

What is Doxorubicin?

Doxorubicin is an anti-cancer agent used to treat different types of solid tumors, lymphomas and some types of leukemias.

How does it work?

Doxorubicin is an anthracycline. It inhibits DNA and RNA synthesis by forming bonds between the components of DNA (purines and pyrimidine's), uncoiling the DNA helix and forming obstructions, resulting in the death of cells. Doxorubicin also works by producing free radicals that break down DNA and cell membranes.

How is it given?

Doxorubicin is administered as an intravenous (IV) infusion. It can be given over 10 to 15 minutes and up to 24 hours.

Special instructions:

- Doxorubicin can cause nausea and vomiting. The doctor will prescribe you medications to keep you from feeling sick and throwing up after you receive doxorubicin.
- Drink plenty of fluid while receiving doxorubicin.
- This medicine may make your mouth sore and irritated. The doctor or nurse may give you oral rinses to keep your mouth clean after you receive doxorubicin.
- You may need an echocardiogram to test your heart function before and after receiving doxorubicin.
- Your urine, sweat and tears may be tinted red in colour after receiving doxorubicin.
- Certain side effects of therapy may be exacerbated when doxorubicin is given during radiation therapy. If you are receiving radiotherapy as part of your treatment, doxorubicin may be delayed or skipped during the duration of radiation.

Possible Side Effects:

Listed below, but not limited to, are the more commonly experienced side effects that you may see. The side effects your child might experience may be temporary and some may be permanent.

	Likely Happens to 21-100 children out of every 100	Less Likely Happens to 5-20 children out of every 100	Rare but serious Happens to <5 children out of every 100
Immediate Within 1-2 days of receiving the medicine	<ul style="list-style-type: none"> ▪ Nausea ▪ Vomiting ▪ Pink or red color to urine, sweat, tears and saliva 	<ul style="list-style-type: none"> ▪ High levels of uric acid in the blood which could damage the kidneys ▪ Thickening and hardening of the veins through which the medication is given ▪ Facial flushing 	<ul style="list-style-type: none"> ▪ Diarrhea and/or abdominal pain (tummy pain) ▪ Loss of appetite ▪ Damage to the skin if the medication leaks from the vein ▪ Fever and/or chills ▪ Hives ▪ Rash and itching of the skin ▪ An irregular heartbeat that can be life threatening ▪ Severe allergic reaction which can be life threatening with shortness of breath, low blood pressure and a rapid heart rate.

Doxorubicin

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Patient/Caregiver Information

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Prompt Within 2-3 weeks, prior to the next course	<ul style="list-style-type: none"> Temporary hair loss Decreased blood cell components. Fewer white blood cells may make it easier to get infections. Fewer red blood cells may make you feel tired and weak. Fewer platelets may cause you to bruise and bleed more easily. 	<ul style="list-style-type: none"> Inflammation and/or sores in the mouth (and/or throat and/or oesophagus) that may make swallowing difficult and painful Elevation of certain enzymes in the blood associated with the liver which may indicate liver irritation or damage 	<ul style="list-style-type: none"> Redness or burning at sites which have received radiation in the past Tearing and inflammation of the eyes
Delayed Anytime later during therapy, excluding the above conditions		<ul style="list-style-type: none"> Damage to the heart muscle which may make you tired, weak, feel short of breath and retain fluid when total doses ≥ 400 -450mg/m² [#] 	<ul style="list-style-type: none"> Damage to the heart muscle which may make you tired, weak, feel short of breath and retain fluid when total doses < 400mg/m² ^{*^} Ulceration of the lower intestinal tract Discoloration of the hands and feet, under fingernails and possible separation of the nail from the nail bed
Late Anytime later after completion of therapy	<ul style="list-style-type: none"> Slight damage to the heart muscle that is unlikely to have any noticeable effects on your heart function 	<ul style="list-style-type: none"> Damage to heart muscle which may make you tired, weak, feel short of breath and retain fluid. 	<ul style="list-style-type: none"> A new cancer or leukemia resulting from this treatment
*Less common with low doses #Increased risk with very high doses ^Toxicity may occur later			

The risk of heart damage, associated with doxorubicin, may be greater in very young children than in older children, and greater in children who received radiation therapy that involves the heart.

This information sheet is a brief overview. Each individual can respond differently to the medication, it is vital that you communicate all signs and symptoms you observe to your doctor or nurse.

If you have any questions about the information provided please discuss them with your oncologist or haematologist.

Further information can be obtained from your doctor, nurse or pharmacist or at the following website:
<http://medsafe.govt.nz/consumers/medicine/where.asp>