Organ, Eye, & Tissue Services

What can be Donated

A single organ donor can save the lives of up to eight people by donating the heart, lungs, liver, kidneys, pancreas and intestines. And one tissue donor can improve the lives of more than 50 people by donating eyes, bone, soft tissue, heart valves, veins and skin.

Sometimes eyes and other tissues are recovered for research purposes. This type of donation has the potential to benefit generations to come, as researchers work to find the causes and cures for a variety of medical conditions.
Bone
Each year over 500,000 surgeries are performed using donated bone and connective tissue. A patient with a malignant bone tumor may be transplanted with a segment of donated bone and avoid amputation of the limb. Many people receive donated bone during spinal surgery where the donated bone is implanted in the space left by a herniated disc that has been removed. Also, donated bone can be used to reconstruct joints that have been damaged by the degeneration of bone caused by arthritis.

Connective Tissue
Soft connective tissues (tendons and ligaments) hold muscle to bone or one bone to another. These tissues are very strong in order to withstand the daily stress put upon them. However, if any of these tissues is damaged, which happens frequently in sports-related injuries, they are very slow to heal. The tissue often will not heal at all if it is torn completely from the place it anchors, or the ends may be too frayed to attempt surgical reattachment. To repair these injuries, surgeons use donated tissue to reconstruct the damaged tissue.

Eye
Donated corneas (the clear part on the front of the eye) can restore sight for individuals who cannot see because of damage to their corneas. In addition, the sclera of the eye (the white part) is sometimes used in glaucoma surgeries or to repair trauma to the eye.

Heart
The heart pumps blood to all body systems. Heart transplants allow for a diseased or damaged heart to be replaced with a healthy one. Heart transplants prolong the lives of patients who would otherwise die. The third most common form of transplant (behind corneas and kidneys), heart transplants occur over 2000 times a year in the U.S. A healthy heart is obtained from a donor who has suffered from brain death but has been kept alive on life support. Prior to transplant, donor hearts are preserved carefully in special solutions but must be transplanted within 4-6 hours. Heart transplants are considered as a treatment for heart failure, which may be caused by: coronary heart disease; cardiomyopathy (thickening of the heart walls); heart valve disease; and severe congenital (inherited) heart disease. About 80% of heart recipients are alive two years after the operation.

Sometimes an individual may be transplanted with a heart and lung at the same time. These transplants, performed in the U.S. since 1980, are considered for patients who have severely damaged or diseased lungs and heart. Because of the rarity of these operations, the long-term outcomes are not known at this time.

Heart Valve
Children under 15 years of age are the recipients of 70% of the human heart valves transplanted in this country. Human heart valves are preferred over artificial valves and xenografts (from animals) for some patients because they have a lower failure rate, greater durability and do not require lifelong blood thinner therapy. Because of the risks involved in having an artificial valve, which requires the use of blood-thinning medicines, women of childbearing age are often recipients of donated human valves. Use of human valves eliminates the need for blood-thinners and reduces the risk of major blood loss at the time a woman gives birth. Heart valves can be preserved and stored for several years and used when a suitable recipient needs one.
Intestine
The intestine is a digestive organ that absorbs water, electrolytes and nutrients for the body. An intestine transplant, involving either the whole intestine or an intestinal segment, becomes a life-saving treatment for patients with intestinal failure. Most intestinal transplants are performed on patients with short-gut syndrome, the loss of more than 70% of the intestine due to trauma, surgery, or disease. Intestine transplants in children are often done to correct congenital defects. Most of the intestine transplants involve transplanting the whole intestine and are performed in conjunction with a liver transplant. Patients with intestinal failure receive intravenous feedings, which can result in liver damage over the long term; hence, the need for combined liver-intestine transplants. In 1999 a major transplant center reported that children between the ages of 2 and 18 had the best successes, with a five-year survival rate of 68%.

Kidney
The kidneys extract waste from the blood and produces important hormones. Kidney transplants are the second most common transplant operation, following cornea transplants. Over 12,000 kidney transplants were performed in the U.S in 1999. Kidney transplants can save the lives of individuals with kidney disease or kidney failure, which may be caused by severe, uncontrolled high blood pressure, by a variety of infections, or by diabetes mellitus. Successful kidney transplants restore the body’s ability to remove waste, as well as to regulate blood pressure, blood volume, and the chemical (electrolyte) composition of the blood. Healthy kidneys from either living donors (usually blood relatives) or from recently deceased donors may be used for a transplant. With the use of drugs to prevent rejection of the organ, between 80% and 90% of transplanted kidneys are functioning two years after the surgery.

Liver
The liver is instrumental in energy regulation. It makes proteins and removes waste from the blood. In 1999, over 4,000 liver transplants were performed in the U.S. Although most transplants involve a whole liver from a recently deceased donor, liver segments donated by living donors have been increasingly used. Examples of cases when a liver transplant might be considered include patients with livers damaged by cirrhosis (a chronic liver disease that causes damage to the liver and progressive decrease in liver function), a long-term infection, such as hepatitis, birth defects of the liver, or other disorders of the liver. Fifty percent of adults with liver transplants and 60% of children are alive two years after the surgery.

Lung
The lungs are paired, cone-shaped organs in the chest. The lungs expand and contract as air is taken into the body and carbon monoxide is exhaled. The lungs also process oxygen and carry it to the bloodstream. Transplants are considered for patients with severe lung disease. One or both lungs are replaced with healthy lungs from a recently deceased donor. Examples of lung disease include: emphysema (the permanent enlargement of air sacs in the lung, with the loss of ability to exhale); hereditary lung blockages, such as cystic fibrosis; long-term infections; and permanent scarring and thickening of the lung tissue. Current survival rates for patients with lung transplants are as high as 80% at one year following transplantation and 60% at four years.

Pancreas
The pancreas secretes enzymes necessary for digestion. It also secretes insulin that helps regulate blood sugar. Approximately 300 pancreas transplants are performed each year and are sometimes performed with a kidney transplant for a diabetic patient. A pancreas transplant may involve the
whole pancreas or a pancreas segment, which can be donated by a living donor. Most often a transplant is considered when the patient’s pancreas has been affected by cancer or by insulin-dependent diabetes. Pancreas transplants give the patient a chance to become independent of insulin injections.

Skin
Donated skin is used to treat patients who have been badly burned over large areas of the body. Intact skin is necessary to control temperature and fluid loss, and to protect against infection. Donated skin provides an effective barrier to fluid loss and bacterial contamination. Skin can also be used for other reconstructive surgeries, such as repair of the urinary tract, bladder, or vocal cords.

Veins
A condition called arterial insufficiency, common in people with diabetes, can lead to amputation of a limb. Using a donated vein, a surgeon can re-establish circulation in an affected limb and save it. Donated veins are also used in heart bypass surgery when the patient’s own veins cannot be used for the procedure. This procedure can prevent a heart attack from occurring. Donated veins and arteries can be used for kidney dialysis (artificial kidney treatment) for patients as they wait for kidney transplants. The tissue is used to connect an artery and vein in a kidney patient’s arm to provide access for dialysis. A donated artery can also be used to repair some types of life-threatening aneurysms.