

# Pembrolizumab and GVD (Gemcitabine, Vinorelbine, Liposomal Doxorubicin)

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

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

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

- This treatment is often used for Hodgkin lymphoma (HL). 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

- The immunotherapy part of this treatment is called pembrolizumab.
- The chemotherapy part of this treatment is called by its acronym: “GVD”
  - **G:** Gemcitabine
  - **V:** Vinorelbine
  - **D:** Liposomal doxorubicin (**Doxil**)

Treatment Name	How the Treatment Works	How the Treatment is Given
Pembrolizumab (pem-broh-LIH-zoo-mab): Keytruda (kee-TROO-du)	Boosts your immune system to help it attack cancer cells more effectively.	Infusion into a vein (intravenous (IV) infusion).
Gemcitabine (jem-SY-tuh-been): Gemzar (JEM-zar)	Stops cancer cells from making the instructions they need to grow and multiply, causing the cells to die.	Infusion into a vein (intravenous (IV) infusion).
Vinorelbine (vih-NOR-el-been): Navelbine (nuh-VEL-been)	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).
Liposomal Doxorubicin (LY-poh-some-al DOK-soh-ROO-bih-sin): Doxil (DOK-sil)	Slows down or stops the growth of cancer cells by damaging the genetic material that cancer cells need to grow.	Infusion into a vein (intravenous (IV) infusion).

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

- Pembrolizumab is given on Day 1.
- Gemcitabine, vinorelbine, and liposomal doxorubicin are given on Days 1 and 8.

Treatment Name	Cycle 1							Next Cycle
	Day 1	Day 2	Day 3	...	Day 8	...	Day 21	Day 1
Pembrolizumab	✓							✓
Gemcitabine	✓				✓			✓
Vinorelbine	✓				✓			✓
Liposomal 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
<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 can help reduce fatigue. Talk with your care team to find the right type and amount of activity for you.</li> <li>• Ask family and friends for help with daily tasks and for emotional support.</li> <li>• Try healthy ways to feel better, such as meditation, journaling, yoga, or guided imagery, to reduce anxiety and improve well-being.</li> <li>• Aim for 7 to 8 hours of sleep each night. Limit daytime naps to help you sleep better at night.</li> <li>• Do not drive, operate heavy machinery, or do other potentially dangerous activities if you are very tired.</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 or prevents you from doing normal activities</li> <li>• Tiredness that does not get better with rest</li> <li>• Dizziness or weakness along with severe tiredness</li> </ul>
<p>Mouth Sores or Irritation (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"> <li>• Rinse your mouth after meals and at bedtime; rinse more often if sores develop.</li> <li>• Brush your teeth gently with a soft toothbrush or use a cotton swab after meals.</li> <li>• 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.</li> <li>• Avoid acidic, hot, spicy, rough, or crunchy foods and drinks that can irritate your mouth.</li> <li>• Avoid tobacco, alcohol, and alcohol-based mouthwash.</li> <li>• Your care team may prescribe medicines or mouth treatments to help with pain and healing.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Painful mouth sores or throat pain</li> <li>• Trouble eating or significant weight loss</li> </ul>
<p>Liver Problems</p>	<p>Description: Treatment can cause liver injury. Your care team may check your liver with blood tests before and during treatment.</p> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Yellowing of your skin or the white part of your eyes (jaundice)</li> <li>• Severe nausea or vomiting</li> <li>• Pain on the right side of your stomach area (abdomen)</li> <li>• Dark, tea-colored urine</li> <li>• Bleeding or bruising more easily than normal</li> </ul>

<p>Skin Problems</p>	<p>Description: Treatment can make your immune system attack healthy skin cells. This can cause a rash, itching, and other skin problems.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Take a warm (not hot) bath or shower every day with mild, unscented soap or body wash.</li> <li>• Pat skin dry (instead of rubbing) with a towel.</li> <li>• Use unscented lotion or moisturizing cream immediately after shower to prevent cracking.</li> <li>• Use lip balm for dry or chapped lips.</li> <li>• Avoid activities that put you at risk for cuts, injuries or burns.</li> <li>• Use an electric shaver, not a razor, to prevent cuts.</li> <li>• Rinse cuts and scrapes immediately under running water and remove any debris from the wound. Wash the skin around the wound with soap. To avoid irritation, do not use soap on the wound. If you have a low platelet count and are at risk for bleeding issues, ask your care team how to care for cuts.</li> <li>• Avoid direct sun when possible. Wear a broad-spectrum sunscreen with SPF 30 or higher and reapply every 2 hours.</li> <li>• Use unscented, gentle laundry detergent. Some laundry detergents can irritate sensitive skin.</li> <li>• Your care team may recommend medicine for skin problems.</li> </ul> <p>Talk to your care team if you have:</p> <ul style="list-style-type: none"> <li>• Rash</li> <li>• Itching</li> <li>• Skin blistering or peeling</li> <li>• Painful sore or ulcers in the mouth or nose, throat, or genital area</li> </ul>
<p>Change in the Color of Your Urine</p>	<p>Description: You may have red or orange 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		
<p><b>Decreased Blood Cell Counts (Boxed Warning)</b></p>	<p>Decreased <b>White Blood Cell (WBC) Count (Neutropenia)</b> and Increased Risk of Infection</p> <ul style="list-style-type: none"> <li>• Fever of 100.4 °F (38°C) or higher</li> <li>• Chills</li> <li>• Burning and painful urination</li> <li>• Urinating often</li> <li>• Weakness and tiredness</li> <li>• Coughing up yellow or pink mucus (phlegm)</li> </ul>	<p>Decreased <b>Platelet Count (Thrombocytopenia)</b></p> <ul style="list-style-type: none"> <li>• Bruising easily</li> <li>• Frequent nose bleeds</li> <li>• Blood in your urine or stool</li> <li>• Blood in your spit after a cough</li> </ul>	<p>Decreased <b>Red Blood Cell (RBC) Count and Hemoglobin (Hgb) (Anemia)</b></p> <ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Weakness</li> <li>• Pale or dull skin</li> <li>• Shortness of breath</li> <li>• Dizziness or lightheadedness</li> <li>• Irregular heartbeat</li> <li>• Headaches</li> </ul>
<p><b>Heart Problems (Boxed Warning)</b></p>	<p>Liposomal 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>There is a cumulative total lifetime dose of liposomal doxorubicin. Your care team will track the amount of liposomal doxorubicin you receive. Talk with your care team if you have received anti-cancer medicines before.</p> <p>Your care team will perform tests to check your heart before, during, and after your treatment with liposomal doxorubicin.</p> <ul style="list-style-type: none"> <li>• Swelling of your stomach-area (abdomen), legs, hands, feet, or ankles</li> <li>• Shortness of breath</li> <li>• Nausea or vomiting</li> <li>• New or worsening chest discomfort, including pain or pressure</li> <li>• Weight gain</li> <li>• Pain or discomfort in your arms, back, neck, or jaw</li> <li>• Protruding neck veins</li> <li>• Breaking out in a cold sweat</li> <li>• Feeling lightheaded or dizzy</li> </ul>		
<p><b>Infusion-Related Reactions (Boxed Warning)</b></p>	<ul style="list-style-type: none"> <li>• Chills or shaking</li> <li>• Itching, rash, or flushing</li> <li>• Trouble breathing or wheezing; tongue-swelling</li> <li>• Dizziness or feeling faint</li> <li>• Fever of 100.4°F (38°C) or higher</li> <li>• Pain in your back or neck</li> </ul>		
<p>Lung Problems</p>	<ul style="list-style-type: none"> <li>• Cough</li> <li>• Shortness of breath</li> <li>• Chest pain</li> </ul>		
<p>Intestinal Problems</p>	<ul style="list-style-type: none"> <li>• Diarrhea (loose stools) or more frequent bowel movements than usual</li> <li>• Stool that are black, tarry, sticky, or have blood or mucus</li> <li>• Severe stomach-area (abdominal) pain or tenderness</li> </ul>		

<p>Hormone Gland Problems</p>	<ul style="list-style-type: none"> <li>• Headaches that will not go away or unusual headaches</li> <li>• Eye sensitivity to light</li> <li>• Eye problems</li> <li>• Rapid heartbeat</li> <li>• Increased sweating</li> <li>• Extreme tiredness</li> <li>• Weight gain or weight loss</li> <li>• Feeling more hungry or thirsty than usual</li> </ul>	<ul style="list-style-type: none"> <li>• Urinating more often than usual</li> <li>• Hair loss</li> <li>• Feeling cold</li> <li>• Constipation</li> <li>• Your voice gets deeper</li> <li>• Dizziness or fainting</li> <li>• Changes in mood or behavior, such as decreased sex drive, irritability, or forgetfulness</li> </ul>
<p>Kidney Problems</p>	<ul style="list-style-type: none"> <li>• Decrease in your amount of urine</li> <li>• Blood in your urine</li> </ul>	<ul style="list-style-type: none"> <li>• Swelling of your ankles</li> <li>• Loss of appetite</li> </ul>
<p>Hand-Foot Syndrome</p>	<ul style="list-style-type: none"> <li>• Redness, pain, blisters, bleeding, or swelling on the palms of your hands or soles of your feet</li> </ul>	<ul style="list-style-type: none"> <li>• Severe rash</li> </ul>
<p>Hemolytic Uremic Syndrome (HUS)</p>	<p>HUS is a condition that happens when small blood vessels in the body become damaged. This damage causes red blood cells to break down, leading to anemia. The condition also causes blood clots to form in the blood vessels and, in turn, damage the kidneys.</p> <ul style="list-style-type: none"> <li>• Loss of color in the skin</li> <li>• Extreme tiredness</li> <li>• Easy bruising</li> <li>• Unusual bleeding, such as bleeding from the nose and mouth</li> <li>• Decreased urinating or blood in the urine</li> <li>• Swelling of the legs, feet or ankles. Swelling occurs less often in the face, hands, feet or entire body</li> <li>• Confusion, seizures, or stroke</li> <li>• High blood pressure</li> </ul>	
<p>Problem in Other Organs</p>	<ul style="list-style-type: none"> <li>• Confusion, sleepiness, memory problems, changes in mood or behavior, stiff neck, balance problems, tingling or numbness of the arms or legs</li> <li>• Double vision, blurry vision, sensitivity to light, eye pain, changes in eyesight</li> </ul>	<ul style="list-style-type: none"> <li>• Persistent or severe muscle pain or weakness, muscle cramps</li> <li>• Constipation, pain or swelling of the stomach-area (abdomen)</li> </ul>
<p>Extravasation</p>	<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>• Swelling, redness, or blistering around the site</li> <li>• Coolness or numbness in the area</li> <li>• Decreased blood flow or tissue damage, potentially leading to ulcers or tissue death in severe cases</li> </ul>	
<p>Risk of New Cancers</p>	<p>There is a risk of developing new cancers during or after treatment. Talk with your care team about this risk, and ask about the signs and symptoms of new cancers.</p>	

**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.
- 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, for 4 months after your last dose of pembrolizumab, and for 6 months after your last doses of gemcitabine, vinorelbine, and liposomal doxorubicin.
  - 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, for 3 months after your last doses of gemcitabine and vinorelbine, and for 6 months after your last dose of liposomal doxorubicin.
- **Do NOT breastfeed** during treatment, for 1 week after your last dose of gemcitabine, for 9 days after your last dose of vinorelbine, and for 4 months after your last dose of pembrolizumab.

### 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 **gemcitabine** and for at least **7 days** after each dose of **vinorelbine** and **liposomal doxorubicin**: (Note: Pembrolizumab 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.
- **Your treatment may cause side effects that need medicine or a break from treatment.** Your care team may give you corticosteroids or hormone medicines to help. Sometimes, they may need to delay or stop your treatment if you have certain side effects.
- **Tell your care team about all your health problems.** This includes issues with your immune system, like Crohn's disease, ulcerative colitis, or lupus. Also, tell them if you have had an organ transplant, like a kidney or eye transplant. Let them know if you had a stem cell transplant from a donor, had radiation to your chest, or have a nerve problem like myasthenia gravis or Guillain-Barré syndrome.
- **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

---

---

---

Updated Date: March 19, 2026

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.

This guide does not cover all existing information related to the possible uses, directions, doses, precautions, warnings, interactions, adverse effects, or risks associated with this medication and should not substitute for the advice of a qualified healthcare professional. Provision of this guide is for informational purposes only and does not constitute or imply endorsement, recommendation, or favoring of this medication by ACCC, HOPA, NCODA, or ONS, who assume no liability for and cannot ensure the accuracy of the information presented. All decisions related to taking this medication should be made with the guidance and under the direction of a qualified healthcare professional.

Permission: Patient Education Sheets are provided as a free educational resource for patients with cancer and their caregivers in need of concise, easy to understand information about cancer therapy. Healthcare providers are permitted to copy and distribute the sheets to patients as well as direct patients to the Patient Education Sheets website. However, commercial reproduction or reuse, as well as rebranding or reposting of any type, are strictly prohibited without permission of the copyright holders. Permission requests, including direct linking from Electronic Health Records, and licensing inquiries should be emailed to [patienteducationsheets@ncoda.org](mailto:patienteducationsheets@ncoda.org).

Copyright © 2026 by Network for Collaborative Oncology Development & Advancement, Inc. All rights reserved.

PES-582