Liver Transplant and Kidney Function

What are kidneys and what do they do?
People generally have two kidneys, one on each side of the spine just below the rib cage. They are bean shaped organs about the size of a fist. The kidneys do many things including:

- Filter blood and send it back to the heart
- Balance fluid levels in the body by making urine
- Filter and balance minerals in the blood
- Control blood pressure
- Help to make red blood cells
- Release hormones to keep bones strong.

What causes kidneys not to work?
There are many things that can cause the kidneys not to work well.

- As we get older, kidney function declines.
- Chronic conditions such as diabetes and high blood pressure damage the kidneys.
- Diseases that cause failure in other organs, such as the heart or liver can hurt the kidneys.
- Dehydration (not drinking enough fluids) or poor blood flow
- Kidney stones
- Urinary tract infections (UTIs)
- Smoking
- Medicines or drugs: Anti-rejection medicines can be hard on the kidneys. Because of this, we monitor your blood work closely to make sure you are not getting too much medicine, and that your kidneys are working. Also, some pain medicine like ibuprofen (Advil®), naproxen (Aleve®) and aspirin are hard on the kidneys. These medicines are not recommended for patients who have had a transplant.

Can I tell if my kidneys are damaged?
Signs or symptoms of kidney damage are uncommon until the damage is severe. Your transplant team and other doctors can detect kidney damage through blood and urine tests before you have signs or symptoms. The blood test used to check for kidney damage is creatinine. We will also check a urine specimen at clinic visits for early detection of changes in your kidney function.

When the kidneys aren't working well, waste products build up in your body and make you feel sick. You may experience:

- Swelling (edema).
- Low red blood cells (anemia).
- High blood pressure.
- Weakened bones.

Can kidney damage be treated?
Yes. We treat the cause of the kidney damage. For example, doctors can treat kidney stones and urinary tract infections (UTIs) to help prevent them from causing serious or permanent kidney damage. Controlling blood pressure and keeping blood sugars in normal range can also greatly impact long-term kidney function. If medicines are causing kidney damage, your doctors may change medicines or lower your dose to protect the kidneys.

When the kidneys become severely damaged, the damage can become permanent. People may then need dialysis or a kidney transplant to restore the functions of the kidneys.

Are there things I can do to prevent kidney damage?

Yes! There are many things you can do to help prevent kidney damage:

- Complete the blood and urine tests as recommended. This will help your transplant team and other doctors check for kidney damage early.
- Avoid dehydration. This happens when you do not drink enough fluids. Drink more fluids than usual if you exercise or when it is hot outside. Remember, fluids with caffeine or alcohol will dehydrate you. If you are losing a lot of fluid through nausea, vomiting, or diarrhea, notify your transplant team. You may need to get fluids through an IV.
- Check your blood pressure daily. A healthy goal is less than 130/80. High blood pressure is higher than 130/80 and this can cause kidney damage. Tell your transplant team and your local doctors if your blood pressure reading is high.
- If you have diabetes, call your diabetes team to adjust your medicines if blood sugars are higher or lower than goal range (about 70 to 150).
- Avoid medicines that can hurt your kidneys such as ibuprofen (Advil®) and, Aleve®, and other medicines like these. These medicines are known as non-steroidal anti-inflammatory medications (NSAIDs).
- Stop smoking.
- Follow a low sodium (less than 2 grams) or no added salt diet to help manage high blood pressure and prevent excess fluid or swelling.
- Tell your transplant team about any medicines prescribed by other doctors, including over-the-counter medicines and supplements that you are taking. Some of these medicines may cause kidney damage and you may need to avoid them.
- See your transplant team and other doctors regularly. These routine visits allow your doctors to watch for signs of kidney damage and review medicines you are taking that may be causing kidney damage. Over time, they may be able to decrease doses of your anti-rejection medicines that may cause kidney damage.

Having an organ transplant is a lifelong commitment. Along with keeping your new organ working, you must take steps to avoid damage to other organs, like your kidneys. Members of your transplant team will help to keep you healthy and help you maintain a normal, active life.