

Pembrolizumab, Fluorouracil (5-FU), and Cisplatin

Care Team Contact Information: _____

Pharmacy Contact Information: _____

Diagnosis: _____

- This treatment is often used for stomach cancer, esophagus cancer, and cancer where the esophagus joins the stomach. 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

Treatment Name	How the Treatment Works	How the Treatment is Given
Pembrolizumab (pem-broh-LIH-zoo-mab): Keytruda (kee-TROO-duh)	Boosts your immune system to help it attack cancer cells more effectively.	Infusion given into a vein.
Fluorouracil (floor-oh-YOOR-uh-sil) It is also called "5-FU".	Stops cancer cells from making the instructions they need to grow and multiply, causing the cells to die.	Continuous infusion given into a vein through a pump over 5 days (120 hours).
Cisplatin (sis-PLA-tin): Platinol (PLA-tih-nol)	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.

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

- Note: Fluorouracil (5-FU) is given over 5 days (120 hours), ending on Day 6.

Treatment Name	Cycle 1										Next Cycle
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	...	Day 21	Day 1
Pembrolizumab	✓										✓
Cisplatin	✓										✓
Fluorouracil (5-FU)	→	→	→	→	→	→					→

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 or treat nausea or vomiting		
Hydration and other supportive care		

Common Side Effects

Side Effect	Important Information
Low White Blood Cell (WBC) Count and Increased Risk of Infection (Cisplatin Boxed Warning)	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 a drug that promotes 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 (Cisplatin Boxed Warning)	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) (Cisplatin Boxed Warning)	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

Nausea and Vomiting (Cisplatin Boxed Warning)	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
Numbness or Tingling in the Hands and Feet (Cisplatin Boxed Warning)	Description: Peripheral neuropathy is when your nerves outside the brain and spine get hurt. This can make you feel numb, tingly, or in pain. It may also make it hard to keep your balance or feel things properly. Peripheral neuropathy can get better or go away over time after stopping or lowering the dose of the medicine. It may take months to fully heal, but you may start to feel better in a few weeks. Sometimes, however, the nerve damage can be permanent. 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
Kidney Problems (Cisplatin Boxed Warning)	Description: Treatment can cause kidney problems, including damage to the kidneys and decreased kidney function. This may lead to acute kidney injury or long-term kidney failure. It can also cause low magnesium levels that last after treatment. These issues usually happen within days of getting the drug. Recommendations: • Drink 8 to 10 glasses of water or other fluids each day, unless your care team tells you otherwise. • Your care team will give you fluids and electrolytes with your treatment. Talk to your care team if you have: • Decrease in your amount of urine • Blood in your urine • Swelling of your ankles • Loss of appetite

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
Intestinal Problems	Description: Treatment can make your immune system attack healthy cells in your intestines. This can cause diarrhea or abdominal pain. 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 suggest taking certain medicines. 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
Liver Problems	Description: Treatment can harm your liver. This may cause nausea, stomach pain, and bleeding or bruising. It can also turn your skin and eyes yellow and make your urine dark. Lab tests may be performed to monitor liver function. Talk to your care team if you have: • Yellowing of your skin or the whites of your eyes • Severe nausea or vomiting • Pain on the right side of your stomach area (abdomen) • Dark urine (tea colored) • Bleeding or bruising more easily than normal

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
Muscle and Bone Pain	Description: Treatment can cause your immune system to attack your bones and muscles. This can make your muscles and bones hurt. Recommendations: • Keep track of when you feel pain and what makes it better or worse. • Do easy exercises like walking or stretching, but check with your care team first. • Put a warm cloth or heating pad on your muscles to help them relax. • Use cold packs to help with swelling and pain. • Your care team may suggest taking certain medicines. Talk to your care team if you have: • Pain in your muscles or bones that makes it hard for you to take care of yourself and do things on your own
Rash, redness, swelling, itching, or peeling of your skin on your hands and feet (Hand-Foot Syndrome)	Description: Hand-Foot Syndrome causes dryness, thickening, swelling, or blisters of the skin on the palms of your hands and soles of your feet. Recommendations: • Keep hands and feet moisturized with a non-scented moisturizing cream. • Applying urea 10% or 20% cream twice daily to the affected area may be helpful. • Avoid exposure to hot water on the hands and feet in showers or baths that may dry out the skin or by doing dishes. • Avoid tight-fitting shoes or socks. • Avoid excess rubbing on hands and feet unless putting on lotion. • Wear gloves when working with your hands. Talk to your care team if you have: • Painful blisters or calluses

Sensitivity to Sunlight	Description: Sun sensitivity is when your skin becomes more reactive or sensitive to sunlight than usual. This can lead to conditions like sunburn, rashes, or other skin problems, even after short periods of exposure. Recommendations: - Stay out of the sun as much as you can to lower the risk of sunburn, especially between 10 AM and 4 PM when UV rays are strongest. - Wear long-sleeved shirts with UV protection if possible. - Use broad-brimmed hats for extra sun protection. - Apply broad-spectrum sunscreen (UVA/UVB) with at least SPF 30 as directed on the bottle. - Use lip balm with at least SPF 30. Talk to your care team if you have: - Severe or painful sunburns
Skin Problems	Description: Treatment can make your immune system attack healthy skin cells. This can cause a rash, itching, and other skin problems. Recommendations: - Keep your skin soft and moisturized with lotions or creams. - Wear loose, comfortable clothes. - Don't use perfumes and colognes. - Stay out of the sun, especially between 10 AM and 4 PM. - Wear long-sleeved shirts with UV protection and a wide hat to block the sun. - Use sunscreen with at least SPF 30 and put on lip balm with SPF too. - Don't use tanning beds. - Your care team may suggest taking certain medicines or applying special creams. Talk to your care team if you have: - Rash - Itching - Skin blistering or peeling - Painful sore or ulcers in the mouth or nose, throat, or genital area

Select Rare or Serious Side Effects

Side Effect	Talk to Your Care Team if You Have Any of These Signs or Symptoms	
Lung Problems	- Cough - Shortness of breath	Chest pain
Hormone Gland Problems	- Headaches that will not go away or unusual headaches - Eye sensitivity to light - Eye problems - Rapid heartbeat - Increased sweating - Extreme tiredness - Weight gain or weight loss - Feeling more hungry or thirsty than usual	- Urinating more often than usual - Hair loss - Feeling cold - Constipation - Your voice gets deeper - Dizziness or fainting - Changes in mood or behavior, such as decreased sex drive, irritability, or forgetfulness
Heart Problems	- Swelling of your stomach-area (abdomen), legs, hands, feet, or ankles - Shortness of breath - Nausea or vomiting - Weight gain - Pain or discomfort in your arms, back, neck, or jaw - Protruding neck veins	- Palpitations (rapid or irregular heartbeat) - Dizziness or lightheadedness - Chest discomfort or pain - Fatigue - Confusion - Fainting or near-fainting spells - Breaking out in a cold sweat
Ear Problems	- Difficulty hearing high-pitched sounds (like certain consonant sounds, music, or birdsong) - Ringings, buzzing, hissing, or other sounds in the ears when no external source is present	- Difficulty understanding speech, particularly in noisy environments - A feeling of fullness or pressure in the ears - Dizziness or balance problems
Brain Problems	- Headache - Dizziness - Confusion - Memory problems - Difficulty concentrating	- Seizures - Muscle weakness - Tremors - Changes in mood or behavior - Sensory disturbances (such as tingling or numbness)
Infusion Reactions	- Fever of 100.4°F (38°C) or higher - Chills - Rash or hives - Itching - Back or chest pain	- Low blood pressure - Difficulty breathing or wheezing - Nausea or vomiting - Headaches

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, 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 may **harm an unborn baby**.
 - If you might get 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 at least 14 months after your last dose of cisplatin.
 - If you think you might be pregnant or if you become pregnant, tell your care team right away.
 - If your partners could become pregnant, use an effective method of birth control—such as condoms—during treatment and for 11 months after your last dose of cisplatin.
- **Do NOT breastfeed** during treatment, for at least 3 days after your last dose of cisplatin, 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 **fluorouracil (5-FU)** and **cisplatin**.

- 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.

- **People with deficiencies in the enzyme dihydropyrimidine dehydrogenase (DPD) may experience serious side effects.**

People with certain changes in a gene called "DPYD" may have a deficiency of the DPD enzyme. Some of these people may not produce enough DPD enzyme, and some of these people may not produce the DPD enzyme at all.

- People who do not produce any DPD enzyme are at increased risk of sudden side effects that come on early during treatment with fluorouracil (5-FU) and can be serious, and sometimes lead to death.
- Call your care team right away if you develop any of the following symptoms and they are severe, including:
 - Sores of the mouth, tongue, throat, and esophagus
 - Diarrhea
 - Low white blood cell counts
 - Nervous system problems
- People with some DPD enzyme may have an increased risk of serious side effects with fluorouracil (5-FU) treatment that can sometimes lead to death.
- Your care teams should talk with you about DPYD testing to look for DPD deficiency.

- **Treatment may cause side effects that require medicines or pausing the therapy.**

Your care team may treat you with corticosteroids or hormone replacement medicines. Your care team may also need to delay or completely 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 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-458