

Doxorubicin

(dox-oh-roo-bi-sin)

Category: Anticancer Agent

Other Names for this Medication: Adriamycin®, Doxil®

Common Dosage Forms: **Veterinary:** None. **Human:** 10 mg, 20 mg, & 50 mg vials for injection.

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

- ▶ Doxorubicin is a chemotherapy (anticancer) drug. The drug can be hazardous to other animals and people that come in contact with it. On the day your animal gets the drug and then for a few days afterward, all bodily waste (urine, feces, litter), blood, or vomit should only be handled while wearing disposable gloves. Seal the waste and any items used to clean it (eg, paper towels, gloves) in a plastic bag and then place bag in another bag (double bag) before placing in with the regular trash.
- ▶ Gastrointestinal toxicity (eg, vomiting, lack of appetite, diarrhea). Doxorubicin can cause severe vomiting after it is given; veterinarians often will prescribe medication to help lessen this. Mild loss of appetite (eating less) and occasional vomiting 2-5 days after a dose are not unusual. If you see severe vomiting or bloody diarrhea, call your veterinarian immediately.
- ▶ Bone marrow suppression is also a problem that will occur about 10-14 days after doxorubicin is given, so watch your pet for signs of this (weakness, fever, bruising, and bleeding). If you see any of these, you should contact your veterinarian immediately.
- ▶ If leaked outside the vein, doxorubicin is irritating and can cause severe damage to the affected limb.

How is this medication useful?

Doxorubicin is an injectable chemotherapy drug that can be useful for treating a variety of cancers in animals.

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.

- ▶ Tell your veterinarian and pharmacist what medications (including vitamins, supplements, or herbal therapies) you are giving your animal, as well as the amount and schedule of each.

- ▶ Tell your veterinarian about any conditions or diseases your pet may have now or has had in the past. Doxorubicin should be used with extreme caution in animals with severe kidney, liver, or heart disease.
- ▶ 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. With this drug, it is particularly important to tell your veterinarian if your animal was treated with doxorubicin previously at another clinic or hospital.
- ▶ 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. Doxorubicin should not be given to animals that have had an allergic reaction to it.

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:

- ▶ Animals that are allergic to it.
- ▶ Animals with serious heart problems.
- ▶ Cats with severe kidney disease.
- ▶ Dog breeds that may have a certain genetic mutation (*MDR1*) until they are tested for this mutation. This mutation is most commonly found in "white feet" breeds, including collies, Australian shepherds, shelties, long-haired whippets. Dogs that have this mutation may be overly sensitive to the drug and have serious side effects.

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

- ▶ Animals with urate urinary stones or history of urate stones.
- ▶ Animals with bone marrow suppression or active infections. Your veterinarian may choose to delay use of doxorubicin if your animal has either of these.
- ▶ Animals with liver problems.
- ▶ Dog breeds (eg, boxers, Doberman pinschers, Great Danes, rottweilers) that are susceptible to developing heart problems.
- ▶ Animals with mild to moderate heart problems. If this drug is to be used, patients should also receive adequate heart protecting drugs before doses.

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

What are the side effects of this medication?

- ▶ Gastrointestinal toxicity (eg, vomiting, lack of appetite, diarrhea). Doxorubicin can cause severe vomiting after it is given; veterinarians often will prescribe medication to help lessen this. Mild loss of appetite (eating less) and occasional vomiting 2-5 days after a dose are not unusual. If you see severe vomiting or bloody diarrhea, call your veterinarian immediately.
- ▶ Bone marrow suppression is also a problem that will occur about 10-14 days after doxorubicin is given, so watch your pet for signs of this (weakness, fever, bruising and bleeding). If you see any of these, you should contact your veterinarian immediately.
- ▶ Heart damage. Doxorubicin can damage the heart especially after it has been used for a while; your veterinarian will watch for this. Dogs that have existing heart problems will get drugs that will help protect from further damage before a dose of doxorubicin is given.
- ▶ Some dogs experience a severe allergic reaction to doxorubicin. Swelling, itching, and vomiting are the first symptoms to watch for; irregular heartbeat and possible cardiac arrest (heart attack) may happen if the reaction is not caught early. If you see any of these signs, you should contact your veterinarian immediately.
- ▶ Kidney damage: Cats are most susceptible. Your veterinarian will check for this by monitoring bloodwork.
- ▶ Skin and tissue damage at the injection site. If this drug leaks out of the vein while it is being given, it can cause severe damage to the skin and surrounding tissue. If you see this, contact your veterinarian immediately.
- ▶ Dogs: Loss of fur. Many dogs receiving chemotherapy will have minor hair coat changes (eg, shagginess, loss of luster). Breeds with continuously growing hair coats (eg, poodles, terriers, Afghan hounds, or old English sheepdogs) are more likely to experience significant hair loss.

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

It is unlikely that your animal will receive this drug outside of the veterinarian's office, so this won't be a concern.

How should this medication be given?

Your veterinarian will administer this drug by injection in the office. Watch for any adverse reactions when your animal arrives home after receiving this drug.

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

You will not be administering this medication at home, but if you notice any of the adverse effects that your veterinarian has warned you about, contact your veterinarian immediately.

How should I store this medication?

You will not be taking this medication home.

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

- ▶ You will not be handling this medication, but for a few days after your animal receives it, this drug can be found in the animal's saliva, urine, feces, and blood.
- ▶ This drug can cause serious adverse effects in people or animals that are exposed to it, disposable gloves should be worn to avoid contact with bare skin. Be careful not to accidentally rub your eyes. Wear gloves when disposing of cat litter or dog droppings or cleaning up urine spills or vomit. Do not reuse gloves. **Seal the waste with all gloves and items used to clean it (eg, paper towels) in a plastic bag, then place into an additional plastic bag (double bag) before putting in the regular trash.**
- ▶ Do not let treated animals lick human skin. If skin exposure occurs, the area should be washed thoroughly with soap and water. Contact your physician if you have any concerns.
- ▶ Pregnant women **SHOULD NOT** handle any waste or items used to clean the waste while your animal is on this drug

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

This medicine is only given in your veterinarian's office, so you will not need to dispose of it.

What other information is important for this medication?

- ▶ Doxorubicin has a maximum total amount that can be given to a patient over its lifetime. Exceeding this limit greatly increases the chance that your pet will develop heart damage from the drug. Your veterinarian will be keeping track of how much doxorubicin your pet has received.
- ▶ Your veterinarian will need to perform examinations and lab work on your animal after it receives this medication. Do not miss these important follow-up visits.
- ▶ Your animal should not receive vaccines containing live (or modified live) viruses while receiving this medication.
- ▶ In the interest of safety to other animals and humans, don't 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.
- ▶ Your animal should not participate in animal competitions while on this drug. Exposure to other animals may put your animal at serious risk of infections during chemotherapy treatment. Talk with your veterinarian about when it is safe to return to these events.

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