

Chapter 4: Complications (Problems) After Surgery

General Information

It is common to have some complications or problems after surgery. Some problems are easily treated and others are more difficult to treat.

Your body is going through many changes in the first several months after surgery. Your body will be adjusting to the new kidney and new medications. While the medications are used to protect the kidney, they may also cause some side effects or complications.

Some problems are caused by medications and will respond to changes in the medications. Other problems are not caused by medications and will need other treatments.

You will need to have frequent lab tests and Kidney Transplant Clinic appointments to check for complications. The sooner a complication is found, the sooner treatment can start.

Delay in New Kidney Working (Delayed Graft Function)

Your kidney may not work right away after surgery. This is called delayed graft function. The new kidney goes through a “shock” during the removal and transplant. While the kidney is recovering from the shock, it may not work at all or only work a little.

The delay can last days to months after surgery. Most transplanted kidneys will eventually make urine and work well.

If your kidney is not working, you may need dialysis, your doctor may want to do a biopsy, or both. A biopsy is the best way for your doctors to know what is happening with the new kidney.

Clotting Problems

Clots may form in the deep veins in your legs. These clots are known as deep vein thrombosis, or DVT. They occur right after surgery when you are not able to get much physical activity.

Symptoms of DVT include:

- swelling
- tenderness
- warmth.

To help prevent DVT, you will be:

- wearing sequential compression stockings (leggings and foot wraps) to help prevent blood clots
- given heparin, a medication to keep your blood from clotting
- encouraged to walk as soon as possible.

Infection

The anti-rejection medications you will need to take lower your body's ability to fight infection.

You are at the greatest risk for infection several months after surgery or after any rejection episode. This is when the anti-rejection medications are at their highest doses. Infections can occur at any time.

Some of the transplant medications can lower your white blood cell (WBC) counts. WBCs fight infections. When your WBC count is low, you are at higher risk for infections. Your doctor or transplant coordinator will talk with you if your WBC count is low. Your WBC is checked regularly with your labs.

Common types of infection include:

- **bacterial** — You will take an antibiotic, (Septra® or dapson), for about 6 months after the transplant. This helps prevent a common pneumonia, urinary tract infections and some other bacterial infections.
- **fungal** — You will take an antifungal, Nystatin®, for 1 to 3 months after the transplant. This is to prevent thrush, a yeast infection, which can grow in your mouth.
- **viral** — Your transplant coordinator will talk with you if you need an antiviral medication.

Signs of infection

Call your transplant coordinator or doctor if you have any of these signs:

- fever (temperature of more than 100.4 F)
- nasal congestion and drainage
- feeling like you have the flu (chills, aches, tiredness, headache, dizziness)
- sinus pain
- ear ache
- sore throat
- cough
- pain or burning when you urinate or feel like you need to urinate often
- bloody or cloudy urine
- skin wound that is not healing or that has redness, drainage or warmth
- upset stomach, vomiting, diarrhea.

How to help prevent infections

You can take many precautions to help prevent infections.

- Always wash your hands with soap and water after going to the bathroom, blowing your nose, changing a diaper, handling raw meat or seafood, and before eating.
- Cover your mouth and nose with a tissue when you cough or sneeze. Or sneeze or cough into your elbow.
- Wash your hands often for at least 20 seconds each time.
- Avoid close contact with anyone who has an infection such as a cold, influenza or a cold sore.
- Avoid changing diapers, touching stool, or handling body fluids from children for 6 weeks after they have received a live virus vaccination.
- Take precautions when caring for and cleaning up after pets.
- Avoid major construction areas.
- Avoid working with soil and plants until your doctor gives approval. Soils can have fungal spores which can cause difficult to treat infections. You may be advised to wear gloves and a mask when working outside.
- If you are outdoors in wooded areas, be careful of tick bites. Wear long pants tucked into socks and long sleeves. Use insect repellent. Check your skin carefully for tick bites.

- Watch for signs of infection. Call your doctor or transplant coordinator if you have any of the signs on page 35.
- Get routine vaccinations when they are due.
- Do not swim or bathe until your incision is well healed and your nephrologist says it's OK.
- Eat a healthy diet.
- Get enough sleep.
- Talk to your transplant coordinator or doctor if you have questions about how to prevent infections.

BK Virus

BK is a virus that can cause problems in a transplanted kidney. It is checked regularly with your labs.

If you have a BK virus infection, you likely will not have any symptoms. Your nephrologist will monitor levels and if needed, will adjust medications (usually mycophenolate). Most cases of BK improve with lowering immunosuppression.

CMV Virus

CMV (cytomegalovirus) is a common viral infection that many people have had in the past. It usually causes mild or no symptoms. Like other viruses, once you have had it, it will stay inactive (dormant) in your body. But, if your immune system is weakened because of medications to prevent rejection, the virus could be reactivated and cause infection.

You could also pick up CMV as a new infection if you haven't been exposed before.

Levels of CMV are checked regularly after transplant. You may take a medication to prevent or treat CMV.

Symptoms of CMV infection include:

- fever
- loss of appetite
- feeling tired
- upset stomach
- diarrhea.

Tell your doctor or transplant coordinator if you have any of these symptoms.

Lymphocele

A lymphocele is a collection of fluid around your kidney. These are seen the first couple of months after surgery. Usually, the lymphoceles are small. In time, your body will usually reabsorb the fluid and treatment is not needed.

If the lymphocele becomes large, you may:

- feel discomfort where the new kidney is placed
- have decreased kidney function
- see and feel fluid leak along the incision.

If any of the these happen, you may need a procedure to remove the fluid.

Rejection

Rejection is your body's natural response to a foreign object. Even though the kidney was compatible, your body still sees the new kidney as foreign.

Your immune system doesn't recognize the new kidney as part of you and tries to get rid of it by attacking it. This is known as rejection.

Preventing rejection

- Take your medications as directed.
- Never stop, start or change doses of your medications without talking to your transplant team.
- Do not take over-the-counter, herbals, vitamins or health foods without first talking to your transplant team.
- Call your transplant team if another doctor prescribes medication(s).
- Call your transplant team if you miss a medication dose. A coordinator can help get you back on track with your schedule.
- Request refills for medications 7 to 10 days before you run out to allow for refill authorizations if needed.
- Before you travel, make sure you will have enough medication for your trip, plus a few extra. If you do not, call your pharmacy to see if you can get an early refill. Some insurance companies allow for travel waivers which allow early refill. Call the Kidney Transplant Clinic to speak to your transplant coordinator if you have questions.

Acute rejection

Most rejection episodes happen within the first few months after surgery but rejection may happen at any time. An acute rejection is a rejection that comes on quickly.

Having an acute rejection episode doesn't always mean you will lose the kidney and be back on dialysis. If caught early, many acute rejection episodes respond well to treatment.

The first signs of rejection usually show up in the lab tests. You may have some mild symptoms such as fatigue but usually you will not have symptoms until you have poor kidney function.

Watch for signs of rejection and call your transplant coordinator right away if you have any these:

- flu-like symptoms
- temperature greater than 100.4 F
- decrease urine output
- weight gain
- pain over transplanted kidney
- fatigue
- swelling (especially in your feet, ankles and hands).

The earlier a rejection is caught and treatment started, the greater the chance of a good outcome.

Biopsy

A kidney biopsy is a test that can help your nephrologist know why your kidney is not working or not working well.

During a biopsy, a doctor will use a special tool to take several small samples of kidney tissue. A pathologist will look at the samples under a microscope and talk to your nephrologist about the findings.

Your nephrologist will talk to you about the results and if any treatment is needed.

Treatment for acute rejection

If you have an acute rejection, your doctor will prescribe a treatment plan based on the biopsy, your history of rejection episodes, and your medical history.

Your anti-rejection medications will be adjusted. This may include intravenous (IV) medications or other treatments. These are usually given as an outpatient over several visits to the hospital.

Chronic rejection

Chronic rejection happens when, over time, your body's immune system slowly rejects the kidney.

If this happens, you may need to go on dialysis, be evaluated for another kidney transplant, or both.

Cancer

Your risk for cancer is increased because your immune system is unable to work as well as it should due to the anti-rejection medications.

Skin cancer is the most common type of cancer in people who have had a transplant. It tends to be more aggressive in people who take immunosuppressive medications. See page 56 to learn more about skin cancer and sun precautions.

To help protect yourself, use the following guidelines.

- Have annual doctor exams and routine cancer screenings.
 - For women, this includes a Pap smear, breast and skin exams. Depending on your age and insurance coverage, you may also need a mammogram.
 - For men, this includes prostate, testicular and skin exams.
- Perform regular self-exams. Report any changes or signs of cancer to your doctor right away.

Hyperlipidemia (Increase of Fats in Your Blood)

Hyperlipidemia is an increase of the amount of cholesterol and triglycerides in your blood. An increase of these fats can lead to heart disease.

Hyperlipidemia has no symptoms. The only way your doctor can tell if you have it is by doing a blood test. This test measures the amount of total cholesterol, LDL (bad) cholesterol, HDL (good) cholesterol and triglycerides.

You can manage hyperlipidemia with low-fat foods, weight control and regular exercise. Sometimes, doing all of the right things still doesn't lower cholesterol levels. If this happens, you and your nephrologist can decide if medications to lower cholesterol are right for you.

High Blood Pressure

High blood pressure (hypertension) is a common problem after surgery. Left untreated, high blood pressure can cause serious problems affecting your heart, liver, kidneys and blood circulation.

Many of the anti-rejection medications cause blood pressure to rise. As the dose of those medications decrease, your blood pressure usually decreases.

Some people have high blood pressure that is not related to medications. If you have high blood pressure due to other causes, changes in your immunosuppression medication might not change your blood pressure.

It is important that you check your blood pressure as directed. High blood pressure usually has no symptoms, so it's important for you check your blood pressure regularly. Your nephrologist can prescribe medication to control high blood pressure.

Increased Blood Glucose

Your blood glucose levels may increase after surgery. This can happen right after surgery or if you are being treated for a rejection episode because the steroid doses are at their highest during these times. With long-term use, tacrolimus and prednisone may cause increased blood glucose levels.

The rise in blood glucose may not last long or it may continue even after your anti-rejection medications are decreased.

If you already take diabetes medication, your medication(s) or dose(s) may need to be changed. If high glucose is new for you, you will need to see your primary care provider or an endocrinologist to help manage your glucose.

If you are older, have a history of prediabetes or a family history of diabetes, you are at an increased risk for diabetes after transplant.

Osteoporosis (Weak, Brittle Bones)

Osteoporosis is a disease that causes loss of bone density. Bones become thin and weaken to the point that they break easily. Most breaks occur in the hip, spine and wrist(s).

Immunosuppressant medications can cause calcium loss from your bones. To help prevent bone loss, most people will take a calcium and vitamin D supplement. If your osteoporosis is severe, your nephrologist may refer you to primary care provider or endocrinologist.

Doing weight-bearing exercise such as walking or climbing stairs is one way to help strengthen your bones.

- Try to get 30 minutes of exercise most days.
- Your nephrologist may order a bone density scan to check for or monitor bone loss.