

# Cyclophosphamide

(sye-kloe-foss-fa-mide)

**Category:** Antineoplastic Agent; Immunosuppressant

**Other Names for this Medication:** Cytoxan®, Neosar®

**Common Dosage Forms: Veterinary:** None. **Human:** 25 mg & 50 mg tablets.

This information sheet does not contain all available information for this medication. It is to help answer commonly asked questions and help you give the medication safely and effectively to your animal. If you have other questions or need more information about this medication, contact your veterinarian or pharmacist.

## Key Information

- ▶ Cyclophosphamide is a chemotherapy (cancer) and immune-suppressive drug. The drug and its byproducts can be hazardous to animals and people that come in contact with it. On the day your animal gets the drug and for a few days afterward, all bodily fluids (eg, urine, feces, blood, vomit) should only be handled while wearing disposable gloves. Seal the waste in a plastic bag, then place both the bag and gloves in the regular trash.
- ▶ Give cyclophosphamide with food, as this drug can be toxic to the gastrointestinal tract and cause vomiting and gastrointestinal upset.
- ▶ Watch for bleeding, bruising, low energy level, and blood in your pet's urine.

## How is this medication useful?

Cyclophosphamide is used to treat a variety of cancers in animals as well as some conditions associated with an overactive immune system.

The FDA (U.S. Food & Drug Administration) has approved this drug for use in humans, but it is not officially approved for use in animals. The FDA allows veterinarians to prescribe products containing this drug in different species or for other conditions in certain situations. You and your veterinarian can discuss why this drug is the most appropriate choice.

## What should I tell my veterinarian to see if this medication can be safely given?

Many things might affect how well this drug will work in your animal. Be sure to discuss the following with your veterinarian so together you can make the best treatment decisions.

- ▶ Other drugs can interact with cyclophosphamide, so be sure to tell your veterinarian and pharmacist what medications (including vitamins, supplements, or herbal therapies) you give your animal, including the amount and time you give each.
- ▶ Tell your veterinarian about any conditions or diseases your pet may have now or has had in the past.
- ▶ If your animal has been treated for the same disease or condition in the past, tell your veterinarian about the treatment and how well it did or didn't work.
- ▶ If your animal is pregnant or nursing, talk to your veterinarian about the risks of using this drug.
- ▶ Tell your veterinarian and pharmacist about any medication side effects (including allergic reactions, lack of appetite, diarrhea, itching, hair loss) your pet has developed in the past.

## When should this medication not be used or be used very carefully?

No drug is 100% safe in all patients, but your veterinarian will discuss with you any specific concerns about using this drug in your animal.

This drug **SHOULD NOT** be used in patients that:

- ▶ Have had an allergic reaction to cyclophosphamide.
- ▶ Have impaired bone marrow function
- ▶ Have an infection.

This drug should be used **WITH CAUTION** in patients that:

- ▶ Are susceptible to infections (eg, because of hyperadrenocorticism, diabetes mellitus, advanced age, chronic disease).
- ▶ Have liver, kidney, or urinary bladder problems.

If your pet has any of these conditions or signs, talk to your veterinarian about the potential risks versus benefits.

## What are the side effects of this medication?

Side effects with cyclophosphamide may come on slowly and tend to be most severe about 1-2 weeks after the drug is started.

### **Common but not serious side effects include:**

- ▶ Dogs may lose their fur after treatment; breeds such as Poodles or Kerry Blues are reported to be more likely to suffer this effect.

### **Side effects that may be serious or indicate a serious problem:**

- ▶ Low energy level.
- ▶ Lack of an appetite.
- ▶ Bleeding or bruising.
- ▶ Vomiting or diarrhea.
- ▶ Blood in the vomit (looks like coffee grounds) or diarrhea (ie, black, tarry stool).
- ▶ Difficulty breathing.
- ▶ Agitation (anxious, nervous, upset, unable to relax), facial or eye twitching, or seizures (rare).
- ▶ Bladder damage (hemorrhagic cystitis). As many as one-third of dogs (rare in cats) receiving cyclophosphamide will have damage to the bladder that causes blood in the urine. Your veterinarian may give your dog a diuretic (water pill) to decrease the likelihood of this adverse effect. Your veterinarian may also recommend that you take your dog out more often to encourage urination to prevent this effect.

Contact your veterinarian immediately if you see any of these signs, as they may indicate an infection developing due to the drug suppressing the bone marrow and immune system.

### **If my pet gets too much of this medication (an overdose), what should I do?**

Cyclophosphamide overdoses, no matter how small, can be fatal and should be considered an emergency. If you witness or suspect an overdose, contact your veterinarian or an emergency veterinary clinic immediately. Additional advice can be obtained from one of the animal poison control centers that are open 24 hours a day including: **Pet Poison HELPLINE** (855-764-7661) and **ASPCA Animal Poison Control Center** (888-426-4435); a consultation fee is charged for these services.

### **How should this medication be given?**

For this medication to work, give it exactly as your veterinarian has prescribed. It's a good idea to always check the prescription label to be sure you are giving the drug correctly.

- ▶ Always wear gloves when giving this medication.
- ▶ Give cyclophosphamide with food.
- ▶ Manufacturers of cyclophosphamide tablets generally recommend that the tablets not be split. However, your veterinarian may recommend splitting to obtain the safest and most effective dose for your animal.
- ▶ Compounded liquid forms of this medication must be measured carefully. Your veterinarian or pharmacist can help by providing special measuring spoons or syringes.
- ▶ If you have difficulty getting your animal to take the medicine, contact your veterinarian or pharmacist for tips to help dosing and reducing the stress of medication time.
- ▶ This medication can be given for various lengths of time. Be sure you understand how long your veterinarian wants you to continue giving this medication. Prescription refills may be necessary before the therapy will be complete. Before stopping this medication, talk to your veterinarian, as there may be important reasons to continue its use.

### **What should I do if I miss giving a dose of this medication?**

This drug must be dosed very carefully. Contact your veterinarian for further instructions if you miss a dose.

### **How should I store this medication?**

- ▶ Store this medication in the original prescription bottle or an approved dosage reminder container (ie, pill minder) at room temperature, protected from light.
- ▶ If your veterinarian or pharmacist has made (compounded) a special formulation for your animal, it should be stored in the refrigerator and protected from light. If accidentally left outside of the refrigerator, the liquids can tolerate temperatures up to 77°F up to 24 hours.
- ▶ Keep away from children and other animals.

### **Can handling this medication be hazardous to me, my family, or other pets?**

Cyclophosphamide can cause serious adverse effects in people or animals that are exposed to it. Wear disposable gloves when handling this medication. Do not reuse gloves. Once used, gloves or bags must be thrown out in the trash. Do not allow the drug to come into contact with your skin, eyes, or mouth.

Cyclophosphamide can be found in any of the treated animal's secretions, including, saliva, vomit, urine, and feces. Wear gloves when cleaning the cat litter box or picking up dog droppings and when cleaning up urine or vomit. Do not let treated animals lick human skin. If skin exposure occurs, the area should be washed thoroughly with soap and water. Pregnant women **SHOULD NOT** handle this drug.

### **How should I dispose of this medication if I don't use it all?**

- ▶ Do not flush this medication down the toilet or wash it down the sink. If a community drug "take-back" program is available, use this option. If there is no take-back program, mix the drug with coffee grounds or cat litter (to make it undesirable to children and animals and unrecognizable to people who might go through your trash), place the mixture in a sealable plastic bag to keep it from leaking out, and throw the bag out with the regular trash.
- ▶ Do not save left over medication for future use or give it to others to use.

### **What other information is important for this medication?**

- ▶ Your veterinarian will need to perform follow up examinations and laboratory work on your animal after it receives this medication. To ensure the safety of your pet and best response to this medication, take your pet back for all scheduled recheck visits.
- ▶ Do not give your pet any vaccinations while receiving this drug without consulting your veterinarian first.
- ▶ In the interest of public safety, do not take your dog to a dog park or allow your animal to urinate and defecate in public places until your veterinarian tells you that it is okay to do so.

### **If you have any other questions or concerns about this medication, contact your veterinarian or pharmacist.**