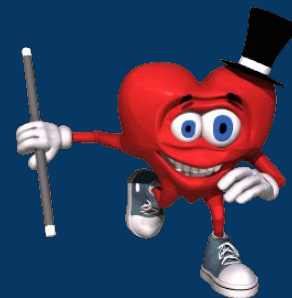
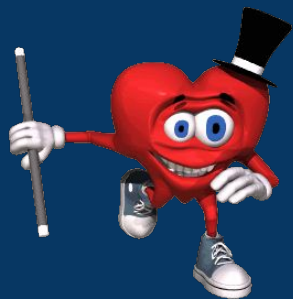


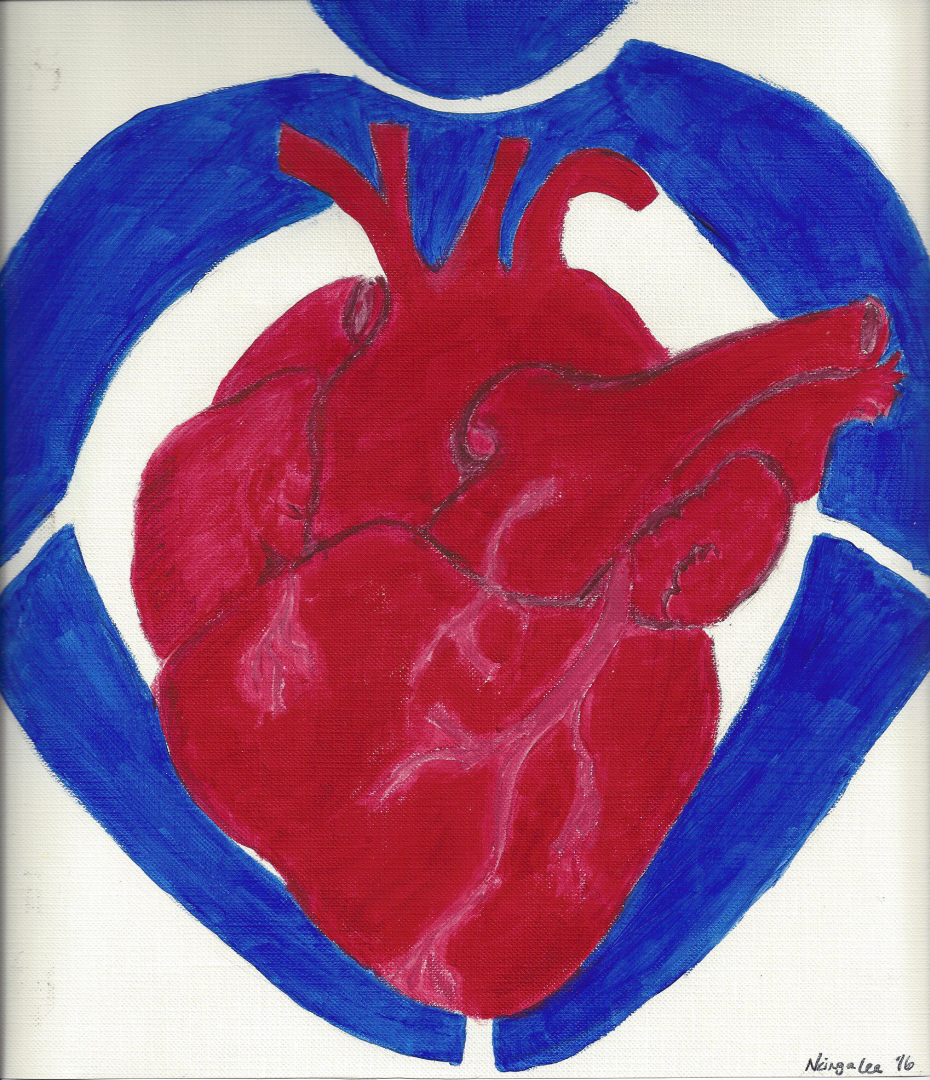
Listen To Your Heart

Gift of Life



Destiny B. and Ashley M.





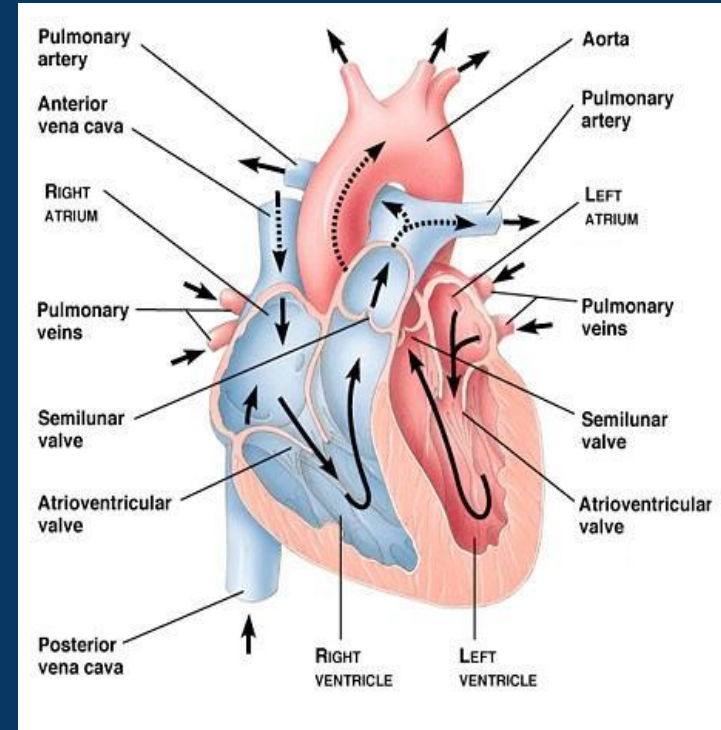
Gift of Heart
By
Nazinga L.

What is the heart?

The heart is an organ about the size of both your fists if you're an adult and one fist if you're a child. It's the "life-center" of the body, the heart is the hardest working muscle in our bodies and is responsible for pumping blood throughout the body.

The heart acts on electric impulses to pump blood through the body.

It has 4 chambers, two atria and two ventricles. There are also 20+ major arteries and many major veins.



Heart Function

The heart uses valves, arteries, and veins to circulate blood throughout the body. About 1 million barrels of blood are circulated through your body in an average lifetime. The heart works on electric impulses to circulate the blood throughout the body.

The right atrium receives oxygen poor blood and pumps it to the right ventricle. The right ventricle sends that blood to the lungs, which turns into oxygen rich blood that is pumped into the left atrium. The left atrium pumps this now oxygen rich blood into the left ventricle.



Cardiovascular Diseases

Major Types

Coronary artery disease: Damage or disease in the heart's major blood vessels.

High blood pressure: A condition in which the force of the blood against the artery walls is too high.

Cardiac arrest: Sudden, unexpected loss of heart function, breathing, and consciousness.

Congestive heart failure: A chronic condition in which the heart doesn't pump blood as well as it should.



Restrictive Myopathy:

Build up of abnormal proteins causes the heart to fill or contract poorly
Normal or slightly enlarged heart muscle with normal contraction, but abnormal relaxation

Blood flow reduces over time and common in older people

Hypertrophic Cardiomyopathy:

Usually inherited, caused by a mutation in the genes for heart muscle protein
Develops overtime due to high blood pressure, diabetes or thyroid disease

Abnormally thick heart muscle makes it harder to pump blood

Common cause of sudden cardiac arrest in young people especially athletes



Arrhythmia:

- Improper beating of the heart, whether irregular, too fast, or too slow.

Peripheral artery disease:

- A circulatory condition in which narrowed blood vessels reduce blood flow to the limbs.

Stroke:

- Damage to the brain from interruption of its blood supply.

Congenital heart disease:

- An abnormality in the heart that develops before birth.

You should consult a doctor for medical advice

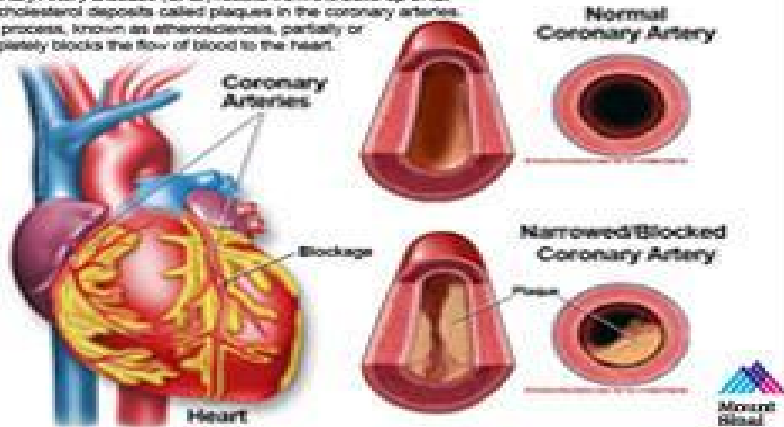


Reasons for heart transplant

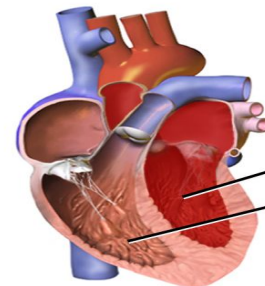
When damaged enough, a patient's only option may be a heart transplant. This usually follows conditions such as coronary artery disease, cardiomyopathy or weakening of the heart muscle.

Coronary Artery Disease

Coronary Artery Disease (CAD) results from the build-up of fat and cholesterol deposits called plaques in the coronary arteries. This process, known as atherosclerosis, partially or completely blocks the flow of blood to the heart.

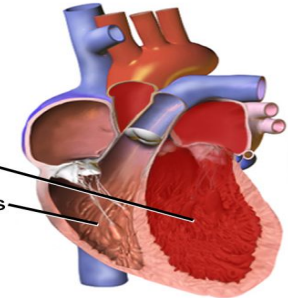


Normal Heart



Chambers relax and fill, then contract and pump.

Heart with Dilated Cardiomyopathy



Muscle fibers have stretched. Heart chambers enlarge.



Reasons for heart transplant (cont.)

Heart failure

Left Sided heart failure: Systolic,
cannot contract properly;
Diastolic, left ventricle loses
ability to relax normally

Right Sided heart failure: Back
ups in used blood collectors

Congestive heart failure

Diseases that may require a transplant:

Coronary Heart Disease

Coronary Artery Disease

Valvular Heart Disease

Congenital Heart Disease

Diabetes

High Blood Pressure

Dilated Cardiomyopathy

Hypertrophic Cardiomyopathy

Restrictive myopathy

Treatment Options

- Septal myectomy: Removes a portion of the septum that obstructs blood flow from the left ventricle to the aorta
- Left Ventricular Assist Device (LVAD): Mechanical pump
- Alcohol Septal Ablation: Injection of ethanol into thickened area of heart muscle to kill cells and shrink tissue
- Artificial Heart
- Heart Transplant

Left ventricular assist device (LVAD)

An LVAD is a surgically implanted mechanical pump that is attached to the heart. An LVAD is different from an artificial heart. LVAD works with the heart to help it pump more blood with less work.

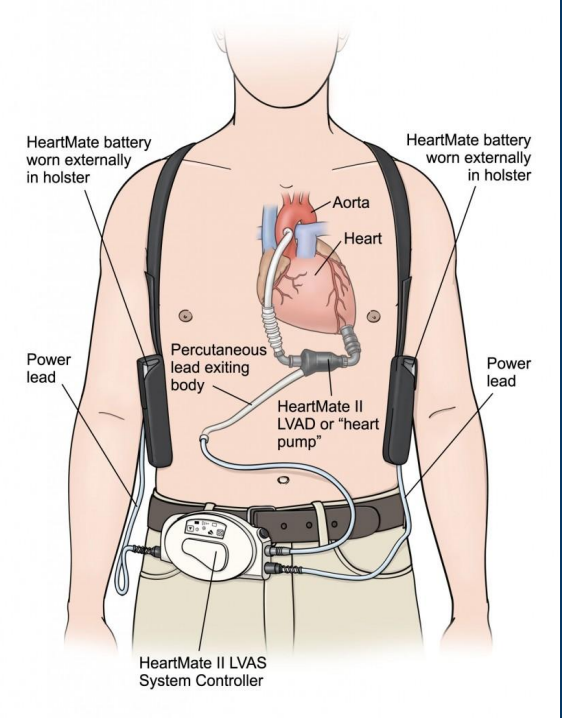
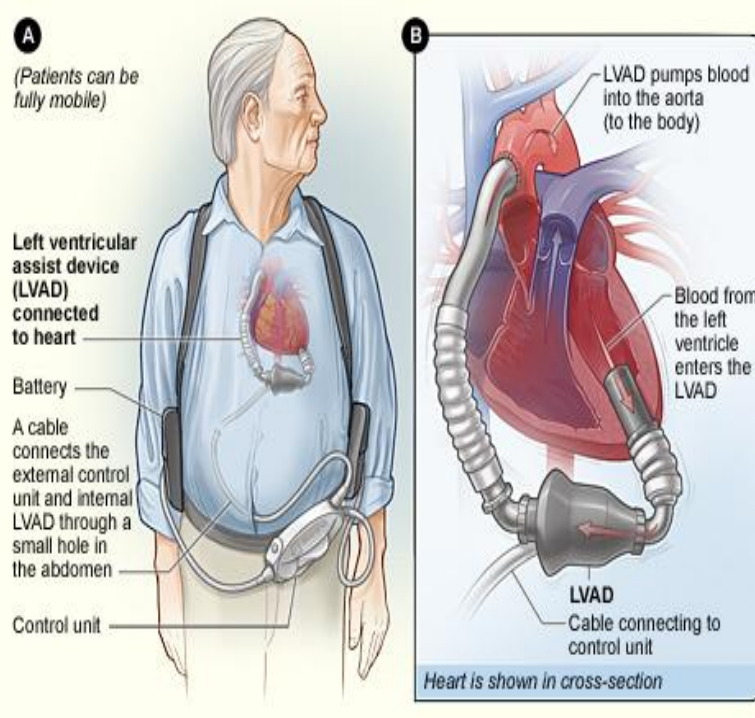
The actual pump sits on or next to your heart's left ventricle with a tube attached that routes the blood to your aorta.

A cable known as driveline extends from the pump, out through the skin, and connects the pump to a controller and power sources worn outside the body.

An LVAD is different from an artificial heart.



Pictures of LVAD



Artificial Hearts

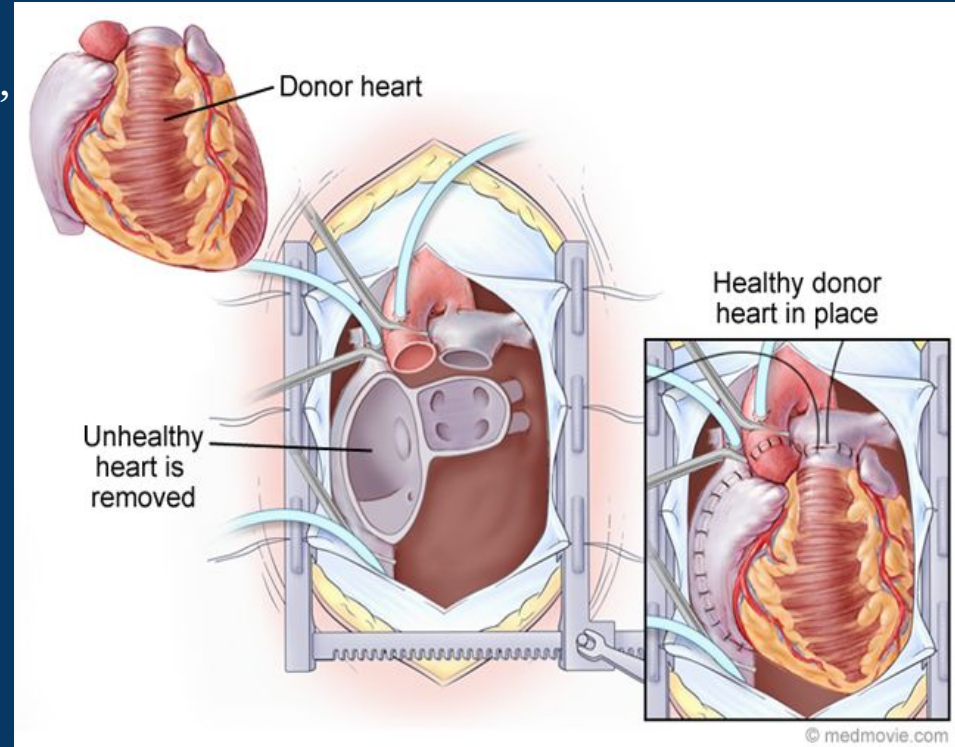
An artificial heart is a prosthetic heart that is used to replace a biological heart. They are used to help the person survive until a real heart is received for heart transplantation. If heart transplantation is not possible the person will use an artificial heart permanently.

An artificial heart replaces the failing heart completely.



Heart Transplant

A heart transplant, or a cardiac transplant, is a surgical transplant procedure performed on patients with end-stage heart failure or severe coronary artery disease.



Data

Average annual growth rate (100 in 2005)

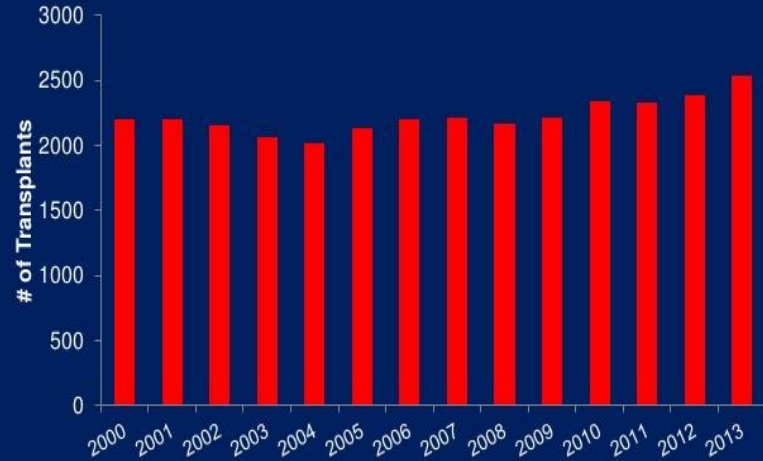


Number of transplant recipients in 2010

- kidney transplant.....2,789
- liver transplant.....1,060
- heart transplant.....347
- lung transplant.....240

www.irdes.fr

Heart Transplantation Over Time



2014 OPTN Data

Duke Heart Center

Duke Clinical Research Institute
From Thought Leadership to Clinical Practice



Organ donation in the media

This is a photo from the movie “Seven Pounds”. In this movie Ben Thomas (Will Smith) sets out to change the lives of seven strangers in order to find redemption of things that happened in the past.

This is just before he passed away and donated his heart, courneya, and lung.

Prior to his passing he also gave his brother a lung because his brother needed a double lung transplant.

He also donated part of his liver to a lady in need.



New Technology

Organ Care System Heart: Portable Perfusion and Monitoring

Also known as “Heart In a Box”

The Organ Care System (OCS) technology platform is the only medical device capable of maintaining donor organs in near physiologic and functioning state outside of the human body from the time the organ is removed from the donor until it is ready to be transplanted into a suitable recipient.

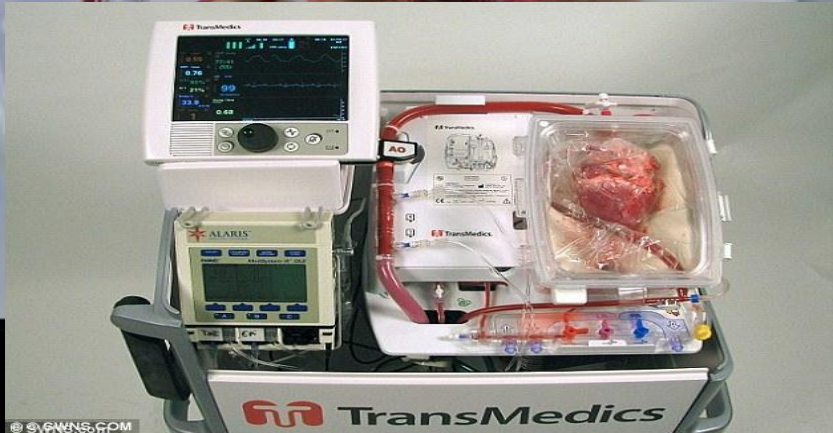
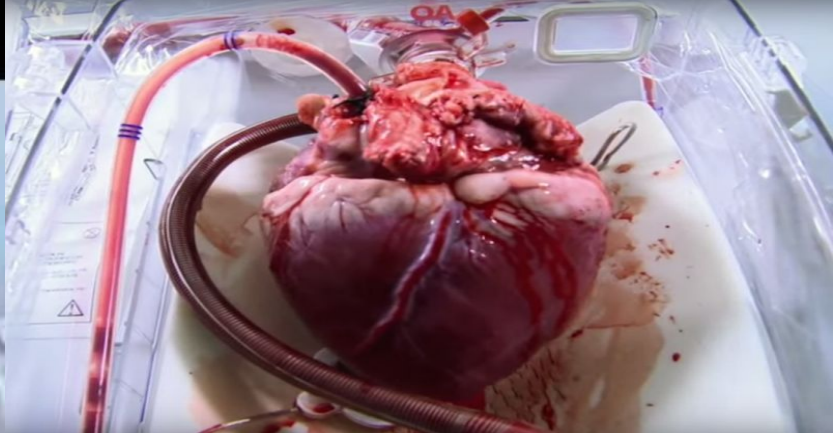
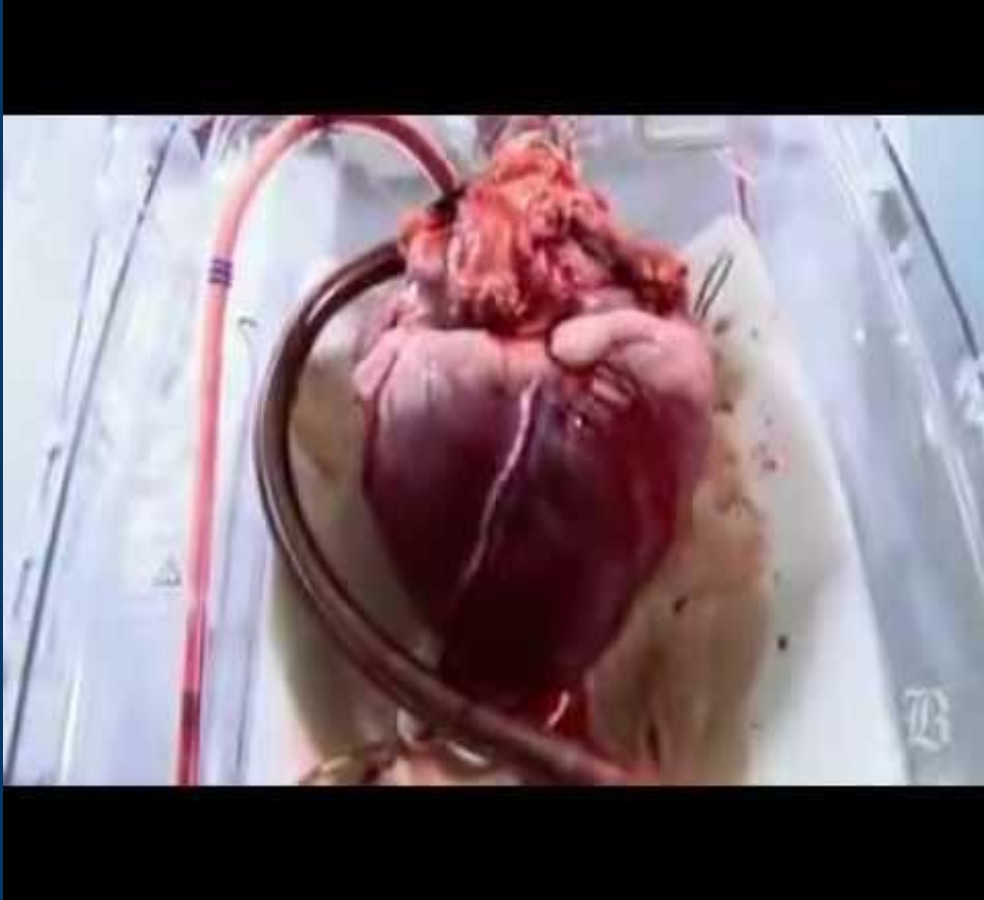
The OCS Heart system enables us to fully assess the donor heart function and metabolic state before transplantation.



New Technology (cont.)

- This is fairly new technology
- The OCS HEART is commercially available in Europe and Australia and is in clinical use in leading centers.
- The system is not available for commercial use in the U.S. but it is under clinical investigation in the U.S.
- It increase transplantation volume, improve patient outcomes, and reduce cost of patient care





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Gift of Life

What is the Gift of life?

Gift of Life is a nonprofit organization that serves the eastern half of Pennsylvania, southern New Jersey and Delaware.

What is their goal?

Since 1974, Gift of Life has worked to coordinate life-saving and life-enhancing transplants for those waiting. They also support the generous donors and their families who have chosen to give others a second chance through organ donation.



How to contribute to/be a part of the Gift of Life Foundation

[Make a donation to the Transplant Foundation \(Gift of Life Donor Program\) online](#)

[Make a donation to the Gift of Life Family House](#)

[Support the Annual Donor Dash](#)

Just simply be an organ donor





Gift of Life 2016
Thanks for your attention



Websites/Videos

<http://cdn1.kidsdiscover.com/wp-content/uploads/2013/12/Heart-Anatomy-Infographic-KIDS-DISCOVER.png> <https://www.nhlbi.nih.gov/health/health-topics/topics/tah/after>

<http://www.texasheart.org/HIC/Anatomy/anatomy2.cfm>

<https://www.cardiosmart.org/heart-basics/how-the-heart-works>

<http://www.mercola.com/infographics/human-heart-facts.htm>

Videos:

<https://www.youtube.com/watch?v=X9ZZ6tcxArI>

<https://www.youtube.com/watch?v=r8nNzkpuRbs>



TransMedicsInfo

TransMedics1

<http://www.mylvad.com/content/what-lvad-how-does-it-work>

