

# Your Liver Transplant

*A guide for transplant recipients and their families*



VANDERBILT  UNIVERSITY  
MEDICAL CENTER

# Vanderbilt Transplant Center

Vanderbilt Transplant Center in Nashville, Tennessee, is one of the South's main providers of solid organ and stem cell transplantation. We offer programs in heart, kidney, liver, lung, heart, and bone marrow transplantation. Our outcomes are among the best in the country. Our specialists strive to return every patient to a full and active life. Our mission is to provide end-stage organ failure patients the opportunity to lead extraordinary lives. Thank you for trusting us with your care.

## *As we treat you, we promise to:*

- include you as the most important member of your health care team
- personalize your care with a focus on your values and needs
- work with you to coordinate your care
- respect your right to privacy
- communicate clearly and regularly
- serve you and your family with kindness and respect.



**Call the Liver Transplant Clinic at (615) 936-5321 any time you:**

- have shortness of breath
- have symptoms you're worried about
- have blood glucose higher than 360
- have more fatigue
- gain 3 or more pounds in 1 day or 5 or more pounds in 1 week
- feel sick to your stomach, vomit, or have diarrhea
- aren't able to keep your medicines down
- a temperature that's 100.5°F (38)°C or higher
- develop a fast heart rate.

***Also call us when you:***

- have questions for the nurse
- need to make an appointment
- need to have a prescription filled.

**Call 911, or go immediately to the ER if:**

- you have chest pain
- you have stools that are black or bloody.

## About this book

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This book explains how the liver transplant process works and what you can expect after surgery, including the medicines you'll take for the rest of your life, the type of diet you'll need to eat, guidelines you'll need to follow to stay healthy, and what you can expect as you recover.

For you to stay healthy after transplant, you must take responsibility for your own care for the rest of your life. There is a lot for you to learn. We don't expect you to know it all at once, but we do expect you to make your best effort to be independent. We'll help you. But remember: the most important person in your health care team is YOU.

### *Some things you need to do:*

- Take your medicines exactly like your doctor tells you.
- Keep all of your scheduled doctor and blood work appointments.
- Develop or keep your healthy habits. This means you need to eat healthy, exercise on a regular basis, and develop healthy ways to cope with stress.
- Communicate well with your family and the transplant team.
- Make sure you have someone who can be your caregiver. This is required for transplant.

## Transplant videos

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In addition to reading this booklet, you can also watch a series of videos we've made that help explain the transplant process. To watch the videos, scan this QR code with the camera on your smart phone or tablet.

Or visit [VanderbiltHealth.com/Transplant](https://VanderbiltHealth.com/Transplant) and click on the Transplant Patient Education Videos link.



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# After surgery: At the hospital

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## Pain

After surgery, it's normal to have some pain and discomfort. Previous transplant recipients have described this pain as very manageable.

- For the first 24 hours after surgery, we'll most likely give you pain medicine through an IV.
- When you're able to drink fluids by mouth again, we'll likely switch you from IV pain medicine to oral pain medicine.

## Your incision

It's normal for fluids to drain from your incision for some time after your surgery. We'll check the dressing on your incision often and change it as needed.

## Tests and measurements

- We'll do daily blood tests while you're in the hospital.
  - We'll do blood tests every morning.
  - We do these tests to follow your progress and to find out if we need to adjust your daily medicines.
- We'll measure and test the amount of body fluids your body is making.
- Other tests, such as X-rays, will be done when and if they are needed.
- We'll regularly check your vital signs. This includes checking your blood pressure, your breathing, your heart rate, and your temperature.
  - We may wake you at night to check your vital signs. This helps us know how your body is responding to your new liver.
  - We'll encourage you to take your vital signs as soon as you're able, so you can take part in your own care.

## Exercising your lungs

We'll expect you to begin coughing and doing deep breathing exercises while you're still in the recovery room after surgery. We'll show you what you need to do. Exercising your lungs can help keep you from getting pneumonia—a common problem after any kind of surgery. If you have some discomfort around your incision when you cough, you can lower it by holding a pillow with some pressure over your incision when you cough.

## Checking your weight and your numbers

- We'll weigh you every morning before breakfast. It's important that we weigh you at the same time each day, on the same scale, and while wearing similar clothes. This is a habit you need to continue after you leave the hospital.
- We'll also check your blood pressure, heart rate, and blood sugar levels several times a day when you're in the hospital.
- After you leave the hospital, you'll continue to check your weight, blood pressure, heart rate, and blood sugar levels. You'll write these numbers down in a daily log or health journal. Bring that with you to every appointment.

## Sleeping

Some people have trouble sleeping in the hospital. And some people have strange dreams that seem very real. Many transplant recipients also say they have memory problems after the surgery. These problems are temporary and should not worry you.

## Walking

As soon as the first day after surgery, we'll encourage you to get out of bed and walk around. Our goal is for you to walk around your room and down the hall at least 3 times a day. Walking increases your blood circulation, helps relieve gas pains, and helps keep your muscles toned.

## Learning about your care

While you're in the hospital, we'll teach you how to care for yourself once you're at home. You'll have many things to remember. Taking an active role in your self-care and developing a daily routine while you're in the hospital will help you better care for yourself once you get home.

As you know, getting a new liver is a life-long commitment. Your new organ will need a lot of care, attention, and monitoring to do its job. Your role as a member and a partner of the transplant team becomes more important than ever after surgery.



## The role of your caregiver

As you learned when you were first being evaluated for transplant, a reliable, committed support person is necessary for you to successfully go through the transplant process.

During your time at the hospital, your designated caregiver will learn how to help care for you. He or she will:

- be with you when we give you medicines
- learn what your medicines do and learn about their side effects
- learn to check your blood sugars and give you insulin injections if you need them
- learn how to care for your transplant incision as you heal.

### ***By the time you leave the hospital, your support person will:***

- know all about your medicines and their side effects
- be able to help you take your medicines exactly how you're supposed to
- be able to help you keep track of the medicines you take by writing down in a daily medicine log the times you take your medicines and the doses you take
- be ready to go with you to your lab and clinic appointments and your other medical visits to discuss your condition with the doctor and report any issues you're having

- have learned about (and be able to help you watch for) signs of organ rejection, medicine side effects, or any other medical issues after you have left the hospital
- be ready to help you with your personal care, such as bathing or shaving
- continue helping you with your insulin injections and blood sugar checks.

## Tips for a faster recovery

We'll work with you while you're in the hospital to help you get stronger faster. Here are some of the ways you can feel better faster:

### ***1. Keep walking!***

Walking before and after transplant will help keep your muscles strong and also help you recover faster. At first, you may need our help, but as you build up your strength, you'll be able to walk by yourself.

### ***2. Eat healthy!***

When you first begin to eat after surgery, we'll give you clear liquids. If that goes well, you'll be moved to more solid foods until you're eating normally. Your body will need extra calories while you heal. It's important that you eat. The dietitian will meet with you after your transplant to talk with you about your diet.

### ***3. Make it a priority to relax!***

It's important that you relax while you recover. Any quiet activity that you enjoy can help you pass the time and keep you relaxed. Needlepoint, reading, playing cards, or puzzles are some good examples. Activities like these can also help minimize any pain you may have.

### **The length of your hospital stay**

The average stay after a liver transplant is 9 to 10 days. It's possible you'll need to stay in the hospital longer than this. You may also need outpatient rehab.

How long you'll be in the hospital depends on:

- your personal situation and history
- how your body responds to your new organ
- how your body responds to your new medicines.



### **Visitors**

You may have visitors while you're at the hospital at Vanderbilt. One person 18 or older may even stay with you in your room. Cots may be available on request.

# After the hospital: Your recovery

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## Know when to call us!

When you leave the hospital, you'll still be recovering. You and your caregiver need to follow all the care instructions we give you. Make sure you know the signs of organ rejection, infection, and other problems.

## *You can reach us at (615) 936-5321 at any time—day or night*

- If you call after hours or on a weekend, an operator will answer your call. Ask to talk to the liver transplant provider. The operator will then get your message to the on-call provider. They'll call you back as soon as they can.
- If you don't get a call back in 20 minutes, call again.
- If you still don't get a call back, call (615) 322-5000. Ask the operator to page the on-call liver transplant provider.

## *Call us at (615) 936-5321 if you have:*

- a temperature of 100.5°F (38°C) or more
- blood pressure higher than 160/100
- flu-like symptoms such as chills, aches, joint pain, headache, and fatigue
- a sick stomach or begin to vomit
- diarrhea or bad stomach cramps
- increased pain, redness, or tenderness over your transplant site
- abnormal drainage from or around your incision
- changes in your urine, including urine that is very dark or tea-colored, less urine or no urine at all, or pain or burning when urinating
- frequent urination
- light or clay-colored stools
- yellowing of the eyes or skin
- a 3-pound weight gain in less than 24 hours, or a 5-pound weight gain in 1 week
- abnormal blood sugar numbers
- a sore throat.

### ***Also, call us if:***

- you cannot or did not take your anti-rejection medicines
- your drainage tube comes out
- you're short-of-breath or have chest pain
- you have stomach pain or indigestion that won't go away
- your urine is cloudy, bloody, or has a bad smell
- you've been exposed to someone with the chicken pox, COVID-19, measles, German measles, or mumps
- you've tested positive for COVID-19
- you lose 3 or more pounds in less than 1 day
- you have increased swelling in your hands or feet
- another doctor changes one of your medicines or prescribes new medicine
- you have sores or blisters in your mouth
- you see white spots on your tongue or in your mouth.

**Please call us any time you have a question and even if you "just don't feel right."**

### **Track your daily numbers**

Every day, you'll check and write down:

- your weight
- your blood pressure
- your heart rate
- your temperature
- your blood sugar levels.

### ***Some tips***

- Weigh yourself every morning when you wake up. Do this after you use the toilet but before you eat or drink. Use the same scale and wear clothes that weigh about the same.
- Record your blood pressure, heart rate, and temperature every morning and evening at about the same time. If you take blood pressure medicine, check your blood pressure 1 hour after you take it.
- Take your temperature every morning before you eat or drink. Also check it if you start to feel sick or like you have a fever during the day.
- Always bring your daily logs or journal with you to every appointment so we can check your numbers.

### ***When you check blood sugar***

After transplant, you'll take medicines that can raise your blood sugar levels. This can happen even if you're not diabetic. We'll talk with you about this.

- We'll give you a schedule that tells you when to check your blood sugar. Make sure to follow it.
- When you check your blood sugar, always write down your numbers.
- If you need to give yourself insulin, always write down how much.

## Drink enough fluids

- Try to drink at least 64 ounces of water a day, unless your provider tells you to drink less.
- Your fluids should be mostly water and drinks with no caffeine.
- Limit drinks with caffeine to 1 or 2 a day.

### *You may need to limit your fluids*

Some people need to limit their fluids after a liver transplant. If this is the case for you, we'll talk with you about it.

## Take care of your incision

Keep your incision clean and dry as it heals. If there is an open area, your doctor may ask you to shower to help clean the wound. **Do not** scrub your incision.

Sometimes patients leave the hospital with a small drain that removes extra fluid from the surgical site. If you leave the hospital with a drain in place, the nurses will teach you how to empty the drain and record the amount of drainage that you have.

It's OK for you to take showers once you're home. Do not let the shower spray right on your incision. Also, do not take baths until we remove the staples from your incision and it's completely healed.

## Stay healthy while caring for pets

After surgery and for the rest of your life, do not clean birdcages or change litter boxes. The medicines you take to prevent rejection mean that bacteria around animal waste are now more likely to make you sick. You could breathe in the bacteria or get it on your hands or clothing and eventually get an infection.

## Keep up with your care

Your doctor will follow your health for the rest of your life to make sure your transplanted organ is working like it should. It's important that you keep all of your follow-up appointments.

- The liver clinic is located in the Village at Vanderbilt, at 1500 21st Avenue South, Suite 3400. This is across the street from the Central Garage. If you need to talk to someone between your appointments there, please call us at (615) 936-5321.
- After you leave the hospital, our liver transplant doctors and nurse practitioners will keep track of you and your health as you recover.
- For the first month, you may need to come to the clinic every week. After that, your visits will decrease.
- Once you go back home, you should make an appointment with your primary provider. You'll need to update them and your condition. They need to be part of your ongoing care.
- Remember: You'll need ongoing care for the rest of your life after transplant.



## Going back to work

If you work, you cannot go back to your job until your transplant doctor says that it is safe for you to do so. Most patients have to wait 3 to 6 months before going back to their jobs after transplant.

When your doctor has said it is OK for you to go back, your social worker can help you make plans for going back to work. We also have a return-to-work specialist who will be happy to help you get back to work or even change to a new kind of job.

## Sexual activity

You can have sex as soon as you're ready after your transplant. You won't hurt your liver. We do recommend that you stay safe when you have sex. Safe sex means using a condom and avoiding high risk behaviors, such as having multiple sexual partners.

### *Sex drive*

If you feel that you don't have your normal sex drive, if intercourse is painful, or if you have any problems regarding your sexuality, please talk to your transplant team. We are concerned about your overall health and well-being and that includes sexuality.



## If you're a man

Impotence can be caused by some of the medicines you take after transplant. If this is a problem for you, talk to your transplant team. They will suggest further treatment.

## If you're a woman

### *Birth control*

If you're a woman of child bearing age and haven't been surgically sterilized, it's important you use birth control after transplant. You may be taking medicines that could harm a fetus. Don't become pregnant while taking such medicines.

Do not use any kind of birth control (except condoms) without talking to your doctors first. Talk to your gynecologist about your birth control. You, your gynecologist, and your transplant doctor must all agree on the kind of birth control you plan to use. All medicines, including birth control medicines, affect your liver. Some of these medicines can harm someone who has had a transplant. These medicines may also interact with other medicines you take.

### *Women's health appointments*

Stay on track with your women's health appointments. At least once a year, see your primary care provider or gynecologist for recommended appointments and screenings. Remember that national guidelines vary based on age and health history.

## Pregnancy

Both men and women should wait at least 1 year after transplant before trying to have a baby. Some of the medicines you take may need to be changed to make pregnancy safe. This is true if you are a man or a woman. Talk with your transplant team before trying to have a baby.





# Potential complications of transplant

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## Common complications

- rejection
- infection
- high blood pressure
- diabetes
- delayed liver function
- bleeding
- blood clots or thrombosis
- recurrence of original disease
- dehydration.

## Organ rejection

Organ rejection is a possible complication of liver transplant. It happens when the body's immune system recognizes the new organ as something foreign in the body and tries to destroy it.

Organ rejection can happen at any time during the life of your new organ. We will monitor you for any signs of rejection. This may include physical signs as well as changes in your lab work. If we see problems in your lab results, you may need an ultrasound and a liver biopsy to see what's causing it.

## Acute cellular rejection

Acute rejection is a sudden reaction of your immune system against your new liver. Up to half of all liver transplant patients will have acute rejection at least 1 time in the first year after transplant.

- Acute rejection usually happens during the first year after transplant. But it can happen at any time.
- An acute rejection episode may require you to return to the hospital.
- Rejection can be treated and does not usually mean that you'll need another transplant.

## Signs of rejection

- You feel sick a lot, like you have the flu.
- You have a slight fever that doesn't go away.
- You feel tired all the time.
- You have pain or tenderness in the upper part of your belly on the right side.
- Your belly swells.
- Your skin or eyes turn yellow.

Rejection can happen even if you don't have any of these symptoms. This is why it's so important for you to follow up with the transplant clinic and to have all of your bloodwork done on schedule. Do not miss these appointments.

### ***Treating acute cellular rejection***

There are several ways to treat an acute rejection episode. The goals of treatment are to stop your immune system from rejecting your liver and to stop any further damage.

- One treatment is to give you large doses of steroids through an IV. This treatment may cause you to feel agitated and restless. This feeling is temporary and will usually go away in a few hours.
- Other strong immunosuppressive drugs may also be given to you through IV.
- Your daily medicines may also be increased.

### ***Infection after transplant***

Infection is the most common complication of transplant. The anti-rejection medicines that you take after transplant will lower your body's ability to fight infection. This puts you at greater risk for getting an infection.

### ***Common infections after transplant***

The most common infections after transplant are from inactive viruses you already had in your body before surgery. It's also possible for an inactive virus in the donor liver to cause an infection in your body.

Other common infections are:

- lung infections
- infections of the surgical incision
- bladder or urinary tract infections.

### ***Signs of infection include:***

- a temperature of 100.5°F (38°C) or more
- tiredness
- diarrhea or vomiting
- redness or drainage around your incision
- a cough or sore throat
- pain when you pee, or you feel like you can't hold it
- changes in your mental status.

### ***Treating infection***

If you get an infection, you'll be treated with antibiotics, anti-viral medicines, or anti-fungal medicines. If needed, the medical center's infectious disease team will meet with the transplant team about your case.

### ***Preventing infection with medicine***

After transplant, you may need to take anti-bacterial, anti-viral, and anti-fungal medicines for a period of time to help prevent infection. If you get an infection after you leave the hospital, you'll probably be given antibiotics and treated as an outpatient. Sometimes, however, people do need to come back to the hospital to be treated with IV medicines.

## ***Handwashing to prevent infection***

Washing your hands is one of the best ways to prevent infection.

- Always wash your hands with soap and water before you eat and after you go to the bathroom.
- When you're out, you may also use antibacterial gels to clean your hands.
- When people come to visit, make sure they are well. They should also always wash their hands when they come to visit you to prevent the spread of germs.

## **High blood pressure**

Some patients develop high blood pressure after transplant. If you develop high blood pressure after your liver transplant, your doctor will prescribe you medicine that will help regulate it. If you already take blood pressure medicine, your doctor may change your dose or type of medicine.

## **Bleeding**

Sometimes, patients have too much bleeding after surgery. This may require a blood transfusion. On rare occasions, a second surgery may be needed to control the bleeding.

## **Blood clots**

Some patients get blood clots, which are also called deep vein thrombosis (DVT), after transplant. This is associated with the central IV lines that are used during and after surgery.

### ***Signs of blood clots or DVT may be:***

- pain in one of your legs
- warmth in one of your legs
- swelling in one of your legs.



# About your medicines

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## Learn about your medicines, and take them as prescribed

One of the main causes of organ rejection is not taking medicines correctly. When you go home, we'll give you a MedActionPlan that has instructions for the medicines you need to take. Always call us if you have any questions about your medicines.

- Refer to your MedActionPlan for your correct medicine doses instead of the directions on your medicine bottles. This is because your doses will change a lot during the first year after transplant. Your MedActionPlan is up to date.
- If any medicines you took before your transplant are not in the MedActionPlan, do not take them anymore.
- **Never** crush or cut a tablet unless you're advised to do so.
- **Never** open any capsules.
- If you're ever unable to take any of your medicines because they make you feel sick to your stomach or they make you vomit, call your provider immediately.
- Talk to your transplant team **before** you take any new medicine. Many medicines can interact with your anti-rejection medicines. We'll give you a list of over-the-counter medicines that are safe for you to take. Do not take any herbals or supplements unless your provider tells you to.

- Do not leave your medicines in your car. Store them in a cool, dry place and away from direct sunlight. Do not allow liquid medicines to freeze.
- Store your medicines in their bottles or in the medicine organizer (pill box) we give you when you go home.
- Always keep all your medicines in a place where children and animals cannot get to them.
- Do not drive or operate dangerous machinery within 24 hours of taking narcotic pain medicine.

## *Make sure you do not run out of your medicines*

Make sure you always refill your medicines before you run out! It's best to ask for your refill when you have about a week's worth left. If you miss just 1 or 2 doses of your anti-rejection medicines, or even take them late, it can cause organ rejection.

## *Call the transplant center if you need any help paying for medicine*

If you ever have problems paying for your medicines, your copays, or any problems resulting from changes to your insurance coverage, call us. We can help you.

### ***Keep track of your medicines when you travel***

- Take your medicines with you if you're away from home for a long time.
- If you fly, carry your medicines with you.
- Do not check your medicines with your luggage.
- Take an extra 3 to 4 days of medicines in case you're delayed getting back home.

### ***Tips for remembering your medicines***

- Use a pill box with days of the week and times on it.
  - Fill your pill box once a week.
  - Keep your pill box in a place where you'll see it often during the day.

- We'll give you a medicine chart to use to keep track of your medicines. Each time you take a dose, mark it on the chart.
- If you have a smart phone, you can download and use a medication reminder app.
- Set an alarm clock, kitchen timer, or alert on your smart phone to remind you when to take your medicines.
- It may be easier to remember to take your medicines at the right time if you take them when you're doing things you do every day, like with meals or when a certain TV show starts or ends.



## Common medicines for transplant recipients

As a transplant recipient, you'll need to take various medicines for the rest of your life. The medicines listed in this section are ones transplant recipients commonly take.

### *Prograf*

- Prograf is also known as:
  - tacrolimus
  - FK or FK506
- This is an anti-rejection medicine used to stop your body from rejecting your new organ.

### Important

On days that you'll be having lab work, do not take your morning dose until after your blood has been drawn.

### Possible side effects

- headache
- hand tremor
- hair loss
- high blood pressure
- increased blood sugar
- infection
- decrease in kidney function

## Special instructions

- Take your dose at the **same time** each day, spaced 12 hours apart.
- Do not eat or drink anything with grapefruit, blood orange, or pomegranate in it at any time when you're taking this medicine.
- Take this medicine with food.

### *Neoral, Gengraf*

- This medicine is also known as cyclosporine.
- This is an anti-rejection medicine used to stop your body from rejecting your new organ.

### Important

On days that you'll be having lab work, do not take your morning dose until after your blood has been drawn.

### Possible side effects

- high blood pressure
- headache
- increased hair growth
- hand tremor
- gum over-growth
- infection
- decrease in kidney function

### Special instructions

- Take your dose at the same time every day, spaced 12 hours apart.
- Do not eat or drink anything with grapefruit, blood orange, or pomegranate in it at any time when you're taking this medicine.
- Do not store capsules outside of the original package for more than 7 days.
- Take this medicine with food.

#### *CellCept, Myfortic*

- This medicine is also known as mycophenolate or MMF.
- This is an anti-rejection medicine used to stop your body from rejecting your new organ.

### Possible side effects

- diarrhea
- feeling sick to your stomach or throwing up
- decreased blood counts

### Special instructions

- Pills should always be swallowed whole.
- Never crush, chew, or open these pills.
- This medicine can cause birth defects and miscarriages if taken during pregnancy.

- Use 2 different types of birth control to avoid pregnancy when you're using this medicine and for 6 weeks after stopping this medicine, unless you or your partner has an IUD, tubal ligation, or vasectomy. If you're female, the 2 methods of birth control you can choose are:
  - two different barrier methods at the same time (a condom and a diaphragm)
  - one barrier method along with a hormonal method (oral contraceptive, pill, patch, or ring).
- Take this medicine with food.

#### *Prednisone*

This is an anti-rejection medicine used to stop your body from rejecting your new organ.

### Possible side effects

- anxiety and mood changes
- difficulty sleeping (insomnia)
- acne, thin skin, or rash
- weight gain
- higher blood sugar levels
- swelling of face or feet
- stomach ulcers
- increase in blood pressure

### Special instructions

Take this medicine with food.



## ***Nystatin***

This is an anti-fungal medicine that you'll use to prevent yeast infections from happening in your mouth and throat. You take this when you are taking prednisone. Once you stop taking prednisone, you will stop taking this medicine too.

### **Possible side effects**

- upset stomach
- vomiting

### **Special instructions**

- Take this medicine after every meal, and take it at bed time.
- Do not eat or drink for 20 to 30 minutes after you take this medicine.
- When you take this medicine, first swish it around in your mouth. Then swallow it.
- The transplant team will tell you when you can stop taking this medicine.

## ***Bactrim***

- This medicine is also known as:
  - trimethoprim and sulfamethoxazole
  - TMP and SMZ
- This medicine is used to prevent a certain type of pneumonia.

### **Possible side effects**

- rash
- greater sensitivity to sunlight

### **Special instructions**

- If you get any skin rashes, tell your doctor.
- Take this medicine with food.
- Use sunscreen with an SPF 30 or higher.

## ***Dapsone***

This medicine is used to prevent a certain type of pneumonia.

### **Possible Side Effects**

- anemia
- rash

### **Special Instructions**

Take this medicine with food.

## **Valcyte**

- Valcyte is also known as valganciclovir.
- This medicine is used to prevent viral infections.

### **Possible side effects**

- lowers white blood cells
- feeling sick to your stomach
- vomiting
- changes in taste

### **Special instructions**

- Swallow tablets whole. Do not crush.
- This medicine can cause birth defects when used during pregnancy or by the father at the time his sexual partner becomes pregnant.
- Use 2 different types of birth control to avoid pregnancy while you're using this medicine and for 6 weeks after stopping this medicine, unless you or your partner has an IUD, tubal ligation, or vasectomy. The two methods of birth control you can choose are:
  - two different barrier methods at the same time (a condom and a diaphragm).
  - one barrier method along with a hormonal method.
- Take this medicine with food.

In some cases, you may be prescribed acyclovir or valacyclovir instead.

## **Magnesium**

This medicine contains magnesium in the form of magnesium oxide. It's used to raise the levels of magnesium in your body.

### **Possible side effects**

- diarrhea
- feeling sick to your stomach

### **Special instructions**

Take this medicine with food.

## **K-Phos neutral**

This medicine contains phosphorus in the form of potassium phosphate. It's used to raise the levels of phosphorus in your body.

### **Possible side effects**

- feeling sick to your stomach
- throwing up (vomiting)
- diarrhea

### **Special instructions**

Take this medicine with food.

### **Statin**

- If needed, your provider may prescribe prevastatin, atorvastatin, simvastatin, or rosuvastatin.
- Statins are used to lower cholesterol.

#### **Possible side effects**

- muscle pain
- dark urine

### **Calcium with vitamin D**

- This medicine is a supplement that promotes bone health. This is important, because taking prednisone can harm your bones.
- Your doctor may also have you to take vitamin D alone if you have low levels of it in your body.

### **Aspirin**

- This medicine is used to keep blood clots from forming in your blood vessels.
- Your transplant team will tell you if you need to take aspirin.

#### **Possible side effect**

- bleeding

### **Lovenox (enoxaparin)**

- This medicine helps keep blood clots from forming in your blood vessels. It is commonly called a "blood thinner."

#### **Possible side effects**

- bleeding
- pain in the area where you inject the medicine
- bruising

### **Vfend (voriconazole)**

This medicine prevents and treat certain kinds of lung fungus.

#### **Possible side effects**

- decrease in liver function
- nausea and vomiting
- changes in your eyesight
- bone pain

#### **Special instructions**

- Never stop taking this medicine without talking to your transplant team first.
- This medicine can change the way your other medicines work in your body, including drug levels.

### ***Acid reducer***

- You may be prescribed famotidine, omeprazole, or esomeprazole.
- This medicine is used to prevent acid reflux.
- This medicine is used to keep ulcers from forming in your stomach.

#### **Possible side effect**

- headache

#### **Special instructions**

Take this medicine on an empty stomach.

### ***Laxative or stool softener***

- You may be prescribed Senna, Miralax, or a stool softener (docusate).
- This medicine is used to soften your stools and prevent constipation.

#### **Possible side effects**

- diarrhea
- crampy or achy stomach pains

#### **Special instructions**

Don't take this medicine if you have diarrhea.

## **Stay safe when taking over-the-counter medicines**

After transplant, you need to be very careful about the medicines you take, including over-the-counter medicines.

**Many of these medicines ARE NOT safe!** Read these pages and make sure you and your caregiver know exactly which medicines are safe and which medicines are not safe.

## ***Herbal supplements***

Avoid any herbal supplement unless it has been approved by your transplant doctor.

## ***Call the transplant office if you have:***

- a temperature of 100.5°F (38°C) or more
- nausea
- vomiting
- tremors
- really bad pain
- bleeding

### ***Remember:***

***The most acetaminophen (Tylenol)  
you can take in any single day is 2,000 mg!***

## You may take these over-the-counter medicines

### *For a cold or congestion*

- Tylenol Chest Congestion (contains acetaminophen and guaifenesin)
- Ocean Nasal Spray
- Dimetapp Long Acting Cough and Cold (chlorpheniramine and dextromethorphan)
- Tavist (clemastine)
- Zicam (zincum aceticum; zincum gluconicum)
- Coricidin HBP
- Vicks Vaporub
- Afrin Nasal Spray (oxymetazoline), but do not use for any longer than 3 days

### *For allergies*

- Tylenol Severe Allergy (acetaminophen and diphenhydramine)
- Claritin or Alavert (loratidine)
- Zyrtec (cetirizine)
- Allegra (fexofenadine)
- Benadryl (diphenhydramine)

### *For cough or sore throat*

- Tylenol Cough and Sore Throat (acetaminophen and dextromethorphan)
- Tylenol Cough and Sore Throat Nighttime (acetaminophen, dextromethorphan, and doxylamine)
- Delsym or Robitussin (dextromethorphan)
- Mucinex (guaifenesin)
- Mucinex DM or Robitussin DM (guaifenesin and dextromethorphan)
- Cloraseptic spray and lozenges

### *For headache*

- Tylenol (acetaminophen) or Tylenol Extra Strength (Never take more than 2,000 mg of acetaminophen a day!)
- Tylenol PM (acetaminophen and diphenhydramine)

### *For arthritis*

- Tylenol Arthritis
- Capsaicin Cream

***The medicines on this page are safe.***

## You may take these over-the-counter medicines

### *For diarrhea*

- Metamucil
- Fiber-Con

### *For constipation*

- Colace (docusate)
- Dulcolax or Correctol (bisacodyl)
- Metamucil
- Fiber-Con
- Miralax
- Senna

### *For insomnia*

- Benadryl (diphenhydramine)
- Tylenol PM (acetaminophen and diphenhydramine)

### *For intestinal gas*

- Mylanta Gas (simethicone)
- Gas X (simethicone)
- Nexium

### *For indigestion or heart burn*

- Zantac (ranitidine)
- Pepcid (famotidine)
- Prilosec OTC (omeprazole)
- Prevacid OTC (lansoprazole)
- Nexium OTC (esomeprazole)

***The medicines on this page are safe.***

**NEVER take these over-the-counter medicines!**

***DO NOT take these pain relievers***

- Motrin, Advil, Midol (ibuprofen)
- Aleve (naproxen)
- Aspirin for pain relief (a baby aspirin for heart protection is OK)
- Excedrin (acetaminophen, aspirin, and caffeine)
- Anacin (aspirin and caffeine)
- BC Powder (aspirin, caffeine, and salicylamide)
- Goody's Powder (acetaminophen, caffeine, and aspirin)
- Doans (magnesium salicylate)
- Orudis KT (ketoprofen)

***DO NOT take these decongestants***

- Sudafed (pseudoephedrine)
- Sudafed PE (phenylephrine)
- Alka-seltzer Cold

***DO NOT take these stomach or bowel medicines***

- Maalox or Mylanta (magnesium hydroxide, aluminum hydroxide, and simethicone)
- Milk of Magnesium (magnesium hydroxide)
- Magnesium Citrate
- Fleets (sodium phosphate)
- Pepto Bismol
- Cimetidine

***The medicines on this page are NEVER safe!***



# Eat right and keep a healthy weight

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## Good nutrition is key!

One of your goals after transplant is to establish and keep good eating habits. Good nutrition is essential to your recovery after transplant. Good nutrition is also necessary to preserve the function of your newly transplanted organs. A good diet will help keep you healthy for life.

A good diet will also:

- help you keep a healthy weight
- help you avoid some of the side effects of the anti-rejection medicines you'll take. Potential side effects of these medicines, especially cyclosporine (Neoral, Gengraf) and tacrolimus (Prograf, FK-506), include:
  - weight gain
  - protein loss
  - higher blood sugar
  - high cholesterol
  - high triglyceride levels
  - high blood pressure
  - swelling
  - thinning of the bones (osteoporosis)
  - increased infection risk, including sickness from bacteria in foods.

## *Building a nutrition plan*

You may schedule an appointment to see the transplant dietitian at any time.

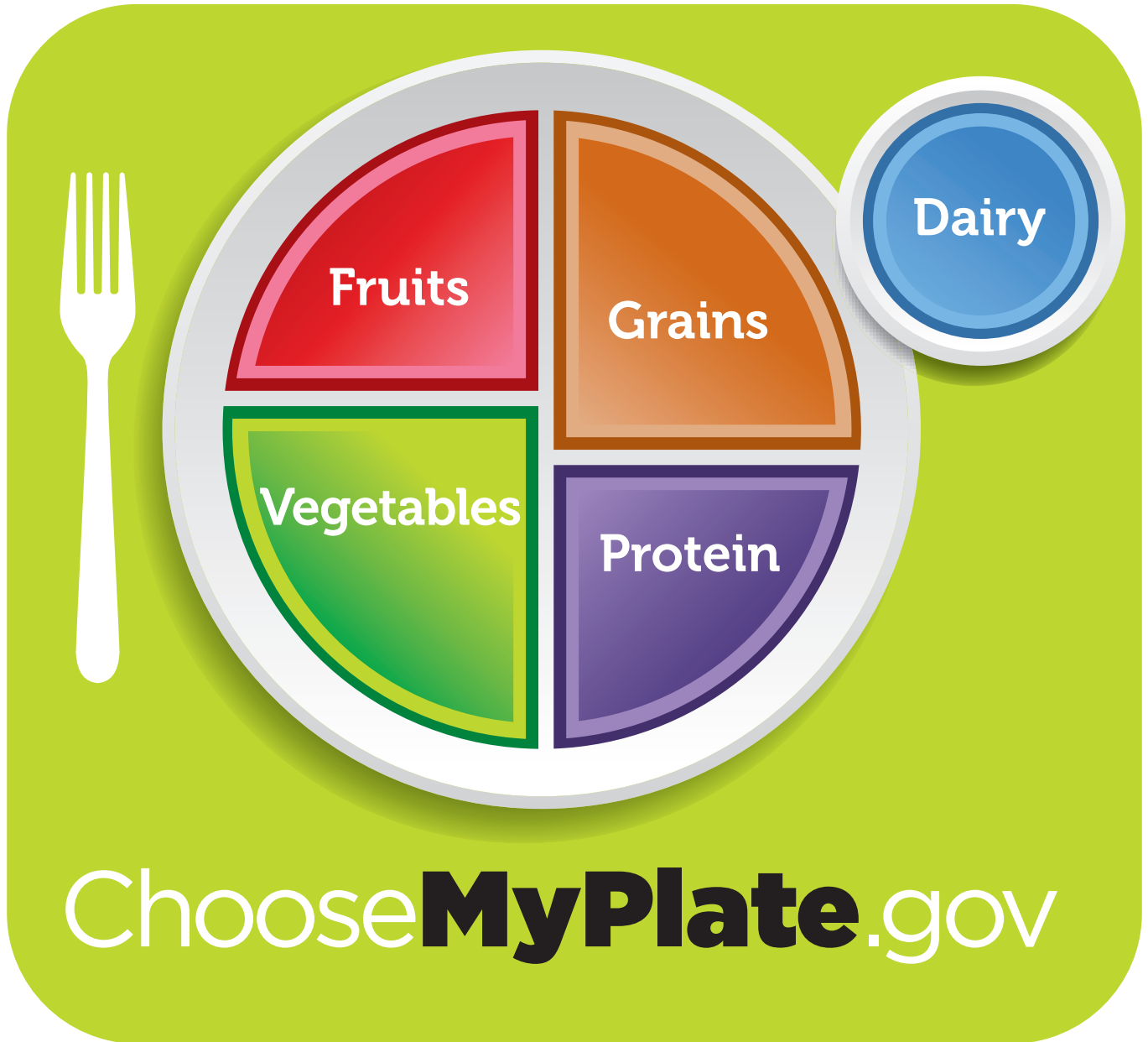


## Eat a variety of foods every day

Food Group	Foods Included	Servings a Day	Serving Size
Grains	Whole grain bread, pasta, oatmeal, brown rice, unsweetened breakfast cereals, tortillas, grits	6 to 8 servings, based on age and activity level	1 slice of bread; ½ hamburger bun, hotdog bun, or English muffin; 1 cup dry cereal; ½ cup cooked rice, pasta, or cereal
Vegetables	Any vegetable or 100 percent vegetable juice	3 to 5 servings	1 cup raw or cooked vegetables or vegetable juice; 2 cups of raw leafy greens
Fruits	Fruit or 100 percent fruit juice, except grapefruit, pomegranate, or blood orange.  <b>IMPORTANT:</b> no grapefruit, pomegranate, or blood orange drinks or products!	2 to 4 servings of fruits.  Limit juice to no more than 1 serving a day	1 cup of fruit or 100 percent fruit juice; ½ cup dried fruit.
Dairy	Skim or 1 percent milk, low-fat yogurt, and cheese	3 servings	1 cup milk or yogurt; 1 ½ ounces of cheese.
Protein	Lean meat, poultry, fish, dried beans, peas, eggs, nuts, seeds, peanut butter, cholesterol-free egg substitute	6 to 9 ounces (3 servings of 2 to 3 ounces each)	1 ounce meat, fish, poultry; ¼ cup dried beans or peas; ¼ ounce nuts or seeds; 2 Tbs peanut butter.
Fats and sweets	Oils, margarine, butter, mayonnaise, salad dressing, sugar	1 to 3	1 tsp butter, margarine, oil, or sugar.



*A visual tool to help you eat a balanced diet ...*



## Keep a healthy weight

Your healthy body weight is a range of \_\_\_\_\_ to \_\_\_\_\_ pounds. Try to stay in this range.

### Stay active

Regular exercise will help you control your weight. We suggest 30 to 60 minutes of physical activity every day.



## Don't eat more food than you need

Prednisone and some of the other medicines you'll take can cause you to feel hungry even though you've already eaten as much food as you need.

### To keep from eating too much, follow these tips:

- Eat more low-calorie foods like whole fruits and vegetables instead of high-fat foods and sweets.
- Have a bowl of clear soup or broth before lunch or dinner.
- Add a salad with 1 tablespoon of dressing or oil to your lunches and dinners.
- Eat foods with a lot of fiber. It helps slow down your digestion, which makes you feel full longer. High-fiber foods include:
  - whole fruits and vegetables
  - 100 percent whole-grain products, such as bread, pasta, cereals, and brown rice
  - popcorn.

## Eat enough protein

- Eat at least 6 ounces of meat or fish every day along with an additional serving of another source, such as low-fat cottage cheese, beans, unsalted nuts, or peanut butter.
- Eat or drink 3 servings of skim or low-fat dairy foods every day for more protein.

## Limit sugary foods and desserts

If you already have diabetes, remember that having a transplant will not cure diabetes if you already have it. Also, some medicines, such as prednisone, tend to raise blood glucose levels, even in people who do not have a history of diabetes. Over time, high blood sugar can damage the kidneys and lead to a decline in heart function. For this reason, you should limit foods containing a large amount of sugar. Limiting your sugar will help you keep your blood sugar levels in the normal range.

## Carbohydrates

All carbohydrates raise your blood sugar levels. This includes all grains, corn, peas, potatoes, milk, yogurt, beans, and fruit. If you have limited your sugars and your desserts, but your sugar levels are still high, make sure you're only eating the amount of carbohydrates suggested in the chart on page 28.

It will also help if you eat carbohydrates consistently. For example, have foods with carbohydrates at every meal instead of only eating them at 1 or 2 of your meals. This will help your blood sugar levels stay regulated.

Avoid or limit	Substitute with
Sugar, honey, syrup	Splenda, Sweet N' Low, NutraSweet, Equal, Light syrup, Stevia
Jam, jelly	Sugar-free and light products
Candy, cookies, doughnuts, pastries, cake	Vanilla wafers, angel food cake
Sodas, colas, sugary drinks, sweetened teas	Water, tea sweetened with sugar substitutes
Fruit sweetened in syrup	Fruit packed in its own juice
Jello, pudding, custard	Sugar-free jellos, puddings, and custards

## Eat a low-fat diet

A diet low in saturated fat, cholesterol, and trans fats along with regular exercise can help you keep healthy cholesterol levels.

- Choose foods that contain less than 2 grams of saturated fat per serving. Saturated fats are found in:
  - animal products such as meats, whole milk, and cheeses
  - palm oil
  - coconut oil.
- Choose foods that do not have trans fats in them. Processed and pre-packaged foods that contain the term “partially hydrogenated” products on the label contain trans fats.



## Avoiding trans fats

Trans fats are often found in cakes, cookies, crackers, icings, margarine, and even microwave popcorn. It is important for you to keep this in mind so you can avoid them.

## Cooking tips for a low-fat diet

- Braise, boil, steam, poach, or use an outdoor grill because these cooking methods require no added fat.
- Roast meats on a rack to let fats drip off.
- Use tomato sauce to keep fish or poultry moist while baking. Or dip in skim milk and roll in seasoned bread crumbs or cornflakes and bake for a crunchy finish.
- Use plain, nonfat yogurt, fat-free mayonnaise, or sour cream as a base for salad dressings or in recipes.
- Make stews, gravies, and soups a day ahead. This allows you to skim off hardened fat after they have cooled. Making them in advance also gives the flavors time to blend and develop.
- Always trim the extra fat off meat or the skin off chicken both before and after you cook them.
- When you cook with hamburger meat, choose extra lean ground beef that has less than 10 percent fat.
- Use non-stick sprays and non-stick pans to lower the fat in your cooking.

## *What to eat when you go out*

It's best to eat food you cooked at home as much as you can. But it's possible to make good choices when you go out to eat, even at fast food restaurants. Here are some tips:

- Do not order foods with any raw or undercooked meat, poultry, seafood, sprouts, or eggs.
- If you have meat, choose fish or chicken. Make sure it's baked not fried.
- If you choose chicken, make sure the skin has been removed.
- If you have a hamburger, choose a small one. Add onion, lettuce, and tomato.
- When you order a salad, get the dressing on the side, and use only a small portion of the dressing (1 tablespoon, or about the size of a ping-pong ball).
- Choose fresh fruits or vegetables when possible.
- Skip the cheese on sandwiches and burgers.
- Do not add mayonnaise or salad dressing to sandwiches.
- Do not eat potato salads or macaroni salads made with mayonnaise.
- Do not eat French fries and onion rings. Choose a baked potato instead. Ask for toppings on the side and use only small amounts of them.
- Do not eat at buffets or from salad bars. Both carry the risk of infection and food poisoning.



## Eat less sodium (salt)

Sodium is a mineral found in many foods. Salt is the term commonly used when people talk about sodium. Your body needs some sodium to work properly, but most Americans eat 3 to 4 times more than they need every day!

**Restrict your sodium intake to no more than 2,400 milligrams each day.**

### *The effects of too much sodium*

Too much sodium can cause high blood pressure. This is because sodium:

- makes your heart work harder
- can cause your artery walls to thicken, which causes them to narrow. When arteries narrow, they may eventually become clogged.

If your arteries become narrow and become clogged, then:

- your heart must work even harder to pump blood through your body
- extra fluid may stay in your lungs, and make it hard for you to breathe
- if you're still eating too much sodium, your kidneys will then have to work harder as they try to get rid of the extra sodium.



### *Sodium and swelling*

Too much sodium may also cause swelling. Usually, this swelling is in the feet and ankles. Remember that being swollen does not automatically mean you should drink less fluid. Drink less fluid only if your doctor tells you to.



## Use food labels to make low-sodium choices

Always read the nutrition labels on foods. This way you can make good choices and control how much sodium you eat. Practice reading food labels using the picture of the label below.

- Start by looking for how much sodium there is in the food.
  - First, check the serving size amount.
  - Second, see how much sodium is in one serving.
  - Finally, think about how much you'll eat of that food. For example, if you think you'll eat 2 servings, the amount of sodium would double.
- Tip: You can use the "% Daily Value" section on the right-hand side of the food label as a quick sodium guide.
  - Less than 5 percent sodium means a food is low in sodium, and it's a good choice.
  - More than 20 percent sodium means a food is high in sodium, and it's NOT a good choice.

**1 Start Here** →

**2 Check Calories**

**3 Limit these Nutrients**

**4 Get Enough of these Nutrients**

**5 Footnote**

**6 Quick Guide to % DV**

• 5% or less is Low

• 20% or more is High

Nutrition Facts		
Serving Size 1 cup (228g)		
Servings Per Container 2		
Amount Per Serving		
<b>Calories</b>	250	Calories from Fat 110
<b>% Daily Value*</b>		
<b>Total Fat</b>	12g	18%
<b>Saturated Fat</b>	3g	15%
<b>Trans Fat</b>	3g	
<b>Cholesterol</b>	30mg	10%
<b>Sodium</b>	470mg	20%
<b>Total Carbohydrate</b>	31g	10%
<b>Dietary Fiber</b>	0g	0%
<b>Sugars</b>	5g	
<b>Protein</b>	5g	
<b>Vitamin A</b>		4%
<b>Vitamin C</b>		2%
<b>Calcium</b>		20%
<b>Iron</b>		4%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.		
	Calories:	2,000 2,500
Total Fat	Less than	65g 80g
Sat Fat	Less than	20g 25g
Cholesterol	Less than	300mg 300mg
Sodium	Less than	2,400mg 2,400mg
Total Carbohydrate		300g 375g

### ***Make eating a low-sodium diet easier***

- Never add salt to your food. Remember:
  - one half of table salt is all sodium
  - and just one teaspoon of table salt contains 2,300 mg of sodium!
- Take the salt shaker off your table.
- Do not add salt to your food when you cook.
- Do not use seasonings that contain the word “salt.”
- Experiment with herbs, spices, and fruit juices to add flavor to foods.
- Do not use spices that are labeled as salt substitutes. They are very high in potassium. Too much potassium can be dangerous for some people after transplant.

### ***Watch out for processed foods!***

According to the Centers for Disease Control and Prevention, 77 percent of sodium in the American diet comes from processed foods.

### **The top 10 processed food sources, are:**

- breads and rolls
- cold cuts and cured meats
- pizza
- enhanced poultry
- soups
- sandwiches
- cheese
- pasta dishes
- meat dishes
- snack foods.

**Remember: Sea salt is still salt!**

## Low-sodium seasoning ideas

### Blend #1 (for vegetables and meat)

- 1 teaspoon thyme
- $\frac{3}{4}$  teaspoon rosemary
- 1 teaspoon marjoram
- $\frac{1}{2}$  teaspoon sage

### Blend #2 (for vegetables, poultry, and meat)

- $\frac{3}{4}$  teaspoon marjoram
- $\frac{1}{2}$  teaspoon oregano
- $\frac{1}{2}$  teaspoon rosemary
- $\frac{1}{2}$  teaspoon thyme
- $\frac{1}{2}$  teaspoon sage

### Blend #3 (for fish)

- $\frac{3}{4}$  teaspoon parsley flakes
- $\frac{1}{2}$  teaspoon sage
- $\frac{1}{4}$  teaspoon paprika
- $\frac{1}{4}$  teaspoon onion powder
- $\frac{1}{4}$  teaspoon marjoram

### Blend #4 (for meat, potatoes, and vegetables)

- 1 teaspoon dry mustard
- $\frac{1}{2}$  teaspoon thyme
- $\frac{1}{2}$  teaspoon sage
- $\frac{1}{4}$  teaspoon marjoram

### Blend #5 (For meat, potatoes, and vegetables)

- $\frac{1}{2}$  teaspoon garlic powder
- $\frac{1}{2}$  teaspoon onion powder
- $\frac{1}{4}$  teaspoon ground celery seed
- $\frac{1}{2}$  teaspoon dry mustard
- $\frac{1}{4}$  teaspoon thyme
- $\frac{1}{2}$  teaspoon paprika
- $\frac{1}{2}$  teaspoon white pepper



### *More low-sodium seasoning ideas*

Try using these spices and herbs to add extra flavor to your food.

**Beef:** Dry mustard, marjoram, nutmeg, sage, thyme, pepper, bay leaf, basil, caraway seed, curry, dill, rosemary, savory onion, garlic.

**Roast beef:** Rub with pepper and ginger.

**Goulash:** Onions, bay leaf, tomato, paprika.

**Pork:** Sage, basil, caraway seed, thyme, marjoram, rosemary, chives, onion, garlic. Serve with applesauce or spiced apples.

**Lamb:** Mint, rosemary, curry, dill, whole cloves, sage, marjoram, garlic, onion. Rub chops with pepper and ginger before broiling. Serve with broiled pineapple rings.

**Veal:** Bay leaf, ginger, marjoram, curry, basil, savory, sage, thyme, garlic, onion. Rub chops with pepper and saffron.

**Chicken:** Paprika, thyme, sage, parsley. Serve with cranberry sauce or baked apples.

**Special sausage:** Mix fresh ground pork with sage and freshly ground black pepper.

**Fish:** Dry mustard, paprika, curry, bay leaf, lemon juice, lemon, margarine.

**Egg:** Black pepper, dry mustard, paprika, curry, green pepper, onion. Serve with jelly.



**Asparagus:** Lemon juice, French dressing, grated nutmeg.

**Cabbage:** Mustard dressing, dill seed, margarine with lemon and sugar, vinegar.

**Carrots:** Parsley, mint, nutmeg, tarragon, chives.

**Cauliflower:** Nutmeg, bitters.

**Cucumbers:** Serve thinly sliced, raw. Combine with raw onion in vinegar.

**Eggplant:** Cook with tomatoes, bay leaf, oregano.

**Green beans:** Marjoram, lemon juice, nutmeg, dill seed, onion.

**Sweet potatoes:** Glaze with margarine and sugar or orange juice, sugar and cornstarch.

**White potatoes:** Mash and add freshly grated onion and nutmeg or chives. Or toss sliced potatoes with olive oil, rosemary, garlic powder, and black pepper and bake.

**Rice:** Cook and serve with honey or fresh fruits.

**Squash:** Onion, ginger, mace.

## **Tips for low-sodium grocery shopping**

### **Avoid these high-sodium foods:**

baking soda	fast-food meals	potted meats (like Spam)
biscuit mix	fat back	prepared foods
bouillon	frozen dinners	processed cheeses
canned soup	hot dogs	processed lunch meats
canned vegetables	meat tenderizer	sauerkraut
cheese products	olives	sausages
chips, pretzels, nuts,	onion or garlic salt	seasoned salts
popcorn	pickled foods	self-rising flour
corned beef	pickles	soy sauce
country ham	pork and beans	salt pork
crackers	pot pies	

### **Choose these low-sodium foods:**

angel food cake	fresh or canned fruit	tea
club soda	fresh or frozen meats	unsalted peanut butter
cooked cereals, pastas,	fresh or frozen vegetables	unsalted pretzels, popcorn,
rice without salt	without sauce	or nuts
dried beans and peas	honey	vinegar
eggs	lemonade	
fish	low-fat pudding	



### **Avoid these ingredients:**

- baking powder (sodium pyrophosphate)
- baking soda (sodium bicarbonate)
- brine
- disodium
- monosodium glutamate (MSG)
- sodium metabisulfite
- sodium nitrate
- sodium nitrite
- sodium phosphate
- sodium propionate

## Never eat grapefruit or drink grapefruit juice!

*Avoid all of these products that contain grapefruit or grapefruit juice extract*

<b>Coca Cola products</b>	<b>Dr. Pepper/7-Up products</b>	<b>Pepsi products</b>
Fanta Grapefruit	Ruby Red Squirt	Citrus Blast
Fanta Grapefruit Lemon	Squirt and Diet Squirt	IZZE Sparkling Grapefruit
Fanta Grapefruit Lemon-Lime	Sun Drop and Diet Sun Drop	IZZE Fortified Sparkling Grapefruit
Fanta Grapefruit Pineapple		Ocean Spray Ruby Red Grapefruit Juice Drink
Fanta Grapefruit Raspberry		Season's Harvest Grapefruit Juice Beverage
Fresca and Diet Fresca		Tropicana Pure Premium Golden Grapefruit Juice
Fuze Tangerine Grapefruit		Tropicana Pure Premium Golden Grapefruit Juice with Vit D
Minute Maid Grapefruit Juice		Tropicana Pure Premium Ruby Red Grapefruit Juice
Simply Grapefruit		Tropicana Ruby Red Grapefruit Juice and Drink
		Tropicana White Grapefruit Juice

*Avoid all of these products that possibly contain grapefruit or grapefruit juice extract*

<b>Coca Cola products</b>	<b>Dr. Pepper/7-Up products</b>	<b>Pepsi products</b>
Canada Dry Citrus Blend	7-Up (all flavors)	Lipton Diet Green Tea with Citrus
Full Throttle Citrus Blend	Country Time Lemonade	Propel-Citrus Punch with Calcium
Nestea Citrus Green Tea	Crush (all citrus flavors)	Sierra Mist (multiple flavors)
Nestea Grapefruit Honey Green Tea	Orangina	Sobe Energy Citrus Flavor
Powderade Citrus Blend	Snapple (all citrus tea flavors)	Mountain Dew
Vitamin Water Tropical Citrus	Stewart's (all citrus flavors)	
	Sunkist (all citrus flavors)	

## Get enough calcium in your diet

You need 1,200 to 1,500 mg calcium each day. Use the table below to calculate how much calcium you get from foods every day. You may need to take a supplement if you're not getting the recommended amount through foods.

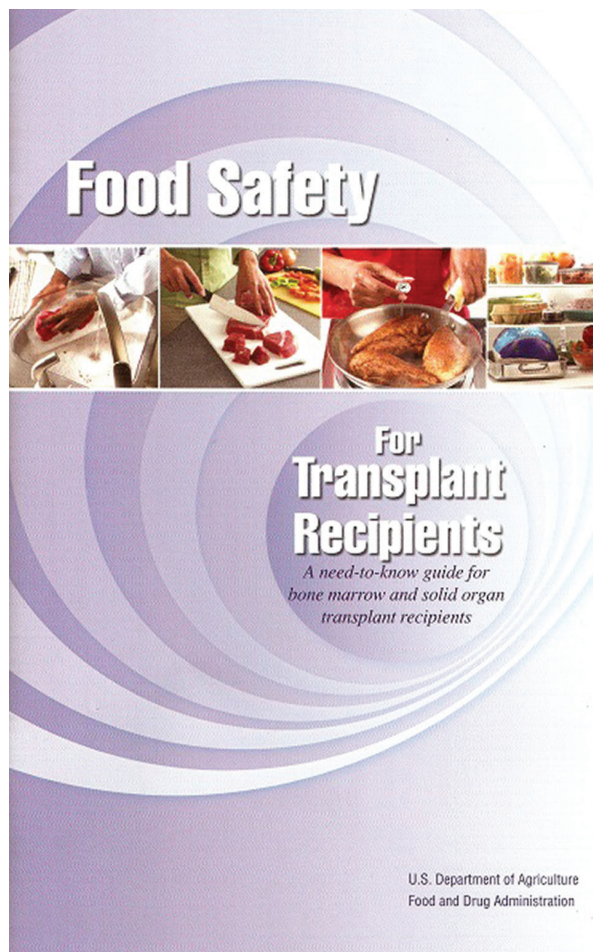


Food	Serving size	Milligrams (mg) of calcium
2% milk	1 cup	297
Skim milk	1 cup	302
Plain low-fat yogurt	1 cup	415
Fruit low-fat yogurt	1 cup	314
1% Cottage cheese	1 cup	138
2% Cottage cheese	1 cup	155
Mozzarella cheese, part skim	1 ounce	183
Ricotta cheese, part skim	½ cup	337
Light n' Lively, Sharp cheddar	1 ounce	192
Light n' Lively, Swiss	1 ounce	214
Pink salmon, canned with bones	3 ounces	212

## Practice food safety

After your transplant, you need to take extra care to prepare food safely. This will help prevent illness caused by unsafe food.

Use the "Food Safety for Transplant Recipients" booklet we give you to learn what you need to do to lower your risk of getting foodborne illness or food poisoning.





## Watch your potassium levels if your doctor says

If your medicine causes your potassium levels to be high, you'll need to avoid foods high in potassium. Your provider will tell you if you need to eat a low-potassium diet. Information about potassium is not always listed on food labels. Use the information on the next 2 pages to learn which vegetables and fruits are high and low in potassium.

### *Potassium levels in vegetables*

A serving of vegetables is  $\frac{1}{2}$  cup, unless otherwise specified.

#### Vegetables that are low in potassium (less than 200 mg per serving)

Asparagus	Corn	Kale	Rhubarb
Beets	Cucumber	Lettuce	Summer squash
Cabbage	Eggplant	Mushrooms	Tomato, $\frac{1}{2}$ small
Carrots	Green beans	Mustard greens	Turnip greens
Cauliflower	Green peas	Okra	Turnips
Celery	Green pepper	Onion	Wax beans
Collard Greens	Hominy	Radishes	

#### Vegetables that are high in potassium (more than 200 mg per serving)

Baked beans	Great northern beans	Pumpkin	Sweet potato
Black-eyed peas	Lentils	Restaurant french fries	Tomato sauce
Broccoli	Lima beans	Restaurant potato salad	Tomato juice
Brussels sprouts	Navy beans	Sauerkraut	V-8 juice
Butter beans	Pinto beans	Soy beans	Winter squash
Chickpeas	Potato	Spinach	Yams
Crowder peas	Potato chips	Split peas	

#### **Food tip: Lower the potassium in your potatoes when you cook them at home**

To lower the potassium in white and sweet potatoes, first peel and cut them into small slices. Next, put the potato slices in a large pot or bowl, and fill the pot or bowl up with water. Fill it up all the way. Soak the potato slices for at least 2 hours. Drain and rinse. Finally, boil the potatoes in a large amount of new water. When they are done, drain and continue preparing the potatoes the same way you normally do.

## ***Potassium levels in fruits***

### **Fruits that are low in potassium (less than 200 mg per serving)**

Apple, 1 med	Canned pears, ½ cup	Peach, 1 med
Apple juice, ⅓ cup	Canned plums, ½ cup	Pear, 1 med
Applesauce, ½ cup	Canned peaches, ½ cup	Pineapple, 1 cup
Berries, ½ cup	Cherries, ½ cup	Pineapple juice, ⅓ cup
Canned fruit cocktail	Grape juice, ⅓ cup	Plum, 1 med
Canned fruit nectars	Grapes, ½ cup	Strawberries, ½ cup
Canned mandarin oranges, ½ cup	Lemon, 1 med	Tangerine, 1 med
	Lime, 1 med	

### **Fruits that are high in potassium (more than 200 mg per serving)**

Avocado	Dried dates	Mango	Prune juice
Banana	Dried figs	Nectarine	Raisins
Cantaloupe	Honeydew	Orange juice	Watermelon
Dried apricots	Kiwi	Papaya	

## ***Potassium levels in other foods***

All foods contain potassium, but fruits and vegetables are the biggest sources. Other foods such as dairy products, nuts, seeds, and bran are good sources of phosphorus and magnesium, but are also good sources of potassium.

Work with your transplant dietitian or provider to keep all your minerals balanced by making the right food choices.

## Increase the phosphorous in your diet if your doctor says

Your provider will tell you if you need to add more phosphorous to your diet. Information about phosphorous is not always listed on food labels. Use the information on this page to learn which foods are high in phosphorous.

### *These foods are high in phosphorous*

Food	Phosphorous (mg)	Food	Phosphorous (mg)
All-bran cereal, ½ cup	345	Oatmeal, 1 cup	178
Almonds, ¼ cup	184	Pancake, plain, 2 4-inch	254
Beef, 3 oz.	225	Peanut butter, 2 Tbsp	120
Beef liver, 3 oz.	412	Pork chop, 3 oz	215
Brazil nuts, 1 oz. (6 to 8 nuts)	206	Salmon, 3 oz	214
Buttermilk, 1 cup	218	Sesame seeds, 2 Tbsp	124
Cheddar cheese, 1 oz.	145	Shrimp, 3 oz	174
Chicken, 3 oz	216	Soy milk, 1 cup	118
Cottage cheese (low fat), 1 cup	302	Sunflower seeds, 2 Tbsp	200
Crab, 3 oz.	240	Tuna, 3 oz	139
Crowder peas, 1 cup	268	Turkey, 3 oz	214
Crystal light "classic orange," 1 cup	100	Vitamin water, "revive fruit punch," 1 cup	261
Great northern beans, 1 cup	292	Waffles, plain, 2 4-inch	278
Halibut, 3 oz.	244	Whole-grain cereal, 1 oz	100
Lentils, 1 cup	356	Whole-wheat bread, 1 slice	64
Lima beans, ½ cup	105	Whole-wheat muffin	167
Milk (skim), ½ cup	247	Yogurt (low-fat), 1 cup	250
Oat bran (cooked), 1 cup	261		
Oat bran muffin, 1	214		

## Increase the magnesium in your diet if your doctor says

Your provider will tell you if you need to add more magnesium to your diet. Information about magnesium is not always listed on food labels. Use the information on this page to learn which foods are high in magnesium.

### *These foods are high in magnesium*

<b>Food</b>	<b>Magnesium (mg)</b>	<b>Food</b>	<b>Magnesium (mg)</b>
Almonds, 2 Tbsp	86	Multigrain cereal, $\frac{2}{3}$ cup	16
Apricots, 3 medium	8	Oatmeal, 1 cup	55
Artichoke, 1 medium	180	Okra, 1 cup	41
Avocado, 1 medium	71	Oysters (cooked), 3 oz	19
Banana, 1 medium	33	Peanut Butter, 2 Tbsp	51
Black-eyed peas, $\frac{1}{2}$ cup	43	Plantain, 1 medium	49
Bran muffin	60	Potato, 1 medium	55
Brazil nuts, 2 Tbsp	4	Pumpkin seeds, 2 Tbsp	152
Broccoli, $\frac{1}{2}$ cup	19	Scallops, 3 oz	23
Brown Rice, $\frac{2}{3}$ cup	57	Sesame seeds, 2 Tbsp	101
Cashews, 2 Tbsp	74	Soy milk, 1 cup	46
Cereal, whole grain, 1 oz	50	Soybeans, $\frac{1}{2}$ cup	74
Chicken 3.5 oz	27	Spinach, $\frac{1}{2}$ cup	78
Chickpeas, $\frac{1}{2}$ cup	40	Sunflower seeds, 2 Tbsp	100
Halibut, 3 oz.	90	Swiss chard, $\frac{1}{2}$ cup	76
Kiwi fruit, 1 medium	23	Tofu, $\frac{1}{2}$ cup	118
Lentils, $\frac{1}{2}$ cup	35	Whole-wheat bread, 1 slice	24
Lima beans, $\frac{1}{2}$ cup	40	Whole-wheat English muffin	47
Mackerel, 3 oz	65	Whole-wheat pasta, 1 cup	42
Milk, 1 cup	34	Yogurt (low-fat), 1 cup	26

# More recommendations for staying healthy

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## Stay active

Regular exercise after transplant is as important as eating a healthy, balanced diet. Exercise will help you:

- control any weight gain
- keep your heart and body healthy
- increase your energy
- lower your stress
- improve your sleep
- feel good emotionally
- improve your digestion
- have good posture.



## Exercising safely

- After your surgery, you need to take things slowly. Pace yourself. Rest when you're tired.
- For the first 6 weeks after surgery, do not lift anything that weighs more than 5 pounds. This includes children, pets, and groceries.
- For the first 2 months after surgery, avoid hard exercise. This includes contact sports like football, basketball, and hockey, as well as jogging, tennis, and weight lifting.
- Avoid any activity that causes discomfort to your incision or could possibly result in a blow to the area of your new organ.
- Always talk to your doctor or nurse before you start any new exercise plan.
- Exercise you might consider includes biking, swimming, and walking.

As you recover, it may seem as if there is a fine line between doing enough to get your body fit and doing too much. If you have any questions or concerns about your level of activity, talk with your transplant team.

## ***Building strength and endurance***

Your transplant team will give you an exercise plan. Follow this plan to help you regain both your muscle strength and your endurance. In addition to these exercises, you should gradually increase your activity.

- When you first leave the hospital, try to walk for 5 to 10 minutes a day. When that becomes easy for you, gradually increase the time that you walk until it reaches at least 30 minutes a day.
- As you heal completely, you should plan to exercise at least 3 to 4 times a week for at least 30 minutes each time.

These exercise guidelines are the same that are given to everyone to stay healthy.

## ***Staying motivated***

Some things you can try:

- Find organized programs designed specifically for transplant patients.
- Find a friend or support person who will exercise with you.
- Try an exercise video.
- Join the YMCA or a gym.
- Talk to us about any questions about your personal exercise plan or any issues you have about exercising.



## Prevent infection

The medicines you'll take for the rest of your life will make you more prone to getting infections. The good news is that you can help prevent infection with simple, good habits.

Some of these things you'll need to do for the rest of your life. Others may be lifted in time. Your transplant doctor or nurse practitioner will tell you when some of these restrictions may be lifted.

### *Tips for preventing infection:*

- Stay away from people who are obviously sick with the flu or a cold.
- Try to avoid children with chicken pox or strep throat.
- Wash your hands with soap and water before you eat and after you go to the bathroom. This is one of the best ways to prevent infection. When you're out of the house, you may also use anti-bacterial gels to clean your hands.
- Shower or bathe regularly.
- Clean cuts and scrapes right away with soap and water; then apply an antiseptic and a bandage.
- Do not, under any circumstances, change the litter in the cat box or birdcage without wearing gloves. This could cause a serious infection. Avoid cat scratches.
- For 8 weeks after your transplant, do not garden, dig in the dirt, or mow the lawn without wearing gloves. Doing any of these activities without gloves could cause serious infection.
- Keep your fingernails and toenails clean and trimmed. If your toenails are hard to manage or are ingrown, see a foot specialist.
- Talk to your doctor about getting the flu and pneumonia vaccines. Neither vaccine contains live viruses. After 3 months, both vaccines will be safe for you to have.
- Do not get any vaccine that contains a live virus, such as the smallpox or polio vaccine.
- Talk to your doctor if someone in your house will get a live virus vaccination for a virus you have not already been vaccinated against, such as chickenpox, zoster, oral polio, or diphtheria.
- Do not smoke. And do not expose yourself to second-hand smoke.
- Avoid community whirlpools.
- Avoid swimming in lakes or ponds.



## Take care of your skin

Transplant patients have a higher risk of getting skin and lip cancers. This risk increases with time. You must always protect your skin from the ultraviolet rays of the sun that cause skin cancers.

- Always use sunscreen (at least SPF 30) before going outside. Every 2 hours while you're outside, apply sunscreen again.
- Do not use tanning beds.
- Check your skin often for any unusual skin or mole changes.
- We recommend that you visit a dermatologist once a year.

## Get your regular check-ups and screenings

See your primary care doctor regularly, and have the routine screenings he or she recommends for you.

## Take care of your eyes

Visit your eye doctor once a year.

## Take care of your teeth and gums

- Brush your teeth after each meal and at bedtime.
- Floss your teeth gently every day.
- Examine your mouth every day, and call your doctor or nurse if you have sores, blisters, or white spots.
- Visit your dentist every 6 months.
- Make sure the dentist knows what anti-rejection medicines you take before they do any dental work.
- Do not plan any routine dental work until 3 months after your transplant.
- To prevent infection, you need to take an antibiotic before you have any type of dental work. This includes cleanings. After the first year, regular dental cleanings usually do not require you take an antibiotic. Talk to your heart doctor about this. They'll tell you what you should do.
  - Amoxicillin is usually the antibiotic of choice.
  - If you're allergic to amoxicillin, you can take clindamycin (Cleocin) instead.
  - If you're taking Prograf or Neoral, you should not take erythromycin, clarithromycin (Biaxin), or dirithromycin (Dynabac).
- The medicine Neoral can cause an overgrowth of your gum tissue that can become swollen and painful. Ask your dentist to suggest oral hygiene measures to relieve the discomfort.



## **If you're a man**

Do a testicle self-exam every month. Call your doctor if you see or feel any abnormal or unusual lumps.

### ***If you're older than 50***

- Get screened for prostate cancer once a year.
- Talk to your doctor about having a screening colonoscopy.

### ***If you want to have a child***

Although men may father children at any time after transplant, talk to your doctor before you try to conceive. It's important for you to be sure that the medicines you're taking, such as CellCept, will not harm a fetus.

## **If you're a woman**

- Have a pap smear as directed by your primary care provider or gynecologist.
- Do a breast self-exam every month. The best time to do this is one week after your period ends.
- Talk to your transplant doctor or nurse about your method of birth control. Your body may begin making eggs again 2 to 6 months after your transplant surgery and even before your regular menstrual periods return. This is why birth control is highly recommended.

## ***If you decide to become pregnant***

If you decide to become pregnant after your transplant, it's very important to discuss this with your transplant doctor or nurse practitioner in advance. Some of the medicines you'll be on may not be safe for you to take during pregnancy.

- Avoid pregnancy for at least 1 year after your transplant.
- If you're taking the medicine CellCept, it's important that you avoid pregnancy at all times while you're taking it. If you decide you want to become pregnant, talk to your doctor first so you can talk about alternative medicines.

### ***If you use tampons***

Choose the smallest size needed to meet your needs. Change tampons often to avoid getting an infection.

## **Take care of your emotional health**

It's common and even healthy for transplant recipients and their loved ones to have many different emotions throughout the transplant process. These feelings will vary from person to person. Everyone's responses are different. It's important to understand some of the reasons for your stressors and how to successfully manage them.

### ***How physical stress may affect your emotions***

It's common for emotional distress, like sadness or frustration, to increase during times of physical discomfort or when medical symptoms are present. This will improve as you get better.

## ***Depression***

It's very unlikely that you'll develop clinical depression following your transplant. (A person who is clinically depressed often loses interest in most activities and may have difficulty concentrating, have feelings of sadness, have less energy, sleep badly, and have a low appetite.)

However, it would not be uncommon if you feel sad or let down for a short period of time following your transplant.

## ***Anxiety***

You may also feel anxiety, worry, and fear during the transplant process. Such emotions are normal, and even healthy. Many patients, for example, have a fear that their bodies will reject their new organs. They also worry about what their lives and futures after transplant will be like. Again, keep in mind that these are normal thoughts and emotions.

## ***Stress***

Stress is a natural part of our daily lives; It's both healthy and necessary. But too much stress can be harmful. Emotions brought on by the stress of having a transplant include sadness, frustration, and anger.

To help lower your stress:

- get enough sleep
- don't smoke, use any form of nicotine, drink alcohol, or do illicit drugs
- do things that relax you, such as meditation, yoga, baths, reading, and listening to music.

## ***Coping techniques***

Coping refers to the way people react in the face of a challenge (such as getting a transplant) and how they comfort themselves in response to stress. Of course, not all ways of coping are healthy. Before your surgery, think of ways you have of coping that are healthy. Try to use these healthy coping techniques instead of unhealthy ones.



### *Learn as much as you can*

It often helps to get as much information as you can about your medical condition. The more you know about what to expect and what you'll need to do throughout the transplant process, the more prepared you'll be. Knowing more will also help you have more realistic expectations, which can often lower stress.

### *Find support*

Spend time with friends you can talk with about your feelings. You can also find support groups to join. It's important to have a place where you can talk about how you feel.



# Patient tools and resources

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## Helpful organizations

There are many national and local organizations dedicated to providing information, support, referrals to other recipients, and financial help to transplant recipients. We encourage you to get as much information as you can as you go through this difficult time in your life.

The following is only a sampling of the resources available to you, and one resource will likely lead you to another.

*Transplant Recipients International Organization, Inc.*

[TrioWeb.org](http://TrioWeb.org)

*UNOS Transplant Living*

[TransplantLiving.org](http://TransplantLiving.org)



## **Writing to your donor family**

Tennessee Donor Services is a non-profit organization that was chosen by the federal government to manage organ donation in Middle Tennessee. The organization helps transplant recipients and donor families communicate in writing. All communication is completely anonymous and all identities are kept confidential.

The decision to write to your donor's family is a very personal one. Whether or not you decide to write to the donor family is your choice.

### ***General information you might include if you decide to write a letter***

- the state in which you live (not city)
- your job
- your family situation such as marital status, children, or grandchildren (do not include any last names)
- your hobbies or interests

### ***Don't make any assumptions about your donor family's religious beliefs***

Since you do not know anything about your donor family's religious beliefs (or if they have any religious beliefs at all), please consider this if you're including religious comments.

## ***Talk about your experience***

Some things you might include:

- your gratitude for the family and their gift
- how long you waited for a transplant
- what the wait was like for you and your family
- how the transplant has improved your health and changed the life of you and your family, for example:
  - things you can do now that you couldn't do before your transplant
  - trips you're able to take or traveling you can do that you couldn't do before your transplant
- what has happened in your life since your transplant, for example:
  - Did you celebrate another birthday?
  - Did you, your son, or your daughter marry?
  - Did you become a parent or grandparent?
  - Did you return to school or accept a new job?

### ***Closing your card or letter***

- Sign your first name only.
- Do not include your address, city, or phone number.
- Do not include the name or location of the hospital or your doctor(s).

### ***Preparing your card or letter***

- Place your card or letter in an unsealed envelope
- Include a separate piece of paper with your full name and date of your transplant written on it.
- Place these items in another envelope, and mail everything together.

### ***Mailing your letter***

When you're ready to mail your letter, you'll send it to us first. Contact your liver transplant social worker for further instructions. When we get your letter, we'll forward it to Tennessee Donor Services:

- A Tennessee Donor Services coordinator will read your letter to ensure confidentiality and will then contact the family to offer them the option of receiving the letter.
- If the family wishes to receive your card or letter, Tennessee Donor Services will mail it to them.

### ***Allow for extra mailing time***

Since your card or letter must be mailed to the Transplant Center first, and then forwarded to Tennessee Donor Services, please allow extra time for it to reach the donor family. It may take a few weeks after you have mailed your card or letter for the donor family to get it.

### ***If you write a letter, you may or may not hear back from your donor family***

Some donor families have said that writing about their loved one and their decision to donate helps them in their grieving process. Other donor families, though they are appreciative of your card or letter, prefer privacy and choose not to write to the transplant recipients. Some donor families may not even want to read your card or letter.



## **Places to stay in Nashville**

### ***Hospital Hospitality House*** **(615) 329-0477**

The Hospitality House provides accommodations for patients and family members of patients staying in Nashville area hospitals at a minimal cost. Private rooms and bath accommodate 2 people, community kitchen and living space, free parking, Vanderbilt shuttle service, a stocked kitchen, and laundry facilities. Family members older than 14 can stay here. Reservations cannot be made in advance, only on the first day of the patient's or family's stay. Initial referral has to be made by the transplant staff or transplant social worker.

### ***Scarritt Bennett Center*** **(615) 340-7500**

Near Vanderbilt Hospital and offers discount rates. Vanderbilt shuttle service available. Referral has to be made from the transplant office. No kitchenettes. Microwave and refrigerator in common living room. Children can stay with an adult. Private room with a common bathroom that is adjoined to another guest room. Two people per room.

### ***Homestead Suites*** **(615) 316-9020**

Located near the airport, offers discount prices for short or long term stay for Vanderbilt transplant patients. No shuttle service provided.

### ***Extended Stay America*** **(615) 383-7490** **(800) 398-7829**

Located near Vanderbilt on West End Avenue, offers short and extended stays. Shuttle service provided.

### ***Best Western Music Row Inn*** **(615) 242-1631** **(800) 937-8376**

Located near Vanderbilt at the intersection of I-40, I-65, and I-24 on Music Row.



***Holiday Inn Express***  
***(615) 244-0150***  
***(800) 465-4329***

Only 2 minutes from the hospital, Holiday Inn Express provides a complimentary continental breakfast and free shuttle service to and from the hospital.

***The Hotel Preston***  
***(615) 324-9826***

Centrally located near the airport, Opryland, downtown Nashville and Cool Springs. Discounted transplant rates and shuttle service available.

***Comfort Inn***  
***(615) 255-9977***  
***(800) 424-6423***

Located at 1501 Demonbreun Street. Within 1-mile radius of Vanderbilt.

***The Village At Vanderbilt***  
***(615) 320-5600***

403 Village at Vanderbilt, Nashville, off 21st Avenue. Near the Vanderbilt campus.

***\* Call for current rates and availability \****



## When to call the Liver Transplant Clinic

Call the Liver Transplant Clinic at (615) 936-5321 if:

- you have any symptoms you're worried about
- you have any questions for the nurse
- you need to make an appointment
- you need to have a prescription filled.

If it's after hours, call the same number, wait for the operator to answer, and then ask to speak to the liver transplant provider. The operator will take your message, and the on-call provider will call you back as soon as possible.

## When to call 911, or go straight to the ER

Call 911, or go immediately to the ER if:

- you have stools that are black or bloody
- you have chest pain, shortness of breath, or a fast heart beat.











