



Tacrolimus for Uveitis

What is Tacrolimus?

Tacrolimus is an immunomodulatory drug. It lowers the inflammation in the body by reducing the activity of the immune system. It does this by decreasing the development and spread of T- lymphocytes (which are one of the main types of immune cells in the body). It is commonly used to prevent the rejection of transplanted organs such as heart, liver, kidney or lung.

Tacrolimus and Uveitis

It is one of the second line agents used in the treatment of non-infectious uveitis when steroids alone are not effective or high doses of steroids are required to control inflammation or there is an intolerance to other immunomodulatory drugs. Uveitis is an inflammation of the uvea, the middle layer of the eye, which can lead to vision loss if untreated. Studies have shown that Tacrolimus is well tolerated in the treatment of non-infectious uveitis.

How to take Tacrolimus?

- **Dosage:** Take Tacrolimus exactly as prescribed by your doctor. It is taken daily in two doses. The dose depends on your weight and severity of inflammation. In uveitis, the most commonly prescribed initial dose is 1mg twice a day. The dose is increased or decreased depending on your tolerance of side effects and on Tacrolimus levels in the blood once treatment is started.
- **Administration:** Swallow the tablets whole with a glass of water. It should be taken on an empty stomach, either one hour before or two hours after meals. Do not crush or chew them. Avoid grapefruit juice while taking the drug as this interferes with the drug.
- **Consistency:** Take your doses at the same time each day to maintain a steady level of the medication in your body.

- **Missed Dose:** If you forget to take a dose, take it as soon as you remember if it is before noon. If it after 12pm, please take your evening dose as normal. **Do not take a double dose to make up for a forgotten dose.** If you have taken an overdose of Tacrolimus or more tablets than prescribed, you should get medical help immediately either by calling your doctor or by going to the nearest emergency department (A&E).
- **Storage:** Keep Tacrolimus at room temperature, away from moisture or heat and out of the sight and reach of children. Do not use this medicine after the expiry date which is stated on the carton and blister pack after “EXP”. The expiry date refers to the last day of that month. Do not store above 25°C. Store in the original container to protect from light.

How long will it take for it to start working?

For it to work well, the medication should be taken regularly. Do not be discouraged if the results are not immediate, because the drug takes up to three weeks to become effective in controlling inflammation. To help control inflammation while waiting for Tacrolimus to take effect, your doctor may also prescribe steroids, which work quickly or continue with the steroid therapy if you are already on it. Once Tacrolimus has had enough time to start working, your doctor will gradually reduce the steroid dose.

What are the possible side effects?

The use of Tacrolimus maybe associated with side effects. Not everyone will develop these side effects, and they may vary from person to person.

Common side effects:

- Abdominal pain, nausea, diarrhoea, vomiting
- High blood pressure
- Can affect liver and kidney function
- High blood sugar
- Headache
- Tremors

Less common side effects:

- Reduction in the level of certain blood cells like white blood cells and platelets - please report immediately any infections, fever and unexplained bruising or bleeding
- Increase in cholesterol level
- Tachycardia (where your heart beats too fast)

- Angina (chest pain)
- Increased risk of lymphoma and skin cancers

Rare but serious side effects. Please inform your doctor or call 111 if you experience the following:

- Strong abdominal pain alone or along with other symptoms, such as chills, fever, nausea or vomiting; this could be signs of gastric perforation
- Blurred vision
- Low or no urine output which could indicate kidney failure
- Unexplained extreme tiredness, confusion, yellowing of the skin or the eyes which could indicate jaundice
- Abnormal bruising or bleeding and signs of infection

As with any medication taken for the first time, you may develop a severe allergic reaction (anaphylaxis) to Tacrolimus. This is very rare. However, if you experience the following, please call 999 as this requires urgent hospital treatment:

- Your lips, mouth, throat or tongue suddenly become swollen.
- You are breathing very fast or struggling to breathe (you may become very wheezy or feel like you are choking or gasping for air)
- Your throat feels tight or you are struggling to swallow.
- Your skin, tongue or lips turn blue, grey or pale (if you have black or brown skin, this may be easier to see on the palms of your hands or soles of your feet)
- You suddenly become very confused, drowsy or dizzy.
- You may also have a rash that is swollen, raised, itchy, blistered or peeling.

To help monitor for these side effects, your doctor will arrange regular blood tests. If you experience any new or worrying symptoms, speak to your doctor or pharmacist.

Interactions with other treatments

Certain drugs can increase the concentration of Tacrolimus which can cause side effects or decrease the concentration of the drug which can result in reduced effectiveness of the drug. Remember to mention you are on Tacrolimus to any health professional you are treated by. Please inform us if you have been prescribed any new medication or treatment by another health care professional.

You can take paracetamol and ibuprofen when needed unless there is another reason not to take them.

Do not take other over-the-counter preparations or herbal remedies without discussing with your doctor, as some of them could react with Tacrolimus to cause side effects or reduce the effectiveness of the drug.

Please avoid pomelo and pomegranate juices since they may increase the concentration of Tacrolimus.

You can also use the following link to check if any drug that you are currently taking interacts with Tacrolimus to produce an adverse effect:

<https://bit.ly/4k3QyYg>

Alcohol

Tacrolimus and alcohol can affect the liver. Side effects such as dizziness, drowsiness or visual disturbances may occur if you drink alcohol while on treatment with Tacrolimus.

Ensure you do not drink more than the recommended national guidelines. This is drinking less than 14 units per week for both men and women, spread over 3 days or more.

You can find more about alcohol guidelines at <http://www.drinkaware.co.uk/>

Fertility, pregnancy and breastfeeding

Please inform us if you are planning to conceive or start a family.

Tacrolimus does not need to be paused before conception for either parent taking the drug. It is compatible with pregnancy, however maternal blood pressure, blood glucose levels, Tacrolimus drug levels and kidney function should be monitored during pregnancy.

Research suggests that negligible amounts of Tacrolimus are excreted and passed through breast milk. While breastfeeding when taking Tacrolimus is not discouraged, infant monitoring is advised in exclusive breastfeeding.

Preventing Infections

Since Tacrolimus weakens the immune system, it is important to take extra precautions to reduce your risk of infections:

- **Avoid close contact with sick people**, especially those with colds, flu, or other contagious illnesses.
- **Wash your hands regularly** with soap and water or use hand sanitiser when soap is not available.
- **Keep your environment clean**, including frequently touched surfaces like phones, keyboards, and door handles. Keep your bathroom, toilet and kitchen surfaces clean.
- **Practice food hygiene** - avoid undercooked meat, unpasteurised milk and raw seafood. If you eat out at restaurants and use takeaways, ensure they practise meticulous hygiene.
- **Wear a mask** in crowded places if there is a high risk of infection.
- **Viral infections** - If you come into contact with anyone who has a viral infection like chicken pox, please see your GP. You will be prescribed anti-viral treatment as a precaution. Please pause the Tacrolimus while you are taking the anti-viral medication.
- **COVID** - If you test positive for COVID, then you are eligible for COVID antibody treatment. This treatment is only effective when given within 5 days of testing positive. The best way to access treatment is to contact 111 and follow their advice. Please pause the Tacrolimus while you are receiving the antibody treatment.
- **Antibiotics** – If you are prescribed antibiotics by your GP or other health care professionals to treat infections, you may have to pause the **Tacrolimus** for the duration of the antibiotic course. Please seek advice from the health care professional prescribing the medication or contact us for advice. Pausing the Tacrolimus can give your immune system a chance to fight the infection and for the antibiotics to take effect.
- **Seek medical advice if you develop a fever, persistent cough, or any signs of infection.**

Vaccinations

While taking Tacrolimus, your immune system is weaker, which means some vaccines may not work as well, and **live vaccines** should be avoided. Live vaccines contain weakened viruses that could cause infection in people with weakened immune systems. **Live vaccines to avoid include:**

- Measles, Mumps, and Rubella (MMR)
- Varicella (Chickenpox)
- Shingles (Zoster)
- Yellow Fever
- Oral Polio Vaccine
- Bacillus Calmette-Guérin (BCG) for tuberculosis
- Live Influenza (nasal spray)
- Rotavirus

Before getting any vaccine, speak with your doctor to ensure it is safe for you. Inactivated (non-live) vaccines such as the flu, COVID-19, pneumonia and Shingrix (non-live Shingles vaccine) vaccines are usually safe and recommended.

Surgery

Please inform us if you have any surgery planned including dental procedures. Depending on the nature of the procedure, the treatment with Tacrolimus may have to be paused to enable wound healing and recovery. For minor procedures which are not very invasive and minimal bleeding is anticipated, the treatment may not need to be paused. However, please keep us inform so we can tailor advice depending on the specific surgical procedure and stability of inflammation in your eyes.

Screening, monitoring and follow-up

Prior to starting treatment, you will have blood tests and a chest x-ray to check if the drug is suitable for you and that you do not have an active infection. This will ensure safety of your health and effectiveness of the drug. You will have had most of the tests done at your initial appointment.

Regular follow-up appointments are essential to monitor your body's response to Tacrolimus and to adjust dosages if necessary. Blood tests will be performed periodically to check for side effects and ensure the medication is working effectively.

Blood tests will include:

- a full blood count, kidney and liver function tests.
- since Tacrolimus can increase your cholesterol levels, glucose levels, blood pressure and reduce your Magnesium levels, these levels will be tested as well.
- the drug levels will also be tested to check that they are at a therapeutic level. Please skip your Tacrolimus dose on the morning of your test.

The frequency of the tests is fortnightly for the first 6 weeks, then monthly for the next 3 months and then every 3 months. These tests can be arranged at the eye clinic or with your local GP surgery or hospital.

You will be prescribed a 3 month's supply of Tacrolimus. Please inform us via the contact details provided at the end of this leaflet when you have 2 weeks of

medication left so we can prescribe the medication without any delay. We cannot prescribe Tacrolimus without a recent blood test. So please ensure you have regular blood tests for your safety.

You will be on treatment for a minimum of 2 years and more depending on how stable the inflammation in your eyes is.

Available support and resources:

<https://www.rnib.org.uk/your-eyes/eye-conditions-az/uveitis/>

<https://www.drinkaware.co.uk/>

Department contact information: weekdays excluding bank holidays

Uveitis email address: uveitis@uhb.nhs.uk (08:00 – 17:00)

Jacqui Orpe, secretary: 0121 371 6905 (06:30 – 14:30, Monday, Tuesday, Friday)

Carolyn Rivera, specialist nurse: 07823 827040 (08:00 – 17:00, Monday, Tuesday, Thursday, Friday)

Hermy Skew, specialist nurse: 07388 711893 (08:00 – 16:00, Tuesday, Wednesday, Thursday, Friday)

Main ophthalmology outpatient clinic: 0121 371 6476, 0121 371 6477 (08:00 – 18:00, Monday to Friday)

Appointments team: 0121 371 6925, 0121 371 6787 (08:00 – 16:00, Monday to Friday)

Hospital Pharmacy: 0121 371 5479, 0121 371 5480

Homecare pharmacy (deliveries): 0121 371 3933

Out of hours: we do not provide an out of hours service.

In cases of emergency such as:

- sudden drop in vision
- sudden appearance of or increase in floaters (dots floating across your field of vision)
- flashing lights

- redness in the eye with severe pain and sensitivity to light
- appearance of a shadow or curtain across your vision with a drop in vision

please contact or visit your local eye casualty.

If you are a Birmingham resident, your local eye casualty is BMEC (Birmingham Midland Eye Centre). Please note that the average wait time can range from 2 hours to 6 hours.

Address: City Hospital, Dudley Rd, Birmingham B18 7QH.

Phone number: 0121 5076779

Opening hours:

8:30am – 7pm, Monday to Friday

9am – 7pm – Saturday

9am – 6pm – Sunday

Accessibility

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