Where Will my New Liver Come From?

The Organ Shortage

There is a severe shortage of organs for transplant. This means that the wait for a liver transplant can be many years. Patients may die while waiting for an organ. The UW Transplant Program has long been a leader in trying to find new ways to increase the number of good organs that can be used for transplant. When you are told you need a liver transplant, you have options as to where your new liver will come from. It is vital that you explore these options fully.

Deceased Donors

Donation after Brain Death
The most common type of organ donor is a person who suffered a head injury that caused brain death. “Brain death” occurs when someone does not get enough oxygen to the brain, causing the brain to stop working. This is often due to trauma or a stroke. Doctors can tell when someone is brain dead by testing certain reflexes controlled by the brain and by using machines that look at blood flow to the brain. The brain controls breathing so people who are brain dead are in a hospital on a breathing machine called a ventilator. Because of the breathing tube and certain medicines, the person’s body can function even after brain death. This allows the heart to keep beating and supply the liver and other organs with blood and oxygen until a transplant team can arrive. Once the liver is removed, it should be transplanted within 12 hours into a recipient. Livers from these types of donors are often referred to as “standard donor livers.”

Donation after Circulatory Death
Sometimes a patient’s trauma is so severe that doctors cannot save their life, but they do not meet the measures for “brain death.” The doctors then discuss with the patient’s family whether or not to remove life support. If the family chooses to remove life support, the machines are turned off. The patient is allowed to die peacefully. Sometimes these patients can be organ donors. Transplant teams are called and are present when the life support is turned off. After the patient’s heart stops beating and is declared dead by the doctor, the transplant teams can remove the organs. This is called Donation after Cardiac Death (DCD). Because the heart has stopped beating in these donors, there is a lack of blood flow for a short time to the organs as they are removed. This can lead to some damage in the liver. This damage can cause some increased complications to the patient who receives this liver. In most cases these complications can be treated. However, there is a higher rate of early failure of the liver transplant when compared to standard donor livers. With failure, a second liver transplant is needed. Patients will be asked if they are willing to accept a DCD liver at their evaluation visit. Patients will sign a consent form about this. Patients can change their mind about this at any time. If you choose not to accept this type of organ, you will not lose your place on the list. Accepting a DCD liver will increase your chance of getting a transplant sooner.
Split Liver Transplant
In a split liver transplant, a liver from a deceased donor is divided into two segments. Each segment goes to a patient on the waiting list. This can be done because the liver regenerates itself after the transplant. It will grow to normal size within weeks. However, the patients getting the segments must meet size criteria to get a smaller piece of a liver versus a whole liver. Because this is a more complex surgery, receiving this type of liver can result in increased complications. In most cases these complications can be treated. But, there is a higher risk of failure of this type of transplanted liver when compared to standard donor livers. With failure, a second liver transplant is needed. Accepting a split liver may increase your chance of getting a transplant sooner.

“Increased Risk” Donors
You may be offered an organ from a deceased donor that is thought to be at increased risk for spreading certain infections according to the 2013 Public Health Service (PHS) guidelines. Donors are considered “increased risk” because of what the PHS deems to be an increased risk behavior such as prostitution, intravenous drug use, or homosexuality. It is not the norm to accept organs from such donors unless we feel that the good far outweighs the would-be risk. Blood tests are done on potential donors to look for a virus such as HIV, Hepatitis B, or Hepatitis C. No test is perfect, and false negative results rarely occur. Using data from organ, tissue, and blood donors we know there is a small chance, 1 in 60,000 to 1 in 2,000,000 that an infectious agent could be passed on. We believe that the risks of getting this type of liver are very small. The transplant coordinator will inform you at the time that the liver is offered if it is from a increased risk donor. You can then decide whether to accept this type of liver. If you choose not to accept the liver, you will not lose your place on the waiting list.

Hepatitis C Positive Donors
In rare occasions (about 1% of all liver transplant performed at UWHC) we receive livers from donors who are known to have Hepatitis C. We make sure these livers are healthy to transplant, typically by doing a biopsy of the donor liver. There are now medicines to treat Hepatitis C. We feel these livers can safely be given to patients that already have Hepatitis C if they have not been treated for this disease. If you are being treated for Hepatitis C with anti-viral medications, we would not want to give you a Hepatitis C positive donor liver. The outcomes after receiving a liver from a donor with hepatitis C for a patient that has hepatitis C are no different than getting a liver without hepatitis C. One advantage for patients is that they may get an offer for a liver sooner. When you are placed on the waiting list your coordinator will discuss with you if you are eligible to get a hepatitis C donor liver. If you choose not to accept the liver, you will not lose your place on the waiting list.

Hepatitis B Core+ Donors
In rare occasions (< 1% of all liver transplants performed at UWHC) we receive livers from donors who are found to have a possible past infection of Hepatitis B. We make sure these livers are healthy to transplant, typically by doing a biopsy of the donor liver. We feel these livers can safely be given to patients. Patients who receive a liver from a donor with a past infection of hepatitis B need to take an antiviral medication for a period of time after the transplant to provide further protection against getting hepatitis B from the donor. The outcomes after receiving a liver
from a donor with hepatitis B for are no different than getting a liver without hepatitis B. One advantage for patients is that they may get an offer for a liver sooner. If you choose not to accept the liver, you will not lose your place on the waiting list.

**What will I be told about my donor?**

Patient confidentiality laws limit how much we can tell you about your donor. We cannot tell you the donor’s age, gender, or personal or health history. Guidelines for allocating livers are set by the United Network for Organ Sharing (UNOS). The Organ Procurement Organization (OPO) informs the UW Transplant Program when a liver is found and who is number one on the UNOS list to receive the liver. The OPO has a thorough screening for all would-be donors to attempt to find any illness that could affect the transplant organ or the patient who receives it. Screening for such an illness can be limited by time constraints between the time that the donor was injured and the organ obtained. We use our best knowledge and judgment to attempt to ensure every organ we transplant will work and will in no way harm the patient who receives it.

**Living Donation**

Besides deceased donor transplants, patients may receive a liver from a living donor. In a living donor transplant, a piece of a healthy person’s liver is transplanted into the recipient. This can be done because the liver regenerates itself in both the donor and recipient after the transplant. Both the donated segment and the remaining section of the donor liver will grow to normal size within weeks. Living donors can be related or un-related, and are often family members or close friends of the recipient. Benefits of living donation include being able to have a planned surgery and knowing the donor. However, because this is a more complex surgery, receiving this type of liver can result in increased complications. In most cases these complications can be treated. Patient survival statistics after living donor liver transplant are similar to those undergoing deceased donor transplants.

**How do I choose?**

There are risks and benefits of receiving each of the above types of livers. Members of the transplant team can provide more information about this topic. They can help you choose the type of transplant that may be best for your own case.