

How Chemotherapy Is Given

Chemotherapy can be given in many ways, such as pills you swallow, an injection, or most often through an IV in a vein. Some people receive it through a catheter, a port, or a pump. The method depends on your cancer and the drugs used.

The simple version

Chemotherapy (also called chemo) uses drugs to kill cancer cells or slow their growth. But there is no single way to give it. The method your team chooses depends on your type of cancer, the drugs being used, and where the cancer is in your body.

Chemotherapy can reach your body in several different ways, and your team picks the one that fits your treatment.

The common ways chemotherapy is given

Chemotherapy may be given in many ways. Some common ones are:

- **Oral:** pills, capsules, or liquids that you swallow.
- **Intravenous (IV):** the drug goes directly into a vein.
- **Injection:** a shot given into a muscle in your arm, thigh, or hip, or just under the skin in the fatty part of your arm, leg, or belly.
- **Intrathecal:** injected into the space between the layers of tissue that cover the brain and spinal cord.
- **Intraperitoneal (IP):** placed directly into the peritoneal cavity, the area that holds organs such as the intestines, stomach, and liver.
- **Intra-arterial (IA):** injected directly into the artery that leads to the cancer.
- **Topical:** a cream that you rub onto your skin.

Of all these methods, chemotherapy is most often given by IV.

There is a logic to that list. Most chemotherapy has to reach cancer cells anywhere in the body, so it goes into the bloodstream and travels everywhere. The other routes exist to put a drug where blood alone does not carry it well, or to concentrate it right where the cancer sits. Intrathecal delivery places it in the fluid around the brain and spinal cord. Intraperitoneal delivery bathes the surfaces inside the abdomen. Intra-arterial delivery sends it down the exact vessel feeding a tumor.

A closer look at IV chemotherapy

For IV chemotherapy, a nurse places a thin needle in a vein on your hand or lower arm. The nurse puts the needle in at the start of each treatment and removes it when treatment is over.

IV chemotherapy can also be given through a catheter or a port, and sometimes with the help of a pump.

A catheter. A catheter is a thin, soft tube. A doctor or nurse places one end in a large vein, often in your chest area, while the other end stays outside your body. Most catheters stay in place until you finish your chemotherapy. Catheters can also be used to give other drugs and to draw blood.

A port. A port is a small, round disc that a surgeon places under your skin during minor surgery. It is put in before your treatment begins and stays until you finish. A catheter connects the port to a large vein, most often in your chest. Your nurse can insert a needle into the port to give chemotherapy or draw blood. This needle can be left in place for treatments given over more than one day. Placing a port takes minor surgery, and the site needs care to keep it clean.

A pump. Pumps are often attached to catheters or ports. They control how much and how fast chemotherapy goes in, which can let you receive treatment outside of the hospital. External pumps stay outside your body. Internal pumps are placed under your skin during surgery.

Watching for infection. With a catheter or a port, be sure to watch for signs of infection around the area and tell your care team if you notice any.

Chemotherapy in pill form is still chemotherapy

Oral chemotherapy is easy to think of as a lesser thing. It is not. Because you take it at home, the schedule is yours to keep, and a missed or doubled dose matters. Ask what to do if you miss a dose. Ask how to store the pills. Ask what to do if you vomit soon after a dose. Ask whether anyone else in the house needs to avoid handling them.

How your team chooses your drugs

There are many different chemotherapy drugs. Which ones are part of your plan depends mostly on:

- the type of cancer you have and how advanced it is
- whether you have had chemotherapy before
- whether you have other health problems, such as diabetes or heart disease

Your care team matches both the drugs and the method to your situation.

Where you go for chemotherapy

You may receive chemotherapy during a hospital stay, at home, or as an outpatient at a doctor's office, clinic, or hospital. Outpatient means you do not stay overnight.

No matter where you go, your doctor and nurse will watch for side effects and help you manage them. If you receive chemotherapy at home through a pump, your team will teach you and your caregivers what to do and what to watch for.

Three practical questions are worth asking before the first visit. How long does each visit take, from arriving to leaving? Can you drive yourself home afterward? And is a port recommended for your particular regimen?

When to get help sooner

- **Call 911 or go to an emergency department if** your throat tightens, your lips or face swell, you wheeze, or you go faint during an infusion or in the hours after one. Tell the nurse at once if you are still in the chair. Do not drive yourself.
- **Ring your care team straight away, at any hour, if** you record a temperature of 100.4°F (38°C) or higher, or you get shaking chills. CDC advises calling your doctor immediately at this temperature. A fever can be the only warning of an infection, and infections during chemotherapy can be life-threatening. At an emergency room, tell the staff right away that you are on chemotherapy and have a fever.
- **Call your care team right away, at any hour, if** the skin over a port or catheter turns red, warm, swollen, sore, or starts to leak ([CDC](https://www.cdc.gov/cancer-preventing-infections/patients/symptoms.html) ([cdc.gov/cancer-preventing-infections/patients/symptoms.html](https://www.cdc.gov/cancer-preventing-infections/patients/symptoms.html))). NCI asks you to watch for signs of infection around a catheter or port.
- **Call your care team right away, at any hour, if** the vein where the drip went in is sore, red, swollen, firm, or discolored, or blisters ([CDC](https://www.cdc.gov/cancer-preventing-infections/patients/symptoms.html) ([cdc.gov/cancer-preventing-infections/patients/symptoms.html](https://www.cdc.gov/cancer-preventing-infections/patients/symptoms.html))).
- **Call your care team right away if** a take-home pump alarms and you cannot sort it out.

Sources: [National Cancer Institute: infection and neutropenia during cancer treatment](https://www.cancer.gov/about-cancer/treatment/side-effects/infection) ([cancer.gov/about-cancer/treatment/side-effects/infection](https://www.cancer.gov/about-cancer/treatment/side-effects/infection)), [CDC: watch out for fever](https://www.cdc.gov/cancer-preventing-infections/patients/fever.html) ([cdc.gov/cancer-preventing-infections/patients/fever.html](https://www.cdc.gov/cancer-preventing-infections/patients/fever.html)), [MedlinePlus: anaphylaxis](https://medlineplus.gov/ency/article/000844.htm) (medlineplus.gov/ency/article/000844.htm) and [National Cancer Institute: chemotherapy to treat cancer](https://www.cancer.gov/about-cancer/treatment/types/chemotherapy) ([cancer.gov/about-cancer/treatment/types/chemotherapy](https://www.cancer.gov/about-cancer/treatment/types/chemotherapy)).

Source: National Cancer Institute ([cancer.gov/about-cancer/treatment/types/chemotherapy](https://www.cancer.gov/about-cancer/treatment/types/chemotherapy))

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