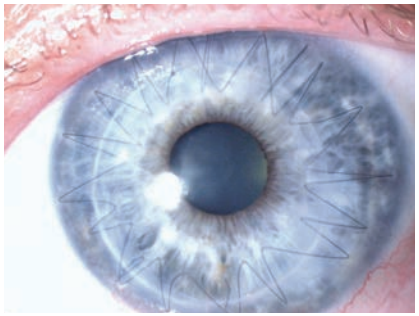




2. It is replaced with a healthy cornea from a deceased donor. After a corneal transplant, it may take some time for the vision to improve. It may ultimately be necessary for the person to have glasses or a contact lens in order to obtain the best sight possible. Glasses are not prescribed until the cornea is completely healed.

3. The new cornea is held in place with very small stitches.





4. After a corneal transplant, it may take some time for the vision to improve. The person may need to wear glasses or contact lenses in order to see well.

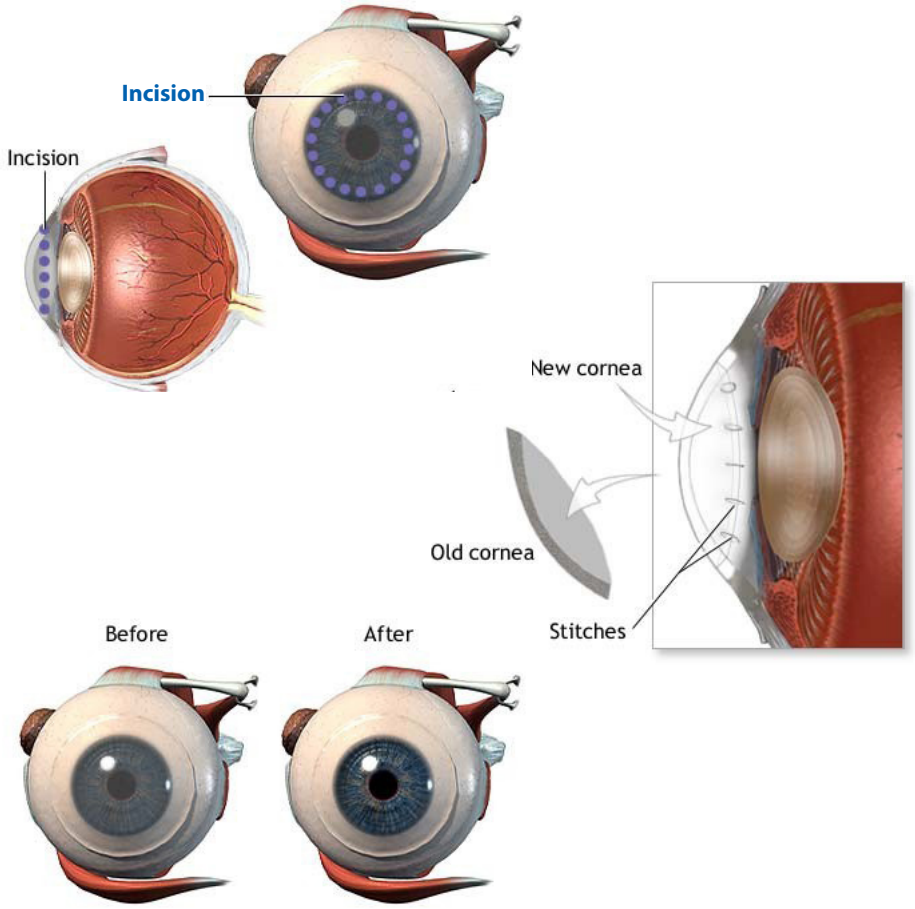
suture=stitching or sewing

CORNEA

Who Needs a Corneal Transplant?

Any condition that causes permanent clouding or distortion of the cornea may result in poor vision and, therefore, require a transplant. It is necessary to weigh the risk vs. reward when deciding whether or not to have a transplant.

Not all people with cornea damage can receive a transplant; those who can and do often have a better quality of life.



incision=cut

SCLERA

Sometimes people may lose an eye because of a **traumatic** injury. At other times, a diseased eye may have to be surgically removed. This is called enucleation.

For many years, the enucleated eye was replaced with a glass eye, which could not move. A new procedure uses sclera, or the white part of the eye. This exciting new procedure makes it possible for an **artificial orbital** implant to move naturally so no one can tell it is fake.

This man had the traditional glass eye to replace his enucleated eye. Can you tell which eye is the artificial one?

The donated sclera can be wrapped around a mineral substance in the size and shape of an eye. The eye muscles can then reattach to the sclera so that the eye moves naturally. To complete the procedure, a hand-painted cap is placed on top to match the patient's other eye. Blood vessels can then grow through the mineral substance to nourish the sclera, and the implant becomes a permanent part of the body.

Both of the people below have had one damaged eye replaced by an orbital implant using donated sclera. For each person, can you tell which eye is fake?

Good eyesight is not a requirement to be an eye donor. Even people who have been blind from birth can restore eyesight in some cases.

traumatic=severe **artificial**=fake **orbital**=related to the circular zone of the eye

MATCH THE CORNEA TO A RECIPIENT

DIRECTIONS Match each of the available donated corneas on the left with a transplant recipient on the right. Write your answers in your workbook along with why you chose that particular cornea for the patient.

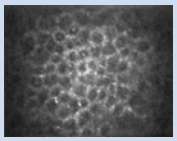
Keep these two things in mind:

1. **The younger the patient, the higher the cell count they will need. The cells must last a lifetime!**
2. **The size of the donor cornea must be greater than or equal to the cornea size of the recipient or it won't fit.**

A. Donor Age: 19 years
Cell count: 3,198 cells/mm2
Graft size: 7.7mm

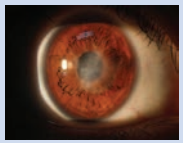
1. Sally
AGE: 3 months
Diagnosis: Peter's Anomaly
Cornea size: 6.5 mm

B. Donor Age: 55 years
Cell count: 2,250 cells/mm2
Graft size: 8.0mm



2. Sue
AGE: 30 years
Diagnosis: Fuch's Dystrophy
Cornea size: 7 mm

C. Donor Age: 40 years
Cell count: 2,400 cells/mm2
Graft size: 7.0mm



3. John
AGE: 40 years
Diagnosis: Scar from old eye injury
Cornea size: 7 mm

Patient	Which Cornea?	Why did you assign this cornea to this patient?
1. Sally AGE: 3 months Diagnosis: Peter's Anomaly Cornea size: 6.5 mm Location: Colorado		
2. Sue AGE: 30 years Diagnosis: Fuch's dystrophy Cornea Size: 7 mm Location: Seattle		
3. John AGE: 40 years Diagnosis: scar from old eye injury Cornea size: 7 mm Location: Illinois		

NOTES

STATION 4

TISSUES

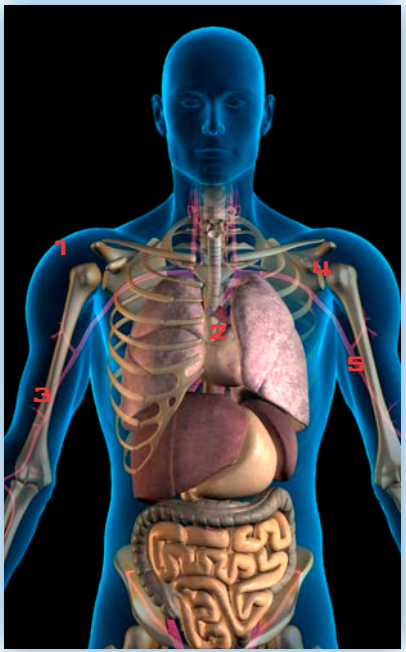
1. Skin
Protects the body from **dehydration**, injury and infection. Transplant used as treatment for burn patients. Decreases pain, infection, scarring, heat and fluid loss.

2. Valves
Direct flow of blood through heart. Transplant replaces diseased heart valves.

3. Bone
Supports the body, protects vital organs. Transplant used in facial reconstruction, prevention of **amputation**, correction of birth defects, cancer treatment, spinal fusion and oral surgery.

4. Cartilage / Tendons/ Femoral Nerve
Connective tissue. Transplant used in facial and other reconstructive surgery.

5. Veins / Blood
Transport or replacement of blood. Transplant used for coronary by-pass surgery to replace diseased or blocked arteries.



FACTOIDS

One tissue donor can help save and heal the lives of more than 75 people according to Donate Life America.

Some bone grafts can signal the patient's body to grow more bone. These bone grafts are called osteoinductive. Patients often heal faster and do better with this type of transplant.

Approximately 50 donations can be made from the leg of one donor.

Tissue can be recovered up to 24 hours after death.

The earliest records of skin grafts date back to 3000-2500 B.C.E.

Skin donors must be 5 ft. tall and approximately 115 lbs. Skin removal for burns is the thickness of 15/1,000 of an inch.

The waiting list is long, and there is always a need for more tissue to save and heal patients.

dehydration=a loss of water/fluids **amputation**=to remove by cutting off

TISSUE DONATION

In addition to organs, some parts of the body such as skin, tendons, bones and heart valves can also be transplanted. This is called tissue donation.

Tissues transplanted from one person to another are called **allografts**. Allograft tissue comes from a deceased donor who has either signed up for donation through a donor registry prior to his or her death or whose family has made the decision to honor the donor's wishes to help someone in need.

Approximately 1.5 million allografts are transplanted each year.

- Bone grafts help people whose bones have **degenerated** from cancer.
- Heart valves replace damaged heart tissue.
- Skin grafts save the lives of burn victims.
- Tendons and soft tissue help people lead more active lives.
- Currently, there are 36 million Americans with debilitating **musculoskeletal** conditions who might benefit from an allograft.

While tissue transplantation is a fairly common procedure used to treat trauma, sports and age-related injuries, the number of procedures is limited by the availability of donor tissue. Generous donors who make the choice to donate the gift of tissue save and heal the lives of tens of thousands of patients who receive an allograft transplant each year.

Other Interesting Types of Tissue Transplants

Remember, an **allograft** is when cells, tissues or organs come from another person (same species).

An **autograft** is when cells or tissues are transplanted from one place to another on the same person. This can happen with heart bypass surgery and with small pieces of bone and cartilage. But there is more potential for pain and infection compared to an allograft.

An organ or tissue from an identical twin is called an **isograft**.

A transplant from another species, like a pig to a human, is called a **xenograft**. According to the World Health Organization, this type of transplant carries many risks. This is a topic for research and clinical trials.

Allografts are often better than other types of tissue or synthetic (metal or plastic) transplants. The human body accepts and heals better with allograft tissue.

degenerated=something that has become worse over time
musculoskeletal=made up of muscles and bones

GOAL: Discover and identify each of the transplantable tissues.

DIRECTIONS

1. **TURN to page 23 in this handbook and read about each of the tissues that can be transplanted.**
2. **MATCH the name of the tissue with its function.**
4. **WRITE the letter of the best choice in the line provided.**

A. Skin B. Valves C. Bones D. Cartilage/Ligaments/Femoral Nerve E. Veins/Blood

____ This is used as connective tissue in reconstructive surgery.

____ This protects the body from dehydration, injury and infection and is often used for burn victims.

____ These direct the flow of blood through the heart.

____ These support the body and protect vital organs.

____ These transport or replace blood.

STATION 4 ACTIVITIES

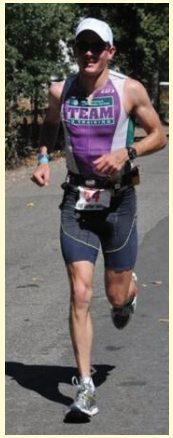
GOAL: Determine who will receive each transplantable tissue based on their injury.

DIRECTIONS

1. **MATCH the type of allograft with the person who needs it.**
2. **WRITE the letter of the best choice in the line provided.**

A. Skin
B. Whole Bone
C. Non-Bone Tendon

_____ Devin was a typical 12-year-old who loved to spend time with his friends. On a Sunday morning at church, Devin was pouring a cup of hot chocolate when the cup slipped and he spilled the hot chocolate on his arm. The drink was so hot that it burned all the skin off from the bottom of his thumb to his elbow. Devin was rushed to the emergency room where he was diagnosed with third-degree burns. What allograft did the doctors use for Devin?



_____ Over the summer, H.C. returned to his former college for an alumni soccer game. Though he was still athletic, it had been a long time since he had played soccer. Following a cutting motion on the field he felt something tear below his knee. H.C. instantly knew that his ACL was torn. What allograft did the doctors use for H.C.?

_____ As a varsity tennis player in high school, Andy was at the top of his game, hoping to play in college on a scholarship. All of that was threatened when he was diagnosed with leg cancer that was eating away his bone. What allograft will help Andy become cancer free?

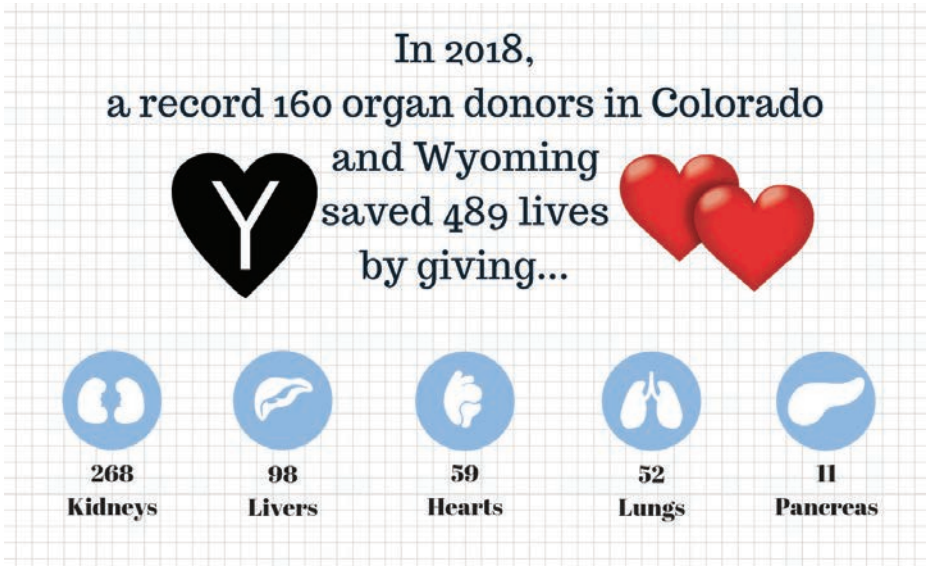
The names and photos of all the recipients above have been changed to protect their identity. The stories are real.

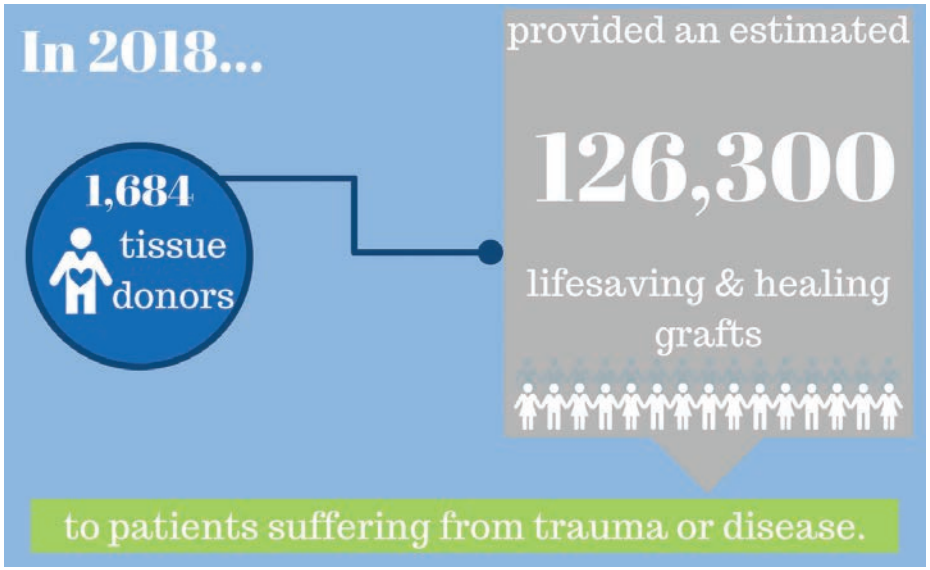
HOW CAN I HELP?

Glad you asked...

Take these two simple steps to ensure your decision to become an organ, eye and tissue donor is realized:

Designate your decision. Register to be an organ, eye and tissue donor by saying YES when obtaining your driver permit, driver license or state ID or register online:
DonateLifeColorado.org or DonateLifeWyoming.org


In 2018,
a record 160 organ donors in Colorado
and Wyoming
saved 489 lives
by giving...
268
Kidneys
98
Livers
59
Hearts
52
Lungs
11
Pancreas


In 2018...
1,684
tissue
donors
provided an estimated
126,300
lifesaving & healing
grafts
to patients suffering from trauma or disease.

NOTES

FAMILY DISCUSSION

Donor Alliance, whose mission is to save lives through organ and tissue donation and transplantation, offers Transplantation Science free of charge to middle and high schools throughout Colorado and Wyoming. Please take a moment to discuss this important topic with your student as you work together to complete the family discussion activity. ***Results of this activity are used to improve the program; participants will remain anonymous and will not be contacted.***

DIRECTIONS

1. Take this booklet home and read the questions below with a parent or guardian.

2. Write your answers in the spaces provided.

3. Return this worksheet to your teacher. (The rest of the workbook is yours to keep!)

1. Does anyone in your family know someone who is currently waiting for or has received a lifesaving organ transplant?

- ❑ Yes, we know someone waiting. Which organs?
- ❑ Yes, we know someone who has received. Which organs?
- ❑ No

2. Does anyone in your family know someone who became an organ and/or tissue donor after their death?

- ❑ Yes If yes, do you know which organ(s) and/or tissue(s) they donated?
- ❑ No

3. If you or someone in your family were ill or injured, would you/they consider receiving an organ or tissue transplant? Why or why not?

- ❑ Yes
- ❑ No

4. Is anyone in your family already registered to be an organ and tissue donor? (Hint: check for a heart on their driver's license or ID.)

- ❑ Yes Who?
- ❑ No If not, would they consider it?

5. From whom would you feel most comfortable receiving information about organ, eye and tissue donation?

- ❑ Doctor/physician
- ❑ Friend or family member
- ❑ Someone who has experienced donation or had a transplant
- ❑ Religious leader
- ❑ Other: _____

FAMILY DISCUSSION

6. Do you believe the following statements to be true or false?

TRUE	FALSE	
❑	❑	The decision to be an organ, eye and tissue donor will not interfere with an individual's medical care. The medical team caring for someone before death is not involved in the donation process.
❑	❑	There are no **strict** minimum or maximum age requirements for organ/tissue donation after death.
❑	❑	Anyone can **register** to be an organ, eye and tissue donor no matter their age, lifestyle or medical history.
❑	❑	Organ, eye and tissue donation does not cost the donor's family anything.
❑	❑	An individual **may** be able to donate their organs/tissues after death even though they may have past or existing health conditions such as cancer, diabetes or hepatitis.
❑	❑	The donor and their family are treated with great care and respect throughout the donation process.

7. Are you interested in learning more about the following items related to donation?

- ❑ How to register to become a donor
- ❑ The process of donation for the family
- ❑ The need for donation
- ❑ Ways to talk to your family about donation
- ❑ The general requirements to be able to donate such as age and health
- ❑ Your religion's stance on donation

8. Is there anything you would have liked to learn through the Transplantation Science program?

STUDENT NAME: _____

SCHOOL: _____

TEACHER: _____

DATE: _____

PARENT SIGNATURE: _____

TRANSPLANTATION SCIENCE

MADE POSSIBLE THROUGH DONATIONS TO
THE EMILY KEYES – JOHN W. BUCKNER ORGAN AND
TISSUE DONATION AWARENESS FUND
AT THE DRIVER LICENSE OFFICE

THANK YOU TO THE FOLLOWING ORGANIZATIONS
FOR THEIR CONTRIBUTION TO THIS PROGRAM:

AlloSource™
DOING MORE WITH LIFE

rmleb
ROCKY MOUNTAIN LIONS EYE BANK
Share the circle of light

THIS BOOKLET BELONGS TO:

_____

If you would like more information about organ, eye and tissue donation or have any questions regarding the Transplantation Science program, please email TransplantationScience@donoralliance.org or call 303.329.4747.

DONATE LIFE Colorado

www.DonateLifeColorado.org

DONATE LIFE Wyoming

www.DonateLifeWyoming.org

Donate Life Colorado / Donate Life Wyoming

@donatelifeco / @donatelifewy

@donatelifeco / @donatelifewy

Donate Life Colorado / Donate Life Wyoming

DONOR ALLIANCE

Organ & Tissue Donation

200 Spruce Street · Suite 200 · Denver CO 80230 · 303 329 4747 PH

330 South Center Street · Suite 418 · Casper WY 82601 · 307 577 1700 PH

www.DonorAlliance.org 888 868 4747 TF

A DONATE LIFE ORGANIZATION