

Chronic Myeloid Leukemia (CML): Chemotherapy



What is chemotherapy?

Chemotherapy (chemo) uses strong medicines to kill cancer cells. The medicines are made to attack and kill cells that grow quickly, like cancer cells. Some normal cells also grow quickly. Because of this, chemo can also harm those cells. This can cause side effects.

When might chemotherapy be used for CML?

Chemo is seldom used to treat CML. This is because newer targeted therapy medicines work much better. Still, your healthcare provider may suggest chemo if:

- **Targeted therapy medicines are no longer controlling your leukemia.** Chemo may help control the leukemia for a period of time.
- **You're having a stem cell transplant.** High doses of chemo are used before the transplant to kill the leukemia cells in your body.

How is chemotherapy given for CML?

Most people get chemo in an outpatient part of the hospital, at a healthcare provider's office, or at an infusion center. In some cases, you may need to stay in the hospital during treatment. This will depend on the medicines you're given and your overall health. You may get chemo in pill form, by injection, or through a vein by IV (intravenously).

You get chemo in cycles over a period of time. This means you get the medicine for a set amount of time and then you have a rest period. Each period of treatment and rest is 1 cycle. You may have several cycles. Having treatment in cycles helps by:

- **Killing more cancer cells.** Chemo can kill more cancer cells over time because the cells aren't all dividing at the same time. Cycles allow the chemo to fight more cells.
- **Giving your body a rest.** Treatment is hard on other cells of the body that divide quickly. This includes cells in the lining of the mouth and stomach. This causes side effects, such as mouth sores and nausea. Chemo can also cause a drop in healthy blood cells. Between cycles, your body can get a rest and healthy cells can recover.
- **Giving your mind a rest.** Getting chemo can be stressful. Taking breaks during cycles can let you get an emotional break between treatments.

What medicines are used to treat CML?

The medicines used most often for CML include:

- Hydroxyurea
- Cytarabine
- Busulfan
- Cyclophosphamide
- Vincristine
- Omacetaxine

Other chemo medicines may also be used.

What are common side effects of chemotherapy?

Chemo medicines attack and kill cells that grow quickly, including cancer cells. These medicines can also affect normal cells that grow quickly. These include hair follicles, the lining of the mouth and intestines, and the bone marrow where healthy blood cells are made. The side effects of chemo are different for everyone. They often go away over time after treatment ends.

The most common short-term side effects of chemo include:

- Loss of appetite
- Nausea and vomiting
- Easy bruising or bleeding, from low levels of blood platelets
- Tiredness, from having low levels of red blood cells
- Increased risk of infections, from low levels of white blood cells
- Hair loss
- Diarrhea
- Mouth sores
- Numbness, tingling, or pain in fingers or toes (peripheral neuropathy)

Possible severe side effects of chemo include:

- **Tumor lysis syndrome.** This is caused when a large number of leukemia cells are killed and a lot of cell waste builds up in the blood. It can affect your kidneys, heart, and nervous system. Fluid may be given to you through a vein to help your kidneys clean out the waste and keep this from happening. There are medicines that can also be used if your risk for tumor lysis syndrome is high.
- **Organ damage.** This can include damage to the kidneys, liver, testicles, ovaries, heart, or lungs. Your healthcare provider will watch for serious side effects.

Working with your healthcare provider

It's important to know which medicines you're taking. Write down the names of your medicines. Ask your healthcare team how they work, how you'll get them, and what side effects they might have.

Talk with your healthcare providers about what signs to watch out for and when you should call your healthcare team. Make sure you know what number to call with problems or questions, even on evenings and weekends.

It may help to keep a diary of your side effects. Write down any physical, thinking, and emotional changes. A written list will make it easier for you to remember your questions when you go to your appointments. It will also make it easier for you to work with your healthcare team to make a plan to manage your side effects.

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