



Provincial Health Services Authority

For the Patient: LYCHOP

Other Names: CHOP, Treatment of lymphoma with doxorubicin, cyclophosphamide, vincristine and prednisone

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| C | Cyclophosphamide |
| H | Doxorubicin (also known as ADRIAMYCIN®) |
| O | Vincristine (also known as ONCOVIN®) |
| P | Prednisone (taken by mouth) |

Uses:

- CHOP is a drug treatment given for patients with Non-Hodgkin's Lymphoma with the expectation of destroying cancer cells.

Treatment Plan:

- Your treatment plan consists of several (up to 8) chemotherapy cycles. Each cycle is repeated every 3 weeks (21 days). For each cycle you will have three chemotherapy drugs given as an infusion, plus a drug called prednisone taken as a pill by mouth.
- You will receive all drugs on treatment day. Your treatment will be about 2 hours long. You will take the oral medication, prednisone, daily for the first five days of each cycle starting the day of chemotherapy.
- You will have a blood test and an appointment with your doctor prior to each scheduled chemotherapy treatment to assess how you are tolerating it.

Drugs:

- Four drugs (cyclophosphamide, doxorubicin, vincristine, and prednisone) will be given at each cycle. All drugs, except the prednisone, are given by injection into a vein.
- You will be given an oral medication (prednisone) to start on Day 1= day of chemotherapy, and you will need to take this daily for a total of 5 days (Days 1-5).
- You will be given a prescription for anti-nausea pills to help prevent nausea and vomiting. Fill this prescription at your drugstore and bring it to your chemotherapy appointments.
- During the course of your treatment, your oncologist (cancer doctor) may decide that you need a drug called filgrastim (also known as G-CSF, granulocyte colony stimulating factor) to improve your white blood cell count. If it is needed, the drug is given as an injection under the skin (subcutaneous, SC) daily for 3 to 5 days, starting a few days after the chemotherapy (your doctor will specify when to start this). Your nurse will teach you and/or a family member how to give a SC injection. The filgrastim prescription is filled at your community pharmacy and, since it is not commonly available, the drugstore may require 1-2 days to obtain the drug.

- A blood test will be taken prior to each cycle of treatment. Your doctor will determine whether you need filgrastim based on your blood counts; the dose of chemotherapy may be changed based on your blood tests and/or other side effects.
- If needed, radiation therapy will start approximately 3-4 weeks after your last cycle of chemotherapy.

Instructions:

- Bring your anti-nausea drugs with you to take before each IV treatment. The nurse will instruct you when to take your pills. You may also need to take anti-nausea drugs at home after the chemotherapy. It is easier to prevent nausea than treat it once it has occurred, so follow directions closely.
- Call your cancer doctor immediately (day or night) at the first sign of any infection but especially if you have a fever over 38°C or 100°F.
- Check with your doctor or pharmacist before you start taking any new drugs. Other drugs such as barbiturates, digoxin (LANOXIN®), ciprofloxacin (CIPRO®) and similar antibiotics, phenytoin (DILANTIN®), carbamazepine (TEGRETOL®), ketoconazole (NIZORAL®) and similar antibiotics, nifedipine (ADALAT®), blood pressure medications and warfarin (COUMADIN®), may interact with CHOP.
- **Drink** 8-12 cups of liquid a day on the day of your treatment and the day after your treatment. **Empty your bladder** (pass urine) every 2 hours while you are awake and at bedtime for at least 24 hours after your treatment. Your doctor may also tell you to get up in the night to empty your bladder. This helps prevent bladder and kidney problems.
- Avoid grapefruit juice or grapefruit for 48 hours before, and on the day of your treatment
- You may drink small amounts of alcohol, as it will not affect the safety or effectiveness of your treatment. Drinking alcohol may increase the risk of some side effects of prednisone; discuss this with your doctor or pharmacist.
- Tell other doctors or dentists that you are being treated with CHOP chemotherapy before you receive any treatment from them.
- Use effective contraception (birth control) if you could become pregnant or if your partner could become pregnant. Becoming pregnant while on chemotherapy will likely harm the baby. Do not breast feed.

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 the drugs in your treatment plan.

- **Infection:** The number of white blood cells that help fight infections will be lowered by the treatment. Your blood count is expected to return to normal by Day 1 of the next cycle. If your white blood cell count becomes very low you could get a serious infection. **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:** 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.
- **Tissue Injury:** Doxorubicin and vincristine can cause tissue injury if they leak out of the vein while they are being given. Report any sensation of burning, stinging or pain to your chemotherapy nurse immediately.
- **Early menopause:** If you are a woman still having menstrual periods, CHOP may cause your ovaries to stop working, resulting in menopausal symptoms (such as hot flashes) and infertility. Your periods may stop. This may be permanent especially if you are 40 years of age or older.
- **Heart failure:** Rarely, doxorubicin can have an effect on the heart in some patients causing failure of the heart's pumping action which results in shortness of breath, fatigue and leg swelling. Report shortness of breath, chest pain, or a fast or uneven heart beat to your doctor immediately.
- **Bladder problems:** Rarely, cyclophosphamide may cause damage to the lining of the bladder. Report any signs of blood in urine, frequent need to pass urine, or pain on passing urine to your doctor immediately.

Common Side Effects and Management:

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| <p>Nausea and vomiting can occur with this treatment and you will need to take anti-nausea medications before and after your chemotherapy.</p> | <p>You will be given a prescription for anti-nausea drugs to take before your IV treatment and later at home.</p> <ul style="list-style-type: none"> • It is easier to prevent nausea than treat it once it has occurred, so follow directions closely. • Refer to the following pamphlets: <i>For the Patient: Managing Nausea; Chemotherapy & You; Food choices to help control nausea*</i> |
| <p>Hair Loss. Your hair will fall out 2-4 weeks after treatment begins. Your scalp may feel tender. You may lose hair on your face and body. Your hair will grow back once your treatments are over and sometimes between treatments. The colour and texture of the new hair growth may be different.</p> | <ul style="list-style-type: none"> • Cutting your hair short or shaving your head may be more comfortable. • Avoid hair spray, bleaches, dyes and perms. • Apply mineral oil to your scalp to reduce itching. • If you lose your eyelashes and eyebrows, protect your eyes from dust and grit with a broad-rimmed hat and glasses. • Ask your nurse about information on wigs and head coverings. |
| <p>Mouth Sores may occur a few days after treatment. Mouth sores can occur on the tongue, gums and sides of the mouth or in your throat. Mouth sores or bleeding gums can lead to an infection.</p> | <ul style="list-style-type: none"> • Brush your teeth gently after eating and at bedtime with a soft toothbrush. If your gums bleed use gauze instead of a brush. Use baking soda instead of toothpaste. • Make a mouthwash with ½ teaspoon baking soda or salt in 1 cup warm water and rinse several times a day. Try ideas in <i>Easy to chew, easy to swallow food ideas*</i>. • Tell your doctor about a sore mouth, as your chemotherapy doses may need to be decreased if mouth sores are severe. |

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| <p>Fatigue is common especially in the first 1-2 weeks after your treatment. As the number of cycles increases fatigue may get worse.</p> | <ul style="list-style-type: none"> • Your energy level should slowly improve (weeks – months) after your final treatment is completed. • Refer to the pamphlet ‘<i>Your Bank to Energy Savings-How people with cancer can handle fatigue</i>’ |
| <p>Your platelets may decrease 6-13 days after your treatment. They will return to normal with time. Platelets help your blood clot if you cut yourself. You may bruise or bleed more easily than usual.</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 • Avoid ASA (eg, ASPIRIN®) unless recommended by your doctor. • For minor pain use acetaminophen (TYLENOL®). Take your temperature prior to taking acetaminophen-containing products. • Do not take common painkillers such as ibuprofen (eg, ADVIL®, MOTRIN®) |
| <p>Severe constipation could occur due to vincristine.</p> | <ul style="list-style-type: none"> • See your doctor as soon as possible if you get severe constipation. • Drink plenty of fluids • Add prunes or prune juice to diet • Eat foods high in fibre such as bran, whole grain breads and cereals, nuts, raw fruits and vegetables. • Ask your nurse about the pamphlet ‘<i>Suggestions for dealing with Constipation</i>’ |
| <p>Numbness or tingling of fingers or toes could occur due to vincristine.</p> | <ul style="list-style-type: none"> • Numbness and tingling of the toes and fingers will slowly return to normal after your last chemo. • Tell your doctor at your next visit if you develop numbness or have trouble picking up small objects, doing up buttons or writing. • Be careful handling sharp, hot or cold objects. |
| <p>Your urine may be pink or reddish for 1-2 days after your treatment.</p> | <p>This is expected as doxorubicin is red and is passed in your urine.</p> |

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| <p>Sugar control may be affected in people with diabetes.</p> | <p>Check your blood sugar regularly if you are diabetic. See your doctor if you have signs of blood sugar problems such as thirst and frequent need to pass urine.</p> |
| <p>Increased energy and difficulty sleeping may be due to prednisone.</p> | <ul style="list-style-type: none"> • The days you take your prednisone you may feel as though you have extra energy. • You may also have difficulty sleeping at night. • Take the prednisone first thing in the morning to prevent insomnia at night. |

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.

* Available through your nurse