

For the Patient: MYCARLD

Other Names: Therapy of Multiple Myeloma Using Carfilzomib (KYPROLIS®), Lenalidomide (REVLIMID®) and Dexamethasone (DECADRON®)

MY = **MY**eloma (tumour group)

CAR = **CAR**filzomib

L = **L**enalidomide

D = **D**examethasone

Uses:

- **MYCARLD** is a drug treatment given for Multiple Myeloma.
- **MYCARLD** is currently offered to patients with myeloma who have received at least one prior therapy.

How does it work?

- **MYCARLD** is a combination of three drugs, carfilzomib (kar-FILZ-oh-mib), lenalidomide (len-a-lid-oh-mide) and dexamethasone (dex-a-METH-a-sona).
- Carfilzomib inhibits an enzyme that is responsible for breaking down proteins in cells and causes cancer cells to die
- Lenalidomide is thought to directly kill myeloma cells, decrease myeloma cells attaching to the bone marrow, decrease the formation of blood vessels to the myeloma cells and increase the immune system to kill the myeloma cells.
- Dexamethasone works together with lenalidomide to directly kill myeloma cells.

Intended Benefits:

- **MYCARLD** may stop or slow down the growth of myeloma cells in your body. This may improve your symptoms and delay or prevent new symptoms from developing.
- It will take between several weeks or months of treatment before your doctor can judge if the treatment is working.

Treatment Plan:

- It is a combination of three drugs (Carfilzomib, lenalidomide and dexamethasone). Carfilzomib is a clear liquid that is injected into a vein (intravenous or IV). Lenalidomide and dexamethasone are capsules and tablets taken by mouth.
- Your treatment plan consists of several cycles (up to 18 cycles of carfilzomib and ongoing lenalidomide and dexamethasone). Each cycle is 28 days (day 1-28). Carfilzomib is given on days 1, 8 and 15 for 18 cycles. After that, your doctor may continue carfilzomib or stop it. Lenalidomide and dexamethasone are taken with each cycle and continued beyond cycle 18 as long as you are tolerating them.
- For cycle 1, plan to spend about 2.5 hours in the treatment room each time. The nurse will monitor you for 1 hour after each infusion. For subsequent cycles, plan to spend about 20 to 60 minutes each time in the treatment room.
- You will take the oral medications, lenalidomide daily for the first 21 days of each cycle (days 1 to 21) and dexamethasone (or prednisone) weekly. Pick up these

medications from BC Cancer pharmacy the day before or 1 hour before your scheduled chemotherapy treatment.

- Within 4 days of each scheduled chemotherapy treatment, you will have a blood test and an appointment with the doctor to assess how you are tolerating your treatment.

Carfilzomib

- May cause infusion reactions. Dexamethasone may be given before the infusion to prevent reactions.
- Before the infusion, the nurse will monitor your heart rate, breathing and blood pressure. You will need to remain in the room for observation for 60 minutes after each infusion for cycle 1 only.
- If you have had chicken pox or shingles in the past, the doctor would have provided you with a prescription for an antiviral medication. Take this medication at least one day before starting the carfilzomib infusion and take it daily as long as you are on carfilzomib and continue it for 4 weeks after you have stopped carfilzomib.

Lenalidomide

- You must be registered in a program called RevAid® to use lenalidomide. The RevAid® program was developed by Celgene (pharmaceutical company that makes lenalidomide) at the request of Health Canada to prevent lenalidomide from causing serious birth defects. Lenalidomide has a similar structure to the drug thalidomide.
- The RevAid® program will survey the patient and physician to make sure the following requirements are met:
 - birth control and pregnancy tests for women of child bearing potential
 - birth control for men who have sex with a woman of child bearing potential
 - that you will not donate blood or semen while taking lenalidomide and for four weeks following use
 - that you will not share lenalidomide
- The RevAid® program will not allow a lenalidomide prescription that was filled at one pharmacy to be transferred to a different pharmacy to fill refills. This would require a new prescription from the doctor.
- The pharmacist must counsel you before each cycle can be dispensed. If another person is picking up your lenalidomide from the pharmacy for you, the pharmacist must counsel you over the phone before the drug can be dispensed.
- You, or the person picking up your lenalidomide for you, must wait for the pharmacist to complete the RevAid® dispensing steps.
- Lenalidomide is usually taken daily for 21 days, (days 1-21), followed by a 7 day rest (when no lenalidomide is taken), unless otherwise directed by your physician.
- Taken about the same time daily, best taken in the evening due to the fatigue side effect
- Swallow capsule whole, do not crush or break
- Can be taken with or without food
- Return unused drug to the pharmacy

Dexamethasone

- Usually given using 4 mg tablets (4 mg of dexamethasone per tablet)
- Can be given in different dosing regimens as prescribed by your doctor
- Take as a single dose with food in the morning
- Some patients may not be able to take dexamethasone
- Other patients may take prednisone instead

Labs:

- A blood test is done every 2 weeks while you are on carfilzomib.
- Thereafter, blood tests are typically done every 4 weeks, within four days of your next chemotherapy cycle.
- Your next cycle may be delayed, or your dose may be changed based on the blood test.
- Once you have your blood test done, if you have lenalidomide refills call the pharmacy. If you need a new prescription for lenalidomide, call your physician

Serious Side Effects:

Unexpected and unlikely side effects can occur with any drug treatment. The ones listed below are particularly important as they are directly related to the common actions of these drugs.

- **Teratogenicity:** If lenalidomide is taken during pregnancy, it may cause severe birth defects or death to the fetus. Lenalidomide should never be used by women who are pregnant or who could become pregnant while taking the drug. Even a single dose taken by a pregnant woman may cause birth defects. Carfilzomib may damage sperm and may harm the baby if used during pregnancy. Tell your doctor right away if you or your partner becomes pregnant. Do not breastfeed during treatment
- **Infection:** You are at an increased risk for getting an infection if your white blood cells decrease. **If you have a fever over 38°C or 100°F, call your cancer doctor immediately (24 hours a day) or go immediately to your nearest Hospital Emergency and tell the doctor that you are on chemotherapy. It is recommended you have a working thermometer at home.**
- **Bleeding Problems:** You are at an increased risk of having bleeding problems if your platelets decrease. If you develop black tarry stools, blood in your urine, pinpoint red spots on the skin, or prolonged nose bleeds report them immediately to your doctor or nurse.
- **Blood Clots:** You are at an increased risk of forming a Deep Vein Thrombosis (DVT) or Pulmonary Embolism (PE). Your doctor may ask you to take **Aspirin 81 mg** daily or an anti-coagulant to prevent this. Signs of a blood clot include tenderness or hardness over a vein, calf tenderness, swelling – especially in one leg or arm but not the other, sudden onset of cough, chest pain or shortness of breath. **If you have signs of a blood clot call your cancer doctor immediately (24 hours a day) or go immediately to your nearest Hospital Emergency and tell the doctor that you are on chemotherapy.**

Common Side Effects and Management:

SIDE EFFECTS	MANAGEMENT
<p>Normal white blood cells protect your body by fighting bacteria (germs) that cause infection. When they are low, you are at greater risk of having an infection.</p>	<p>To help prevent infection:</p> <ul style="list-style-type: none"> • Wash your hands often and always after using the bathroom. • Avoid crowds and people who are sick. • Call your doctor immediately at the first sign of an infection such as fever (over 100°F or 38°C by an oral thermometer), chills, cough, or burning when you pass urine.
<p>Normal platelets help your blood to clot normally after an injury (e.g., cut). When the platelet count is low, you may be more likely to bruise or bleed.</p>	<p>To help prevent bleeding problems:</p> <ul style="list-style-type: none"> • Try not to bruise, cut, or burn yourself. • Clean your nose by blowing gently. Do not pick your nose. • Avoid constipation. • Brush your teeth gently with a soft toothbrush as your gums may bleed more easily. <p>Some medications such as ASA (e.g., ASPIRIN®) or ibuprofen (e.g., ADVIL®) may increase your risk of bleeding.</p> <ul style="list-style-type: none"> • Do not stop taking any medication that has been prescribed by your doctor (e.g., ASA for your heart). • For minor pain, try acetaminophen (e.g., TYLENOL®) first, but occasional use of ibuprofen may be acceptable.
<p>Allergic reactions may sometimes occur. Signs of an allergic reaction may include flushing, rash, itching, dizziness, swelling or breathing problems. This can occur immediately or up to 24h after receiving carfilzomib.</p>	<p>Tell your nurse if this happens while you are receiving carfilzomib or contact your oncologist immediately if this happens after you leave the clinic.</p>
<p>Fever sometimes occurs shortly after treatment with carfilzomib.</p>	<p>Take acetaminophen (e.g., TYLENOL®) every 4-6 hours, to a maximum of 4 g (4000 mg) per day.</p> <ul style="list-style-type: none"> • Fever (over 100°F or 38°C by an oral thermometer) which occurs more than a few days after treatment may be a sign of an infection. Report this to your doctor immediately

SIDE EFFECTS	MANAGEMENT
<p>Pain or tenderness may occur where the needle was placed.</p>	<p>Apply cool compresses or soak in cool water for 15-20 minutes several times a day.</p>
<p>Nausea and vomiting may occur.</p>	<p>Take only anti-nausea medication prescribed or approved by your oncologist. It is easier to prevent nausea than treat it once it has occurred, so follow directions closely.</p> <ul style="list-style-type: none"> • Drink plenty of fluids • Eat and drink often in small amounts • Try the ideas in Practical Tips to Manage Nausea
<p>Increased calcium in the blood may sometimes occur.</p>	<p>To help prevent high calcium:</p> <ul style="list-style-type: none"> • Keep active • Drink plenty of fluids
<p>Blood clots may rarely occur. This is more likely to happen if you have had blood clots before. Signs to watch for include tenderness or hardness over a vein, calf tenderness, sudden onset of cough, chest pain, or shortness of breath.</p>	<p>To help prevent blood clots:</p> <ul style="list-style-type: none"> • Keep active. • Drink plenty of fluids. • Avoid tight clothing. • Do not sit with your legs crossed at the knees.
<p>Fatigue is common. As the number of cycles increases fatigue may improve</p>	<ul style="list-style-type: none"> • Refer to the pamphlet '<i>Your Bank to Energy Savings-How people with cancer can handle fatigue</i>'.* • Take lenalidomide in the evening. • Sometimes a dose change may be required. • Do not drive a car or operate machinery if you are feeling tired.
<p>Skin rash and/or itching may sometimes occur, although in general it is not severe.</p>	<ul style="list-style-type: none"> • Minor rashes can be treated with diphenhydramine and/or steroid creams and lenalidomide can be continued. • Contact your doctor if rash worsens or is very irritating.

SIDE EFFECTS	MANAGEMENT
Diarrhea may commonly occur	If diarrhea is a problem: <ul style="list-style-type: none"> • Drink plenty of fluids. • Eat and drink often in small amounts. • Avoid high fibre foods as outlined in <i>Food Ideas to Help with Diarrhea During Chemotherapy</i>.* • Note: If lactose in milk usually gives you diarrhea, the lactose in the capsule may be causing your diarrhea. Take LACTAID® tablets just before your lenalidomide dose.
Constipation may sometimes occur	<ul style="list-style-type: none"> • Exercise if you can. • Drink plenty of fluids. • Try ideas in <i>Suggestions for Dealing with Constipation</i>.*
Headache may sometimes occur.	<ul style="list-style-type: none"> • Take acetaminophen (e.g., TYLENOL®) every 4-6 hours if needed, to a maximum of 4 g (4000 mg) per day.
Muscle, joint, or back pain may sometimes occur.	<ul style="list-style-type: none"> • You may take acetaminophen (e.g., TYLENOL®) every 4-6 hours to a maximum of 4 g (4000 mg) per day for mild to moderate pain. Tell your doctor if the pain interferes with your activity.
Swelling of hands, feet, or lower legs may sometimes occur if your body retains extra fluid.	If swelling is a problem: <ul style="list-style-type: none"> • Elevate your feet when sitting. • Avoid wearing tight clothes.
Numbness or tingling of the fingers or toes may sometimes occur. This will slowly return to normal once your treatments are over. This may take several months.	<ul style="list-style-type: none"> • Be careful when handling items that are sharp, hot, or cold. • Tell your doctor at your next visit, especially if you have trouble with buttons, writing, or picking up small objects
Loss of appetite may sometimes occur.	<ul style="list-style-type: none"> • Try the ideas in <i>Food Ideas to Help with Decreased Appetite</i>
Sugar control may rarely be affected in diabetics.	Check your blood sugar regularly if you are diabetic

SIDE EFFECTS	MANAGEMENT
<p>Increased energy and difficulty sleeping may be due to dexamethasone</p>	<ul style="list-style-type: none"> • The days you take your dexamethasone you may feel as though you have extra energy. • You may also have difficulty sleeping at night. • Take the dexamethasone first thing in the morning to prevent difficulty sleeping at night.
<p>Hair loss is rare. If you lose hair, it will grow back once you stop treatment. Colour and texture may change</p>	<p>If hair loss is a problem, refer to Resources for Hair Loss and Appearance Changes – Patient Handout.*</p>

***Please ask your chemotherapy nurse or pharmacist for a copy.**

The pharmacists at the BC Cancer and the pharmacists at your oncology clinic are also available to answer your drug-related questions.

Medication Interactions

Other drugs such as digoxin (LANOXIN®) may **interact** with lenalidomide. Tell your doctor if you are taking this or any other drugs as you may need extra blood tests or your dose may need to be changed. Check with your doctor or pharmacist before you start or stop taking any other drugs.

Some Natural Health Products may interact with this treatment. Tell your doctor if you are taking any Natural Health Products. Check with your doctor or pharmacist before you start taking any Natural Health Products.

If you experience symptoms or changes in your body that have not been described above but worry you, tell your doctor about them at the time of your next visit. If any symptoms are severe, contact:

_____ at telephone number _____

If you have symptoms that are severe or need emergency services, go to your local hospital's Emergency Department.