Sometimes problems can happen after kidney transplant. It is important to:

- follow instructions
- have regular contact with your transplant team
- let the team know of any problems you develop

This is to make sure we can identify and treat problems as soon as they happen.

**What if the transplanted kidney isn’t working?**

Not all transplanted kidneys work right away. This is called delayed graft function. It may take several days to weeks for your new kidney to work. Sometimes you need dialysis while waiting for the kidney to start working. Delayed graft function is different than rejection.

**What is rejection?**

Rejection is your body’s normal reaction to something new or foreign. Your immune system sees the cells of the transplanted kidney as being different from your own. It responds by attacking the cells of your new kidney.

Rejection is mostly to likely happen during the first 3 months after transplant. However, it can happen at any time, even years later. Luckily, rejection can be stopped when caught early. The medicines you take work to stop your body from attacking your new kidney. Examples of transplant medicines are Myfortic, Advagraf, Neoral (Cyclosporine) and Prednisone. It is very important you take your medicines in the right doses and at the right time. Missing even one dose increases your chance of rejection and losing your transplanted kidney.
You may feel fine in the early stages of rejection. The earliest sign of rejection is a rise in creatinine. We can check the level of creatinine through a blood test. Creatinine tells us how your kidney is working. A change in creatinine usually happens long before other symptoms of rejection show up.

You must keep your clinic appointments and have blood tests regularly. A kidney ultrasound and biopsy are often necessary to help find out if you are rejecting your kidney. A biopsy of the kidney is when they take a small piece of kidney tissue with a special needle, under a local anesthetic.

**What are other signs and symptoms of rejection?**

- Unusual tiredness, weakness or lack of energy
- Joint aches, muscle pain or a flu-like feeling
- Pain or tenderness over the kidney transplant
- Temperature greater than 38° Celsius
- Peeing less often
- Rise in blood pressure
- Sudden weight gain
- Swelling in hands and feet

**How can I prevent rejection?**

Even if you do everything right, it is possible that your body may still reject the new kidney. You can reduce the risk of rejection:

- Take your medicines every day. Take them at the same time and the right dose
- Never skip your medicines
- Discuss any new medicines that other doctors have prescribed for you with the transplant team
- Call the transplant clinic if you have flu-like symptoms in the first year after transplant
What other complications can occur?

Urinary blockage

The ureter is the tube that drains urine from the kidney to the bladder. Sometimes the ureter may become narrow and block the urine from draining into the bladder. This is called urinary blockage.

During surgery, a stent is placed in your ureter to help support it as it heals. A ureteral stent is a thin straw-like tube made of plastic or rubber. The stent helps to keep the ureter open and unblocked so that the urine can drain from the kidney to the bladder. The stent is removed 4 to 6 weeks after surgery by the doctor who did your kidney transplant. The procedure is called cystoscopy.

Let the transplant team know if you have any of the following problems that may be related to your stent:

- Pain with urination or peeing
- Feeling like you need to pee often
- Blood in the urine
- Dribbling
- Burning with peeing
- Not peeing as often

Urine leak

Sometimes a urine leak can happen where the donor ureter (tube connecting the transplant kidney to the bladder) joins your bladder. Surgery is usually needed to fix the leak.

Bleeding

As with all surgery there is a risk of bleeding inside your body. If this happens, you may need a blood transfusion and another operation to stop the bleeding.
Lymphocele

This is a collection of lymph (tissue) fluid. The fluid usually collects in a small area next to the transplanted kidney. This may not cause any problem. If the collection is large enough, you may notice some pain in the area of the transplanted kidney. An ultrasound may be done to find out if you have a fluid collection. It is treated by inserting a drainage tube into the fluid collection. Sometimes, a small operation is needed to remove the fluid.

Blood clot

This is when blood cells stick together and form a clot. This can happen after a transplant but not very often. A blood clot can form in the vein or the artery of the new kidney. This will stop the blood supply to the new kidney. If this happens you will have to go back to surgery. In some cases the kidney will be removed.

Deep vein thrombosis (DVT)

This is when blood clots form in the veins or blood vessels of the leg and block the flow of blood. DVT can happen after surgery. There is a higher chance of clots forming in the veins in your legs. To prevent this happening, you will get an injection called heparin, which helps to thin the blood. You may need to wear special stockings to help with blood flow in your legs. Moving your legs in bed and walking soon after surgery will help to lower your chance of getting a DVT.

What about diabetes?

After your transplant, you can develop diabetes as a side effect of the anti-rejection medicines. Diabetes is when the blood sugar goes above normal. It is usually treated with diet and/or pills. Sometimes insulin is needed. Uncontrolled blood sugar can lead to complications such as damage to nerves, eyes and kidneys, as well as an increased risk of heart disease.

It is important to reduce your risk of diabetes by maintaining a healthy body weight, keeping physically active and eating well.
What about infections?

The medicines you take to prevent rejection are essential. But they also lower your body’s ability to fight infections. This means you have a higher chance of getting infections - especially in the first 3 to 6 months after your transplant.

A fever is usually the first sign of infection. Any infection with fever is a concern.

Contact your transplant team or family doctor as soon as possible if you have:

- A fever of higher than 38° Celsius
- Diarrhea or vomiting lasting more than 24 hours
- Any flu-like symptoms like cough, body-aches, cold symptoms
- Sores or discharge around the genitals
- Pain or burning when peeing, cloudy or foul-smelling urine, or an increase in the number of times you pee
- Sores in the mouth or throat
- Rash or other skin changes
- Changes in your wound (surgery site) like increased drainage, redness, foul smell or more pain over the transplant site

How to prevent infection:

- Wash your hands after using the bathroom and before every meal
- Avoid close contact with people who are sick
- Do not share spoons or forks, cups and glasses or razors and toothbrushes with others
- Wash fruits and vegetables before eating and cooking
• Call the transplant clinic if you come in close contact with someone who has measles, mumps, chicken pox, hepatitis or any serious infectious disease

• Change cat litter, cleaning bird cages and fish tanks in a well-ventilated area

• Empty your bladder after sexual intercourse

Bacterial infections

Urinary tract infections are caused by different bacteria and are common after transplantation. Bacterial infections require treatment with antibiotics. Signs and symptoms of a urinary tract infection include:

• Pain when you pee
• Urine with a bad odour or smell
• Peeing very often

Fungal infections

Fungal (yeast) infections are most common in the first 3 months after transplant. Transplant recipients on high doses of prednisone have a higher chance of getting fungal infections.

Thrush is a common fungal infection. Thrush looks like a white coating on the tongue, and inside the mouth. It may make your mouth tender and sore and you may have difficulty swallowing. If thrush is not treated it can spread to the esophagus, stomach and intestines. In women, thrush can also infect the vagina, causing abnormal discharge and itching.

Pneumocystis Jirovecii Pneumonia (PJP)

PJP is a fungal infection of the chest and lungs. It can be a very serious infection in someone with a low immune system that cannot fight infections well. You will get a medicine called Septra (or Dapsone if you have an allergy to sulpha medicines) to lower your chance of getting this type of infection.
Symptoms of PJP include:

- Fever
- Dry cough
- Trouble breathing
- Feeling tired
- Chills
- Chest pain, especially when taking a deep breath
- Losing weight without trying

**Viral infections**

**Cytomegalovirus (CMV)**

This is a common virus in healthy people. Most people may have had it without knowing it. The symptoms are similar to a cold or flu. Even if you have not had a CMV infection before your transplant, it can be passed on to you through the transplanted kidney. If you had the virus in the past, it stays in your body and can flare up again after the transplant.

To prevent this infection, we give you anti-viral medication pills called valganciclovir for the first few months after your kidney transplant. This is when there is a higher chance of you getting the infection. If you are unwell with CMV, you may need to be admitted to hospital for treatment. Signs of CMV infection include:

- Fatigue
- Fever
- Sweating (especially at night)
- Aching joints
- Headaches
**BK Virus**

Most adults have had BK virus infection without knowing it. After transplant, BK virus can happen again because your immune system is low. This may not make you feel unwell but it can cause inflammation and affect the kidney. The treatment involves lowering the amount of your transplant medicines that you take in order to allow your body’s own immune system to get rid of the virus. We regularly look for the virus in your blood (using a blood test) when you come for clinic visits. Sometimes we also need to do a kidney transplant biopsy to make sure that the virus is not causing inflammation or swelling of the kidney.

**Shingles (herpes zoster)**

Shingles appears as a rash or small water blisters usually on the side of the face, chest, abdomen or back. The rash may not be painful. It only happens in people who had chicken pox. Call your transplant team immediately if you have a rash. You will need medicine to treat this. See your healthcare provider immediately.

Contact your transplant team or family doctor as soon as possible if you think you have an infection.

**Infection is always a risk with any surgical procedure. Infection will cause discomfort, pain, and tiredness. It is a very good idea to follow risk prevention guidelines. Speak to your nurse or doctor about ways you can help to prevent infection.**

St. Michael's cares about your health. For reliable health information, visit our Patient and Family Learning Centre, room 6-004, 6th floor Cardinal Carter Wing, or find us online at [www.stmichaelshospital.com/learn](http://www.stmichaelshospital.com/learn)

This information is not intended as a substitute for professional medical care. Ask your healthcare provider about this information if you have questions.