

PCV Treatment

Chemotherapy for brain tumors

This handout explains PCV treatment for brain tumors. It includes how to take each of the drugs and how to handle common side effects.

What is PCV?

PCV is a type of *chemotherapy* (chemo) drug that is used to treat brain tumors. The name PCV comes from the names of the 3 drugs that are used in the treatment. The letters stand for:

- **P = procarbazine** (brand name *Matulane*). This drug comes in a capsule for you to swallow.
- **C = CCNU**, also called lomustine (brand name *Gleostine*). This drug comes in a capsule for you to swallow.
- **V = vincristine** (brand name *Ocovin*). This drug is given to you by *infusion* through an IV (*intravenous*) line.



Always take your chemo drugs exactly as prescribed.

When do I take the PCV?

PCV is given on an exact schedule that lasts for 6 weeks. Here is what to expect:

- **Day 1:** Take lomustine at home.
- **Day 8:** Come to ABTC for a clinic visit, then go our infusion center on 8-Southeast (8SE) for a vincristine infusion.
- **Days 8-21:** Take procarbazine at home.
- **Day 29:** Come to ABTC for a clinic visit, then go to our infusion center on 8SE for a vincristine infusion.
- **Days 30-42:** Rest days. No chemo.
- **Day 42:** Come to ABTC for a clinic visit around this time.

Blood Draws

During your PCV treatment, you will get blood draws once a week. Your nurse will go over this schedule with you.

Special Warning

Do **not** drink grapefruit juice for 1 week before or after your vincristine infusion.

How do I take the chemotherapy capsules?

- Take your anti-nausea medicine *ondansetron* (Zofran) 1 hour (60 minutes) **before** you take your chemotherapy dose.
- Take your dose at night, on an empty stomach. This means that you will take it either 2 hours after a meal or 1 hour before eating.
- Swallow the capsule whole. Do **not** chew, open, or crush it.
- Drink a full glass (8 ounces) of water when you take your dose.
- If you miss your dose or vomit after taking a dose, call your Alvord Brain Tumor Center (ABTC) nurse and ask what to do. **Do NOT take an extra dose.**

What do I do on the day of a vincristine infusion?

On the day of your vincristine infusion:

- When you arrive at the hospital, you will first go to the Outpatient Lab on the 3rd floor for a blood draw.
- Next, you will go to ABTC for a visit with your provider or nurse.
- Bring a dose of your ondansetron (Zofran) with you. You will need to take it 1 hour before your infusion.
- To find the infusion center, take a Cascade elevator to the 8th floor.
- We will inject the vincristine into a vein in your arm. Plan on being at the infusion center for about 1 hour.

What side effects can I expect?

The table below shows side effects that can occur with the 3 types of chemotherapy, and what to do about them. Other side effects may also occur. Please report any symptoms to your doctor, pharmacist, or nurse.

Side Effect	What to Do
Allergic reaction	<ul style="list-style-type: none"> • Call your ABTC nurse right away if you have itching, hives, rash, or swelling. • Go to the Emergency Department right away if you have any tingling in your mouth or throat, chest tightness, or trouble breathing.
Nausea	<ul style="list-style-type: none"> • Take ondansetron (Zofran) 1 hour before taking your capsule or having your infusion. • You can also take Zofran every 8 hours as needed for nausea. Call your ABTC nurse if Zofran does not ease nausea or vomiting. • Help lessen nausea by eating small meals often during the day.
Constipation <i>Chemotherapy and ondansetron may cause constipation (hard stool).</i>	<ul style="list-style-type: none"> • To prevent constipation: <ul style="list-style-type: none"> - Stay active by walking if you can - Drink lots of liquids - Eat foods that are high in fiber - Take bowel medicines as prescribed, unless you have loose stools or diarrhea • If you have constipation for 2 days, call your ABTC nurse and ask what to do.
Decreased white blood cells <i>Chemotherapy puts you at risk for an infection because of low white blood cell counts.</i>	<p>Call your ABTC nurse if you have:</p> <ul style="list-style-type: none"> • A fever higher than 100.4°F (38°C) • Burning when you urinate (pee) • A sore that becomes red, has drainage, or does not start to heal • A cough with mucus • Other signs of an infection

Side Effect	What to Do
<p>Decreased platelets <i>Chemotherapy puts you at risk for a low platelet count or bleeding.</i></p>	<p>Call your ABTC nurse if you have:</p> <ul style="list-style-type: none"> • A bloody nose that lasts longer than 5 minutes • A lot of bleeding from your gums when you brush or floss your teeth • A lot of bruising • Other signs of bleeding
<p>Fatigue</p>	<p>You may feel tired, but it is important to be active. Try to walk about 30 minutes a day.</p>
<p>Hair loss</p>	<p>Hair loss may occur. Your hair will grow back after treatment is over. Some people choose to wear scarves, caps, or wigs during this time.</p>
<p>Vision changes</p>	<p>Call your ABTC nurse if you have any vision changes or discomfort in your eyes.</p>
<p>Fertility</p>	<p>Chemotherapy may affect your ability to have a child. Please talk with your doctor or nurse if you have questions about fertility.</p>
<p>Peripheral Neuropathy <i>(Vincristine only)</i></p>	<p>Call your ABTC nurse if you start to have:</p> <ul style="list-style-type: none"> • Numbness or tingling in your fingers or toes • Weakness • Changes in your sense of touch, such as burning feeling or pale skin <p>You will meet with either a nurse or your provider before each vincristine infusion. We want to make sure you do not have any signs of neuropathy.</p>

Food Restrictions

Most patients must eat a **low-tyramine diet** during their PCV treatment. (You do not need to follow this diet if you are not taking procarbazine.)

Tyramine is an amino acid that naturally occurs in the body. It is also found in certain foods. It helps regulate blood pressure, which can be affected by procarbazine. If you eat too much tyramine during treatment, your blood pressure can increase to dangerous levels. This can cause a stroke, heart attack, or other serious problems.

Foods to Avoid

Grains	None (all grains are OK to eat)
Vegetables	Kimchi, sauerkraut, pickles, and other fermented vegetables
Fruits	Dried fruit such as raisins or prunes, and overly ripe or spoiled fruit
Dairy	All aged cheeses such as cheddar, gouda, muenster, feta, Swiss, or parmesan
Protein	All smoked, processed, fermented, and cured meats including summer sausages, pepperoni, salami, hot dogs, bologna, bacon, chorizo, or corned beef <i>*Avoid meat products near or past their expiration date</i>
Other	Fermented sauces such as soy sauce, shrimp sauce, fish sauce, miso, and teriyaki Alcoholic drinks such as beer and red wine (do not drink more than 12 ounces a day) Coffee, cola, and other drinks with caffeine (do not drink more than 16 ounces a day)

Foods to Eat

Grains	All
Vegetables	All fresh, frozen, or canned vegetables
Fruit	All fresh, frozen, or canned fruits
Dairy	Pasteurized milk, cheese made from pasteurized milk (American cheese), and fresh cheeses such as ricotta or cottage cheese
Protein	Fresh meats and fish

Diet Tips

- Eat mostly fresh foods, as fresh as possible.
- Avoid **ALL** fermented and aged foods.
- Throw away foods that have not been properly stored or are spoiled.
- Check the dates on food packages. Do **not** eat any food that is near or past its expiration date.
- Eat foods on the same day they are cooked. Do **not** eat foods that are cooked then stored in the refrigerator for more than 48 hours.

For Your Safety and the Safety of Others

Birth Control (Contraception)

- If you were assigned female at birth, you **must** have a pregnancy test before starting chemo.
- While on chemo:
 - If you were assigned female at birth, do **not** become pregnant or breastfeed.
 - If you were assigned male at birth, do **not** get a partner pregnant.
- If you are of childbearing age, use birth control during therapy and for **at least 1 month** after your last dose.
- For **48 hours** after taking your chemo dose, use a barrier form of protection when you have sex. The drug stays in your body fluids for 48 hours after each dose. It can be excreted in semen and vaginal fluid.

Handling

- Only the patient should touch the chemo capsules.
- If your caregiver must handle the capsules, they must:
 - Wear disposable rubber gloves.
 - Wash their hands after handling.
- Chemo drugs are excreted in your bodily fluids for 48 hours after each dose. During this time, your caregiver should wear gloves when helping clean up any body fluids, such as urine, stool, or vomit.

Vaccines

Talk with your provider **before** getting any vaccines.

Alcohol

Please avoid alcohol on the days you take your chemotherapy. This applies whether you take it by mouth or IV.

Talk with your ABTC team if not drinking alcohol on your chemotherapy days would be hard for you.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

To talk with a nurse:

Weekdays from 8 a.m. to 5 p.m.:

- For Dr. Graber's team, call 206.597.3171
- For Dr. McGranahan's team, call 206.598.5907
- For Dr. Taylor's team, call 206.597.3008
- For Dr. Venur's team, call 206.598.9467

After hours and on weekends and holidays, call our Community Care Line at 206.744.2500.