Health Facts for You

Heart transplant medicines

LWHealth

After your transplant, you will be on many medicines. You will be on many of them for the rest of your life. This includes medicines which:

- Prevent rejection
- Prevent infections
- Control blood pressure
- Manage blood sugars
- Protect your stomach
- Prevent bone loss
- Provide you with extra vitamins and minerals

The team will help you learn about the medicines you need, why you need them, and the dose prescribed for you. Taking your medicines incorrectly can lead to rejection and other health problems.

Taking Your Medicines

Why is it important to take your medicines?

You **must** take your medicines exactly as directed by your transplant team. If you do not take your medicines, it can lead to increased risk of organ rejection and loss.

- **Do not** stop a medicine without talking to the transplant team.
- Take the right amount of medicine prescribed for you.
- Take your medicines at the correct dose and frequency.
- Do not take medicines or supplements that are not prescribed.
- Alert the transplant team of any new medications, over the counter supplements or herbals.

Why do some people not take their medicines?

Confusion

- There is confusion about "the right way" to take medicines.
- If have questions about how to take your medicines talk to your Transplant Coordinator.

Unable to pay

• The pharmacy team will check with your insurance after your transplant. If you are concerned about paying for your medicines after you leave the hospital, talk to your transplant coordinator or social worker.

Lack of supply

- Transplant medicines are not common, so they may not be in stock at all pharmacies.
- You will leave the hospital with a 1 month supply of your new medicines.
- UW Health Pharmacies can be your main pharmacy for refills; a mail order service is also offered for our transplant patients.
- If you use your local pharmacy for refills, let them know a week before you run out of pills so they can order the medicines and fill them.
- When you are traveling (this includes traveling to clinic visits), bring a day of medicines with you in case of delays or other travel issues.

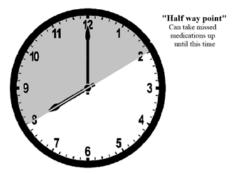
Side Effects

- If side effects are serious or bothersome, call your transplant coordinator right away to discuss ways to manage them.
- **Do not stop** taking your medicines unless your transplant coordinator or doctor tells you to.

What if I miss a dose of medicine?

If you miss a dose, follow the "Half-Way" Rule.

- If you are less than "half-way" to your next dose, take your missed dose.
- If you are more than "half-way" to your next dose, skip it and continue with your next scheduled dose.
- **Never** take extra medicine to make up for a missed dose.
- Call your transplant coordinator when you miss more than one dose of anti-rejection medicine.



How should I store my medicines?

Store your medicines in a cool, dry place out of reach of children. Bathrooms, kitchens, and cars are not good places because of changes in heat and humidity.

Who should know about my medicines?

Tell **all** of your healthcare providers that you are on anti-rejection medicines, including:

- Dentists
- Doctors or surgeons
- Pharmacists (try to choose one pharmacy to use for all your medicines)

Tell your transplant coordinator if other doctors make medicine changes right away.

Medicines List

Every patient should have an up-to-date medicine list that has:

- Names and doses of medicines you take
- How often you take them
- Why you take them
- Name of your doctor
- Allergies and reactions to any medicines
- Health history

Bring this list to **all** appointments/hospital visits and keep it in your wallet/purse.

Medicine Box

Medicine boxes organize your medicines and make them easier to take. You may be asked to bring your medication box to the transplant clinic for transplant pharmacist review.

UW Mail Service Pharmacy

If you would like to use the UW Hospital's prescription mail order program, please ask your transplant pharmacist or coordinator.

Pharmacy Services

Some pharmacies fill medicine boxes for you or offer automatic refill reminders. Call your local pharmacy to see what services they offer.

Medicine Refills

- If you are on your last refill of a medicine, call the transplant clinic.
- Request medicine refills at least 7 days before running out. This might need to be longer around holidays.
- Your primary care provider should not refill your transplant medicines but should refill your other medicines.

Anti-Rejection Medicines

When your body's immune system fights your organ, it is known as rejection. Anti-rejection medicines lower your body's immune system response to stop your body from rejecting your new organ. Each anti-rejection medicine works differently to lower your immune system. The medicines you take depend on the type of new organ and your medical history. Anti-rejection medicines are never stopped unless directed to by your transplant doctor.

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Prednisone	
Common Side Effects	High blood pressure, cholesterol and blood sugar, thinning skin, easier bruising, swelling, increased restlessness/feeling 'jittery', mood changes, lower bone mass, stomach upset, stomach ulcers, trouble sleeping, bigger appetite, and cataracts
Food	Take with food to prevent upset stomach and ulcers
Special Tips	 If you have high blood sugar or diabetes, your dose may be twice a day. If you take prednisone once a day, you should take it in the morning, so it is easier to sleep. If you are taking prednisone twice a day, take the second dose in the afternoon, not the evening. Have an eye exam once a year for cataract prevention. You will need scans of your bones (a DEXA scan) at least every other year to monitor bone health.

Tacrolimus (Prograf/Envarsus XR) Common Tremor, headache, kidney injury, hair loss, diarrhea, nausea/vomiting, trouble sleeping, and high cholesterol, blood sugar and blood pressure **Side Effects** Take with or without food, but be **consistent** in what you choose Food Avoid grapefruit or grapefruit juice, since they increase tacrolimus levels. **Interactions Monitoring** Tacrolimus blood levels are drawn to make sure you are getting the right amount of the medicine. Blood is drawn right before your morning dose to measure the amount of drug in your body when it is lowest (a trough). Take your dose the day before as directed by your transplant coordinator. This will be either 12 or 24 hours before you will have your level drawn. DO NOT take your morning dose until AFTER your blood is drawn. Your transplant coordinator will tell you your goal tacrolimus level. **Special Tips** Call your transplant coordinator if:

- o tremor or headache worsen
- o you notice burning in your fingers
- o the shape and/or color of your medicine changes.
- If you take a liquid suspension of tacrolimus, be sure to have the right sized syringe for measuring and adapter to fit your bottle with syringe. Shake the bottle to mix the suspension before drawing up your dose.
- Let your transplant coordinator know if you are changing where you get your labs drawn as this may affect your tacrolimus level.

Mycophenol	ate Sodium (Myfortic) or Mycophenolate Mofetil (Cellcept)XL)		
Side Effects	Diarrhea, nausea/vomiting, headache, and low white blood cell and hematocrit		
Food	Take with food to help prevent stomach upset and diarrhea		
Special Tips	 Do not crush, chew or cut mycophenolate tablets. Pregnant persons or people trying to get pregnant should not handle the tablets or capsules due to risk of harm to unborn babies. People who are able to get pregnant who take mycophenolate must use at least one form of acceptable form of birth control as prescribed by your doctor. If you plan to get pregnant, talk with your transplant coordinator at least 3 months before to change to a different medicine. 		
Cyclosporin	e (Neoral, Sandimmune) – ALTERNATIVE to Tacrolimus		
Common Side Effects	Hair growth, diarrhea, nausea/vomiting, headache, tremor, gum growth, high cholesterol, blood sugar and blood pressure.		
Food	Take with or without food but be consistent in what you choose.		
Interactions	Avoid grapefruit or grapefruit juice, since they increase cyclosporine levels.		
Monitoring	 Blood levels of cyclosporine are drawn to make sure you are getting the right amount of the medicine. Blood is drawn right before your morning dose to measure the amount of drug in your body when it is lowest (a trough). Take your evening dose 12 hours before you will have your level drawn. Do not take your morning dose until after your blood is drawn. Your transplant coordinator will tell you your goal cyclosporine level. 		
Special Tips	 Tell your transplant coordinator if the shape and/or color of your medicine changes. Different brands may lead to different blood levels. Capsules expire 7 days after opening the foil package. The oral solution is dispensed in a glass container and should not be refrigerated. Have 6-month dental cleanings and brush twice daily to prevent gum growth. Let your transplant coordinator know if you are changing where you get your labs drawn as this may affect your cyclosporine level. 		

Azathioprine	(Imuran) – ALTERNATIVE to Mycophenolate
Common Side Effects	Nausea/vomiting, diarrhea, rash, low white blood cell counts, fever
Food	Take with food to prevent stomach upset.
Interactions	Do not take mercaptopurine, allopurinol, or febuxostat with azathioprine. If taking warfarin, contact your warfarin manager when starting this medicine.
Special Tips	Persons who are able to get pregnant who take azathioprine should use birth control.
Sirolimus (R	apamune): May take instead of or in addition to other anti-rejection medicines
Common Side Effects	Constipation or diarrhea, nausea, headache, swelling, slow wound healing, mouth ulcers, anemia, high cholesterol, blood sugar, and blood pressure
Food	Take with or without food but be consistent in what you choose
Interactions	Avoid grapefruit or grapefruit juice, since they increase sirolimus levels.
Monitoring	• Blood levels of sirolimus are drawn to make sure you are getting the right amount of the medicine.
	 Blood is drawn right before your morning dose to measure the amount of
	drug in your body when it is lowest (a trough). Take your dose 24 hours
	before you will have your level drawn.
	• Do not take your morning dose until after your blood is drawn.
	Your transplant coordinator will tell you your goal sirolimus level.
Special Tips	• Do not crush, split, or chew the tablets.
	• Sirolimus should be taken 4 hours after cyclosporine.
	 Let your transplant coordinator know if you are changing where you get your labs drawn. This may affect your sirolimus level.
Everolimus (Zortress): May take instead of or in addition to other anti-rejection medicines
Common Side Effects	Diarrhea, nausea/vomiting, headache, rash/itching, fatigue, fever, swelling, slow wound healing, anemia, increased cholesterol and blood pressure.
Food	Take with or without food but be consistent in what you choose.
Interactions	Avoid grapefruit or grapefruit juice, since they increase everolimus levels.
Monitoring	Blood levels of everolimus are drawn to make sure you are getting the
	 right amount of the medicine. Blood is drawn right before your morning dose to measure the amount of
	drug in your body when it is lowest (a trough). Take your evening dose 12 hours before you will have your level drawn.
	• Do not take your morning dose until after your blood is drawn.
	Your transplant coordinator will tell you your goal everolimus level.
Special Tips	Do not crush, split, or chew the tablets.
	• Take at the same time as cyclosporine or tacrolimus (if prescribed).
	• Let your transplant coordinator know if you are changing where you get your labs drawn. This may affect your everolimus level.

Anti-Infective Medicines

After transplant, you are more at risk for getting sick because your immune system is lowered. Anti-infective medicines help prevent infections.

Types of Infection	Medicine
General infections and pneumonia	Trimethoprim/sulfamethoxazole (Bactrim DS or Septra DS) or TMP/Sulfa
	Take for 1 year after transplant.
	• Side effects: Sun sensitivity, nausea/vomiting, diarrhea,
	rash, high potassium, low white blood cell counts
	Atovaquone (Mepron®) – (Alternative to Bactrim®)
	Take for 1 year after transplant.
	Side effects: headache, insomnia, rash, nausea, change
	in taste
Viral Infections (Cytomegalovirus	Letermovir (Prevymis®)
- CMV)	 Take for 6 months after transplant. Some people may
 CMV is a virus that may 	need to keep taking it. Do not stop this medicine
hide out in the body.	without talking to your transplant team. This could
 This virus is normally 	affect your anti-rejection medicine levels.
harmless but is dangerous	Side effects: upset stomach
when your immune system is	Valganciclovir (Valcyte®)– (Alternative to
lowered.	letermovir/Prevymis®)
H C' I V' (HOV)	• Take for 6 months after transplant. Some people will
Herpes Simplex Virus (HSV)	need to keep taking it. Do not stop this medicine
	without talking to your transplant team. This could
	affect your anti-rejection medicine levels.
	• Side effects: Decreased white blood cell counts
	Acyclovir (Zovirax®)
	• Take for 3 months after transplant instead of
	valganciclovir if at low risk for CMV.
	May take at the same time as letermovir. Side affects has dealer wast stampel.
Fungal Infections (Aspergillus)	Side effects: headache, upset stomach Possespezzelo (Novafil®)
• Common fungus found	Posaconazole (Noxafil®)
indoors and outdoors.	• Take for 3 months after transplant.
Exposure to this infection	• Side effects: change in taste, nausea. If you have side effects or other issues, you can be changed to a
can cause illness when	different anti-fungal medicine.
your immune system is	 You will need dose changes and close monitoring of
weakened by anti-	tacrolimus after stopping posaconazole. Do not stop
rejection medicines.	unless told to do so by your transplant team.
Most aspergillus infections	amos tota to ao so of four transplant touris.
occur in the lungs, but this	
fungus can be found in other	
parts of the body.	

Other Medicines

Blood Pressure Medicines (Goal blood pressure: less than 120/80 mmHg)

- Many transplant patients have high blood pressure or develop high blood pressure as a side effect of antirejection medicines.
- Some patients resume their blood pressure medicines from before transplant. Some patients may need new medicines added, or some patients may be able to stop taking blood pressure medicine.
- It is important to own a blood pressure cuff and monitor your blood pressure at home.
- You should keep a logbook of your blood pressure and bring it with you to appointments.
- Blood pressure can also be improved by:
 - Diet and exercise (lose excess weight)
 - Avoiding high-salt foods (Dietary Approaches to Stop Hypertension (DASH) diet)
 - Quitting smoking

Medicines for High Blood Sugar/Diabetes

- Prednisone and tacrolimus can cause you to have high blood sugar (diabetes).
- You may need insulin or other medicine to lower your blood sugar.
- You may be asked to check your blood sugar up to 4 times a day.

Antibiotics

- You may need antibiotics to prevent infections before procedures.
- You are advised to take an antibiotic before general teeth cleaning and other dental procedures.

Medicines to Lower Cholesterol

- Your medicines, diet, or family history may cause you to have increased cholesterol. Medicine may be used to help lower your cholesterol level.
- Some of these medicines (statins) may help reduce your risk of coronary allograft vasculopathy (CAV).
- You may require a statin medicine to reduce your risk of CAV even if your cholesterol is at goal.

Stomach Protection

Transplant patients will need to take a medicine such as pantoprazole (Protonix®) or omeprazole (Prilosec®) to help reduce stomach acid and protect the stomach for at least 1 month after transplant.

Blood Clot Prevention

Transplant patients will need aspirin after transplant to prevent blood clots and reduce the risk of cardiac allograft vasculopathy (CAV). If you were on aspirin before transplant, you may need to resume your home dose or adjust to a new dose.

Vaccines

- **Do not** get vaccines within the first 6 months after transplant unless approved by your transplant coordinator or transplant doctor.
- Avoid live vaccines, including measles, shingles, chicken pox, and the influenza nasal spray.
- People living with you should get the influenza vaccine. They can receive the live vaccine.
- Call your transplant coordinator if you have been around someone who has chicken pox.
- Talk to your transplant team about what vaccines you need after transplant.

Supplements/ Over-the-Counter Medicines

Avoid other prescription, over-the-counter (OTC), herbal, homeopathic, or dietary supplements unless recommended by your provider and approved by your transplant coordinator.

The supplements/medicines listed below are available without a prescription (over-the-counter or OTC) and are commonly used after heart transplant. If you need these medicines, they will be listed on your discharge medicine list. You will need to buy these at a store or pharmacy after discharge:

Supplement/ Medicine	Purpose	Side Effects	Tips and Comments
Calcium (carbonate or citrate)	Prevents bone loss	Constipation or diarrhea	Look at the "Supplement Facts" on the back of the bottle to see how much elemental calcium is in each tablet.
Vitamin D (cholecalciferol)	Helps your body use calcium	None	You can purchase a combination of calcium and vitamin D.
Multivitamin	General health	Stomach upset	Choose any multivitamin appropriate for your age group.
Pantoprazole (Protonix)	Prevents stomach ulcers	Headache	You may be given a different medicine depending on your insurance.
Aspirin 81 mg	For heart health	Higher risk of bleeding	If you were on aspirin before transplant, you may need to resume your home dose.

Suggestions for OTC Medicines by Symptom

Symptom	Medicine		
Headache,	Acetaminophen (Tylenol®) can help relieve mild pain and fever. Many		
fever, body	products may contain acetaminophen. Check labels for the amount in each		
aches, and	product.		
joint pain	 The maximum dose of acetaminophen is 4000 mg in 24 hours. This means no more than 12 regular strength or 8 extra strength tablets. If you have had a liver transplant, the dose should not be more than 2000 mg in 24 hours. This means no more than 6 regular strength or 4 extra strength tablets. Higher doses can harm your liver. 		
	Joint Pain • Capsaicin cream (Capzasin-P®)		
	Pain Medicines to Avoid:		
	Do not take nonsteroidal anti-inflammatory drugs (NSAIDs) because they can harm your kidney or interact with certain immunosuppressants. Common NSAIDs are:		
	• Ibuprofen (Advil®, Motrin®, Midol® Cramp Formula)		
	 Naproxen (Aleve®) Diclofenac (Voltaren®) 		
	Celecoxib (Celebrex®)		
	Avoid taking aspirin unless your doctor prescribed it. Aspirin is in some other pain relievers such as Excedrin® or Bayer®.		
Sneezing,	Medicines that are considered non-drowsy:		
itching and	• Loratadine (Claritin®)		
runny nose	Cetirizine (Zyrtec®)		
	• Fexofenadine (Allegra®)		
	Levocetirizine (Xyzal®)		
	Cromolyn (NasalCrom®)		
	Medicines that can make you sleepy:		
	• Diphenhydramine (Benadryl®)		
	• Chlorpheniramine (Chlor-trimeton®)		
	These are best used at bedtime. Talk to your doctor before using an antihistamine if you have glaucoma, an enlarged prostate or trouble urinating.		
	Avoid combination cold, sinus, and flu products (TheraFlu®, Nyquil®).		

Symptom	Medicine		
Nasal and	Topical nasal sprays are the most helpful for congestion.		
sinus			
congestion	Do not use for more than 3 days. Longer use can cause more congestion.		
	• oxymetazoline (Afrin®)		
	• phenylephrine (Neosynephrine®).		
	Long term use for decongestion.		
	• Sodium chloride 9.9% (Ocean® spray)		
	• SinuCleanse® saline solution used as a nasal washing through a device or bottle.		
	Oral decongestants, such as pseudoephedrine (Sudafed®) and phenylephrine (Sudafed PE®) should be used with care because they can raise your blood pressure. Make sure to check the list in any cough or cold product for pseudoephedrine and phenylephrine.		
Sore throat	Most throat lozenges can be used safely.		
Chest	Make sure to drink plenty of water to help loosen chest congestion.		
congestion	Guaifenesin (Robitussin®)		
	Coricidin® HBP Chest Congestion & Cough		
Cough	Loose cough		
	• Guaifenesin (Robitussin®) for a loose cough.		
	Dry cough,		
	Dextromethorphan (Delsym®)		
	• Guaifenesin/DM combination (Robitussin DM®)		
	Coricidin® HBP Chest Congestion & Cough (safe for patients with)		
	high blood pressure.)		
	All types of coughs • Vicks® VapoRub ointment		
	Vicks® VapoSteam.		
Painful	Do not use:		
urination	 Phenazopyridine (Azo-Standard®) to treat undiagnosed urinary tract 		
	pain.		
	This product treats painful symptoms but not the source of the infection.		
	Contact your doctor if you have urinary pain.		

Symptom	Medicine
Constipation	Constipation can be treated with:
	Bulk-forming products: Metamucil®, Fiberall®
	• Stool softeners, such as docusate (Colace®)
	Bisacodyl (Dulcolax®)
	• Senna
	Milk of magnesia (Phillip's®)
	Polyethylene glycol (MiraLAX®)
	 Combinations of a stool softener with a stimulant such as docusate
	with senna (Senokot-S [®]).
	Long-term use of stimulant laxatives should be avoided because they may result in long-term diarrhea and changes in your electrolytes. If you are constipated for more than 48 hours , please contact your primary care doctor.
Upset	Stomach upset can be treated with:
stomach	Calcium Carbonate (TUMS®)
	• Famotidine (Pepcid AC®)
	Nizatidine (Axid AR®)
	Omeprazole (Prilosec OTC®)
	• Esomeprazole (Nexium 24HR®)
	Do not take:
	Cimetidine (Tagamet®)
Gas	Simethicone (Gas-X®) for gas symptoms
Insomnia	Diphenhydramine (Benadryl®, ZzzQuil®)
(trouble	Doxylamine (Unisom®)
sleeping)	Melatonin
Dry eyes and	Artificial tears eye drops
eye irritation	Ketotifen (Zadiator®)
Nausea and	Meclizine (Antivert®)
vomiting	
Skin	Sarna lotion
irritation/dry	Oatmeal lotion
skin	Vaseline
Insect bites	• Topical corticosteroids, such as hydrocortisone cream (Cortisone-10®)
and poison ivy	Use of topical corticosteroids should be short term.

Managing Side Effects
Use the table below to help manage your medicine side effects. If your side effects are serious or bothersome, call your transplant coordinator.

Side Effect	How to Manage
Acne	Treat with prescription or over-the-counter medicines, such as benzoyl peroxide
	• Keep your skin clean by washing your face two times per day.
	Avoid moisturizing soaps and lotions with oils (try oil free)
	Do not pick at pimples since it can increase your risk of infection
Hair Loss	• Use a conditioner after shampooing.
	Avoid perms, dyes, or bleaching.
	• Limit your exposure to chlorine (swimming pools) and the sun
Swelling	Treat with diuretics (water pills) as prescribed by your doctor
	Weigh yourself daily.
	• Call your transplant coordinator if you gain more than 3 pounds in one
	day or more than 5 pounds in one week.
	Avoid salt.
	Increase physical exercise
Headaches	• Call your transplant coordinator if you have severe headaches.
	Avoid caffeine, bright light, stress, and loud noises.
	Avoid medicine that has aspirin in it.
	• Try 1 or 2 regular strength Tylenol tablets to relieve a mild headache
Hair Growth	Hair may be removed by bleaching, trimming, shaving or with hair
	removal products
High	Take your cholesterol medicines as directed by your doctor.
Cholesterol	Exercise regularly
	Eat a diet low in fat and cholesterol, and high in fiber
Infection	Wash your hands often with antibacterial soap.
	Avoid contact with sick people.
	• Use gloves if pet waste must be handled.
	• Clean cuts with soap and water and apply a triple antibiotic ointment
	and cover
Bone Loss	Take calcium and vitamin D daily.
	• Quit smoking.
	• Do not use alcohol.
	Walk and lift weights to keep bones strong
Tremors	• Call your transplant coordinator if you have tremors:
	Stretching exercises may help relieve mild tremors

Top 10 Medicine Tips for Transplant Patients

- 1. Take all medicines as prescribed by your transplant team. Use your most up to date medicine list rather than the directions on your pill bottle. Your transplant will not last if you do not take them.
- 2. Keep a list of your current medicines. Bring this list, your medicine box or prescription bottles to all hospital and clinic visits.
- 3. Do not take ibuprofen, naproxen, or ketoprofen. Talk with your doctor about taking more than 81 mg of aspirin a day. These NSAIDS can harm your kidneys.
- 4. Store your medicines in a cool, dry place. They cannot be near any heat source. Keep all medicine out of sight and reach of children and pets.
- 5. If you miss a dose of a medicine you take once a day, take it as soon as you remember. If you take a medicine twice a day, and if you are more than 6 hours late, skip the missed dose. Take the next dose at your normal time. Do not double up the dose.
- 6. If you or your local doctor feels that you need a new medicine, check with your transplant coordinator first.
- 7. Be careful not to run out of medicine. Get refills before your supply gets too low. Make sure you have enough between clinic visits and over weekends, holidays, or vacation.
- 8. When you get medicine from the pharmacy, make sure the name and dose match what the transplant team told you. If a refill looks different, be sure to tell your pharmacist.

- 9. If you become pregnant or plan to become pregnant, contact your doctor right away.
- 10. Your doctor will want to check the way your body responds to your medicine. Be sure to keep all your scheduled check-ups and blood tests

Important Phone Numbers

Question about:	Who to Call
Mail order medicines	UW Mail Order Pharmacy: (866) UWH- DRUG or (866) 894-3784
Medicines filled through the UW pharmacy	UW Outpatient Pharmacy: (608) 263-1280
Medicines within 24 hours after discharge	Hospital Transplant Unit: (608) 263-8720

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 2/2025 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF#8193.