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# Getting A New Pancreas

## *Facts About Pancreas Transplants*



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# Getting a New Pancreas

## Facts About Pancreas Transplants

When you get a pancreas transplant, there is a lot to do before and after the operation. Before the operation, you will work with the transplant team to complete an evaluation. After the operation, you will need to see your transplant team often to make sure your pancreas is working well and you stay in good health.

You, the transplant team, and your family will work together to keep you and your new organ healthy.

## What Does a Pancreas do?

The pancreas is an organ near your stomach that makes insulin. Insulin helps the cells in your body process sugar. The reason you are getting a pancreas transplant is to get the insulin-producing cells. The pancreas also has cells that make digestive juices. They are mixed in with the insulin-producing cells, and for this reason, your new pancreas also will make digestive juices. When you have a pancreas transplant, these juices will empty from the new pancreas into a small section of the donor's intestine that also is transplanted along with the pancreas. During surgery, the surgeons will connect this small piece of intestine attached to the new pancreas to your intestine or sometimes to your bladder so the digestive juices can drain away.

## What is Diabetes?

Diabetes is a disease. When a person has diabetes, their body either cannot make enough insulin or is unable to use insulin the right way.

Insulin is a hormone. This hormone changes sugar, starches, and other foods into energy. Your body needs this energy every day to function. There are two types of diabetes (see below). If a family member has either type of diabetes, you may have a higher chance of getting it.

## How Insulin Works

Insulin opens the cells in your body so sugar, called glucose, can enter into them. Once inside the cell, glucose turns into energy. When the body does not make enough insulin, this creates lots of sugar in the blood; this condition is called high blood sugar. When too much sugar ends up in the blood, instead of the cells, it can cause two problems:

1. Right away, your cells will not have any energy.
2. After a while, high blood sugar can harm your eyes, kidneys, nerves, or heart.

There are two types of diabetes: type 1 and type 2.

**Type 1.** This is also called juvenile diabetes, because it is the type that affects children and young adults. With type 1, the pancreas does not make insulin.

People with type 1 diabetes must take daily insulin shots. About 1.7 million people have type 1 diabetes in the United States today.

**Type 2.** This type of diabetes happens when the body cannot use insulin the right way, or does not make enough insulin. People can often control type 2 diabetes with lifestyle changes like eating healthy and exercising. It is important to maintain a healthy weight. Some people may need to take pills, inject insulin, or both to control their diabetes. About 16 million Americans have type 2 diabetes.

Note: Most transplant centers will perform a pancreas transplant on patients with type 1 diabetes but not type 2.

### **How Does a Pancreas Transplant Help Diabetes?**

- You will no longer need insulin shots.
- You will be able to eat a regular diet.
- You will have fewer or no reactions from low blood sugar or insulin.
- You can be more active and independent.
- High blood sugar cannot damage your kidney, especially if you have already had a kidney transplant or will receive one with the pancreas transplant.

### **What Will Happen When I Get a Pancreas Transplant?**

There are several steps to getting a transplant. Before we explain those steps, however, we want you to know about the three types of pancreas transplants:

#### Pancreas and kidney transplant at the same time.

This transplant is for patients who have diabetes and kidney failure. This is the kind of transplant a patient has when there is no living kidney donor.

#### Pancreas transplant after a kidney transplant.

This is for patients with diabetes who have already had a kidney transplant (from a live or deceased donor). If you get a kidney from a living donor, you will not have to spend as much time on dialysis. You may not even need dialysis. In this case, a pancreas transplant can be done later.

#### Pancreas transplant only.

This transplant is for patients with diabetes who have major complications like dangerously low blood sugar or severe eye problems. This transplant is also for patients with diabetes who do not have kidney disease.

The doctors at your transplant center will help you decide which type of transplant is best for you.

**There are four steps involved in getting a pancreas transplant. Your transplant team will:**

1. Decide if you qualify for a new pancreas and are healthy enough for the operation.
2. Prepare you for your operation.
3. Perform the pancreas transplant.
4. Help keep you and your pancreas healthy after the transplant.

## **Step 1. Decide if You Qualify for a New Pancreas and are Healthy Enough for the Operation**

Before you get a pancreas transplant, you need to know that getting a transplant depends on your physical and mental health. It depends on the people who give you social support. It also depends on your ability to get the transplant medicines you need.

There are four parts to this step.

### **First, you will visit a transplant center.**

You, your doctor, a nurse, or a social worker can schedule this visit. Your doctor's office will send your medical records to the transplant center before your appointment. Your records should show that you are taking your medicine properly and are on a restricted diet. Your records will also confirm that you have no medical conditions that can keep you from receiving a transplant.

### **You will have a physical health evaluation.**

A transplant doctor and transplant nurse coordinator will evaluate your medical condition. They will decide if you are healthy enough for surgery. They will need to know your medical history. They will need to evaluate how well you control your diabetes and how old you were when you were told you had it. They will talk with you about insulin and any problems you are having because of your diabetes.

Other tests you may have:

- Blood tests
- Chest x-ray
- Mammogram or prostate exam
- Colon exam
- EKG (electrocardiogram) and other heart tests
- You may have a stress test and a cardiac catheterization to look at your heart's blood supply. This is done by inserting a catheter into an artery in your leg. Doctors may also test the blood supply to your legs.
- Your dentist may need to check your teeth and gums.
- Women will need an OB-GYN exam and Pap smear test.
- If you smoke, you will need to stop.
- You will need to stop any substance use.

- You may need to lose some weight. This is important because if you are overweight, you might go from having type 1 diabetes before transplant to having type 2 diabetes after your transplant. Your transplant team will tell you how much weight you need to lose.

**You will have a mental health evaluation.**

You may need to see a social worker or psychologist to make sure you are not addicted to alcohol or drugs. It is also important to make sure you have no emotional problems that can interfere with your health.

## **Step 2. Prepare You for Your Operation**

This step involves finding a pancreas for you. This can sometimes take a long time.

Your transplant center may give you some handouts to read about your operation. This information will help you get ready for surgery. It will also tell you about your care after the operation.

While you are waiting for your pancreas transplant, it is important that you keep in touch with your transplant center. If your health condition changes, be sure to let the transplant center know. If you change medical insurance, you also need to call the center. It is very important that you notify your center immediately if you have an address or phone number change. The transplant center always needs to know how to contact you when an organ becomes available

It is very important to stay healthy while you wait for your new pancreas.

- If you smoke, please quit. If you need help quitting, talk to your regular doctor. Patients who smoke after a pancreas transplant do worse than those who do not smoke and many transplant centers will not perform pancreas transplants on people who continue to smoke.
- If you need to lose weight, ask your regular doctor to help you with a weight loss plan.
- Keep all your appointments.
- Do your best to control your blood sugar.

## **Step 3. Perform the Pancreas Transplant**

During this surgery, a healthy pancreas (and kidney if you are getting them together) is placed inside your body. Surgeons will connect the pancreas to your own blood vessels. They will also connect the pancreas to either your own small intestine or your bladder so the pancreatic juices can drain. The operation will last three to six hours, depending on whether you are getting one or two organs.

Your own kidneys and pancreas will stay in your body. You will have a tube (catheter) inserted into your bladder. You will also have an IV (intravenous line) inserted into a vein in your arm and/or neck. You might also have a tube in your nose that drains to your stomach.

You will stay in the hospital until your doctor feels you are ready to go home. How long you stay in the hospital will depend on your health and how well the new organ(s) is working. It will also depend on how quickly you learn to take care of your new organ/s. The average stay in the hospital is seven to 12 days.

### **Transplant Medicines**

After your operation, you will take strong medicines every day to help your body accept the new transplant. Your body is smart and can detect that the organ comes from another person. These medicines will keep your body from rejecting the new pancreas. These medicines are called anti-rejection medicines. **You will need to take these every day for as long as the transplanted organ is in your body.** These medications are also called immunosuppressive medicines. If you stop taking these medicines, even for a short period of time, your body will destroy your new pancreas. You must tell your transplant center if you miss or run out of your medicines.

### **Some Tests You Might Need to Have**

#### **Transplant ultrasound**

With an ultrasound, doctors can see your pancreas, kidney, and blood supply on a screen. This shows them if there are any problems.

#### **Transplant biopsy**

Your doctors will biopsy your new organ. They use a needle to remove a tiny piece of kidney or pancreas. This piece is then looked at under a microscope. By looking at the cells, your doctors can find problems like rejection. This test also provides important information that will help the transplant team decide the best treatment for you.

#### **CT Scan or Magnetic Resonance Scan**

This test is used to see if you have a leak of digestive juices or an infection after a pancreas transplant. It can also be used to check the blood vessels going to your new pancreas.

## **Step 4. Help Keep You and Your Pancreas Healthy After the Transplant**

The most important part of the pancreas transplant is staying healthy after the operation.

Here is what you will need to do after you leave the hospital:

- Visit the transplant center often and keep all your appointments.

- Take your medicines properly. This is very important. Also, do not take any other medicines (prescription or over-the-counter) or supplements of any kind without checking with your transplant team.
- Have your blood drawn and directed by your transplant center.
- Tell the staff at the transplant center about any problems you are having. Be sure to let them know if you have trouble keeping an appointment or taking your medicines. Call immediately if you are having trouble getting or taking your medicines (payment troubles, side effects). Your transplant center can help!
- Call your transplant center if you have any of these symptoms:
  - Fever or chills
  - Stomach pain
  - Burning when you urinate
  - High or low blood sugar
  - Trouble breathing
  - Bad cough
  - Trouble taking your medicines
  - High blood pressure
  - Diarrhea, nausea, vomiting, or constipation
  - Weight loss or weight gain

## **Your Appointments**

If your body begins to reject your new pancreas, you may not know it. Some patients may have signs, but most do not recognize them. If your body is rejecting the new pancreas or kidney, your doctors and nurses will know it. **This is why it is so important to go to all your medical appointments.** Your health care providers watch closely for signs of rejection and side effects from the medicines.

Your doctors will only be able to tell if you are rejecting the new organ by examining you. The doctor can detect rejection through blood tests or a biopsy. Your doctor and transplant staff will be watching for the following:

### **1. Rejection**

The risk of rejection never goes away. You will always need to take anti-rejection drugs. Your doctor may lower the dosage, but you should never skip or stop taking the drugs.

### **2. Infections**

Immunosuppressant drugs can increase the chance of getting infections. These infections can be treated. However, you need to tell your doctor if you have a fever, unusual pain, or any other new feelings. The risk of infection will go down when your doctor lowers the dosage.

### **3. High Blood Pressure**

High blood pressure is a common problem after transplant. It can damage your kidneys. It can also cause strokes and heart attacks.

#### **4. High Cholesterol**

You may develop high cholesterol blood levels after transplant. This can put you at risk for a heart attack or stroke. Your health history and diet may contribute to this as well as some of your anti-rejection medicines. There are some medications called statins that control cholesterol and help prevent rejection because they also control inflammation.

#### **5. Cancer**

Transplant patients are at a greater risk for skin cancer. The anti-rejection medications can add to these chances. It is important that you use sunscreen lotions and wear clothing to protect your skin from the sun. It is also important for you to do other cancer screening such as pap smears and mammograms for women, and prostate screening for men. All patients should have their colon checked as recommended by your primary care physician.

#### **6. Other health issues**

Be sure to see your eye doctor for regular check-ups. You will need to also see other specialists on a regular basis. For example, doctors who specialize in feet, the brain and nerve system, and the endocrine system. Also, be sure to see your primary care doctor on a regular basis.

#### **7. Pregnancy**

It is possible to get pregnant after transplant, but you must talk with your transplant team to find out if pregnancy is safe for you. If you want to get pregnant, tell the transplant team before you stop using birth control. This is because some of your anti-rejection drugs may need to be changed before you get pregnant. If you find out you are pregnant, tell the transplant team right away. If your pancreas drains into your bladder, and you use a store-bought urine pregnancy test, it may test negative even if it is positive. Therefore, you need a blood test to be sure.

### **Step 5. Enjoy Your Pancreas**

By following directions given to you and taking your medicines, the pancreas transplant will allow you to enjoy a life free from diabetes. Patients report a better quality of life as well.