

Medicines commonly taken by people after transplant or with an autoimmune disease

Patient information: medicines



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What is this leaflet about?

Medicines can be used to prevent your body from rejecting a transplanted organ. They can also be used to slow the progression of a disease affecting your kidneys, or kidney failure itself in patients with an autoimmune kidney disease.

This leaflet aims to give you more information about these types of medications and some of their possible side effects. For more information, ask your doctor or pharmacist.



What do the medicine names mean?

Most medicines have two names: the real (drug) name and the brand (company) name.

In this leaflet, the brand name will be indicated by the use of a capital first letter and a registered trademark symbol ® – like Neoral®. Doctors tend to use the real name of the drug.



What types of medicines might I need?

Some of the most common medicines you may be prescribed include:

Medicines that suppress the immune system (Immunosuppressants)

As the word immunosuppressant suggests, the function of these medicines is to dampen down the immune system, which is the body's natural defence system. The aim is to stop the immune system rejecting the transplant kidney while still keeping it active enough to fight infections. **All patients who have a kidney transplant need to take drugs called immunosuppressants.** You will need regular blood tests and review by your kidney doctor.

Immunosuppressants are also taken for autoimmune diseases, for example, systemic lupus erythematosus (SLE) or vasculitis. They are used to try to improve kidney function and to treat the disease, stopping it from causing any further damage to the body.

- **prednisolone** – this is best taken first thing in the morning after breakfast. Side effects include indigestion, weight gain, diabetes, mood changes, thinning of the bones and skin. **Do not stop taking these medicines suddenly** – your doctor will tell you when to reduce the dose and when to stop altogether. If you, or anyone in your family or close friends, catches chickenpox, even if you have had it yourself, it is important to tell your doctor immediately, but do not stop taking your prednisolone. It is also important that you contact your doctor if you catch chickenpox within three months of stopping prednisolone.
- **ciclosporin** (Deximune[®], Neoral[®]) is taken twice a day. Side effects include gum swelling, hair growth, kidney problems and rashes. You will need to have your blood levels of the medicine measured regularly. When you come to have a blood test you should not take your morning dose until after you have

had your blood test. Do not change from one brand to another unless you are advised to by your kidney doctor. Problems can occur when ciclosporin is taken with some other medicines, for example, erythromycin, clarithromycin or St John's wort – always tell your doctor and pharmacists that you are taking ciclosporin. Avoid taking the herbal remedy St John's wort.

- **tacrolimus** (Adoport[®], Prograf[®], Advagraf[®], Envarsus[®], Dailiport[®]) is taken once or twice a day depending on the brand. Tacrolimus should be taken consistently with food, or on an empty stomach, at the same time each day. Side effects include tremors, kidney problems and diabetes. You will need to have your blood levels of the medicine measured regularly. When you come to have a blood test, you should not take your morning dose until after you have had your blood test. Do not change from one brand to another unless you are told to by your kidney doctor. Problems can occur when tacrolimus is taken with some other medicines, for example erythromycin, clarithromycin or St John's wort – always tell your doctor and pharmacists that you are taking tacrolimus. Avoid taking St John's wort.



- **sirolimus** is taken once a day. Side effects include high cholesterol, and feeling sick. You will need to have your blood levels of the medicine measured regularly. Problems can occur when sirolimus is taken with some other medicines, for example, erythromycin, clarithromycin or St John's wort – always tell your doctor and pharmacists that you are taking sirolimus. Avoid taking St John's wort. The tablets should be taken consistently with food, or on an empty stomach, at the same time each day. If you are taking the tablets, the different strengths are not interchangeable – for example, one 1mg tablet is not the same as two 0.5mg tablets.
- **azathioprine** is taken once a day, usually with your evening meal. It may make you feel sick, lead to skin rashes and cause a decrease in blood cell numbers (you will have your blood tested regularly for this). It is not important to stick to a single brand of azathioprine.
- **mycophenolate mofetil** or **mycophenolic acid** are usually taken twice a day. Both these medicines may make you feel sick or cause a decrease in blood cell numbers. It is not important to stick to a single brand of these medicines. Mycophenolate mofetil (Cellcept[®]) should not be confused with the similar-sounding drug mycophenolate sodium (mycophenolic acid, or Myfortic[®] or Ceptava[®]; these two are interchangeable). **Do not get pregnant when taking this medicine.** Contraception should be used by women taking mycophenolate and for three months afterwards because it could be harmful to unborn babies. Tell your kidney doctor if you would like to get pregnant, or think you are pregnant, before you stop your mycophenolate.



- **cyclophosphamide** can be taken for myeloma, vasculitis, lupus or membranous nephritis. It can be taken as a larger dose once a week or a smaller dose once a day. Your doctor will decide which is better for you. It may sometimes be given as an injection. Contraception should be used while taking cyclophosphamide and for three months afterwards because it could be harmful to unborn babies. Side effects include a decrease in white blood cells, feeling sick, hair loss, inflammation of the bladder and problems with fertility.
- **rituximab** is a medicine that can be given directly into your blood stream to suppress your immune system. It is sometimes given around the time of a transplant, or for diseases such as vasculitis or lupus. It is not recommended to become pregnant for a few months after having rituximab – speak to your kidney doctor.

Note: all these medicines have side effects that need to be monitored regularly by your kidney doctor.

There are other medicines that can be given around the time of transplant – speak to your transplant team about these.

You are more likely to develop infections while receiving immunosuppressant therapy and any infections may be worse than normal. You should report any signs of infection to your doctor.

You should also report any **unexpected bruising, bleeding or rashes** to your doctor or kidney team.

These medicines carry a high risk of developing skin cancer so it is best to avoid sunbathing, use a high-factor sunscreen and wear a hat and long sleeves, if possible, in sunny weather.

It is also important to **avoid grapefruit and pomegranate juice** as they can affect the balance of drug levels.

It is recommended that you see your doctor regularly about **skin checks, and cervical smears for women**. This is because you are more likely to develop skin or cervical cancers, but these are not as serious if identified early.

Please note: you should not become pregnant on some of these medications – talk to your kidney doctor if you want to have a baby, or think you may be pregnant.



Other medications often taken after transplantation

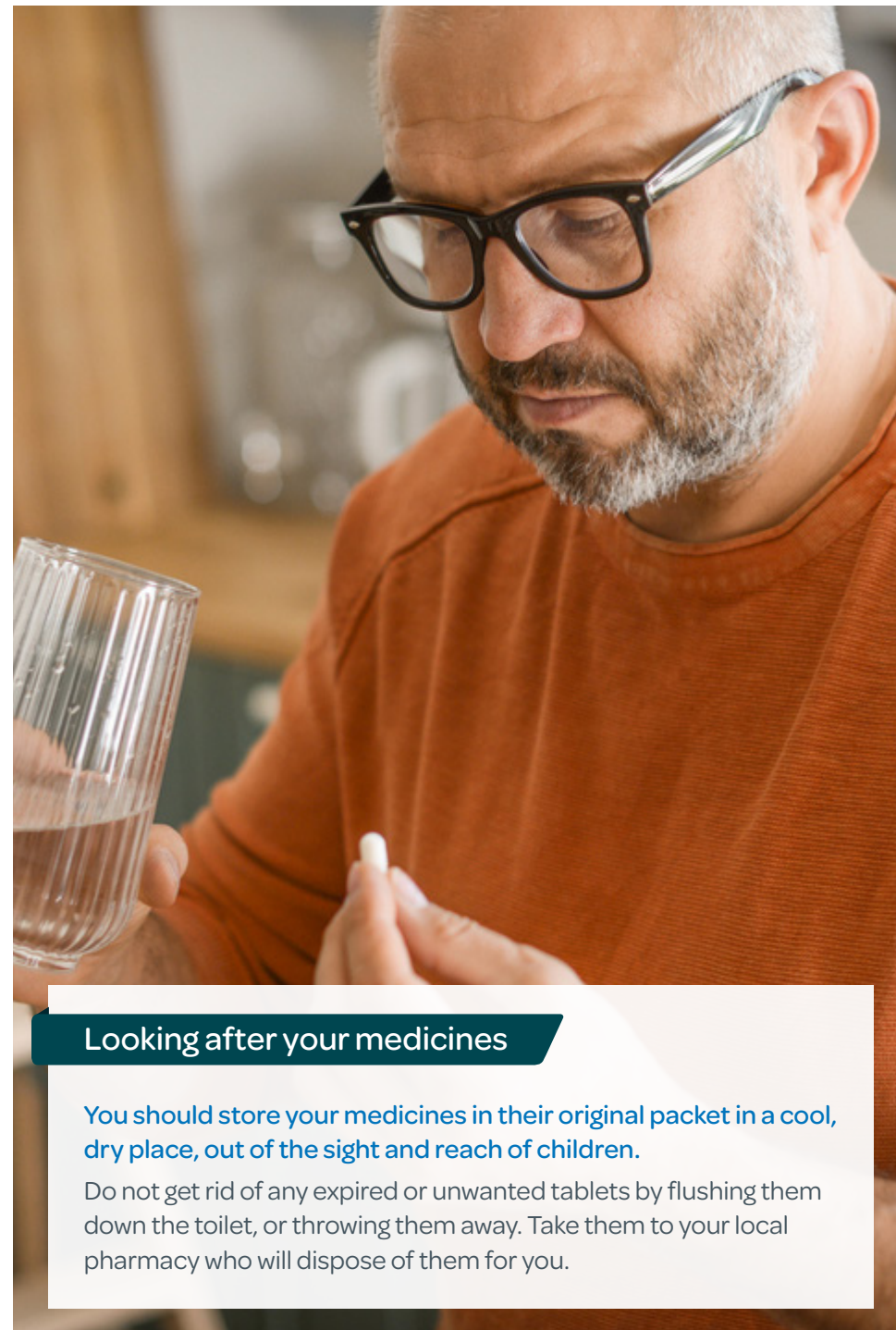
- **nystatin solution** – rinse round the mouth four times a day (prevents fungal infection).
- **co-trimoxazole** – usually taken once a day or three times a week (prevents a type of pneumonia called pneumocystis, or PCP or CDC). Side effects include a reduction in the number of white blood cells, so your bloods will be monitored regularly.
- **isoniazid** – taken once a day (prevents tuberculosis). Side effects include upsetting the liver. This is given with pyridoxine to prevent side effects.
- **valganciclovir** – taken once a day (prevents cytomegalovirus or CMV). Side effects include a reduction in the number of white blood cells, so your bloods will be monitored regularly.

Doses may be reduced depending on how well the kidney is working.

Note: these medicines can usually be stopped 3-6 months after a transplant – ask your transplant doctor.

Nystatin and co-trimoxazole are often given to patients with an autoimmune disease who have been treated with cyclophosphamide or rituximab.

Note: all these medicines have side effects that need to be monitored regularly by your kidney doctor.



Looking after your medicines

You should store your medicines in their original packet in a cool, dry place, out of the sight and reach of children.

Do not get rid of any expired or unwanted tablets by flushing them down the toilet, or throwing them away. Take them to your local pharmacy who will dispose of them for you.





Where can I find more information?

- Read about the medication used to treat kidney disease and kidney failure: www.kidneycareuk.org/medication
- NHS Medicines A to Z: www.nhs.uk/medicines

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