

## MEDICATIONS

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### Specific Information about Common Post-Transplant Medications

The following section includes information on common post-transplant medications, important interactions with food and supplements. You will most likely be on most, but not all of these medicines. The choice and dose of medication will be personalized to keep you as safe and healthy as possible.

#### **Immunosuppression (Anti-Rejection) Medications:**

After a transplant you will be on medications for the rest of your life to protect your new lungs from your immune system. Your immune system is important for recognizing and fighting infections, but if it is not suppressed it will see your new lungs as “foreign” and damage them, leading to rejection. Most patients will **need** to be on three anti-rejection medications to weaken your immune system and prevent rejection.

#### **Medications to Prevent Infections:**

After a transplant you have an increased risk of some infections because the anti-rejection medications makes it more difficult for your immune system to fight off infections. Therefore, you will be on several medications to prevent infections after transplant.



#### **Missed Doses**

If you miss a dose of your immune suppression medication and realize within 6 hours, take it immediately. You may then proceed with your normal medication schedule. If you realize you missed a dose within 6 hours of the **next** scheduled dose, do not double dose. Take your medications at the next scheduled time and get back on track from there. If you have questions about missed doses, call your transplant coordinator.

Remember: Missing doses of your anti-rejection medications can allow your immune system to damage the transplanted lung, can cause rejection. This can lead to loss of the transplant, and possibly death.

#### **Call your transplant coordinator if:**

- You have run out of medications, refills or have lost your medications
- You miss a dose of medication
- You are having any side effects
- You are unsure of the medication instructions or you think there may be an error
- You cannot pay for your medications
- **DO NOT STOP, CHANGE or ADD a NEW MEDICATION or SUPPLEMENT without talking to your coordinator**



**Transplant Coordinator** 1-410-614-4508 Option 3

**Transplant Pharmacist** 1-888-264-0393 Option 2, then Option 1, then Option 5, and Option 5

## PHARMACY INFORMATION

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After your transplant you will be on many new medications to protect your new lungs and prevent complications. These medications are critical to prevent rejection and infection, and stopping or changing them on your own could lead to life threatening complications. We will spend time in the hospital to help you and your family learn about your new medications so that you are comfortable with your new treatments. The transplant team will work with you to personalize your medications so that you are on the safest and most effective combination for your health. If you are having a side effect from your medicine, please always call the transplant office. We have dedicated transplant pharmacists available in addition to your transplant coordinator/physicians to help with any concerns.

**You should always have at least one week's supply of medications in your possession.** If you do not have refills left on your prescription, have lost your medications, or cannot pay for your medicines, call your transplant coordinator. The Transplant Pharmacists will discuss preferred pharmacy options with you and counsel you and your caregiver on all your medications before you leave the hospital

**All of your medications will be filled prior to leaving the hospital after your lung transplant surgery.** If you prefer, you may continue to fill your prescriptions at one of the Johns Hopkins Outpatient Pharmacies, or any local pharmacy. Depending on your insurance, you may be required to fill one or more of your medications at a specific retail or specialty pharmacy. The Transplant Pharmacist will let you know if this applies to you during your medication education session.

**The part of the medication costs you will be responsible for will vary.** The Transplant Pharmacist will also review this information with you. If you are not able to afford your medications, the Transplant Pharmacist and Social Worker will help connect you with resources to help manage medication costs.

**When setting up your pillbox, always refer to your most recent medication list provided by your doctor, coordinator, or pharmacist.** Your medication bottles may not have accurate dosing information since your transplant team will be changing your medications and doses. Your Transplant Pharmacist will help you set up your pillbox with your first weeks' worth of medications, and can also give you extra help after discharge if you feel you need it. It is encouraged to have your caregivers help fill the medication pillbox.

### Prescription Tips:

- You should always have at least one week's supply of medication
- Please call transplant office to request new prescription when you have no refills left
- Allow 2-3 days for all new prescription refill requests
- Allow 7-10 days for mail order pharmacy deliveries
- It is your responsibility to check prescription status by calling the pharmacy
- Hopkins pharmacies do not have an automatic refill system, you must call for refills
- Always follow medication instructions on your medication list
- Try setting an alarm on your phone or using an app that reminds you to take medications.

## ANTI-REJECTION MEDICATIONS

Tacrolimus (ta-CRAW-lih-mus)		
Brand name	Dosage forms	Reason for use
Prograf®	<b>0.5 mg capsule</b>  <b>1 mg capsule</b>  5 mg capsule  Liquid suspension	Tacrolimus helps prevent your body from rejecting your new lungs by preventing immune cells from attacking your lungs.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking tacrolimus without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Headaches above your eyes</li> <li>✓ Tremors or shakes</li> <li>✓ High blood pressure</li> <li>✓ Kidney damage</li> <li>✓ High blood sugar or diabetes</li> <li>✓ High cholesterol levels</li> <li>✓ Tingling/numbness in hands or feet</li> <li>✓ Hair thinning or hair loss</li> <li>✓ Increased risk of infection</li> <li>✓ Increased risk of cancer</li> <li>✓ Elevated potassium levels</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken twice daily, 12 hours apart. Take at the same time every day (for example, 8 am and 8 pm).</li> <li>✓ Tacrolimus can be taken with or without food but should be taken <b>consistently on an empty stomach or with meals.</b></li> </ul>
Special Instructions		

- ✓ The transplant team may change your tacrolimus dose based on your blood test. Doses may be different than what is on your prescription bottle. Follow the instructions from your transplant team, and **keep your medication list up to date with your current dose**. Call your transplant coordinator if you are unsure what dose you should be taking.
- ✓ **On lab days, do NOT take your tacrolimus dose before lab work.** Try to have labs drawn 12 hours after your evening dose. Your transplant team will check blood levels of tacrolimus with your labs, and it is important that these levels be taken before your morning dose. Notify your coordinator if you accidentally take a dose before you have your labs drawn.
- ✓ Avoid grapefruit, pomegranate, blood orange, pomelo or drinks that have these fruits in them. Avoid black licorice and any form of marijuana. These foods may increase the level of tacrolimus in your blood.
- ✓ Tacrolimus interacts with many other medications. Contact your transplant coordinator before starting or stopping any medications (prescription or over-the-counter).
- ✓ Over-the-counter antacids, such as Tums, may reduce the level of tacrolimus; take these medications at least 2 hours before or after your tacrolimus dose.
- ✓ Take at least 2 hours apart from your magnesium.

#### ANTI-REJECTION MEDICATIONS

Mycophenolate mofetil (MYE-koe-FEN-oh-late MOE-fe-til)		
Brand Name	Dosage Form	Reason for Use
Cellcept®  Other Formulation: Mycophenolic acid (Myfortic®)	Cellcept® 250 mg capsules <b>Cellcept® 500 mg tablets</b> Cellcept® Liquid suspension Myfortic® 180 mg and 360 mg tablets	Mycophenolate helps prevent your body from rejecting your new lungs by slowing down white blood cell replication and growth.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking mycophenolate without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Upset stomach or diarrhea</li> <li>✓ Low white blood cell count</li> <li>✓ Low platelet count</li> <li>✓ Increased risk of infection</li> <li>✓ Increased risk of cancer with long-term use</li> </ul>		<ul style="list-style-type: none"> <li>✓ You may be taking this medication four times a day or twice a day. Follow instructions from the transplant team.</li> <li>✓ Mycophenolate may be taken with or without food.</li> </ul>

### Special Instructions

- ✓ Do not open mycophenolate capsules or break, crush, or chew mycophenolate tablets before swallowing.
- ✓ Blood levels are not monitored for mycophenolate; most patients stay on the same dose unless you have side effects.
- ✓ Over the counter antacids, such as Tums, may reduce the level of mycophenolate; take these medications at least 2 hours before or after your mycophenolate dose.
- ✓ The two formulations of mycophenolate (Cellcept® and Myfortic®) are not interchangeable, and your dose may change if the transplant team changes you to a different formulation. Contact your transplant coordinator if you are unsure what dose to take.
- ✓ Notify transplant coordinate if you experience more than 4 bowel movements per day, have urgency, or loose stools.

## ANTI-REJECTION MEDICATIONS

Prednisone		
Brand Name	Dosage Form	Reason for Use
Deltasone®	1 mg, 2.5 mg, <b>5 mg</b> , <b>10 mg</b> , 20 mg tablets	Prednisone is a corticosteroid that helps prevent your body from rejecting your new lungs by weakening the immune system and reducing inflammation. High doses of prednisone may also be used to treat acute rejection.
Possible Side Effects		When to Take
<p>Let your transplant team know if you experience side effects. Do not stop taking prednisone without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ High blood sugar</li> <li>✓ Difficulty sleeping (insomnia)</li> <li>✓ Mood swings</li> <li>✓ Upset stomach</li> <li>✓ Fluid retention</li> <li>✓ High blood pressure</li> <li>✓ Increased appetite and weight gain</li> <li>✓ Weakened bones (osteoporosis)</li> <li>✓ Cataracts</li> <li>✓ Thin or more fragile skin</li> <li>✓ Slow wound healing</li> <li>✓ Increased risk of infection</li> </ul>		<ul style="list-style-type: none"> <li>✓ Taken once daily, in the morning.</li> <li>✓ Prednisone should be taken with food or milk to decrease stomach irritation.</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Blood levels are not checked for prednisone.</li> <li>✓ You may use a combination of different tablet sizes or need to cut tablets in half to achieve the dose that is correct for you. Be careful to use the correct tablet strength(s) when a dose change is made.</li> <li>✓ You will be started on an initial dose of prednisone 20 mg daily, which will be reduced slowly over several months by the transplant team. Most patients end up on prednisone 5 mg daily lifelong. Your dose may be increased if you have any rejection. Contact your transplant coordinator if you are unsure what dose you should be taking.</li> </ul>		

## ALTERNATIVE ANTI-REJECTION MEDICATIONS

Cyclosporine (SYE-kloe-spor-een)		
Brand Name	Dosage Form	Reason for Use
Neoral®, Gengraf®	<b>25 mg capsules</b> <b>100 mg capsules</b> Liquid suspension You may take a combination of capsule sizes to achieve the dose that is correct for you.	Cyclosporine helps prevent your body from rejecting your new lungs by weakening the immune system and preventing immune cells from attacking your lungs.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking cyclosporine without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Headaches</li> <li>✓ Tremors or shakes</li> <li>✓ High blood pressure</li> <li>✓ Kidney damage</li> <li>✓ High blood sugar or diabetes</li> <li>✓ High cholesterol levels</li> <li>✓ Increased facial hair</li> <li>✓ Gum swelling (gingival hyperplasia)</li> <li>✓ Increased risk of infection</li> <li>✓ Increased risk of cancer with long-term use</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken twice daily, 12 hours apart. Take at the same time every day (for example, 8 am and 8 pm).</li> <li>✓ Cyclosporine can be taken with or without food but should be taken <b>consistently on an empty stomach or with meals.</b></li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Cyclosporine is in the same class of medications as tacrolimus. Some patients who do not tolerate tacrolimus may be switched to cyclosporine if instructed by the transplant team. Do not take cyclosporine and tacrolimus together.</li> <li>✓ The transplant team may change your cyclosporine dose based on your blood level. Doses may be different than what is on your prescription bottle. Follow the instructions from your transplant team, and keep your medication list up to date with your current dose. Call your transplant coordinator if you are unsure what dose you should be taking.</li> <li>✓ <b>On lab days, do NOT take your cyclosporine dose before lab work.</b> Aim to have labs drawn 12 hours after your evening dose. Your transplant team will check blood levels of cyclosporine with your labs, and it is important that these levels be taken before your morning dose. Notify your coordinator if you accidentally take a dose before you have your labs drawn.</li> </ul>		

- ✓ Avoid grapefruit, pomegranate, blood orange, pomelo or drinks that have these fruits in them. Additionally, avoid black licorice and any form of marijuana. These foods may increase the level of cyclosporine in your blood.
- ✓ Cyclosporine interacts with many other medications. Contact your transplant coordinator before starting or stopping any medications (prescription or over-the-counter).
- ✓ Practice good dental hygiene since cyclosporine can cause gum swelling.

**ALTERNATIVE ANTI-REJECTION MEDICATIONS**

<b>Azathioprine (ay-za-THYE-oh-preen)</b>		
<b>Brand Name</b>	<b>Dosage Form</b>	<b>Reason for Use</b>
Imuran®	50 mg tablets  You may need to cut tablets in half to achieve the dose that is correct for you.	Azathioprine helps prevent your body from rejecting your new lungs by slowing down white blood cell replication and growth.
<b>Possible Side Effects</b>		<b>When to Take</b>
Let your transplant team know if you experience side effects. Do not stop taking azathioprine without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Low white blood cell count</li> <li>✓ Low platelet count</li> <li>✓ Liver damage (rare)</li> <li>✓ Pancreatitis or inflammation of the pancreas (rare)</li> <li>✓ Increased risk of infection</li> <li>✓ Increased risk of skin cancer with long-term use</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken once daily in the evening.</li> <li>✓ Azathioprine can be taken with or without food.</li> </ul>
<b>Special Instructions</b>		
<ul style="list-style-type: none"> <li>✓ Blood levels are not monitored for azathioprine. Your dose may be adjusted if you have side effects or if your white blood cell count becomes too low.</li> </ul>		



## ALTERNATIVE ANTI-REJECTION MEDICATIONS

Everolimus (e-ver-OH-li-mus)		
Brand Name	Dosage Form	Reason for Use
Zortress®	0.25 mg, 0.5 mg, 0.75 mg tablets  You may take a combination of tablet sizes to achieve the dose that is correct for you.	Everolimus helps prevent your body from rejecting your new lungs by slowing down white blood cell replication and growth. It is also an anti-proliferative, meaning it has anti-cancer properties.
Possible Side Effects		When to Take
<p>Let your transplant team know if you experience side effects. Do not stop taking everolimus without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ Mouth ulcers</li> <li>✓ Delayed wound healing</li> <li>✓ Diarrhea or stomach upset</li> <li>✓ High cholesterol or triglyceride levels</li> <li>✓ Decreased white blood cells</li> <li>✓ Decreased red blood cells (anemia)</li> <li>✓ Increased risk of infection</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken twice daily, 12 hours apart. Take at the same time every day (for example, 8 am and 8 pm).</li> <li>✓ Everolimus can be taken with or without food but should be taken <b>consistently on an empty stomach or with meals.</b></li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ The transplant team may change your everolimus dose based on your blood level. Doses may be different than what is on your prescription bottle. Follow the instructions from your transplant team, and keep your medication list up to date with your current dose. Call your transplant coordinator if you are unsure what dose you should be taking.</li> <li>✓ <b>On lab days, do NOT take your everolimus dose before lab work.</b> Aim to have labs drawn 12 hours after your evening dose. Your transplant team will check blood levels of everolimus with your labs, and it is important that these levels be taken before your morning dose. Notify your coordinator if you accidentally take a dose before you have your labs drawn.</li> <li>✓ Avoid grapefruit, pomegranate, blood orange, pomelo or drinks that have these fruits in them. Additionally, avoid black licorice and any form of marijuana. These foods may increase the level of everolimus in your blood.</li> <li>✓ Everolimus interacts with many other medications. Contact your transplant coordinator before starting or stopping any medications (prescription or over-the-counter).</li> <li>✓ May also be started to protect against certain viruses and cancers if you are at high risk for developing them.</li> </ul>		

## MEDICATIONS TO PREVENT VIRAL INFECTIONS

Valganciclovir (val-gan-SYE-kloh-veer)		
Brand Name	Dosage Form	Reason for Use
Valcyte®	<b>450 mg tablets</b>  Liquid suspension	Valganciclovir is an antiviral used to prevent viral infections that may occur in transplant patients taking immunosuppressants. More specifically, valganciclovir is used to prevent cytomegalovirus (CMV) infections; it is also effective at preventing herpes simplex and herpes zoster (shingles) virus infections. Prior to transplant patients can be exposed to these viruses without knowing it, which can then be reactivated when your immune system is decreased.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking valganciclovir without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Decrease in white blood cells</li> <li>✓ Decrease in platelets</li> <li>✓ Stomach upset</li> <li>✓ Increased liver enzymes</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken once daily.</li> <li>✓ In some cases patients may need to take it twice daily.</li> <li>✓ Take with food.</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ CMV viral load is monitoring with your routine standing blood work.</li> <li>✓ The transplant team may change your dose based on your kidney function.</li> <li>✓ Do not cut or crush valganciclovir tablets. If the tablet is crushed or broken, avoid breathing the powder or touching the powder with bare skin. If contact occurs, wash thoroughly with soap and water.</li> <li>✓ Most patients are able to stop this medication after 3 to 6 months depending on your CMV risk. Some patients may be restarted on valganciclovir if they develop a CMV infection.</li> </ul>		

## MEDICATIONS TO PREVENT VIRAL INFECTIONS

Acyclovir (ay-SYE-kloe-veer)		
Brand Name	Dosage Form	Reason for Use
Zovirax®	200 mg capsules 400 mg, 800 mg tablets Liquid suspension	Acyclovir is used to prevent viral infections that may occur in transplant patients because they have weak immune systems. Specifically, acyclovir is used to prevent herpes simplex and herpes zoster (shingles) virus infections. Many patients can be exposed to these viruses prior to transplant without symptoms, but then develop symptomatic infection when your immune system is weakened.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking acyclovir without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Stomach upset</li> <li>✓ Headache</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken two or three times daily.</li> <li>✓ Acyclovir may be taken with or without food.</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Do not cut or crush acyclovir tablets. Wash hands thoroughly with soap and water if broken tablets come in contact with skin.</li> <li>✓ Notify your transplant coordinator if you are exposed to someone who has shingles.</li> </ul>		

## MEDICATIONS TO PREVENT INFECTIONS

Sulfamethoxazole/Trimethoprim (SUL-fa-meth-OX-a-zole and try-METH-oh-prim)		
Brand Name	Dosage Form	Reason for Use
Bactrim <sup>®</sup> , Septra <sup>®</sup>	Single strength (400mg/80mg); <b>Double strength (800mg/160 mg) tablets;</b> Liquid suspension	Bactrim <sup>®</sup> prevents a specific type of pneumonia caused by pneumocystis jiroveci (commonly called PCP). This can cause a serious pneumonia infection in patients on anti- rejection medicines. Bactrim <sup>®</sup> may also be used to prevent and treat some bacterial infections.
Possible Side Effects		When to Take
<p>Let your transplant team know if you experience side effects. Do not stop taking Bactrim<sup>®</sup> without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ Increased potassium levels</li> <li>✓ Changes in kidney function</li> <li>✓ Nausea or diarrhea</li> <li>✓ Skin rash</li> <li>✓ Decrease in white blood cells</li> <li>✓ Decrease in platelets</li> </ul>		Usually taken three times a week (for example, on Monday, Wednesday, Friday). Some patients may take a lower dose every day instead.
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Bactrim<sup>®</sup> may be taken with or without food.</li> <li>✓ Most patients will stay on Bactrim<sup>®</sup> lifelong to prevent PCP pneumonia.</li> <li>✓ If you have a sulfa allergy or do not tolerate Bactrim<sup>®</sup>, you may be changed to another medication (for example, dapsone or atovaquone). Your transplant team will discuss this with you if you need to change medications.</li> </ul>		

## MEDICATIONS TO PREVENT INFECTIONS

Dapsone		
Brand Name	Dosage Form	Reason for Use
None	100 mg tablets	Dapsone prevents pneumocystitis pneumonia (PCP), which can cause a serious pneumonia infection in patients taking immunosuppressants.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking dapsone without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Anemia (low hemoglobin)</li> <li>✓ Decrease in white blood cells</li> <li>✓ Increased sun sensitivity</li> <li>✓ Liver damage</li> </ul>		✓ Usually taken once daily
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Dapsone may be taken with or without food.</li> <li>✓ Most patients will stay on a medication like dapsone lifelong to prevent PCP pneumonia.</li> </ul>		

Atovaquone (a TOE va kwone)		
Brand Name	Dosage Form	Reason for Use
Mepron <sup>®</sup>	Liquid suspension	Atovaquone prevents pneumocystitis pneumonia (PCP), which can cause a serious pneumonia infection in patients taking immunosuppressants.

Possible Side Effects	When to Take
<p>Let your transplant team know if you experience side effects. Do not stop taking atovaquone without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ Stomach upset</li> <li>✓ Diarrhea</li> <li>✓ Abdominal pain</li> </ul>	<ul style="list-style-type: none"> <li>✓ Usually 1500 mg (10 mL) of the oral suspension is taken once daily</li> </ul>
Special Instructions	
<ul style="list-style-type: none"> <li>✓ Atovaquone should be taken with food to reduce stomach upset.</li> <li>✓ Most patients will stay on a medication like atovaquone lifelong to prevent PCP pneumonia.</li> </ul>	

**MEDICATIONS TO TREAT FUNGAL INFECTIONS**

Clotrimazole (klo-TRI-muh-zol)		
Brand Name	Dosage Form	Reason for Use
Mycelex®	10 mg lozenge that will dissolve in your mouth	Clotrimazole dissolves in your mouth and prevents oral fungal infections (also called thrush), which can occur in patients on immunosuppression. The risk of this infection will be lower once your steroid (prednisone) dose is decreased. Clotrimazole does not prevent or treat fungal infections in other parts of the body.
Possible Side Effects		When to Take
<p>Let your transplant team know if you experience side effects. Do not stop taking Mycelex without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ Side effects are rare.</li> <li>✓ It may cause some nausea or altered taste.</li> </ul>		<ul style="list-style-type: none"> <li>✓ Allow a lozenge to dissolve in your mouth four times daily, usually after meals and at bedtime.</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Avoid eating or drinking for 10 minutes after allowing the lozenge to dissolve.</li> <li>✓ Your transplant team will tell you when to stop taking clotrimazole based on when your prednisone dose is low enough.</li> </ul>		

✓ Clotrimazole affects your tacrolimus levels, so it is important not to miss any doses.

## MEDICATIONS TO TREAT FUNGAL INFECTIONS

Voriconazole (vor i KOE na zole)		
Brand Name	Dosage Form	Reason for Use
Vfend®	50 mg and 200 mg tablets  Liquid suspension	Voriconazole is used to prevent or treat mold infections that can occur in transplant patients. You may be started on this preventatively if you have grown a fungus infection such as aspergillus, in the past. You may also be started on it if you develop a fungal infection after transplant.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking voriconazole without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Headaches</li> <li>✓ Vision changes or hallucinations</li> <li>✓ Liver damage</li> <li>✓ Increased sensitivity to the sun</li> <li>✓ Bone or muscle pain</li> </ul>		<ul style="list-style-type: none"> <li>✓ Usually taken two times daily</li> <li>✓ Take with your anti-rejection medication</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Voriconazole should be taken on an empty stomach ideally 1 hour before or after meals. Let your coordinator know if you have difficulty tolerating this.</li> <li>✓ You may need multiple tablets sizes or need to cut tablets in half to get the correct dose. Contact your transplant coordinator if you are not sure of your dose.</li> <li>✓ <b>Voriconazole affects the level of tacrolimus in your blood, so it is very important not to miss doses of either medication.</b></li> <li>✓ The transplant team will monitor your blood levels of voriconazole and adjust your dose. When you have lab work done, hold your voriconazole dose until after lab work is drawn.</li> <li>✓ If you do not tolerate voriconazole, the transplant team may change your antifungal to a different medication (for example, posaconazole (Noxafil®) or isavuconazonium (Cresemba®)). Do not stop taking voriconazole unless instructed by the transplant team.</li> </ul>		



## MEDICATIONS TO TREAT FUNGAL INFECTIONS

Posaconazole (poe sa KON a zole)		
Brand Name	Dosage Form	Reason for Use
Noxafil <sup>®</sup>	100 mg tablets	Posaconazole is used to prevent or treat fungal infections that can occur in immunosuppressed transplant patients.
Possible Side Effects		When to Take
Let your transplant team know if you experience side effects. Do not stop taking posaconazole without instructions from the transplant team. <ul style="list-style-type: none"> <li>✓ Headache</li> <li>✓ Dizziness</li> <li>✓ Liver damage</li> </ul>		<ul style="list-style-type: none"> <li>✓ Taken daily in the morning</li> <li>✓ Take with anti-rejection medications</li> </ul>
Special Instructions		
<ul style="list-style-type: none"> <li>✓ Posaconazole should be taken with food when possible.</li> <li>✓ <b>Posaconazole affects the level of tacrolimus in your blood, so it is very important not to miss doses of either medication.</b></li> <li>✓ The transplant team will monitor your blood levels of posaconazole and adjust your dose. When you have lab work done, hold your posaconazole dose until after lab work is drawn.</li> </ul>		

Isavuconazonium (eye sa vue kon a ZOE nee um)		
Brand Name	Dosage Form	Reason for Use
Cresemba <sup>®</sup>	186 mg capsules	Isavuconazonium is used to prevent or treat fungal infections that can occur in immunosuppressed transplant patients.
Possible Side Effects		When to Take

<p>Let your transplant team know if you experience side effects. Do not stop taking Cresemba® without instructions from the transplant team.</p> <ul style="list-style-type: none"> <li>✓ Headaches</li> <li>✓ Liver damage</li> </ul>	<ul style="list-style-type: none"> <li>✓ Taken daily in the morning</li> <li>✓ Take with anti-rejection medications</li> </ul>
<b>Special Instructions</b>	
<ul style="list-style-type: none"> <li>✓ Cresemba® may be taken with or without food.</li> <li>✓ Swallow capsules whole; do not open or crush the capsules.</li> <li>✓ <b>Cresemba® affects the level of tacrolimus in your blood, so it is very important not to miss doses of either medication.</b></li> </ul>	

## PAIN MANAGEMENT

You will likely go home from the hospital with pain medication. Your ability to take a deep breath is restricted if you are having pain. Using pain medication after transplant is helpful with recovery. We will try to use the safest medication that controls your pain, while minimizing the use of habit forming medications. Most patients will be able to reduce their dose and frequency of pain medication over the first 2-3 months post-transplant. If you were on long-term pain medication before transplant, your transplant team may ask you to work with a pain specialist to manage your pain. Please discuss with your coordinator or doctor if you have any concerns.

### Over the counter pain medications:

Tylenol is the **only** over-the-counter pain medication you can take safely.

**Do NOT take anything in the “NSAID” category.**

- These medicines can cause dangerous interactions with your anti –rejection medication and harm your kidneys
- **This includes**
  - ✓ **Ibuprofen (MOTRIN, ADVIL)**
  - ✓ **High dose Aspirin** (more than 325 mg /day)
  - ✓ **Naproxen (ALEVE)**
  - ✓ **Toradol** (usually in a hospital setting)
  - ✓ **Mobic/Celebrex**
- Combination medications – always ask the pharmacist to check if the ingredients include an “NSAID”



**For more information**

These are two excellent websites that can provide more information on transplant medications:

- <https://www.myast.org/patient-information/patient-information> (American Society for Transplantation)
- <http://www.transplantliving.org/> (Patient Education by UNOS/OPTN)