

## Tacrolimus

**Tacrolimus**

- Tacrolimus is used to prevent rejection of the transplanted organ or treat autoimmune diseases. Examples of autoimmune diseases are Systemic Lupus Erythematosus (SLE) and Nephrotic Syndrome.
- Tacrolimus reduces the body's immune response by blocking the production, release and activation of inflammatory cells.

**How is Tacrolimus Administered / Taken?**

- Tacrolimus is available as **Prograf®** (immediate release) or **Advagraf®** (prolonged release) capsules.
- Consume the capsules immediately after removing them from the blister pack. Do not crush or chew **Prograf®** or **Advagraf®** capsules. Swallow the capsules whole.
- Take **Prograf®** capsules at least one hour before (preferred) or two hours after food, in two divided doses (12 hours apart from each dosage). Take the medication consistently in relation to food intake. Take the medication at the same time each day to maintain steady amounts of the medication in your blood.
- Take **Advagraf®** capsules once daily in the morning, at least one hour before (preferred) or two hours after food. Take the medication consistently in relation to food intake. Take the medication at the same time each day to maintain steady amounts of the medication in your blood.
- Do not stop taking Tacrolimus or change the dose unless your doctor tells you to do so. Do not switch between the different brands or formulations of Tacrolimus as they are not interchangeable.

**What Should I Do if I Miss a Dose?**

- If you are on **Prograf®** and you miss a dose, take it as soon as possible if you remember. If it is almost time for your next dose, continue with your regular dosage schedule and do not take the missed dose. Never take double dosage of medication to make up for the missed dose.
- If you are on **Advagraf®** and you miss a dose, continue with your regular dosage schedule and do not take the missed dose if it is more than 14

hours after the missed dose. Never take a double dosage of the medication to make up for the missed dose

### Can Tacrolimus be Administered / Taken with Other Medications?

- Tacrolimus can interact with many medications. The medications below can increase or decrease the blood level of Tacrolimus in your body:
  - Antibiotics (e.g. Clarithromycin, Erythromycin, Rifampicin)
  - Anti-fungals (e.g. Fluconazole, Voriconazole, Itraconazole)
  - Anti-virals (e.g. Ritonavir, Darunavir, Boceprevir)
  - Heart or blood pressure medications (e.g. Diltiazem, Verapamil)
  - Medications used to treat fits (e.g. Carbamazepine, Phenytoin)
  - Painkiller medications (e.g. Diclofenac, Naproxen, Mefenamic Acid)
- It is important that you inform your doctor, pharmacist or transplant coordinator if you are taking other medications – including over-the-counter medicines, supplements and traditional or herbal remedies – that you are currently taking, as these can affect the blood level of Tacrolimus in your body.
- Check with your doctor before having any immunisations while taking Tacrolimus because they may not be as effective. Live vaccines such as MMR (Measles, Mumps and Rubella), OPV (Oral Polio Vaccine), yellow fever or BCG (Tuberculosis) should be avoided.

### Are There Any Dietary Restrictions That I Need to Follow?

- Do not take Tacrolimus with grapefruit or grapefruit juice because these foods can increase the blood level of Tacrolimus in your body.

### What are the Important Side Effects of Tacrolimus?

- Tacrolimus can cause some side effects. Inform your doctor, pharmacist or transplant coordinator if you experience the side effects stated below.
- Your doctor may order blood tests to check the blood level of Tacrolimus in your body and adjust the dose to minimise some of these side effects.

| Side Effects  | Management   |
|---|--|
| Nausea, vomiting, diarrhoea, abdominal pain                                       | Improves as you get used to the medication. Inform your doctor if you have persistent or severe diarrhea, vomiting and abdominal pain. Do not stop the medication, unless instructed by your doctor.   |
| High blood pressure (Warning signs: Persistent and unbearable headache)           | Check your blood pressure frequently. Your doctor may prescribe medicines to treat high blood pressure if necessary.   |
| Trembling of the hands, numbness in hands and legs, headache, difficulty sleeping | Improves as you get used to the medication. Your doctor will order a blood test to check the blood level of Tacrolimus in your body and adjust the dose of the medication if required. Inform your doctor right away if you experience symptoms such as confusion, memory loss, low mood (depression), changes in your behaviour, weakness in one side of the body, trouble speaking or thinking, difficulty balancing the body or worsening eyesight. |
| Diabetes mellitus   | Your doctor may prescribe medications to treat high blood sugar if necessary.  |
| Hair loss, skin reactions (rashes, acne), photosensitivity (severe sunburn)       | Inform your doctor of abnormal skin changes or lumps you notice on your body. Stay out of direct sunlight between 10am and 3pm if possible. Wear long sleeve clothes or sunglasses. Apply sunblock to protect your skin. Do not use a sunlamp.   |
| Reduced kidney function or high potassium (one of the salts in your body) level   | Limit intake of food that are high in potassium (e.g. dried or preserved fruits and vegetables, bananas, oranges, salt substitutes) unless instructed by your doctor. Your doctor will check your kidney function and potassium levels in your body regularly.   |

**If you develop rashes, facial swelling or shortness of breath after taking the medication, you could be allergic to the medication. Please seek medical attention immediately.**

### **Are There Any Special Precautions That I Need to Take?**

- While taking Tacrolimus, you may be more prone to infections. See a doctor if you have fever or flu like symptoms. Avoid direct contact with people having an infection. Avoid raw food, and crowded places. Wear a mask to protect yourself if necessary.
- It is important to inform your doctor if you intend to get pregnant or breastfeed while taking this medication.

### **What Preparations Must be Taken Before Checking Tacrolimus Levels Ordered by Your Doctor?**

- Blood levels of Tacrolimus should be drawn 15 minutes before or after the dose is due.
  - For example, if you usually take Prograf® at 9am and 9pm or Advagraf® at 9am daily, Tacrolimus levels should be drawn between 8.45am – 9.15am for it to be accurate.
  - Do not take the 9am Tacrolimus dose right before or during the blood test. Take the dose right after the blood test is completed. Do not skip the dose completely.

### **How Do I Store Tacrolimus?**

- Store your medication in a cool, dry place away from heat, moisture and direct sunlight.
- Store in the original package in order to protect from moisture.

**If you have any problem with your treatment, please contact your doctor, pharmacist or transplant coordinator.**

**Please keep all medications out of reach of children.**



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