



**For the Patient:** Cyclophosphamide injection  
Other names: cyclo, CYTOXAN®, PROCYTOX®

**BC Cancer Agency**

- **Cyclophosphamide** (sigh-kloe-FOSS-fa-mide) is a drug that is used to treat many types of cancers. It is a clear liquid that is injected into a vein.
- Tell your doctor if you have ever had an unusual or **allergic reaction** to cyclophosphamide before taking cyclophosphamide.
- A **blood test** may be taken before each treatment. The dose and timing of your chemotherapy may be changed based on the test results and/or other side effects.
- Your doctor may tell you to **drink** plenty of liquids e.g., 8-12 cups (2000-3000 mL or 70-100 oz) a day. You may be told to **empty your bladder** (pass urine) frequently, every 2 hours while you are awake and at bedtime for at least 24 hours after your dose. Your doctor may also tell you to get up in the night to empty your bladder. This helps prevent bladder and kidney problems.
- Other drugs such as allopurinol, amiodarone, digoxin (LANOXIN®), hydrochlorothiazide, indomethacin (INDOCID®), phenobarbital, phenytoin (DILANTIN®), or warfarin (COUMADIN®) may **interact** with cyclophosphamide. Tell your doctor if you are taking these or any other drugs as your dose may need to be changed. Check with your doctor or pharmacist before you start taking any new drugs.
- The **drinking of alcohol** (in small amounts) does not appear to affect the safety or usefulness of cyclophosphamide.
- Cyclophosphamide may cause **sterility** in men and **menopause** in women. The risk of this occurring depends on the dose of cyclophosphamide and your age. If you plan to have children, discuss this with your doctor before being treated with cyclophosphamide.
- Cyclophosphamide may damage sperm and may harm the baby if used during pregnancy. It is best to use **birth control** while being treated with cyclophosphamide. Tell your doctor right away if you or your partner becomes pregnant. Do not breast feed during treatment.
- **Tell** doctors or dentists that you are being treated with cyclophosphamide before you receive any treatment from them.

Changes in blood counts

This drug may cause temporary changes in your blood counts. Your doctor will be following these changes carefully by performing blood tests. Adjustment of your treatment may be needed in certain circumstances.

BLOOD COUNTS	MANAGEMENT
<p>Your <b>white blood cells</b> will decrease 8-15 days after your treatment has started. They usually return to your previous levels 17-28 days after your last treatment.</p> <p>Normal white blood cells protect your body by fighting bacteria (germs) that cause infection. <b>When they are low, you are at greater risk of having an infection.</b></p>	<p>To help prevent infection:</p> <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.</li> <li>• Avoid crowds and people who are sick.</li> <li>• Call your doctor <b>immediately</b> 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.</li> </ul>
<p>Your <b>platelets</b> may decrease 10-15 days after your treatment has started. They usually return to your previous levels 17-28 days after your last treatment. Normal platelets help your blood to clot normally after an injury (e.g., cut). <b>When the platelet count is low you may be more likely to bruise or bleed.</b></p>	<p>To help prevent bleeding problems:</p> <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> <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"> <li>• Do not stop taking any medication that has been prescribed by your doctor (e.g., <b>ASA for your heart</b>).</li> <li>• For minor pain, try acetaminophen (e.g., TYLENOL®) first, but occasional use of ibuprofen may be acceptable.</li> </ul>

Side effects are listed in the following table in the order in which they may occur. Tips to help manage the side effects are included.

SIDE EFFECTS	MANAGEMENT
<p><b>Pain or tenderness</b> may occur where the needle was placed.</p>	<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>

SIDE EFFECTS	MANAGEMENT
<p><b>Nasal congestion</b> may occur during administration of cyclophosphamide. You may experience runny eyes and nose, sinus congestion and sneezing during or immediately after the infusion.</p>	<ul style="list-style-type: none"> <li>• For persistent nasal congestion a decongestant such as pseudoephedrine (e.g., SUDAFED®) or a decongestant/antihistamine such as pseudoephedrine/triprolidine (e.g., ACTIFED®) can be used to relieve symptoms.</li> </ul>
<p><b>Nausea and vomiting</b> may occur after your treatment. May begin 6-10 hours after the beginning of your treatment. Some people have little or no nausea.</p>	<ul style="list-style-type: none"> <li>• You may 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 treat it once it has occurred, so follow directions closely.</li> <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><b>Headache</b> may occur.</p>	<ul style="list-style-type: none"> <li>• Take acetaminophen (e.g., TYLENOL®) to decrease or stop headache.</li> </ul>
<p><b>Diarrhea</b> may occur.</p>	<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>
<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. <b>Mouth sores or bleeding gums can lead to an infection.</b></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>• Try ideas in the two handouts; <i>easy to chew recipes</i> and <i>soft, moist food ideas</i>.</li> </ul>

SIDE EFFECTS	MANAGEMENT
<p><b>Hair loss is common</b> and may begin within 3-6 weeks after the start of treatment. Your hair may thin or you may become totally bald. 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. Colour and texture may change.</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>• Protect your scalp with a hat, scarf or wig in cold weather. Some extended health plans will pay part of the cost of a wig.</li> <li>• Cover your head or apply sunblock on sunny days.</li> <li>• Apply mineral oil to your scalp to reduce itching.</li> <li>• If you lose your eyelashes and eyebrows, protect your eyes from dust and grit with a broad-rimmed hat and glasses.</li> </ul>
<p><b>Loss of appetite</b> and <b>weight loss</b> are common and may persist long after discontinuation of cyclophosphamide.</p>	<ul style="list-style-type: none"> <li>• Try ideas in <i>High Energy High Protein Ideas</i> and in <i>Healthy Eating Using High Energy, High Protein Foods</i>.</li> </ul>

**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); chills; cough; pain or burning when you pass urine.
- Signs of **bleeding problems** such as blood in urine or stools.
- Signs of an **allergic reaction** (rare) soon after a treatment including dizziness, fast heart beat, face swelling or breathing problems.
- Signs of **heart or lung problems** such as fast or uneven heartbeat, chest pain, chest pressure, shortness of breath or difficulty breathing, swelling of ankles or fainting.

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

- Signs of **bladder problems** such as changes in urination, painful burning sensation, presence of blood or abdominal pain.
- Signs of **anemia** such as unusual tiredness or weakness.
- Signs of **kidney problems** such as lower back or side pain, swelling of feet or lower legs.
- **Skin rash** or **itching**.

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

- Uncontrolled nausea, vomiting or diarrhea.
- For diabetics: uncontrolled blood sugars.

