

Doxorubicin

Names The generic drug name is doxorubicin (dox-oh-ROO-bi-sin). Adriamycin is a brand name. There may be other names for this medication.

How is it Administered? Your medicine will be given by injection into a vein (intravenous or IV), into a vein, usually in your arm, wrist, hand, or chest.

How Does it Work? Cancers are diseases in which abnormal cells reproduce uncontrollably. Your chemo schedule is based upon:

- your cancer type and how fast the cancer cells reproduce
- the phase of the cell cycle when the chemo is most effective – the resting, growing, or reproduction phases

Doxorubicin is an anthracycline antibiotic, an antibiotic that is only used in cancer chemotherapy. It attacks the cancer cells in multiple phases of the cells' normal cycle and slows or stops the growth of cancer cells.

Many chemo medications identify and attack cancer cells because they reproduce quickly. Some cells in your body normally reproduce quickly and they are likely to be damaged/destroyed by chemo. These normal cells will eventually grow back and be healthy. During treatment, however, you may experience side effects from chemo's effects on these cells.

What Should I Tell My Doctor Before I Begin Doxorubicin? Tell your doctor if you:

- have ever had an allergic reaction to doxorubicin
- have or have ever had kidney, heart, or liver disease
- have had radiation therapy to the chest
- are pregnant or breastfeeding

This medication may interact with other medications or cause harmful side effects. Tell your doctor about any prescription or over-the-counter medications, vitamins, herbal or diet supplements that you are taking.

What Are Some Possible Side Effects?

- Bone marrow depression causing low levels of white blood cells, red blood cells, and platelets, which can increase your risk for infection, fatigue, and bleeding
- Loss of appetite, nausea, vomiting
- Diarrhea
- Skin irritation (sunburn-like) or rash on areas previously exposed to radiation treatments; darkening of fingernails or toenails
- Swelling, pain, redness, or peeling on palms of your hands and soles of your feet (Hand Foot Syndrome)
- Mouth or throat soreness
- Difficulty swallowing
- Thin or brittle hair, hair loss

How Can I Manage These Side Effects?

- **Drink 2-3 quarts of water every day unless your doctor tells you to limit your fluids.** This is even more important on the days before and after you take these medications. This will help flush the medications out and help prevent dehydration and constipation. Try to drink a variety of fluids to help provide the calories, sodium (salt), and other electrolytes your body needs. Broths are a good source of sodium, and some sports drinks provide additional electrolytes (check the labels).
- **Low white blood cell count:** To help avoid infections, stay away from crowds or people with colds or other infections. Wash your hands often. Talk to your doctor before you have any vaccinations, such as a flu shot.
- **Low red blood cell count/Fatigue:** If you are fatigued, take rests during the day, limit your activities, and do an activity at a time of day when you feel a bit more energetic. Learn to ask for and accept help with household and daily chores.
- **Low platelet count:** Be careful when handling sharp objects. Avoid rough sports or other situations that could cause bruising or injury. Use an electric razor.
- **Nausea/vomiting:** Take prescribed anti-nausea medication as soon as you feel nauseous. It may also help to alternate which medications you take, depending on what works best for you. To help prevent nausea, avoid fried, spicy, and/or fatty foods on the days you receive chemo and for 2-3 days afterwards. **Take steroids with food or milk to help protect from an upset stomach.** Eating small, frequent meals may help. If you feel nauseous, try foods and drinks that are 'easy on the stomach' or made you feel better when you were sick in the past. These generally include bland foods, ginger ale, dry crackers, and toast.

- **Diarrhea:** Loperamide (Imodium®) is available over the counter. Check with your doctor if it is OK for you to take this medicine, and how often.. Do not take more than 8 tablets (16mg) in a 24-hour period. Call the clinic if this does not provide relief within 24 hours.
- **Skin care:** You may be more sensitive to sunlight, take extra care to avoid sun exposure. Use a sunblock with SPF 30 or higher that protects against both UVA and UVB rays when you are outdoors, even if it is just for a short time. Keep your neck, chest, and back covered. Wear sunglasses and protective clothes (brimmed hat, long sleeves, etc.) when in the sun. Do not use tanning beds. If you develop a rash, keep the area clean and dry and check with your doctor before using any creams or ointments on the area.
- **To help prevent hand-foot syndrome:** Frequently apply moisturizer to the palms of your hands and the soles of your feet. Lessen friction and heat exposure to your hands and feet.
- **Mouth care** is very important. To prevent mouth sores, rinse your mouth with a mixture of ½ teaspoon of baking soda in 8 ounces of water after every meal and at bedtime. Brush your teeth and gums often with a soft toothbrush. Do not use alcohol, mouthwashes that contain alcohol, or tobacco products. Call us if symptoms become so severe that you have difficulty swallowing. Additional medications can be prescribed.
- **Hair loss:** Some people cut their hair for their own comfort once it begins to fall out. Hair will grow back once chemo is over, but it may have a different color or texture. Talk to your doctor or nurse about a wig before hair loss begins. You can get a wig in the Resource Center for Patients and Families; call **716-845-1729**.
- **Check with your doctor before taking any over the counter or herbal medicines or products for any side effect.**

When Should I
Call the Doctor?

Call 911 or go to the nearest hospital emergency department if you have life-threatening symptoms such as signs of severe allergic reaction: Swelling or tingling in your face, tongue, mouth, or throat; chest tightness; wheezing; trouble breathing or swallowing; dizziness, shortness of breath; heart palpitations; or hives.

Call your doctor immediately if you have:

- signs of an infection: **Temperature of 100.4 F (38 C)** or above; chills; sore throat; sores in your mouth; increased, painful, or difficult urination; redness, pain, or swelling at the injection site
- unusual bruising or bleeding: Bleeding lasts more than 10-15 minutes or that causes dizziness; black or bloody stools; vomit that is bloody or that looks like coffee grounds; blood in your urine or phlegm /mucus, unusually heavy menstrual bleeding, spontaneous bleeding from your gums or nose, or superficial

bleeding into the skin that appears as a rash of pinpoint-sized reddish-purple spots (petechiae)

- back pain, flushing, or chest tightness

Call your doctor as soon as possible if you have:

- nausea and vomiting that is not relieved by prescribed medication
- extreme fatigue that interferes with normal activities
- swelling in your legs or feet
- persistent diarrhea that has lasted more than 2 days

What Else Do I Need to Know About Doxorubicin

- Doxorubicin is red. This medication may cause your urine, tears, and the white parts of your eyes to appear red or orange. This is normal and will go away once the doxorubicin is complete but you may need to protect your clothes.
- Chemotherapy may cause menstrual irregularities in women and interfere with sperm production in men, and prevent patients from having children in the future. Talk to your doctor about this risk.
- Do not plan to have children while receiving chemotherapy or for a while after treatments Do not assume you cannot get pregnant or father a child when receiving chemotherapy. Use an effective method of birth control during treatment. Barrier methods, such as condoms, are recommended. Chemotherapy may cause serious birth defects.
- Doxorubicin may cause heart rhythm changes.
- Doxorubicin may cause weakening of the pumping action of the heart when it is given in high doses and for prolonged periods. Before receiving doxorubicin, we check your heart function to ensure your heart can tolerate the therapy. Damage to the heart can occur at any time, even months or years after stopping this medication.
- There is a rare possibility that this medication may increase your risk of developing other cancers. Talk to your doctor about the risks of using this medication.
- Keep all appointments with your doctor and the laboratory.
- For more information, talk to your doctor or pharmacist.