

Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone (R-CHOP)

Care Team Contact Information: _____

Pharmacy Contact Information: _____

Diagnosis: _____

- This treatment is often used for certain types of lymphoma, but it may also be used for other diagnoses.

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

This treatment is often called by its acronym: R-CHOP

- **R:** Rituximab
- **C:** Cyclophosphamide
- **H:** Doxorubicin (Hydroxydaunorubicin)
- **O:** Vincristine (Oncovin)
- **P:** Prednisone

Treatment Name	How the Treatment Works	How the Treatment is Given
Rituximab (rih-TUK-sih-mab): Rituxan (rih-TUK-sun), Riabni, Ruxience, Truxima	Helps your immune system find and attack cancer cells by targeting a specific protein on their surface.	Infusion given into a vein.
Cyclophosphamide (SY-kloh-FOS-fuh-mide): Cytoxan (sai-TAAK-sn)	Slows down or stops the growth of cancer cells by damaging the genetic material that cancer cells need to multiply.	Infusion given into a vein.
Doxorubicin (DOK-soh-ROO-bih-sin): Adriamycin (AY-dree-uh-MY-sin), Hydroxydaunorubicin (hy-DROK-see-DAW-noh-ROO-bih-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.
Vincristine (vin-KRIS-teen): Oncovin (ON-koh-vin)	Slows down or stops the growth of cancer cells by preventing cancer cells from properly dividing and creating new cells.	Infusion given into a vein.
Prednisone (PRED-nih-sone)	Tells cancer cells to "self-destruct".	Tablet(s) taken by mouth.

Treatment Administration and Schedule: Treatment is typically repeated every 3 weeks. This length of time is called a “cycle”.

Note: Prednisone is taken by mouth 1 time each day on Days 1 to 5 of each cycle. You care team will prescribe this medicine. Take prednisone with food to avoid stomach upset. Tell your care team if you develop heartburn or acid reflex. Avoid taking it in the evening or before bedtime, as it can cause trouble sleeping.

Treatment Name	Cycle 1								Next Cycle
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	...	Day 21	Day 1
Rituximab	✓								✓
Cyclophosphamide	✓								✓
Doxorubicin	✓								✓
Vincristine	✓								✓
Prednisone	✓	✓	✓	✓	✓				✓

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
To help prevent infusion-related reactions		
To help prevent or treat nausea and vomiting		
Other		

Common Side Effects

Side Effect	Important Information
Infusion Reactions (Boxed Warning)	Description: Infusion reactions are common with rituximab and can sometimes be severe or life-threatening. Recommendations: - Your care team may prescribe medicines before each infusion of rituximab to help decrease your risk for infusion reactions or to help make any infusion reaction less severe. - You may be monitored for infusion reactions during each infusion of rituximab. - Your care team may slow down or stop your infusion or completely stop treatment with rituximab if you have an infusion reaction. Get medical help right away if you develop any of the following symptoms of infusion reaction during or after an infusion: - Chills or shaking - Itching, rash, or flushing - Trouble breathing or wheezing; tongue swelling - Dizziness or feeling faint - Fever of 100.4°F (or 38°C) or higher - Pain in your back or neck
Low White Blood Cell (WBC) Count and Increased Risk of Infection	Description: WBCs help protect the body against infections. If you have a low WBC count, you may be at a higher risk of infection. Recommendations: - Wash your hands and bathe regularly. - Avoid crowded places. - Stay away from people who are sick. - Your care team may prescribe medicine to promote the growth of WBCs. Talk to your care team if you have: - Fever of 100.4 °F (38°C) or higher - Chills - Cough - Sore throat - Painful urination - Tiredness that is worse than normal - Skin infections (red, swollen, or painful areas)
Low Platelet Count	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. Recommendations: - Blow your nose gently and avoid picking it. - Brush your teeth gently with a soft toothbrush and maintain good oral hygiene. - Use an electric razor for shaving and a nail file instead of nail clippers. - Avoid over-the-counter medications that may increase the risk of bleeding, such as NSAIDs. - Talk with your care team or dentist before medical or dental procedures, as you may need to pause your treatment. Talk to your care team if you have: - Nosebleed lasting over 5 minutes despite pressure - Cut that continues to bleed - Significant gum bleeding when flossing or brushing - Severe headaches - Blood in your urine or stool - Blood in your spit after a cough

Low Red Blood Cell (RBC) Count and Hemoglobin (Hgb)	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. Recommendations: • Get 7 to 8 hours of sleep each night. • Avoid operating heavy machinery when tired. • Balance work and rest, staying active but resting when needed. Talk to your care team if you have: • Shortness of breath • Dizziness • Fast or abnormal heartbeats • Severe headache
Fatigue	Description: Fatigue is a constant and sometimes strong feeling of tiredness. Recommendations: • Routine exercise has been shown to decrease levels of fatigue. Work with your care team to find the right type of exercise for you. • Ask your family and friends for help with daily tasks and emotional support. • Try healthy ways to feel better, like meditation, writing in a journal, doing yoga, and using guided imagery to lower anxiety and feel good. • 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. • Don't use heavy machines or do things that need your full attention if you're very tired to avoid accidents. Talk to your care team if you have: • Tiredness that affects your daily life • Tiredness all the time, and it doesn't get better with rest • Dizziness and weakness, along with being tired
Nausea and Vomiting	Description: Nausea is an uncomfortable feeling in your stomach or the need to throw up. This may or may not cause vomiting. Recommendations: • Eat smaller, more frequent meals. • Avoid fatty, fried, spicy, or highly sweet foods. • Eat bland foods at room temperature and drink clear liquids. • 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. • Your care provider may prescribe medicine for these symptoms. Talk to your care team if you have: • Vomiting for more than 24 hours • Vomiting that's nonstop • Signs of dehydration (like feeling very thirsty, having a dry mouth, feeling dizzy, or having dark urine) • Blood or coffee-ground-like appearance in your vomit • Bad stomach pain that doesn't go away after vomiting

Mouth Irritation and Sores	Description: This treatment can irritate the lining of the mouth. In some cases, this can cause redness, sores, pain, and swelling. Recommendations: • Rinse your mouth after meals and at bedtime, and more often if sores develop. • Brush your teeth with a soft toothbrush or cotton swab after meals. • 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. • Avoid acidic, hot, spicy, or rough foods and drinks that may irritate your mouth. • If you have mouth sores, avoid tobacco, alcohol, and alcohol-based mouthwashes. • Your care team may prescribe medicine for these symptoms. Talk to your care team if you have: • Pain or sores in your mouth or throat
Diarrhea	Description: Diarrhea is when you have loose, watery bowel movements more often than usual. The need to use the bathroom may occur urgently. Recommendations: • Keep track of how many times you go to the bathroom each day. • Drink 8 to 10 glasses of water or other fluids every day, unless your doctor tells you otherwise. • Eat small meals of mild, low-fiber foods like bananas, applesauce, potatoes, chicken, rice, and toast. • Stay away from foods with high fiber (like raw vegetables, fruits, and whole grains), foods that cause gas (like broccoli and beans), dairy foods (like yogurt and milk), and spicy, fried, and greasy foods. • Your care team may recommend medicine for diarrhea. Talk to your care team if you have: • 4 or more bowel movements than normal in 24 hours • Dizziness or lightheadedness while having diarrhea • Bloody diarrhea

Constipation	Description: Constipation means having a hard time passing stools or not going to the bathroom often. Your stools might feel hard and dry, which can make you uncomfortable or hurt. Recommendations • Keep track of how many times you move your bowels every day. • Drink 8 to 10 glasses of water or other fluids each day, unless your doctor tells you otherwise. • Exercise regularly. • Eat high-fiber foods like raw fruits and vegetables. • Your care team may recommend medicine for constipation. Talk to your care team if you have: • Constipation that lasts 3 or more days • Constipation after 48 hours, even after using a laxative
Nerve Pain and Tingling	Description: Nerve pain and tingling are uncomfortable sensations caused by nerve damage or irritation. Pain may be sharp, burning, or deep, while tingling feels like pins-and-needles or mild electric shocks, often in the hands, feet, arms, or legs. Recommendations: • Check your feet every day for cuts, blisters, or any changes, especially if they feel numb. • Wear shoes that fit well. • Talk to your care team about doing easy activities like walking, swimming, or biking to help your blood flow and keep you healthy. • Your care team might give you medicine or suggest wearing compression socks to help. Talk to your care team if you have: • “Pins and needles” or burning feeling in your hands or feet • Trouble moving your arms or legs • Trouble keeping your balance
Hair Loss	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. Recommendations: • You can wear scarves, hats, or wigs, and think about getting a short haircut before treatment. • Keep your head covered to protect it from the sun and keep it warm. • If your scalp isn’t covered outside, remember to put sunscreen on it. Talk to your care team if you would like a wig prescription.
Bladder and Kidney Problems	Description: Cyclophosphamide may be harmful to your kidneys and bladder. Recommendations: • Drink at least 2 liters of water on Days 1 to 3 of each cycle. • Your care team may perform laboratory tests to monitor these side effects. Talk to your care team if you have: • Pink or red-colored urine

Select Rare Side Effects

Side Effect	Talk to Your Care Team if You Have Any of These Signs or Symptoms
Severe Skin and Mouth Reactions (Boxed Warning)	- Painful sores or ulcers on your skin, lips, or in your mouth - Blisters - Peeling skin - Rash - Pustules
Hepatitis B Virus (HBV) Reactivation (Boxed Warning)	Before you start treatment, your care team will do blood tests to check for HBV infection. If you have had hepatitis B or are a carrier of hepatitis B virus, receiving rituximab could cause the virus to become an active infection again. Hepatitis B reactivation may cause serious liver problems, including liver failure and death. You should not receive rituximab if you have active hepatitis B liver disease. Your care team will monitor you for hepatitis B infection during and for several months after you stop receiving rituximab. - Worsening tiredness - Yellowing of your skin or white part of your eyes
Heart Problems (Boxed Warning)	- Swelling of your stomach-area (abdomen), legs, hands, feet, or ankles - Shortness of breath - Nausea or vomiting - New or worsening chest discomfort, including pain or pressure - Pain or discomfort in your arms, back, neck, or jaw - Protruding neck veins - Breaking out in a cold sweat - Feeling lightheaded or dizzy - Weight gain of more than 5 pounds in 24 hours
Progressive Multifocal Leukoencephalopathy (PML) (Boxed Warning)	PML is a rare, serious brain infection caused by a virus that can happen in people who receive rituximab. People with weakened immune systems can get PML. PML can result in death or severe disability. There is no known treatment, prevention, or cure for PML. - Confusion - Dizziness or loss of balance - Difficulty walking or talking - Decreased strength or weakness on one side of your body - Vision problems
Extravasation (Boxed Warning)	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. - Pain, burning, or stinging at the infusion site - Swelling, redness, or blistering around the site - Coolness or numbness in the area - Decreased blood flow or tissue damage, potentially leading to ulcers or tissue death in severe cases
Tumor Lysis Syndrome (TLS)	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. - Severe nausea, vomiting, or diarrhea - Urinating smaller amounts or dark-colored urine - Muscle cramps or twitching - Rapid heartbeats or chest pain - Confusion or weakness

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.
- 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.
- 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 with R-CHOP and for 12 months after your last doses of rituximab and cyclophosphamide.
 - 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 with R-CHOP and for at least 6 months after your last dose of doxorubicin.
- **Do NOT breastfeed** during treatment with R-CHOP and for 6 months after your last dose rituximab.

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 **48 hours** after each dose of **cyclophosphamide**, for at least **7 days** after each dose of **doxorubicin**, and for at least **3 weeks** after each dose of **vincristine**:

- Pregnant women 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.

- Your **urine** may look a little **orange or reddish** a few hours after you get doxorubicin. It should go back to normal in 1 to 2 days.
- There is a risk of developing **new cancers**, like leukemia, after taking this treatment. Talk with your care team about the potential increased risk of new cancers.
- There is a **maximum lifetime dose of doxorubicin**, and going over this limit can raise the risk of complications, including heart damage. Tell your care team if you have received this treatment before.
- **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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PES-511