



TAKING MEASURES

INFORMATION ABOUT
MANAGING YOUR HEALTH
AFTER A TRANSPLANT

ASTELLAS CARES™
TRANSPLANT

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The information contained in this brochure is provided for educational purposes only and should not replace discussions with a healthcare professional.



MANAGING YOUR HEALTH

Your doctor will prescribe medicine that may help keep your new organ working the way it should. But, each medicine can cause different side effects. Being aware of the possible side effects and taking measures to manage them can help make a difference.

Your doctor may recommend that you have routine exams and blood tests to detect health issues early. Making healthy choices and living a healthy lifestyle are also important for you and your new organ.

This informational brochure provides tips and tools for managing your health after an organ transplant. The content in this brochure is for your general information only. It is not intended to replace professional medical advice. You should always talk to your doctor or transplant team about your medical condition.



ROUTINE SCREENING

Your doctor may require routine lab tests and exams to measure your health status. Understanding the tests and why they are important for you and your new organ will help you stay on track with your long-term plan.

LAB TESTS AND EXAMS

Your transplant team will likely want to see you on a regular basis soon after your transplant. After recovery, you will likely go back to the transplant center at least once a year. You may also go back to your regular primary care doctor, and have routine exams and blood tests.

Blood tests are generally taken more often in the early weeks and months after a transplant and less often over time. Below are some of the blood tests you might have:

Test	What does it do?
Alanine aminotransferase (ALT)	Monitors liver function
Alkaline phosphatase (ALP)	Monitors liver function
Aspartate aminotransferase (AST)	Monitors liver function
Bicarbonate	Monitors acid-base balance in blood
Bilirubin	Monitors liver function
Blood urea nitrogen (BUN)	Monitors kidney function
Carbon dioxide (CO ₂)	Measures respiratory and kidney function
Complete blood count (CBC)	Hematocrit: monitors anemia Hemoglobin: monitors blood oxygen level Platelets: monitors anemia and bleeding tendencies White blood cells: monitors infection/rejection
Creatinine	Monitors kidney function
Gamma-glutamyl transpeptidase (GGTP)	Monitors liver function
Glucose (blood sugar)	Monitors pancreas function

Immunosuppressant blood level	Monitors levels of immunosuppressant drugs in your body
Magnesium	Monitors kidney function and diabetes
Phosphorus	Monitors kidney function
Potassium	Monitors kidney function
Prothrombin time (PT)	Monitors blood clotting
Sodium	Measures kidney function

Your doctor may also take a tissue sample from your transplanted organ if rejection is suspected.

Getting the routine tests and lab work helps monitor your health status and may help catch early warning signs of side effects or rejection.

CHOLESTEROL SCREENING

Some anti-rejection medicines may increase the level of cholesterol in your blood. While some cholesterol is needed for normal body functions, too much cholesterol can lead to heart disease if not treated.

Some conditions that can also increase the risk of high cholesterol include:

- + Obesity
- + Diabetes
- + Kidney disease

To help prevent high cholesterol, consider avoiding foods that are fried, processed, or high in fat. Regular exercise can also help lower bad cholesterol. You should talk to your doctor before beginning any exercise program.

Because it's hard to know if you have high cholesterol, your doctor or transplant team will monitor your cholesterol level with routine blood tests.

BLOOD PRESSURE

High blood pressure is a common health issue for transplant recipients. High blood pressure, or hypertension, can develop early after a transplant or it may develop later down the road. If not treated, high blood pressure can lead to organ loss, heart disease, stroke, or kidney failure.

Your doctor will take your blood pressure regularly. You may also want to take your blood pressure at home and keep track of the results. See the section on Self-Evaluation on pages 27-29 for more information.

BLOOD SUGAR (GLUCOSE) LEVELS

Some anti-rejection medicines can increase the risk of diabetes, which is when the level of sugar (glucose) in the blood is high. Other risk factors for diabetes include:

- + Obesity
- + Family history of diabetes
- + Ethnic group (African American, Hispanic, Native American, Native Alaskan, Asian, and Pacific Islander)
- + Older age combined with other risk factors
- + Inactivity
- + High cholesterol or triglycerides

If not treated, diabetes can lead to heart disease, nerve damage, kidney disease, and loss of vision. Your doctor will test your blood for diabetes. You can also help detect diabetes early by contacting your doctor if you notice symptoms such as:

- + Excessive thirst
- + Frequent urination
- + Tingling or numbness in the hands or feet
- + Sudden changes in vision
- + Unexpected weight loss
- + Extreme hunger
- + Tiredness
- + Slow-healing cuts or infections
- + Constant itching

Although diet and weight loss can help manage diabetes, many people also need to take medicine such as insulin to help control blood sugar levels.

BONE DENSITY SCREENING

Taking certain anti-rejection medicines may increase the risk of a bone density condition called osteoporosis, which means that bones can become thin and brittle and can break more easily.

Aside from taking certain anti-rejection medicines, other common risk factors for osteoporosis include:

- + Older age
- + Female sex
- + Family history
- + Race (Caucasian and Asian)
- + Small frame and low weight
- + Lifestyle (smoking, poor intake of dietary calcium and/or vitamin D)
- + Chronic kidney or liver disease

To help prevent osteoporosis, your doctor may tell you to:

- + Take a calcium or vitamin D supplement
- + Eat a diet rich in calcium and vitamin D
- + Exercise
- + Avoid alcohol
- + Do not smoke

Recommendations for having a bone density test depend upon your age and your risk of developing bone disease. Ask your doctor when or if you should have a bone mineral density test.



IMMUNIZATIONS

Because the immune system is suppressed, your transplant team may encourage you to get a yearly flu shot. It may be a good idea for caregivers and family members to also get a yearly flu shot.

People who have had an organ transplant should not receive “live” vaccines because they contain a small amount of live virus. With a suppressed immune system, live vaccines can cause serious health issues.

The most common live vaccines are:

- + Polio vaccine
- + Measles, mumps, rubella (MMR) vaccine
- + Chickenpox (varicella) vaccine

Talk to your doctor or transplant team about which immunizations are right for you.

PREVENTING INFECTION

Because transplant recipients have a higher risk of infection, your transplant team may encourage you to protect yourself from germs. There are 4 main causes of infection:

- + Bacteria
- + Virus
- + Fungus
- + Parasite

Here are some possible ways you can avoid infection:

- + Wash your hands often
- + Avoid people who are sick, or wear a surgical mask around them
- + Wash your food before cooking or eating
- + Do not eat raw or undercooked meat or seafood
- + Do not eat raw or undercooked eggs, including those in foods such as cookie dough, certain salad dressings, and hollandaise sauce
- + Do not drink unpasteurized milk or juices
- + Do not eat cheese made with unpasteurized milk, such as brie and feta
- + Avoid cleaning bird cages, bird feeders, or aquariums
- + Wear gloves when gardening or working in dirt
- + Clean wounds and cover with a bandage or gauze

SIGNS OF INFECTION

Possible signs of infection include:

- + Fever
- + Flu-like symptoms such as nausea, vomiting, diarrhea
- + Cough
- + Burning when you urinate
- + A wound that is red and tender, swollen, and oozing fluid

If you suspect you have an infection, call your doctor right away. Early treatment is essential to help avoid a severe illness.





SKIN CARE

Organ transplant recipients are more likely to get skin cancer compared with people who have not had a transplant. In some cases, skin cancer is treatable, especially when caught early. However, treatment may require repeated surgeries and periods of healing. Preventing skin cancer is the best approach.

ADDITIONAL RISK FACTORS FOR SKIN CANCER

All people who have had an organ transplant are at greater risk of skin cancer, but some people have added risk factors such as:

- + Light skin that burns easily
- + Red or blonde hair
- + Family history of skin cancer
- + Personal history of skin cancer
- + Outdoor job or extended time in the sun
- + Older individuals
- + Men
- + Freckled skin
- + Green/blue/hazel eyes

RECOGNIZING THE SIGNS OF SKIN CANCER

Regularly examine your skin. Look for new or changing growths, pink patches or spots, scaly growths, bleeding areas, or changing moles. Contact your dermatologist or your transplant team right away when you see anything unusual. Early detection can help avoid long-term complications.

Types of skin cancer common to transplant recipients include:



Squamous cell carcinoma: The second most common type of skin cancer in the United States, which may look like a scaly area of the skin



Basal cell carcinoma: The most common type of skin cancer in the United States, which often appears as a small, pink bump or sore that bleeds or does not heal

Regular exams by a dermatologist for early detection may be recommended by your transplant team.

PROTECTING YOUR SKIN

Your transplant team may recommend ways to lower your risk of skin cancer such as:

- + Apply sunscreen to exposed skin before going outdoors
- + Use sunscreen with a sun protection factor (SPF) of 50 or higher
- + Wear long sleeves and long pants when possible
- + Wear a hat and sunglasses with ultraviolet (UV) protection
- + Limit your time outdoors between 10:00 AM and 4:00 PM when the sun's rays are strongest





DENTAL CARE

Maintaining healthy teeth and gums is important for everyone. It is especially important for people who have had a transplant because some dental issues such as gum disease and mouth ulcers can be caused by the medicines you take. Transplant recipients also have a greater risk of gum infection because the immune system is suppressed. Talk to your transplant team about possible dental problems and how to avoid them.

RECOGNIZING DENTAL ISSUES

Examine your mouth regularly to detect dental issues. Contact your dentist or transplant team if you notice any of the following:

- + Red or swollen gums
- + Sores in your mouth
- + White patches on your tongue or inside your cheek
- + Tooth pain or sensitivity to cold or hot foods and drinks
- + Bleeding

Dental problems may be caused by the medicines you take, so it is important that you tell your transplant team if you experience any dental issues.

MAINTAINING HEALTHY TEETH AND GUMS

Maintaining healthy teeth and gums is an important part of your daily routine. Your transplant team may give you instructions for oral care such as:

- + Brush your teeth at least twice a day, especially after meals and before going to bed
- + Floss every day to remove food and plaque from between your teeth
- + Rinse with a mouthwash to help remove bacteria and reduce plaque
- + Replace your toothbrush every 3 months
- + Visit your dentist for a regular exam and cleaning at least every 6 months unless your doctor tells you otherwise

Some transplant teams may recommend that you take an antibiotic before having your teeth cleaned or having a dental procedure that may injure your gums. Contact your transplant team to find out what they recommend before visiting the dentist. You should also remind your dentist and hygienist that you have had a transplant so they can take precautions to avoid infection.





EYE CARE

Transplant recipients have an increased risk of developing eye problems such as cataracts and glaucoma. Eye infection may also be an issue. Your transplant team may recommend that you visit an eye doctor every year for an exam.

COMMON EYE PROBLEMS

Cataract: a clouding of the clear lens. Can be caused by age, diabetes, steroids, smoking, extended exposure to the sun's UV rays, and injury to the eye

Glaucoma: damage to the nerve that carries images to the brain. Can be caused by age, family history of glaucoma, diabetes, eye injury, or medications

WARNING SIGNS OF AN EYE PROBLEM

Call your transplant team and/or eye doctor if you have any eye issues such as:

- + Blurred vision or double vision
- + Sensitivity to light or light flashes
- + Faded colors
- + Tunnel vision, loss of side vision
- + Eye pain
- + Seeing spots
- + Appearance of dark spots in your vision
- + Distorted or wavy lines or edges of objects
- + Dry eyes with redness/itching, and/or burning



DAILY SELF-EVALUATION

In addition to regular doctor visits, it's important that you measure your own health at home. Taking your vital signs every day and recording the results will help you keep track of your health status between doctor visits.

Your transplant team will be able to give you all the information you need to take these measurements and evaluate your progress, including the ranges that are normal for you.

Test	Why?	How?	Your normal range and when to take action		
Weight	Unexplained weight loss or weight gain can be a side effect of your medicine or indicate a medical issue.	Weigh yourself at the same time each morning on a standard bathroom scale.	Normal range:	When to call:	Who to call:
Blood Pressure	High blood pressure is a side effect of some medicines and can damage the arteries, heart, and kidneys if not treated.	Your transplant team will show you how to take your blood pressure using a blood pressure cuff.	Normal range:	When to call:	Who to call:
Temperature	An increase in your normal temperature can be a sign of infection or organ rejection.	Take your temperature at the same time every day using a thermometer.	Normal range:	When to call:	Who to call:
Pulse	A heart rate that is too slow or too fast may be a sign of a heart problem.	Put 2 fingers on your wrist and apply slight pressure. Count the number of heartbeats for 30 seconds and double it to find your heart rate per minute. Your doctor can help determine your normal pulse rate.	Normal range:	When to call:	Who to call:
Blood Sugar	Transplant recipients have a higher risk of diabetes. If not treated, high blood sugar can lead to problems affecting the heart, kidneys, nerve endings, and eyes.	If you have diabetes, your doctor may ask you to monitor your blood sugar at the same time every day using a glucometer.	Normal range:	When to call:	Who to call:



EMBRACING A HEALTHY LIFESTYLE

Maintaining a healthy lifestyle after an organ transplant can go a long way toward helping you reach your recovery goals. Be sure to discuss diet and exercise with your transplant team. They will help create a plan that is right for you.

SECTION

DIET

You may have fewer dietary restrictions than you did before your transplant. However, your transplant team will likely encourage you to eat a balanced diet that includes a variety of healthy foods such as:

- + Fruits and vegetables
- + Whole grains
- + Lean meat, poultry, fish, eggs
- + Nuts
- + Beans

Saturated fats and trans fats are found in fried foods and snack foods such as chips, cookies, donuts, and crackers. These foods may increase your cholesterol, which can build up on the walls of your heart and cause heart disease. Your doctor may also ask you to limit salt and added sugar as part of a healthy diet.

When preparing meals, it is important to wash your hands, food, and work surfaces to avoid germs. Be sure to chill food properly. Also, cook food thoroughly to kill harmful bacteria that can make you sick. Some foods may not be safe to eat. Your transplant team may tell you to avoid foods such as:

- + Raw eggs and foods containing raw eggs (eg, certain salad dressings)
- + Raw or undercooked meat or seafood
- + Raw seed sprouts (eg, alfalfa sprouts)
- + Unpasteurized milk, juice, or cider
- + Soft cheeses made with unpasteurized milk

Talk to your transplant coordinator or dietitian about a healthy diet plan.

EXERCISE

Exercise has many health benefits. It not only helps you control your weight and feel better, but also helps reduce the risk of illnesses such as heart disease, diabetes, and bone disease. Be sure to talk to your transplant team about when it is safe to start exercising, what type of exercise to do, and how often you should exercise. These details will depend on the type of organ you received, your recovery, and your health status.

Once your transplant team agrees that you are ready to exercise, you should start slowly. Some tips for getting started:

- + Set realistic goals
- + Warm up with gentle stretching
- + Choose an activity you enjoy
- + Drink plenty of fluids
- + Cool down after you exercise by stretching and walking slowly
- + Stay motivated by varying your exercise routine, listening to music, or working out with someone

Talk to your doctor and transplant team about when it is safe to start exercising again, symptoms to watch out for, and when to seek medical help.



TAKING MEASURES FOR HEALTH

Managing your health after a transplant can be challenging. Knowing the possible issues and taking steps to maintain your health is an important part of the journey. As always, talk to your transplant team about what you can do to stay the course.

Some general tips for staying healthy include:

- + Take all medicines as prescribed
- + Schedule regular checkups and lab tests
- + Schedule routine screening exams (eg, dental, vision, gynecologic, prostate, colorectal)
- + Avoid infection
- + Wear sun protection
- + Monitor your vital signs daily
- + Maintain a healthy lifestyle
- + Contact your transplant team when you have concerns or questions

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.[illegible]

JOIN THE TRANSPLANT COMMUNITY

Additional resources on transplant health are available
at **AstellasCares.com**.