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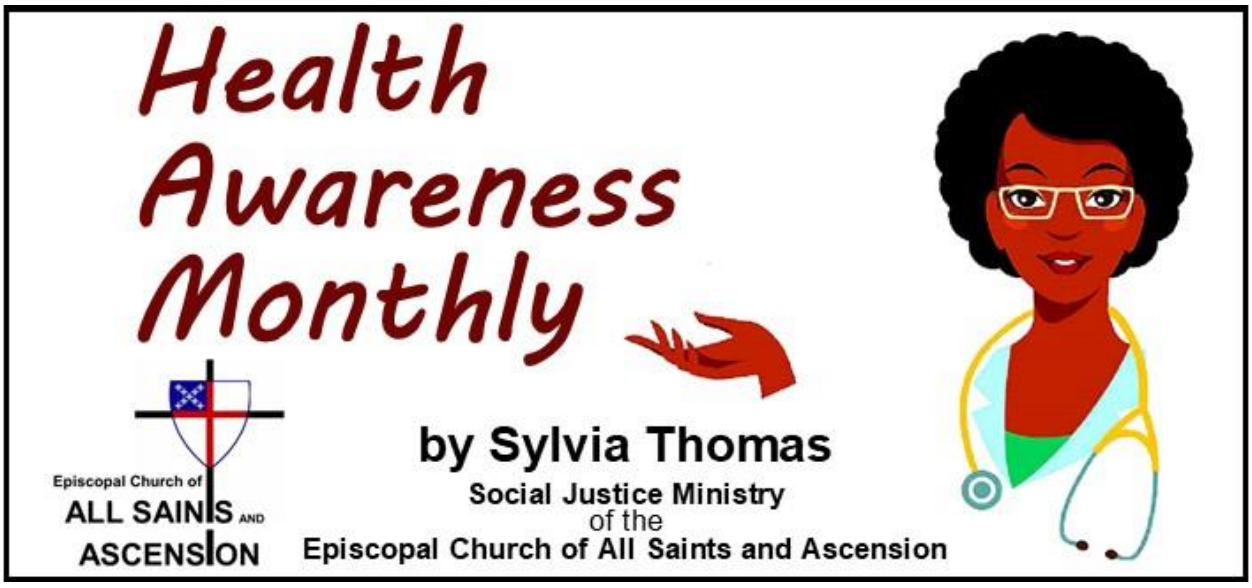

Organ and Tissue Donation

More than 120,000 people in the United States are waiting to receive a life-giving organ transplant. Because there are simply not enough organs donated to transplant everyone in need, there needs to be a balance between the factors of:

> Justice (fair consideration of the candidate's circumstances and medical needs) and
> Medical Utility (trying to increase the number of transplants performed, and the length of time patients and organs survive).

Many factors used to match organs with patients are the same for all organs,
These common tests include blood typing, blood crossmatch and HLA (Human Leukocyte Antigen) testing. However, the system also accommodates some unique differences for each organ.

There are two types of donations:

1. Organ donation is when the organ (heart, lung, kidney, pancreas, liver, pancreas) is removed from one person and transplanted to another person in need of that organ because of:

> **Genetic conditions** such as a heart defect or polycystic kidney disease,
> **Infection** such as hepatitis,
> **Organ damage** from chronic conditions such as diabetes or
> **Physical damage** to the organ

2. Tissue donation is when tissues in the body (skin, bone, veins, heart valves, tendons, ligaments and cornea) are removed from one person and transplanted into another person.

Differences between organ and tissue donation:

1. There is no waiting list for most tissue transplants, the tissues are available when someone needs them.
2. Donated organs need to be transplanted within hours of recovery, but tissue donations can be preserved and transplanted for up to five years, (except for corneas that need to be transplanted within 7 days).
3. Most organ/tissue donation occur after the donor has died, however, some organs, including a kidney, part of a liver, part of a lung and part of an intestine as well as tissues (skin, veins, and bone) can be donated while the donor is alive.

Patients needing organs are registered in a national computer network. When donor organs are identified, a nationwide computer program at the Organ Procurement and Transplantation Network (OPTN) generates a list of potential recipients according to the common factors and certain criteria used for matching.

Common organ donations are:

Heart
Lung
Kidney
liver

Less common are:

Pancreas
Intestine

Heart:

Patients waiting for a heart are assigned a status code that indicates how urgently the heart is needed.

Organs like heart and lung can only survive outside of the body for only 4 to 6 hours, so they are usually given to people who live near the hospital where the organ is being removed from the body. If there is no one close, the transplant team starts progressively searching further away to find a recipient as quickly as possible.

Body size is also important, as the donor's heart must fit inside the ribcage of the recipient.

Lung:

The lung allocation recipient uses information such as lab values, test results and disease diagnosis to arrive at a number which represents how urgently a candidate's need for transplantation is, and the likelihood of prolonged survival following the transplant. There is also the lung allocation score that helps to determine the order in which a donated lung is offered to a recipient.

Body size and distance are also very important as the lung must fit within the ribcage comfortably and it can only survive outside the body for 4 to 6 hours.

Liver:
People who need a liver transplant are assigned a MELD (Model for End Stage Liver Disease) or PELD (Pediatric End Stage Liver Disease) that indicates the urgency of the need. A donor liver is offered to the first candidate who matches the above score (the highest MELD OR PELD score).
If the recipient cannot have the liver for whatever reason, then it is offered to the matching recipient with the next highest score until the liver is accepted.
Geographical factors are also a consideration. The liver can remain outside of the body for 12 to 24 hours and so can travel a little further than hearts and lungs.

Kidney:
Potential kidney recipients are identified using the common elements like blood type, negative lymphocytoxic crossmatch, HLA antigens, length of time on waiting list, and that body sizes of the donor and recipient are a good match. Kidneys can stay outside of the body for up to 48 to 72 hours, so many candidates from a wide geographic area can be considered in the kidney matching and allocation process.

Pancreas:
Candidates who are waiting for a pancreas are matched to an available organ, primarily based on blood type compatibility, in addition to other tests and the length of time the patient has been on the waiting list.
Most pancreas harvests are performed at the same time as a kidney harvest (if donor is deceased). The pancreas can survive outside the body for about 12 to 15 hours.

Intestines:
Although it is possible to donate a segment of an intestine from a living donor, most intestinal transplants involve the whole organ from a deceased donor. Sometimes intestinal transplants are performed in conjunction with a liver transplant.
Intestinal transplant is not very common but can be done for reasons such as: the intestine being too short for proper food digestion to occur, death of part of the bowel due to infection, diseases like Crohn's that causes damage to the small intestine or removal of part of the intestinal tract because of certain stomach tumors.

Types of Living Donations:
1.Directed donation:
The living donor knows the recipient and specifically donates an organ to them.

2.Non-directed donation:
The living donor is not related or is unknown by the recipient.

3.Paired Donation:
Involves living Kidney donors and their transplant candidates who are not a good match. The candidates "trade" donors so that each candidate receives a kidney from a compatible donor.

4.Donor Chains:
A chain helps a group of kidney patients who have healthy living donors that are not a match. The whole group or "chain" of kidney patients benefit from swapping live donors.

Anyone who is 18 years of age or older has the potential to be a living donor.

FACTS:
1.More than 6200 candidates died in 2018 while waiting for or within 30 days of leaving the list due to personal or medical reasons without an organ transplant.

2. On average, 17 people die each day in the US while waiting for an organ transplant.

3. A person is added to the National Transplant waiting list every 9 minutes.

4. On average, 95 transplants take place each day in the US.

5. One organ donor can save 8 lives.

6. Every year, there are as many living donors as there are deceased ones.

The donation process begins with a decision that you make to want to help people with end stage disease, by donating your organs after you pass away.
People most frequently become donors following a stroke, heart attack, severe head injury or motor vehicle accidents.

To register to be an organ donor in your state:
1.Sign up on-line or in person at your local motor vehicle department.
2.Go to Donate Life Missouri Registry site.

Let your family know you have registered so they can support your wishes.

Hope this article will help you make a decision to help save lives. Thank you.

References:

Organ Procurement and transplantation Network (https://optn.transplant.hrsa.gov/)

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Cancer