

Ciclosporin factsheet

Ciclosporin, an oral immunosuppressant drug, is a treatment for severe eczema that requires supervision by a dermatologist. It's a polypeptide drug consisting of amino acids obtained from a fungus. It was developed in the 1970s for suppressing the immune systems of transplant patients to prevent them from rejecting their transplanted kidneys, hearts and other organs.

Ciclosporin was first used in dermatology to treat psoriasis, and licensed for the treatment of atopic eczema in 1990. Ciclosporin can be very effective in keeping the condition under control, but because of its side effects, it may not be suitable for everyone. It's available in the UK as capsules containing 10 mg, 25 mg, 50 mg and 100 mg of ciclosporin. It also comes as a liquid.

How does ciclosporin work?

Ciclosporin works in eczema by inhibiting the production of inflammatory cytokines (chemicals that mediate inflammation).

It's a potent immunosuppressant and if it's effective for you, you'll generally see an improvement quickly (within 1-2 weeks). Further improvements can occur up to 12-16 weeks after the start of treatment.

If you experience side effects, contact your dermatologist. Always follow your dermatologist's advice on stepping down from ciclosporin.

You should never simply stop taking it. The course is usually short (up to 4 months), but for some people, a longer course may be prescribed.

A course of up to one year of therapy has been shown to be effective and well-tolerated, provided monitoring guidelines are followed.

Unfortunately, in most cases, the eczema will come back again when the treatment is stopped. However, in some cases, it remains relatively mild for several months without further treatment.

One advantage of ciclosporin is that it reduces the need for other treatments, such as topical steroids and oral steroids. This reduces the side effects from these other treatments.

Who is prescribed ciclosporin?

Ciclosporin is licensed for children aged 2 years and over and adults with severe eczema. It is prescribed by a dermatologist and monitored in dermatology departments.

Ciclosporin and methotrexate are the most common immunosuppressant treatments used to treat severe eczema. They are usually prescribed prior to biologic therapies, as the NICE and SIGN recommended treatment pathway.

Ciclosporin is only used in severe cases of eczema, as the risk of side effects would be out of proportion to the benefits. Ciclosporin is reserved for people with eczema whose lives are severely disrupted by the condition and whose eczema hasn't responded sufficiently well to topical treatments (topical steroids, topical calcineurin inhibitors and emollients) following referral to dermatology.

Ciclosporin should not be taken if you have a severe infection (for example, tuberculosis) or any serious form of cancer, or if you have previously had serious cancer. This is because ciclosporin damps down the immune system and so might make these conditions worse or, in the case of cancer, more likely to recur.

Extra care will be required if you have had any previous kidney or liver disorder, high blood pressure, diabetes or high blood cholesterol. In these circumstances, it may not be possible to take ciclosporin.

Before starting ciclosporin, if you are unsure whether you or your child has had chickenpox, a blood test will be required to check for immunity. If necessary, a vaccine against chickenpox will be given.

What are the side effects?

Ciclosporin does have side effects, which means that not everyone can use it. The side effects of ciclosporin are almost all 'dose-related'. This means that the higher the dose you take, the more likely you are to develop side effects. People will also vary in their susceptibility, so that some develop severe side effects quickly, and others can take ciclosporin for years without side effects. Most side effects settle when you stop taking the drug, but the longer you take ciclosporin the more severe any side effects will become.

The main side effects of ciclosporin are hypertension (high blood pressure) and reduced efficiency of the kidneys (renal toxicity). Ciclosporin can also increase blood lipids (cholesterol). Therefore, blood pressure checks and blood tests to look at kidney function and lipid levels need to be carried out before treatment and closely monitored throughout treatment. Through monitoring and adjusting doses, side effects are largely reversible.

The immune system protects us from infections and cancer, so when it's suppressed, there is an increased risk of infections occurring. The risk of bacterial, fungal and viral infections is greater when you are on ciclosporin.

Despite ciclosporin suppressing the immune system, the risk of contracting minor infections such as colds is probably not increased.

If you have not had chickenpox and you come into contact with someone who has chickenpox or shingles (which is also caused by the chickenpox virus), you should inform your doctor promptly as it may be necessary for you to receive preventative treatment to protect you.

Long-term immunosuppression can increase the risk of cancer, which is why ciclosporin is usually given for short courses. This includes skin cancer, so people on ciclosporin should take steps to protect their skin from the sun by applying a sunscreen to exposed skin, wearing a hat and seeking shade when outdoors. People on ciclosporin are advised to take up invitations to NHS cancer screening appointments for breast, bowel and cervical cancer.

Other less serious but troublesome side effects include increased hair growth, which is a relatively common side effect and can be particularly distressing for women; swelling and enlargement of the gums, which is more common when taking higher doses; nausea; tremor (shaky hands); altered sensation (pins and needles); and headaches.

Despite these side effects, many people find that the benefits of the treatment produce significant relief.

What monitoring is needed?

As possible side effects of ciclosporin include high blood pressure and reduced kidney function, your blood pressure and kidney function will need to be checked before starting treatment and monitored closely throughout treatment.

Kidney function is usually checked using blood and urine tests to measure a substance called creatinine that is removed by the kidneys. Blood and urine tests will usually be carried out every 3 months; more frequently at the start of treatment.

If there are signs that your blood pressure or kidneys are being affected, the dose of ciclosporin will normally be reduced, or the treatment discontinued. In most cases, things will return to normal.

Does ciclosporin affect fertility or pregnancy?

It's preferable not to take ciclosporin during pregnancy, but your doctor will discuss your options with you. If you are planning a family soon or if you become pregnant while taking ciclosporin, you should discuss this with your doctor straight away.

You should not breastfeed while taking ciclosporin.

Can I drink alcohol while taking ciclosporin?

There's no reason to avoid alcohol while taking ciclosporin, but stay within the recommended guidelines.

The national guidelines for safe consumption recommend that men and women drink no more than 2 units a day/ no more than 14 units a week.

Can ciclosporin be used with other treatments?

Ciclosporin may be prescribed in combination with other drugs. However, many other drugs interact with it and you should always tell the doctors and other healthcare professionals treating you that you are taking ciclosporin.

You should not take over-the-counter or dietary supplements, such as St John's wort, without discussing this first with your doctor or pharmacist.

Drugs that may interact with ciclosporin include:

- Aspirin and non-steroidal anti-inflammatory drugs (NSAIDs): e.g. ibuprofen and diclofenac.
- Antibiotics: e.g. erythromycin, clarithromycin, trimethoprim, ciprofloxacin, rifampicin and doxycycline.

- Antifungals: e.g. luconazole, itraconazole, ketoconazole and amphotericin B.
- Treatments for seizures: e.g. phenytoin and carbamazepine.
- Blood pressure medicines: e.g. ACE inhibitors, beta-blockers and calcium channel blockers.
- Digoxin. Please note: This is not a complete list. Please look at the Medicines.org link provided, section 4.5 - Interaction with other medicinal products and other forms of interaction.

Can I have immunisation vaccines while taking ciclosporin?

- Covid-19 vaccines are safe and recommended for people on ciclosporin, as these are not live vaccines. Covid-19 vaccines/boosters should be administered at the recommended intervals.
- General advice is that 'live' vaccines such as MMR (measles, mumps, rubella), polio, chickenpox (varicella), shingles, Rotarix, BCG and yellow fever should not be administered to people on ciclosporin. Live vaccines should also be avoided for three months after stopping ciclosporin.
- Yearly influenza and 5-yearly pneumococcal (Pneumovax) injections are safe and recommended for everybody on ciclosporin.

Current immunisation advice for people on immunosuppressant drugs can be found at:

<https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book>

Further information on ciclosporin tablets (Neoral soft geletin capsules), please visit:

<https://www.medicines.org.uk/emc/product/1034/>

If you have any questions or concerns, please do not hesitate to speak to the doctor, pharmacist or nurse caring for you.

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