



Provincial Health Services Authority

## For the Patient: LUAVPP

Other Names: Treatment of Advanced Non-Small Cell Lung Cancer with Cisplatin and Pemetrexed

**LU = LU**ng  
**AV = AdV**anced  
**PP = CisP**latin, **P**emetrexed

### **ABOUT THIS MEDICATION**

#### **What are these drugs used for?**

LUAVPP is an intravenous (through the vein) drug treatment for advanced non-small cell lung cancer. The goal of this treatment is to help control or shrink the cancer and some of the symptoms caused by it.

This treatment is offered to people who have good kidney function and a good performance status. Performance status is a measure of how well a person is able to perform their usual daily activities.

#### **How do these drugs work?**

Cisplatin is an anticancer drug that works by *preventing* the synthesis of DNA, RNA and proteins that are needed for cancer cells to divide.

Pemetrexed is an anticancer drug that belongs to a group of drugs called antimetabolites. These work by *interrupting* the synthesis of DNA that is needed for cancer cells to multiply and divide.

### **INTENDED BENEFITS**

This treatment is being given to destroy and/or slow down the growth of cancer cells in your body. This treatment may improve your current symptoms, and delay or prevent new symptoms from starting. This chemotherapy treatment can help with controlling some of the symptoms the cancer may be causing, such as pain, coughing, wheezing, difficulty swallowing, weight loss and fatigue. Research has shown that patients may live longer after receiving chemotherapy treatment.

### **LUAVPP TREATMENT SUMMARY**

#### **Before your treatment begins:**

The table below outlines the medications you need to take before your chemotherapy begins:

- You must be on both folic acid and vitamin B12 before starting chemotherapy to help protect your healthy cells from pemetrexed.

MEDICATION	WHERE TO GET IT	HOW TO TAKE IT
<b>Folic Acid</b> 0.4 mg tablets	At your regular pharmacy, without a prescription	Take <b>one</b> tablet (0.4 mg) <b>once daily</b> . Start <i>one week</i> before your first treatment and stop <i>three weeks</i> after your last treatment.
<b>Vitamin B12</b> 1000 mcg (µg) injection	At your regular pharmacy, behind the pharmacy counter, without a prescription	<b>Your doctor or nurse will inject this into your muscle once every 9 weeks</b> . Start <i>one week</i> before your first treatment and stop <i>three weeks</i> after your last treatment.

### How are these drugs given?

- Your treatment plan consists of up to 6 chemotherapy “cycles”. Each cycle lasts 3 weeks (21 days).
- For each cycle, you will have the two medications given to you intravenously (through the vein) on Day 1.
  - Pemetrexed is given first, and is given intravenously over 10 minutes.
  - You will then be given extra fluids intravenously for one hour (60 minutes) before cisplatin. This is to help flush out your kidneys.
  - Cisplatin will be given last, and is given intravenously over one hour (60 minutes).

### What will happen when I get my drugs?

- A blood test is done within one month of starting treatment.
- A blood test is also done before Day 1 of each cycle.
- For the first two cycles of treatment, an additional blood test will be done once a week.
- The dose and timing of your chemotherapy may be changed based on your blood test results and/or other side effects.
- Your very first treatment will take longer than other treatments because a nurse will be reviewing the possible side effects of your chemotherapy plan and will discuss with you how to manage them. *It is a good idea to bring someone with you to your first chemotherapy appointment.*
- You will be given a prescription for anti-nausea medications (to be filled at your regular pharmacy). Please bring your anti-nausea medications with you for each treatment. Your nurse will tell you when to take the anti-nausea medication. You may also need to take your anti-nausea drugs at home after therapy. It is easier to prevent nausea than to treat it once it happens, so follow directions closely.

## **LUAVPP TREATMENT PROTOCOL**

**Start Date:** \_\_\_\_\_

### **Cycle 1:**

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
<b>Blood test</b> Pemetrexed, Prehydration & Cisplatin	No chemo	No chemo	No chemo	No chemo	No chemo	No chemo
Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
<b>Blood test</b> No Chemo	No chemo	No chemo	No chemo	No chemo	No chemo	No chemo
Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21
<b>Blood test</b> No Chemo	No chemo	No chemo	No chemo	No chemo	No chemo	No chemo

**This 21-day cycle will repeat up to 5 more times**

**(weekly blood tests may not be required after Cycle #2 –  
this will be up to your oncologist)**

## CHEMOTHERAPY SIDE EFFECTS AND MANAGEMENT

### Are there any risks?

- Unexpected and unlikely side effects can occur with any drug treatment. The ones listed below are particularly important for you to be aware of.

SERIOUS SIDE EFFECTS	How common is it?	MANAGEMENT
Your <b>white blood cells</b> will decrease a few days after your treatment. They usually return to normal in 2-3 weeks. White blood cells protect your body by fighting bacteria (germs) that cause infection. When they are low, <b>you are at greater risk of having an infection.</b>	Common	To help prevent infection: <ul style="list-style-type: none"> <li>• Wash your hands often and always after using the bathroom.</li> <li>• Take care of your skin and mouth by gently washing regularly.</li> <li>• Avoid crowds and people who are sick.</li> <li>• Call your doctor <b><i>immediately</i></b> at the first sign of an <b><i>infection</i></b> such as fever (over 100°F or 38°C by an oral thermometer), chills, cough or burning when you pass urine.</li> </ul>
Your <b>platelets</b> may decrease during or after your treatment. They will return to normal after your last treatment. Platelets help to make your blood clot when you hurt yourself. <b>You may bruise or bleed more easily than usual.</b>	Common	To help prevent bleeding problems: <ul style="list-style-type: none"> <li>• Try not to bruise, cut or burn yourself.</li> <li>• Clean your nose by blowing gently, do not pick your nose.</li> <li>• Avoid constipation.</li> <li>• Brush your teeth gently with a soft toothbrush as your gums may bleed more easily. Maintain good oral hygiene.</li> </ul> Avoid taking ASA (eg: ASPIRIN®) or Ibuprofen (eg: ADVIL®), <i>unless prescribed by your doctor.</i>

SERIOUS SIDE EFFECTS	How common is it?	MANAGEMENT
<b>Allergic reactions</b> to cisplatin may <b>rarely</b> occur. Signs of an allergic reaction are dizziness, confusion and wheezing or difficulty breathing. This reaction can occur immediately or several hours after receiving cisplatin, or, after many doses of cisplatin.	Rare	<ul style="list-style-type: none"> <li>Tell your nurse if this happens while you are receiving cisplatin. Go to your local Emergency Room immediately if this happens after you leave the clinic.</li> </ul>
Cisplatin <b>burns</b> if it leaks under the skin.	Very rare	Tell your nurse <b>immediately</b> if you feel pain, burning, stinging, or any other change while the drug is being given.

OTHER SIDE EFFECTS	How Common Is It?	MANAGEMENT
<b>Nausea and vomiting</b> may occur after your treatment and may last for 24 hours. Nausea may last longer for some patients (i.e. delayed nausea and vomiting).	Very Common	<p>You will be given a prescription for anti-nausea drug(s) to take before your chemotherapy treatment and/or at home. It is easier to prevent nausea than to treat it once it has happened, so follow directions closely.</p> <ul style="list-style-type: none"> <li>Drink plenty of liquids.</li> <li>Eat and drink often in small amounts.</li> <li>Try the ideas in “<i>Food Choices to Control Nausea</i>”.</li> </ul> <p>Your doctor may manage delayed nausea and vomiting differently. Be sure to let your doctor know if you experience this.</p>
<b>Tiredness</b> or lack of energy may occur.	Common	<ul style="list-style-type: none"> <li>Do not drive a car or operate machinery if you are feeling tired.</li> <li>Try the ideas in “<i>Your Bank of Energy Savings: How People with Cancer can Handle Fatigue</i>”.</li> </ul>

OTHER SIDE EFFECTS	How Common Is It?	MANAGEMENT
<b>Loss of appetite and weight loss</b> may sometimes occur and may persist after discontinuation of pemetrexed.	Common	<ul style="list-style-type: none"> <li>• Try the ideas in “<i>Food Ideas to Help with Decreased Appetite</i>”.</li> </ul>
<b>Skin rashes</b> may sometimes occur.	Common	<p>You will be given dexamethasone, a steroid which will help decrease your chance of having a rash. A mild rash may still occur. To help itching:</p> <ul style="list-style-type: none"> <li>• You can use calamine lotion.</li> <li>• If very irritating, call your doctor during office hours. Otherwise, make sure to mention it at your next visit.</li> </ul>
<b>Chest pain</b> may occur a few days after you receive pemetrexed. This usually will occur in the area of your tumor.	Uncommon	<ul style="list-style-type: none"> <li>• Take acetaminophen (eg: <b>TYLENOL®</b>) every 4-6 hours as needed, up to a maximum of 4 g (4000 mg) per day. Start as soon as possible once the pain begins.</li> </ul>
<b>Pain or tenderness</b> may occur where the needle was placed in your vein.	Uncommon	<ul style="list-style-type: none"> <li>• Apply cool compresses or soak in cool water for 15-20 minutes several times a day.</li> </ul>
<b>Diarrhea</b> may occur.	Uncommon	<p>To help diarrhea:</p> <ul style="list-style-type: none"> <li>• Drink plenty of liquids.</li> <li>• Eat and drink often in small amounts.</li> <li>• Avoid high fibre foods as outlined in “<i>Food Ideas to Help with Diarrhea during Chemotherapy</i>”.</li> </ul>

OTHER SIDE EFFECTS	How Common Is It?	MANAGEMENT
<p><b>Sore mouth</b> may occur a few days after treatment. Mouth sores can occur on the tongue, the sides of the mouth or in the throat. <i>Mouth sores or bleeding gums can lead to an infection.</i></p>	<p>Uncommon</p>	<ul style="list-style-type: none"> <li>• Brush your teeth gently after eating and at bedtime with a very soft toothbrush. If your gums bleed, use gauze instead of a brush. Use baking soda instead of toothpaste.</li> <li>• Make a mouthwash with ½ teaspoon baking soda or salt in 1 cup warm water and rinse several times a day.</li> <li>• Try soft, bland foods like puddings, milkshakes and cream soups.</li> <li>• Avoid spicy, crunchy or acidic food, and very hot or cold foods.</li> <li>• Call your doctor if you are having difficulty eating or drinking due to pain.</li> </ul>
<p><b>Hair loss</b> is rare. If there is hair loss, your hair will grow back once you stop treatment. Colour and texture may change.</p>	<p>Rare</p>	<ul style="list-style-type: none"> <li>• Use a gentle shampoo and soft brush.</li> <li>• Care should be taken with use of hair spray, bleaches, dyes and perms.</li> <li>• Refer to the pamphlet For the Patient: <i>“Hair loss due to chemotherapy”</i></li> </ul>

## **INSTRUCTIONS FOR THE PATIENT**

### **What other drugs can interact with LUAVPP?**

- Other drugs such as some antibiotics given by vein (eg: tobramycin, vancomycin), furosemide (LASIX®), phenytoin (DILANTIN®), pyridoxine (VITAMIN B6) and ibuprofen (ADVIL®) may interact with LUAVPP. Tell your doctor if you are taking these or other drugs as you may need extra blood tests, your dose may need to be changed or your treatment may need to be held for a few days.
- Check with your doctor or pharmacist before you start taking any new prescription or non-prescription drugs.
- If you are admitted to hospital for intravenous antibiotics, be sure that the doctor treating you knows you are on cisplatin.

### **Other important things to know:**

- Cisplatin can cause changes in kidney function, but this is not frequent with the doses used in this type of treatment. It is important that you are well-hydrated before and after treatment.
- Sometimes, the nerve which allows you to hear can be affected by cisplatin. This could result in you experiencing “tinnitus” (ringing in the ears) or a change in your hearing. Report any of these problems to your doctor and/or nurse.
- The drinking of alcohol (in small amounts) does not appear to affect the safety or usefulness of this treatment.
- This treatment may cause sterility in men and menopause in women. If you plan to have children, discuss this with your doctor before starting treatment.
- This treatment may damage sperm and may cause harm to the baby if used during pregnancy. It is best to use birth control while you are undergoing treatment and for *3 months afterwards*. Tell your doctor right away if you or your partner becomes pregnant. Do not breast feed during treatment.
- Tell all doctors or dentists you see that you being treated with cisplatin and pemetrexed before you receive treatment of any form.

### **SEE YOUR DOCTOR OR GET EMERGENCY HELP IMMEDIATELY IF YOU HAVE:**

- Signs of an **infection** such as fever (over 100°F or 38°C by an oral thermometer), shaking chills, severe soar throat, productive cough, pain or burning when you pass urine, cloudy or foul smelling urine.
- Signs of a **stroke** such as sudden onset of severe headache, eyesight changes, slurred speech, loss of coordination, weakness or numbness in arm or leg.
- Signs of **bleeding problems** such as black, tarry stools; blood in urine or pinpoint red spots on skin.
- Signs of an **allergic reaction** (rare) soon after a treatment including dizziness, fast heart beat, face swelling or breathing problems.
- Signs of a **blood clot** such as tenderness or hardness over a vein, calf swelling and tenderness, sudden onset of cough, chest pain or shortness of breath.
- **Seizures or loss of consciousness.**



**SEE YOUR DOCTOR AS SOON AS POSSIBLE (DURING OFFICE HOURS) IF YOU HAVE:**

- **Muscle weakness.**
- Signs of **kidney problems** such as lower back or side pain, swelling of feet or lower legs.
- Uncontrolled **nausea, vomiting** or diarrhea.
- Signs of **anemia** such as unusual tiredness or weakness.
- Signs of **liver problems** such as yellow eyes or skin, white or clay-coloured stools.
- Signs of **lung problems** such as shortness of breath, wheezing or coughing.
- **Skin rash** or **itching.**

**CHECK WITH YOUR DOCTOR IF ANY OF THE FOLLOWING CONTINUE TO BOTHER YOU:**

- Easy bruising or minor bleeding.
- Uncontrolled nausea, vomiting or diarrhea.
- Redness, swelling, pain or sores where the needle was placed or along the arm.
- Redness, swelling, pain or sores on your lips, tongue, mouth or throat.
- Skin rash or itching.
- Ringing in your ears or hearing problems.
- Numbness or tingling in feet or hands or painful leg cramps.

**If you experience symptoms or changes in your body that have not been described above but worry you, or if any symptoms are severe, contact:**  
\_\_\_\_\_ at telephone number \_\_\_\_\_