

Rituximab, Cyclophosphamide, Vincristine, and Prednisone (R-CVP)

Care Team Contact Information: _____

Pharmacy Contact Information: _____

Diagnosis: _____

- This treatment is often used for Non-Hodgkin lymphoma (NHL). It may also be used for other reasons.

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-CVP
 - **R:** Rituximab
 - **C:** Cyclophosphamide
 - **V:** Vincristine
 - **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 into a vein (intravenous (IV) infusion).
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 into a vein (intravenous (IV) infusion).
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 into a vein (intravenous (IV) infusion).
Prednisone (PRED-nih-sone)	Tells cancer cells to "self-destruct".	Tablet(s) taken by mouth.

Note: Your care team may use rituximab and hyaluronidase (Rituxan Hycela) instead of rituximab. Rituximab and hyaluronidase is given as an injection under the skin (subcutaneous injection) into the stomach area (abdomen) over 5 to 7 minutes.

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

- Rituximab, cyclophosphamide, and vincristine are given on Day 1.
- Prednisone is taken by mouth 1 time each day on Days 1 to 5.
 - Take prednisone with food to avoid stomach upset.
 - Tell your care team if you develop heartburn or acid reflux when you take prednisone
 - Avoid taking prednisone in the evening or before bedtime, as it can cause sleeping problems.
 - Your blood sugar and blood pressure may be higher on days you take prednisone.

Treatment Name	Cycle 1								Next Cycle
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	...	Day 21	Day 1
Rituximab	✓								✓
Cyclophosphamide	✓								✓
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	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
To help prevent or treat nausea and vomiting	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
Other	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>

Common Side Effects

Side Effect	Important Information
Infusion-Related Reactions (Boxed Warning)	<p>Description: Infusion reactions are common with rituximab and can sometimes be severe or life-threatening.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • 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. <p>Get medical help right away if you develop any of the following symptoms of infusion reaction during or after an infusion:</p> <ul style="list-style-type: none"> • 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 (Neutropenia) and Increased Risk of Infection	<p>Description: WBCs help protect your body from infections. A low WBC count increases your risk of getting infections.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Wash your hands often and bathe regularly. • Avoid crowded places and close contact with people who are sick. • Follow food safety and wound-care advice from your care team. • Your care team may prescribe medicine to help your WBCs recover. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Fever of 100.4°F (38°C) or higher • Chills • New or worsening cough or sore throat • Painful urination or signs of a urinary infection • Feeling much more tired than usual • Red, swollen, warm, or painful areas on the skin (possible skin infection)
Low Platelet Count (Thrombocytopenia)	<p>Description: Platelets help your blood clot and wounds heal. A low platelet count increases your risk of bruising and bleeding.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Blow your nose gently and avoid picking it. • Brush your teeth with a soft toothbrush and keep good oral hygiene. • Use an electric razor for shaving and a nail file instead of nail clippers. • Avoid over-the-counter medicines that can increase bleeding risk (for example, nonsteroid anti-inflammatory drugs (NSAIDs) like ibuprofen). • Tell your care team or dentist before medical or dental procedures — you may need to pause treatment. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • A nosebleed lasting more than 5 minutes despite pressure • A cut that continues to bleed • Heavy gum bleeding when brushing or flossing • Severe or sudden headache • Blood in your urine or stool • Blood in your spit after coughing

<p>Low Red Blood Cell (RBC) Count and Hemoglobin (Hgb) (Anemia)</p>	<p>Description: RBCs and Hgb carry oxygen to your body's tissues and remove carbon dioxide. Low RBC or Hgb (anemia) can make you feel weak, very tired, or look pale.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Aim for 7 to 8 hours of sleep each night. • Do not drive, operate heavy machinery, or do other dangerous activities if you are very tired. • Balance activity and rest — stay as active as you can, but rest when needed. • Eat a balanced diet and follow any nutrition or supplement advice from your care team. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Shortness of breath • Dizziness • Fast or irregular heartbeats • Sudden or severe headache
<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"> • Routine exercise can help reduce fatigue. Talk with your care team to find the right type and amount of activity for you. • Ask family and friends for help with daily tasks and for emotional support. • Try healthy ways to feel better, such as meditation, journaling, yoga, or guided imagery, to reduce anxiety and improve well-being. • Aim for 7 to 8 hours of sleep each night. Limit daytime naps to help you sleep better at night. • Do not drive, operate heavy machinery, or do other potentially dangerous activities if you are very tired. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Tiredness that affects your daily life or prevents you from doing normal activities • Tiredness that does not get better with rest • Dizziness or weakness along with severe tiredness
<p>Nausea and Vomiting</p>	<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"> • 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 sips of water, broth, or other clear liquids. If these stay down, try soft foods (such as gelatin, plain cornstarch pudding, yogurt, strained soup, or strained cooked cereal) and gradually return to solid foods. • Your care team may prescribe medicine for these symptoms. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Vomiting for more than 24 hours • Nonstop vomiting • Signs of dehydration (very thirsty, dry mouth, dizziness, or dark urine) • Blood or coffee-ground-like appearance in your vomit • Severe stomach pain that does not go away after vomiting

<p>Mouth Irritation and Sores (Mucositis or Stomatitis)</p>	<p>Description: 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"> • Rinse your mouth after meals and at bedtime; rinse more often if sores develop. • Brush your teeth gently with a soft toothbrush or use a cotton swab after meals. • Use a mild, non-alcohol mouth rinse at least 4 times daily (after meals and at bedtime). Example: 1/8 teaspoon salt + 1/4 teaspoon baking soda in 8 oz warm water. • Avoid acidic, hot, spicy, rough, or crunchy foods and drinks that can irritate your mouth. • Avoid tobacco, alcohol, and alcohol-based mouthwash. • Your care team may prescribe medicines or mouth treatments to help with pain and healing. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Painful mouth sores or throat pain • Trouble eating or significant weight loss
<p>Diarrhea</p>	<p>Description: Diarrhea is loose, watery stools or more frequent bowel movements than usual. It can cause dehydration and weakness.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Keep track of how often you go to the bathroom each day. • Drink 8 to 10 glasses of water or other fluids daily, unless your care team tells you otherwise. • Eat small meals of mild, low-fiber foods (such as bananas, applesauce, potatoes, chicken, rice, and toast). • Avoid high-fiber foods (such as raw vegetables, fruits, and whole grains), gas-producing foods (such as broccoli and beans), dairy (such as milk and yogurt), and spicy, fried, or greasy foods. • Your care team may recommend an antidiarrheal medicine such as loperamide (Imodium). <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • 4 or more bowel movements than normal in 24 hours • Dizziness or lightheadedness while having diarrhea • Signs of dehydration (very thirsty, dry mouth, dizziness, or dark urine) • Bloody diarrhea

<p>Constipation</p>	<p>Description: Constipation means hard, dry stools or fewer bowel movements than normal. It can cause discomfort or pain.</p> <p>Recommendations</p> <ul style="list-style-type: none"> • Track how often you have bowel movements each day. • Drink 8 to 10 glasses of fluids daily, unless your care team says otherwise. • Stay active and exercise regularly. • Eat more high-fiber foods (such as raw fruits, vegetables, and whole grains) unless advised otherwise. • Your care team may recommend laxatives such as polyethylene glycol (Miralax) or senna. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Constipation lasting 3 or more days • No bowel movement 48 hours after using a laxative
<p>Numbness, Tingling, or Burning in Your Hands or Feet (Peripheral Neuropathy)</p>	<p>Description: Nerve pain and tingling are uncomfortable sensations from nerve damage or irritation. Pain may be sharp, burning, or deep. Tingling can feel like pins-and-needles or mild electric shocks, often in the hands, feet, arms, or legs.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Keep a daily log of pain and sensations, noting triggers and what helps or makes it worse. • Check your feet every day for cuts, sores, blisters, or color changes, especially if numbness reduces feeling. • Wear comfortable, well-fitting shoes and avoid walking barefoot if sensation is reduced. • Protect hands and feet from extreme heat or cold. • Your care team may recommend or prescribe medicines, topical treatments, physical therapy, or supplements to help with symptoms. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • New or worsening “pins and needles,” burning, or numbness in your hands or feet • Trouble moving your arms or legs, or weakness • Problems with balance or frequent falls
<p>Hair Loss (Alopecia)</p>	<p>Description: Hair loss or thinning may begin days to weeks after treatment starts and usually grows back later. New growth can be a different color or texture and may not look the same as before.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Consider a short haircut before treatment and use scarves, hats, or wigs for comfort and confidence. • Keep your head covered outdoors to protect it from the sun and cold; use sunscreen on your uncovered scalp. • Use gentle haircare: mild shampoo, soft brush, and avoid heat styling and harsh treatments. • Ask your care team about wig prescriptions or resources for head coverings. <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • No hair regrowth months after treatment ends • Concern about hair changes or need help finding a wig or support resources

Bladder and Kidney Problems	<p>Description: Cyclophosphamide may be harmful to your kidneys and bladder.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • 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. 	<p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> • Pink or red-colored urine • Blood in urine
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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)	<ul style="list-style-type: none"> • Painful sores or ulcers on your skin, lips, or in your mouth • Blisters • Peeling skin • Rash • Pustules
Hepatitis B Virus (HBV) Reactivation (Boxed Warning)	<p>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.</p> <ul style="list-style-type: none"> • Worsening tiredness • Yellowing of your skin or white part of your eyes
Progressive Multifocal Leukoencephalopathy (PML) (Boxed Warning)	<p>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.</p> <ul style="list-style-type: none"> • 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)	<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"> • 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)	<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> <ul style="list-style-type: none"> • Severe nausea, vomiting, or diarrhea • Urinating smaller amounts or dark-colored urine • Muscle cramps or twitching • Rapid heartbeats or chest pain • Confusion or weakness
Neurologic Problems	<ul style="list-style-type: none"> • Confusion • Trouble falling or staying asleep • Depression

**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-CVP 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 is able to become pregnant, use an effective method of birth control—such as condoms—during treatment with R-CVP.
- **Do NOT breastfeed** during treatment with R-CVP and for 6 months after your last dose of 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** and for at least **3 weeks** after each dose of **vincristine**: (Note: Rituximab does not require special handling of body fluids and waste.)

- 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 care team 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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