PATIENT & CAREGIVER EDUCATION

Cyclosporine (Systemic)

This information from Lexicomp® explains what you need to know about this medication, including what it’s used for, how to take it, its side effects, and when to call your healthcare provider.

Brand Names: US
Gengraf; Neoral; SandIMMUNE

Brand Names: Canada
APO-CycloSPORINE; Neoral; SandIMMUNE IV; SANDOZ CycloSPORINE

Warning

All products:

- Your child may have more chance of getting an infection. Some infections have been deadly. Have your child wash hands often. Have your child stay away from people with infections, colds, or flu.

- Lymphoma and other cancers have happened in people who take this drug or drugs like it. This has been deadly in some cases. Talk with the doctor.

- If this drug is given with other drugs that work on the immune system, it can add to the chance of getting an infection or lymphoma or other cancers. Call your doctor right away if you have a change in color or size of a mole; a lump in the armpit, groin, or neck; or any new or changing skin lump or growth. Talk with the doctor.

- Call your child’s doctor right away if your child has any signs of infection like fever, chills, flu-like signs, very bad sore throat, ear or sinus pain, cough, more sputum or change in color of sputum, pain with passing urine, mouth sores, or a wound that will not heal.

- This drug may cause kidney problems in some patients. Talk with the doctor.

- High blood pressure has happened with this drug. Have your child’s blood
pressure checked as you have been told by the doctor.

- Have blood work checked as you have been told by the doctor. Talk with the doctor.

- There is more than 1 brand of this drug. One brand cannot safely be used for the other. The doctor will tell you about any needed change.

**Sandimmune®:**

- This drug may be given with steroid drugs like hydrocortisone. Do not use with other drugs that weaken the immune system. Talk with the doctor.

**Gengraf® or Neoral®:**

- If your child is taking this drug for psoriasis AND your child got other drugs to treat this health problem, your child’s chance of skin cancer may be higher.

**What is this drug used for?**

- It is used to keep the body from harming the organ after an organ transplant.

- It is used to treat rheumatoid arthritis.

- It is used to treat psoriasis.

- It may be given to your child for other reasons. Talk with the doctor.

**What do I need to tell the doctor BEFORE my child takes this drug?**

**For all patients taking this drug:**

- If your child is allergic to this drug; any part of this drug; or any other drugs, foods, or substances. Tell the doctor about the allergy and what signs your child had.

- If your child has any of these health problems: Cancer, high blood pressure, or kidney problems.

- If your child is taking any of these drugs: Aliskiren, amiloride, bosentan, dabigatran, orlistat, spironolactone, or triamterene.
If your child is breast-feeding a baby:

- Talk with the doctor if your child is breast-feeding a baby or plans to breast-feed a baby.

Psoriasis:

- If your child has psoriasis and is using other treatments like other drugs or radiation.

This is not a list of all drugs or health problems that interact with this drug.

Tell the doctor and pharmacist about all of your child’s drugs (prescription or OTC, natural products, vitamins) and health problems. You must check to make sure that it is safe for your child to take this drug with all of his/her drugs and health problems. Do not start, stop, or change the dose of any drug your child takes without checking with the doctor.

What are some things I need to know or do while my child takes this drug?

- Tell all of your child’s health care providers that your child is taking this drug. This includes your child’s doctors, nurses, pharmacists, and dentists.

- If your child has high blood sugar (diabetes), you will need to watch his/her blood sugar closely.

- If your child is taking a salt substitute that has potassium in it, a potassium-sparing diuretic, or a potassium product, talk with your child’s doctor.

- This drug has alcohol in it. Talk with the doctor.

- This drug interacts with many other drugs. The chance of this drug’s side effects may be raised or how well this drug works may be lowered. The chance of the other drugs’ side effects may also be raised. This may include very bad, life-threatening, or deadly side effects. Check with the doctor and pharmacist to make sure that it is safe for your child to take this drug with all of their other drugs (prescription or OTC, natural products, vitamins).

- There is a chance of skin cancer. Avoid lots of sun, sunlamps, and tanning beds. Use sunscreen and dress your child in clothing and eyewear that protects him/her from the sun.
• Have your child’s skin checked often. Talk with the doctor.

• Some people treated with this drug have had very bad kidney problems caused by a certain viral infection (BK virus). In people who have had a kidney transplant, BK virus infection may cause loss of the kidney. Call the doctor right away if your child has signs of kidney problems like change in the amount of urine passed, trouble passing urine, pain when passing urine, or blood in the urine.

• A very bad and sometimes deadly brain problem called posterior reversible encephalopathy syndrome (PRES) has happened with this drug. If you have questions, talk with the doctor.

• Talk with the doctor before your child gets any vaccines. Use of some vaccines with this drug may either raise the chance of very bad infection or make the vaccine not work as well.

• Take care of your child’s teeth. See a dentist often.

• Avoid giving your child grapefruit and grapefruit juice.

• Watch for gout attacks.

• Use with care in children. Talk with the doctor.

If your child is pregnant:

• This drug may cause harm to the unborn baby if your child takes it during pregnancy. If your child is pregnant or gets pregnant while taking this drug, call the doctor right away.

What are some side effects that I need to call my child’s doctor about right away?

WARNING/CAUTION: Even though it may be rare, some people may have very bad and sometimes deadly side effects when taking a drug. Tell your child’s doctor or get medical help right away if your child has any of the following signs or symptoms that may be related to a very bad side effect:

• Signs of an allergic reaction, like rash; hives; itching; red, swollen, blistered, or peeling skin with or without fever; wheezing; tightness in the chest or throat; trouble breathing, swallowing, or talking; unusual hoarseness; or swelling of the mouth, face, lips, tongue, or throat.
- Signs of high blood pressure like very bad headache or dizziness, passing out, or change in eyesight.
- Signs of kidney problems like unable to pass urine, change in how much urine is passed, blood in the urine, or a big weight gain.
- Signs of electrolyte problems like mood changes, confusion, muscle pain or weakness, a heartbeat that does not feel normal, seizures, not hungry, or very bad upset stomach or throwing up.
- Any unexplained bruising or bleeding.
- Feeling very tired or weak.
- A burning, numbness, or tingling feeling that is not normal.
- Chest pain or pressure or a fast heartbeat.
- Gum changes.
- Hearing loss.
- Seizures.
- Shortness of breath.
- Shakiness.
- Swelling.
- Feeling confused.
- Feeling less alert.
- Loss of eyesight. This can be long-lasting.
- Very bad and sometimes deadly liver problems have happened with this drug. Call your child's doctor right away if your child has signs of liver problems like dark urine, feeling tired, not hungry, upset stomach or stomach pain, light-colored stools, throwing up, or yellow skin or eyes.
- A very bad brain problem called progressive multifocal leukoencephalopathy (PML) may happen with this drug. It may cause disability or death. Tell the doctor right away if your child has signs like confusion, memory problems, low mood (depression), change in the way your child acts, change in strength on 1 side is greater than the other, trouble speaking or thinking, change in balance, or change in eyesight.
What are some other side effects of this drug?

All drugs may cause side effects. However, many people have no side effects or only have minor side effects. Call your child’s doctor or get medical help if any of these side effects or any other side effects bother your child or do not go away:

- Headache.
- Stomach pain or diarrhea.
- Upset stomach or throwing up.
- Hair growth.
- Pimples (acne).
- Dizziness.
- Flushing.
- Signs of a common cold.
- Joint pain.
- Leg cramps.

These are not all of the side effects that may occur. If you have questions about side effects, call your child’s doctor. Call your child’s doctor for medical advice about side effects.

You may report side effects to your national health agency.

How is this drug best given?

Give this drug as ordered by your child’s doctor. Read all information given to you. Follow all instructions closely.

All oral products:

- Give this drug with or without food but give it the same way each time. Always give with food or always give on an empty stomach.
- If your child is taking sirolimus, give it 4 hours after giving this drug.
- Keep giving this drug to your child as you have been told by your child’s doctor or other health care provider, even if your child feels well.
• Give this drug at the same time of day.

**Liquid (solution):**

• Measure liquid doses carefully. Use the measuring device that comes with this drug.

• Do not rinse the syringe that comes with this drug before or after giving your child a dose. If you need to wash it, be sure it is completely dry before using it again.

**Gengraf® or Neoral®:**

• Mix solution in glass with orange or apple juice at room temperature and have your child drink it right away. Rinse glass with more liquid and have your child drink.

**Sandimmune®:**

• Mix solution in glass with 1 cup of milk, chocolate milk, or orange juice at room temperature and have your child drink it right away. Rinse glass with more juice or milk and have your child drink.

**Injection:**

• It is given as an infusion into a vein over a period of time.

**What do I do if my child misses a dose?**

**All oral products:**

• Give a missed dose as soon as you think about it.

• If it is close to the time for your child’s next dose, skip the missed dose and go back to your child’s normal time.

• Do not give 2 doses at the same time or extra doses.

**Injection:**

• Call your child’s doctor to find out what to do.

**How do I store and/or throw out this drug?**
Capsules:

- Store in the original container at room temperature.
- Store in a dry place. Do not store in a bathroom.

Liquid (solution):

- Store at room temperature. Do not refrigerate or freeze.
- Store in original container.
- After opening, throw away any part not used after 60 days.
- Store in a dry place. Do not store in a bathroom.

Injection:

- If you need to store this drug at home, talk with your child’s doctor, nurse, or pharmacist about how to store it.

All products:

- Keep all drugs in a safe place. Keep all drugs out of the reach of children and pets.
- Throw away unused or expired drugs. Do not flush down a toilet or pour down a drain unless you are told to do so. Check with your pharmacist if you have questions about the best way to throw out drugs. There may be drug take-back programs in your area.

General drug facts

- If your child’s symptoms or health problems do not get better or if they become worse, call your child’s doctor.
- Do not share your child’s drug with others and do not give anyone else’s drug to your child.
- Some drugs may have another patient information leaflet. If you have any questions about this drug, please talk with your child’s doctor, nurse, pharmacist, or other health care provider.
- If you think there has been an overdose, call your poison control center or
get medical care right away. Be ready to tell or show what was taken, how much, and when it happened.

**Consumer Information Use and Disclaimer**

This information should not be used to decide whether or not to take this medicine or any other medicine. Only the healthcare provider has the knowledge and training to decide which medicines are right for a specific patient. This information does not endorse any medicine as safe, effective, or approved for treating any patient or health condition. This is only a brief summary of general information about this medicine. It does NOT include all information about the possible uses, directions, warnings, precautions, interactions, adverse effects, or risks that may apply to this medicine. This information is not specific medical advice and does not replace information you receive from the healthcare provider. You must talk with the healthcare provider for complete information about the risks and benefits of using this medicine.

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If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.