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Tacrolimus to prevent organ rejection



Tacrolimus will be prescribed for you by a specialist doctor.

Each time you collect a new prescription, make sure you have been given the same brand as before.

Take your doses when your stomach is empty - this means an hour before food, or alternatively, two hours after food.

Do not drink grapefruit juice while you are on tacrolimus.

About tacrolimus

Type of medicine	An immunosuppressant
Used for	To prevent rejection of new organs following a transplant operation
Also called	Adoport®, Advagraf®, Capexion®, Envarsus®, Prograf®, Modigraf®;
Available as	Capsules, prolonged-release capsules, prolonged-release tablets, granules for oral suspension, and injection

Your body can try to reject new donor tissue following **organ transplants** or grafts. Tacrolimus helps to prevent this by suppressing your body's immune or defence system.

Your body produces white blood cells called lymphocytes to fight infection or foreign substances which have entered the body. Following an **organ transplant** or graft, your body's immune system recognises the new tissue as 'foreign' to you and will try to attack it with certain lymphocytes. Tacrolimus works by preventing the production of these lymphocytes and this helps prevent rejection of the transplanted tissue.

Tacrolimus is also available as an ointment which is used in the treatment of eczema. There is a separate medicine leaflet available about this called **Tacrolimus ointment**.

Before taking tacrolimus

Some medicines are not suitable for people with certain conditions, and sometimes a medicine may only be used if extra care is taken. For these reasons, before you start taking tacrolimus it is important that your doctor knows:

- If you are pregnant, trying for a baby or breast-feeding.
- If you have any problems with the way your liver works or the way your kidneys work (other than if it is the reason for the transplant).
- If you have high blood pressure.
- If you have an infection, or if you have been told you have cancer.
- If you are taking or using any other medicines. This includes any medicines you are taking which are available to buy without a prescription, as well as herbal and complementary medicines. It is particularly important that you let your doctor know if you have recently taken a medicine called ciclosporin.
- If you have ever had an allergic reaction to a medicine, especially if it was to a macrolide antibiotic (such as erythromycin, clarithromycin, azithromycin or telithromycin).

How to take tacrolimus

- Before you start this treatment, read the manufacturer's printed information leaflet from inside the pack. It will give you more information about the brand of tacrolimus you have been supplied with, and it will also provide you with a full list of the side-effects which you may experience from taking it.
- Your doctor will prescribe a dose for you which is tailored to your weight and the reason why you are taking it. It is usual to take most brands of tacrolimus twice daily (morning and evening), although an exception to this is the brand called Advagraf® which is taken once daily in the morning. Your dose will be printed on the label of the medicine pack to remind you what dose to take - make sure you take it exactly as your doctor has said.

- Take tacrolimus when your stomach is empty. This means taking your doses an hour before food, or alternatively, waiting until two hours after you have eaten. If you have been given capsules or tablets to take, swallow each dose with a small glass of water. Do not chew the tablets or open the capsules.
- If you have been prescribed Modigraf® sachets, these are used to prepare a liquid suspension. Mix the granules into water before taking your doses (your doctor will tell you how much water to use to make up the suspension). Do not use cups or spoons that are made of polyvinylchloride (PVC) when you prepare the suspension because the active substance sticks to this kind of plastic. Take the dose straightaway after making up the suspension.
- Try to take your doses at the same times of day each day, as this will help you to remember to take them. If you do forget to take a dose, take it as soon as you remember (unless it is nearly time for your next dose, in which case leave out the missed dose). Do not take two doses together to make up for a forgotten dose.
- Your doctor will tell you how long your treatment is expected to continue. Keep taking tacrolimus until your doctor tells you otherwise.

Getting the most from your treatment

- Do not drink grapefruit juice while you are on tacrolimus. This is because a chemical in grapefruit juice increases the amount of tacrolimus in your bloodstream. This makes side-effects more likely.
- Try to keep your regular appointments with your doctor. Your doctor will want you to have blood and urine tests during this treatment to check on your progress. From the results of these, your doctor will decide whether the dose you are taking needs adjusting. Your blood pressure, eyes and heart function will also be checked.
- There are a number of different brands of tacrolimus which may not all be absorbed by your body in exactly the same way. Because of this, your doctor will prescribe the same brand of tacrolimus for you each time you need a new prescription. If when you collect a new supply it looks different to what you have had before, ask your pharmacist to check this out for you.
- Tacrolimus can affect your vision or make you feel sleepy. Make sure your reactions are normal before driving and before using tools or machines. Do not drink alcohol as it may increase these effects.
- While you are taking tacrolimus, and for a while after you stop treatment, do not have any immunisations (vaccinations) without talking to your doctor first. Tacrolimus lowers your body's resistance and there is a risk that you may get an infection from the vaccine. Also, some vaccines can be less effective.
- Your doctor will have discussed with you the possibility of a slightly increased risk of cancer (particularly skin cancer) associated with immunosuppressants like tacrolimus. Do not use sunbeds, and avoid strong sunlight or use a sun cream with a high sun protection factor (SPF of at least 15).
- If you buy any medicines or herbal remedies, check with your doctor or a pharmacist that they are suitable for you to take. This is because tacrolimus interferes with the way a number of other medicines work, and vice versa. Also, some anti-inflammatory painkillers which can be bought over-the-counter increase the risk of side-effects from tacrolimus and should be avoided.
- If you have diabetes mellitus this medicine may affect your blood sugar levels. Test your urine or blood regularly and report any extreme changes to your doctor.
- You should avoid becoming pregnant while you are taking tacrolimus. Make sure you have discussed with your doctor which types of contraception are suitable for you and your partner.
- If you are having an operation or any dental treatment, tell the person carrying out the treatment that you are taking tacrolimus.

Can tacrolimus cause problems?

Your doctor will have discussed with you the possibility of unwanted side-effects and how you will be regularly checked for signs of these. You will also have been told that you may become more prone to infections. Some of the more common unwanted effects of tacrolimus are listed below. Let your doctor know if any of the following continue or become troublesome, or if you experience any other symptoms which you are concerned about or think may be due to the medicine.

Common tacrolimus side-effects (some of these can affect more than 1 in 10 people)	What can I do if I experience this?
Headache	Ask your doctor or pharmacist to recommend a suitable painkiller
Diarrhoea	Drink plenty of water and speak with your doctor or clinic for further advice - the amount of tacrolimus in your blood may change when you have diarrhoea and your dose may need to be adjusted
Stomach upset, loss of appetite	Stick to simple meals - avoid spicy foods
Feeling dizzy, blurred vision	Do not drive or use tools or machines. Do not drink alcohol
Difficulty sleeping, feeling shaky, mood changes, tingling feelings, ringing sound in your ears, blood or circulation problems, respiratory problems and infections, aches and pains, skin or hair problems	If any of these become troublesome, discuss them with your doctor
Changes to blood test results and ECGs	Your doctor will regularly monitor for these

How to store tacrolimus

- Keep all medicines out of the reach and sight of children.
- Store in a cool, dry place, away from direct heat and light.

Important information about all medicines

Never take more than the prescribed dose. If you suspect that you or someone else might have taken an overdose of this medicine, go to the accident and emergency department of your local hospital at once. Take the container with you, even if it is empty.

This medicine is for you. Never give it to other people even if their condition appears to be the same as yours.

Do not keep out-of-date or unwanted medicines. Take them to your local pharmacy which will dispose of them for you.

If you have any questions about this medicine ask your pharmacist.

Further reading & references

- [Manufacturer's PIL, Advagraf® 0.5 mg, 1 mg, 3 mg and 5 mg Prolonged-release hard capsules](#); Astellas Pharma Ltd, The electronic Medicines Compendium. Dated June 2015.
- [Manufacturer's PIL, Mbdigraf® 0.2 mg and 1 mg granules for oral suspension](#); Astellas Pharma Ltd, The electronic Medicines Compendium. Dated June 2015.
- British National Formulary 73rd Edition (Mar 2017); British Medical Association and Royal Pharmaceutical Society of Great Britain, London.

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