

# Doxorubicin

**Care Team Contact Information:** \_\_\_\_\_

**Pharmacy Contact Information:** \_\_\_\_\_

**Diagnosis:** \_\_\_\_\_

- This treatment is used for many types of cancer.

**Goal of Treatment:** \_\_\_\_\_

- Treatment may continue for a certain time period, until it no longer works, or until side effects are no longer controlled.

## Treatment Regimen

Treatment Name	How the Treatment Works	How the Treatment is Given
Doxorubicin (DOK-soh-ROO-bih-sin): Adriamycin (AY-dree-uh-MY-sin)	Slows down or stops the growth of cancer cells by damaging the genetic material that cancer cells need to grow.	Infusion given into a vein.

## Treatment Administration and Schedule

- Doxorubicin is often given with other treatments. Talk with your care team about your exact treatment and schedule.

When used alone, doxorubicin is typically repeated every 3 weeks. This length of time is called a “cycle”.

Treatment Name	Cycle 1								Next Cycle
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	...	Day 21	Day 1
Doxorubicin	✓								✓

**Appointments:** Appointments may include regular check-ups with your care team, treatment appointments, lab visits, and imaging tests. It's important to keep your appointments whenever you can. If you miss any appointments, call your care provider as soon as possible to reschedule your appointment.

## Supportive Care to Prevent and Treat Side Effects

Description	Supportive Care Given at the Clinic or Hospital	Supportive Care Taken at Home
Supportive Care to Prevent and Treat Side Effects	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

## Common Side Effects

Side Effect	Important Information
<b>Low White Blood Cell (WBC) Count and Increased Risk of Infection (Boxed Warning)</b>	<p>Description: WBCs help protect the body against infections. If you have a low WBC count, you may be at a higher risk of infection.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>Wash your hands and bathe regularly.</li> <li>Avoid crowded places.</li> <li>Stay away from people who are sick.</li> <li>Your care team may prescribe a drug that promotes the growth of WBCs.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>Fever of 100.4 °F (38°C) or higher</li> <li>Chills</li> <li>Cough</li> <li>Sore throat</li> <li>Painful urination</li> <li>Tiredness that is worse than normal</li> <li>Skin infections (red, swollen, or painful areas)</li> </ul>
<b>Low Platelet Count (Boxed Warning)</b>	<p>Description: Platelets help the blood clot and heal wounds. If you have low platelet counts, you are at a higher risk of bruising and bleeding.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>Blow your nose gently and avoid picking it.</li> <li>Brush your teeth gently with a soft toothbrush and maintain good oral hygiene.</li> <li>Use an electric razor for shaving and a nail file instead of nail clippers.</li> <li>Avoid over-the-counter medications that may increase the risk of bleeding, such as NSAIDs.</li> <li>Talk with your care team or dentist before medical or dental procedures, as you may need to pause your treatment.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>Nosebleed lasting over 5 minutes despite pressure</li> <li>Cut that continues to bleed</li> <li>Significant gum bleeding when flossing or brushing</li> <li>Severe headaches</li> <li>Blood in your urine or stool</li> <li>Blood in your spit after a cough</li> </ul>
<b>Low Red Blood Cell (RBC) Count and Hemoglobin (Hgb) (Boxed Warning)</b>	<p>Description: RBCs and Hgb help bring oxygen to your body's tissues and take away carbon dioxide. If you have low RBC counts or Hgb, you may feel weak, tired, or look pale.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>Get 7 to 8 hours of sleep each night.</li> <li>Avoid operating heavy machinery when tired.</li> <li>Balance work and rest, staying active but resting when needed.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>Shortness of breath</li> <li>Dizziness</li> <li>Fast or abnormal heartbeats</li> <li>Severe headache</li> </ul>

<p>Fatigue</p>	<p>Description: Fatigue is a constant and sometimes strong feeling of tiredness.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Routine exercise has been shown to decrease levels of fatigue. Work with your care team to find the right type of exercise for you.</li> <li>• Ask your family and friends for help with daily tasks and emotional support.</li> <li>• Try healthy ways to feel better, like meditation, writing in a journal, doing yoga, and using guided imagery to lower anxiety and feel good.</li> <li>• Make a regular sleep schedule and limit naps during the day so you can sleep better at night, aiming for 7 to 8 hours of sleep.</li> <li>• Don't use heavy machines or do things that need your full attention if you're very tired to avoid accidents.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Tiredness that affects your daily life</li> <li>• Tiredness all the time, and it doesn't get better with rest</li> <li>• Dizziness and weakness, along with being tired</li> </ul>
<p>Mouth Irritation and Sores</p>	<p>Description: This treatment can irritate the lining of the mouth. In some cases, this can cause redness, sores, pain, and swelling.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Rinse your mouth after meals and at bedtime, and more often if sores develop.</li> <li>• Brush your teeth with a soft toothbrush or cotton swab after meals.</li> <li>• Use a mild, non-alcohol mouth rinse at least four times daily (after meals and at bedtime). A simple mixture is 1/8 teaspoon salt and 1/4 teaspoon baking soda in 8 ounces of warm water.</li> <li>• Avoid acidic, hot, spicy, or rough foods and drinks that may irritate your mouth.</li> <li>• Avoid tobacco, alcohol, and alcohol-based mouthwashes.</li> <li>• Your care team may prescribe medicine for these symptoms.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Pain or sores in your mouth or throat</li> </ul>

Nausea and Vomiting	<p>Description: Nausea is an uncomfortable feeling in your stomach or the need to throw up. This may or may not cause vomiting.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Eat smaller, more frequent meals.</li> <li>• Avoid fatty, fried, spicy, or highly sweet foods.</li> <li>• Eat bland foods at room temperature and drink clear liquids.</li> <li>• If you vomit, start with small amounts of water, broth, or other clear liquids when you are ready to eat again. If that stays down, then try soft foods (such as gelatin, plain cornstarch pudding, yogurt, strained soup, or strained cooked cereal). Slowly work up to eating solid food.</li> <li>• Your care team may prescribe medicine for these symptoms.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Vomiting for more than 24 hours</li> <li>• Vomiting that's nonstop</li> <li>• Signs of dehydration (like feeling very thirsty, having a dry mouth, feeling dizzy, or having dark urine)</li> <li>• Blood or coffee-ground-like appearance in your vomit</li> <li>• Bad stomach pain that doesn't go away after vomiting</li> </ul>
Hair Loss	<p>Description: Hair loss or hair thinning can start days to a few weeks after treatment begins, but it usually grows back later. It might be a different texture or color when it comes back and may not look the same as before.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• You can wear scarves, hats, or wigs, and think about getting a short haircut before treatment.</li> <li>• Keep your head covered to protect it from the sun and keep it warm.</li> <li>• If your scalp isn't covered outside, remember to put sunscreen on it.</li> </ul> <p>Talk to your care team if you would like a wig prescription.</p>
Change in the Color of Your Urine	<p>Description: You may have red colored urine for 1 to 2 days after your infusion of doxorubicin. This is normal.</p> <p>Talk to your care team if:</p> <ul style="list-style-type: none"> <li>• Your urine does not return to its normal color in a few days</li> <li>• You see what looks like blood or blood clots in your urine</li> </ul>

### Select Rare Side Effects

Side Effect	Talk to Your Care Team if You Have Any of These Signs or Symptoms
<b>Heart Problems (Boxed Warning)</b>	<p>Doxorubicin may cause heart problems that may lead to death. These problems can happen during your treatment or months to years after stopping treatment. In some cases, heart problems are irreversible.</p> <p>Your care team will perform tests to check your heart before, during, and after your treatment with doxorubicin.</p> <ul style="list-style-type: none"> <li>Shortness of breath</li> <li>Swelling of your feet and ankles</li> <li>Cough</li> <li>Fast heartbeat</li> </ul>
<b>Bone Marrow Problems called Myelodysplastic Syndrome (MDS) or Acute Myeloid Leukemia (AML) (Boxed Warning)</b>	<p>Symptoms of low blood cell counts are common during treatment, but can be a sign of serious bone marrow problems, including MDS or AML. Symptoms may include:</p> <ul style="list-style-type: none"> <li>Weakness</li> <li>Blood in urine or stool</li> <li>Weight loss</li> <li>Shortness of breath</li> <li>Fever</li> <li>Feeling very tired</li> <li>Frequent infections</li> <li>Bruising or bleeding more easily</li> </ul>
<b>Extravasation (Boxed Warning)</b>	<p>Extravasation happens when medicine that is supposed to go into a vein leaks out into the tissues around it. This can cause pain, swelling, and damage to the skin and tissues.</p> <ul style="list-style-type: none"> <li>Pain, burning, or stinging at the infusion site</li> <li>Coolness or numbness in the area</li> <li>Swelling, redness, or blistering around the site</li> <li>Decreased blood flow or tissue damage, potentially leading to ulcers or tissue death in severe cases</li> </ul>
<b>Tumor Lysis Syndrome (TLS)</b>	<p>Tumor lysis happens when cancer cells break apart and flood your bloodstream with chemicals and toxins faster than your body can get rid of them. TLS is a group of conditions that affect your heart, kidneys, and muscles.</p> <p>The risk of TLS depends on your cancer type and the treatment you receive. Talk with your care team about your risk.</p> <ul style="list-style-type: none"> <li>Severe nausea, vomiting, or diarrhea</li> <li>Rapid heartbeats or chest pain</li> <li>Urinating smaller amounts or dark-colored urine</li> <li>Confusion or weakness</li> <li>Muscle cramps or twitching</li> <li>Seizures</li> </ul>

**Before starting treatment, ask your care team when to call 9-1-1 or seek emergency help.**  
**If you experience any new, worsening, or uncontrolled side effects, contact your care team immediately.**

**Intimacy, Fertility, Pregnancy, and Breastfeeding**

- Treatment may **change how you feel about intimacy and your body**. However, physical closeness—such as holding hands and hugging—remains safe. It is common to have questions about intimacy. If needed, talk to your care team for guidance.
- Treatment can affect your **ability to have children**. It may damage your reproductive organs or stop them from working. If you are worried about fertility, talk to your care team before starting treatment.
- Your **periods (menstrual cycle) may completely stop** when you receive doxorubicin. Your periods may or may not return after you complete your treatment of doxorubicin.
- Treatment may **harm an unborn baby**.
  - If you are able to become pregnant, take a pregnancy test before starting treatment.
  - Use an effective method of birth control during treatment and for 6 months after your last dose.
  - If you think you might be pregnant or if you become pregnant, tell your care team right away.
  - If your partner(s) could become pregnant, use an effective method of birth control—such as condoms—during treatment and for 3 to 6 months after your last dose.
  - If you have a partner who is pregnant, you should use condoms during treatment and for at least 10 days after your last dose.
- **Do NOT breastfeed** during treatment and for 6 weeks after your last dose.

**Handling Body Fluids and Waste**

Some drugs you receive may stay in your urine, stool, sweat, or vomit for many days after treatment. Because many cancer drugs are toxic, your body waste may also be dangerous to touch. To help protect yourself, your loved ones, and the environment, **follow these instructions** for at least **7 days** after each dose of **doxorubicin**:

- People who are pregnant should avoid touching anything that may be soiled with body fluids from the patient.
- You can use your usual toilet. Always close the lid and flush to discard all waste. If you have a low-flow toilet, flush twice.
- If the toilet or seat is soiled with urine, stool, or vomit, clean the surface after each use before others use it.
- Wash your hands with soap and water for at least 20 seconds after using the toilet.
- If you need a bedpan, inform your caregiver so they can wear gloves and assist with cleanup. Wash the bedpan with soap and water daily.
- If you cannot control your bladder or bowels, use a disposable pad with a plastic back, a diaper, or a sheet to absorb waste.
- Wash any skin exposed to body waste with soap and water.
- Wash soiled linens or clothing separately from other laundry. If you don't have a washer, place them in a plastic bag until they can be washed.
- Wash your hands with soap and water after touching soiled linens or clothing.

**Additional Information**

- **Tell your care team about all the medicines you take.**  
This includes prescriptions, over-the-counter drugs, vitamins, and herbal products. Before starting any new medicine, supplement, or vaccine, ask your care team first.
- **This Patient Education Sheet may not describe all possible side effects.**  
Call your healthcare provider for medical advice about side effects. You may report side effects to the FDA at 1-800-FDA-1088.

**Notes**

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Scan the QR code below to access this education sheet.



Important notice: The Association of Cancer Care Centers (ACCC), Hematology/Oncology Pharmacy Association (HOPA), Network for Collaborative Oncology Development & Advancement, Inc. (NCODA), and Oncology Nursing Society (ONS) have collaborated in gathering information for and developing this patient education guide. This guide represents a brief summary of the medication derived from information provided by the drug manufacturer and other resources.

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