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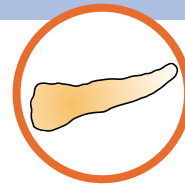
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GETTING A NEW

PANCREAS

Facts About Pancreas Transplants



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GETTING A NEW PANCREAS: FACTS ABOUT PANCREAS TRANSPLANTS

THE TRUTH ABOUT PANCREAS TRANSPLANTS



1

Getting a pancreas transplant is more than just having an operation. There are important things to do before the transplant. Also, there are important things to do after the transplant.

- **What to do before the transplant:** You will need to work with the transplant team. This will help you complete your transplant evaluation. It will also prepare you for the transplant.
- **What to do after the transplant:** You will need to keep in contact with your transplant team. It will help you keep the pancreas working. It will also help you make sure you are in good health.

2

Getting a pancreas transplant is a team effort of the transplant center, you, and your family. The success of a pancreas transplant depends on you and the team at the transplant center working closely together. Doing that will help keep you and your new pancreas healthy. How long a new pancreas lasts depends on many factors.



WHAT IS DIABETES?

Diabetes is a disease. With diabetes, the body does not produce or use insulin in the right way.

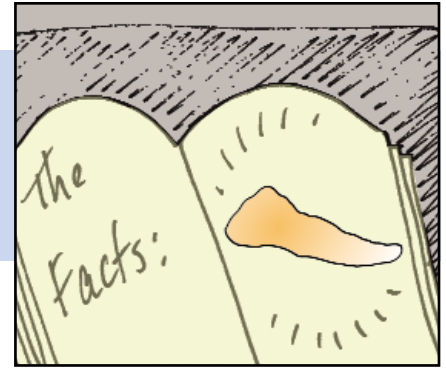
Insulin is a hormone. This hormone converts sugar, starches, and other foods into energy. This is the energy that your body needs every day to live. There is not complete knowledge of the cause of diabetes. However, there are reasons

that make you more likely to develop diabetes. Some reasons are part of your body, like your genes. There are also other reasons, like obesity and not exercising.

There are two major type of diabetes:

- **Type 1 diabetes** is a disease in which the pancreas does not make insulin. This hormone “unlocks” the cells of the body to allow glucose to enter. Once inside, glucose turns it into energy. People with type 1 diabetes must take daily insulin injections to stay alive. **There are an estimated 850,000 to 1.7 million people with type 1 diabetes in the United States today.**
- Type 1 diabetes is usually found in children and young adults. It was known before as juvenile diabetes. In type 1 diabetes, the body does not make insulin. This results in “high levels of sugar” in the blood. When sugar builds up in the blood, instead of going into cells, it can cause two problems:
 - Right away, your cells may not have any energy.
 - Over time, high blood sugar levels may hurt your eyes, kidneys, nerves, or heart.
- **Type 2 diabetes** is a disease that results from insulin resistance (a health problem in which the body fails to use insulin well.) In addition to that, the body doesn’t have enough insulin. Often, people can control type 2 diabetes with diet, nutrition, and changes in the things they do every day. Many people may also need to take medications, insulin, or both to control their diabetes. **Of nearly 17 million Americans with diabetes, 90% to 95% (16 million) have type 2 diabetes.**

MOST (BUT NOT ALL) TRANSPLANT CENTERS WILL ONLY PERFORM A PANCREAS TRANSPLANT ON PATIENTS WITH TYPE 1 DIABETES



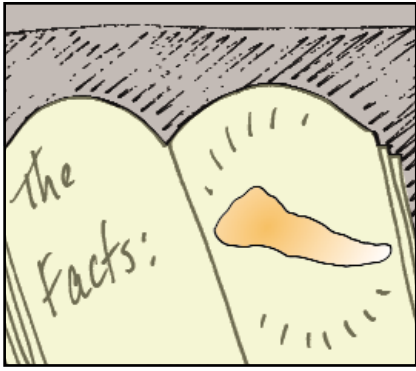
What does the normal pancreas do?

The pancreas is an organ near your stomach. The pancreas makes insulin. It also has cells called beta cells. These beta cells have a very important job. The beta cells make insulin. The insulin helps other cells process the sugar they need. The pancreas also makes some digestive juices. These juices from a newly transplanted pancreas empty from a small section of the intestine. This is important to know because this section is attached to the transplanted pancreas. So, when you receive a transplant, this section has to be connected to your intestine or your bladder with surgery.

How can a pancreas transplant treat diabetes?

A pancreas transplant with good results can help a diabetic person in at least four ways:

- The person will not need insulin injections and can enjoy a regular diet.
- It will prevent medical complications from “low blood sugar” and “insulin” reactions.
- People enjoy being more active and independent.
- It will prevent “high blood sugar” from damaging your kidney, especially if you already had a kidney transplant or will receive one with the pancreas transplant.



GETTING A PANCREAS TRANSPLANT: WHAT'S INVOLVED?

Getting a pancreas transplant involves four steps:

A team of health-care professionals will do the following:

1. Find out if you qualify and are healthy enough to receive a new pancreas
2. Prepare you for your procedure
3. Perform the pancreas transplant
4. Help you keep yourself and your pancreas healthy after the transplant

Step 1. Finding out if you are a good candidate for a pancreas transplant

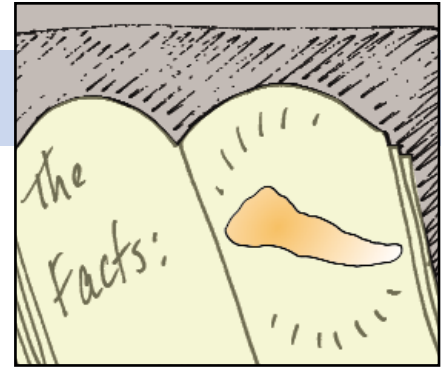
Before you get a pancreas transplant, you should know what will happen if you do receive one. Getting a transplant depends on your physical and mental health. It also depends on the people who give you social support. Finally, it depends on your ability to get the transplant medicines you will need.

There are four parts that will determine how long this evaluation and preparation phase can take.

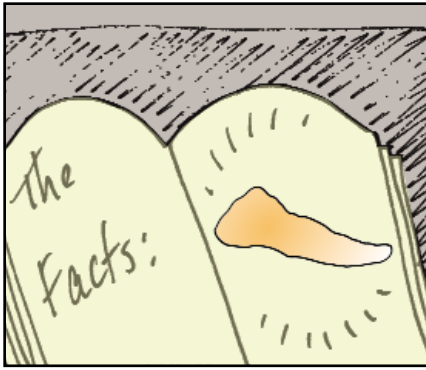
1. You will visit a transplant center.

- Your doctor, a nurse, or a social worker will arrange this visit. You can also make an appointment on your own.
- The transplant center will ask your doctor or the doctor's staff to send your medical records. They need them to make sure of the following:
 1. That you take your medicine the right way
 2. That you restrict your diet and drink fluid the right way
 3. That you have no medical problems that will prevent you from getting a transplant

WHAT'S INVOLVED? (CONT.)



2. *You will have a physical health evaluation.* A transplant doctor and transplant nurse coordinator will do a very careful evaluation of your medical problem. The medical team will carefully evaluate your health and whether you are able to take the surgery. They will need details of your medical history. They will need to evaluate your current diabetic control and the age at which it was diagnosed. They will need to discuss with you your present insulin treatment. Finally, they will need to discuss any other complications of diabetes that you may be suffering.
- > You will need to have a series of blood tests.
 - > You will need some tests. You may have a recording of the heart. This is a test called an electrocardiogram. You may have a chest x-ray film taken. Finally, you will also need some more tests. These tests will depend on your age and medical history. These tests include the following:
 - A mammogram
 - A prostate exam
 - An examination of the colon
 - > You will need to have an assessment of how your heart is working. You may have a stress test. You may also have a test where they put a tube in your heart to see how it is working. This test is called a cardiac catheterization.
 - > Your dentist may need to evaluate your teeth and gums.
 - > Women will need a gynecologic examination and Pap test.
 - > Your doctor will ask you to stop smoking if you smoke.
 - > You may need to lose some weight.
3. *You will have a mental health evaluation.*
You may need to see a social worker or psychologist to make sure of the following:
- You don't have alcohol problems or drug addiction.
 - You have no emotional problems that may disturb your health.
4. *You will see an insurance specialist.*
This is important to make sure that your insurance will pay for all the medications after the transplant.



WHAT'S INVOLVED? (CONT.)

There are three main types of pancreas transplants

1. Pancreas and kidney transplant at the same time.

This combined transplant is performed in patients who have both diabetes and failing kidneys.

2. Pancreas transplant after a kidney transplant.

This is for diabetics who have already had a kidney transplant (from a live or cadaver donor). In this case, a pancreas transplant can be done at some later time.

3. Pancreas transplant alone.

This single transplant is done for diabetic patients who suffer from severe diabetic complications. These complications can include frequent, life-threatening bouts of low blood sugar, severe eye problems, etc. This transplant is also done for diabetic patients who do not have any kidney disease.

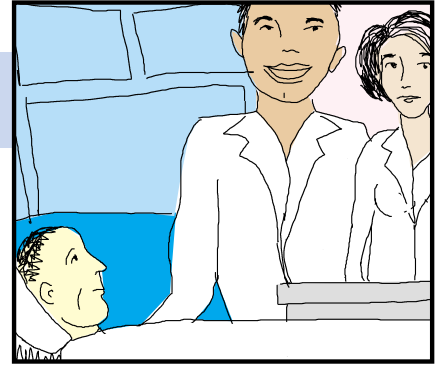
The physicians and surgeons at your transplant center will decide which type of transplant is best for you.

Step 2. Preparing for your procedure

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

- Many transplant centers prepare some educational materials for you to read. These materials help you prepare for the operation and your care after the transplant.
- While you are waiting for your pancreas transplant, you need to keep in touch with your transplant center, especially if there is a change in your health or your medical insurance.
- It is important to keep healthy while you wait for your new pancreas. If you smoke, you should quit. If you need help with smoking cessation, ask your primary-care physician. If you need to lose weight, you should try to begin and keep doing a planned and supervised weight loss program. Keep your appointments, and maintain blood sugar control as best you can.

WHAT'S INVOLVED? (CONT.)



Step 3. The pancreas transplant procedure

Pancreas transplantation involves a surgery. In this surgery, a healthy pancreas (and kidney if you are getting them together) is placed inside your body. The pancreas is connected to your own blood vessels. In addition, the pancreatic juices will drip into either your own small intestine or into your bladder. Your transplant team will make the decision on the type of procedure. The transplant operation lasts 3 to 6 hours. The time depends on whether you are receiving a pancreas transplant or a kidney and pancreas transplant.

Your own kidneys and pancreas stay in place. You will have a tube placed in your bladder. You will also have a tube, called the IV line, in the vein in your arm and/or neck. In addition, you may have a tube from your nose draining to your stomach.

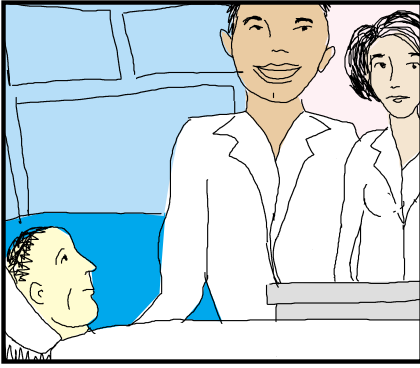
- You will stay in the hospital until your doctor believes you are ready to go home. How long you stay in the hospital will depend on the following factors:
 - Your health
 - How well the new organ(s) is working
 - Your ability to learn to take care of your new transplant

The average length of stay in the hospital is 7 to 12 days.

Transplant medicines after the operation

After your operation, you will begin to take strong medicines to keep your body from rejecting the new pancreas. These medicines are “antirejection” medicines. **Because your body will not “forget” that the pancreas once belonged to someone else, you will have to take medicines that keep down your immune system for as long as you have the transplant. These medicines are called “immunosuppressive medicines.”**

**DIAGRAMS TO COME
AND GO IN THIS AREA.**



WHAT'S INVOLVED? (CONT.)

What other tests might I have after my transplant?

Transplant ultrasound

Ultrasound is used to show your pancreas, kidney, and blood supply to the organs. This test will help to determine if there are any problems after the procedure.

Ultrasound does not involve injections. With this test, you can see your transplanted organ on the screen.

Transplant biopsy

A biopsy is the removal of a tiny piece of the kidney or pancreas transplant. This part is then examined under the microscope. Looking directly at the cells can help your doctors identify rejection or other problems. This test can provide important information that will help the transplant team decide the best treatment for you.

Step 4. Helping you stay healthy after the pancreas transplant

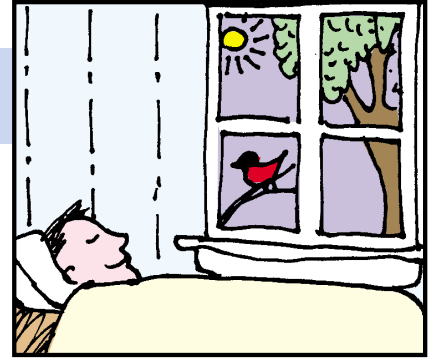
What you will need to do

The most important part of the pancreas transplant is keeping yourself healthy after the transplant.

Here is what you will need to do after you are discharged from the hospital:

- Make frequent visits to the transplant center. You will also need to keep all of your appointments. This may seem no better than going to the dialysis unit, but these frequent visits will only last for the first few months.
- **Take your medicines properly. This is extremely important.**
- **Let the staff at the transplant center know about any problems. Tell them especially about problems that keep you from going to your appointments or taking your medicines.**
- **Call your transplant center if you have any of the following symptoms:**
 - **Fever or chills**
 - **Abdominal pain**
 - **Burning sensation when you urinate**
 - **Elevated blood sugar or low blood sugar**
 - **Trouble breathing or cough**
 - **Trouble taking your medications**
 - **High blood pressure**
 - **Diarrhea, nausea, vomiting, or constipation**
 - **Weight loss or weight gain**

WHAT'S INVOLVED? (CONT.)



Why you will need to keep your appointments

Your body may begin to reject your new pancreas and YOU may not be able to tell. Patients sometimes feel the signs of rejection, but most patients are not able to tell when their bodies are starting to reject the new pancreas.

- If your body is rejecting the new pancreas, your doctors and nurses CAN tell.

Your doctors and nurses will watch you closely, looking for signs of pancreas rejection. They will also look for side effects of the medications that you are taking.

How your doctor and transplant team can help you

Your doctors will only be able to tell whether you are rejecting the new organ by examining you. Also, the doctor can recognize rejection by taking 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 stay on your antirejection medications. The dose of the medications may get smaller, but you should never skip or stop your medications.

2. **Infections**

Medications to keep down the immune system (immunosuppressants) can multiply your chances of getting some types of infections. These infections can be treated. Still, you will need to be aware of fevers, unusual pains, or any other new feelings. As the doses of the antirejection medications get smaller, the risk of infections will also decrease.

3. **High Blood Pressure**

High blood pressure is a common problem after transplant. The treatment of high blood pressure is important because high blood pressure can damage your kidneys. It can also cause strokes and heart attacks.

4. **High Cholesterol**

Development of high cholesterol after transplant may be due to a variety of reasons. These reasons may be your history, your heredity, your diet, and your antirejection medications.

5. **Cancer**

Transplant patients are at greater risk for certain types of cancer. The antirejection medications can add to these chances. It is important that you use sunscreen lotions and wear clothing to protect yourself from the sun.