

# Chemotherapy and Biotherapy

## What is it?

**Chemotherapy** is the use of medication to destroy cancer cells. Sometimes these medications are called “anticancer” drugs. Chemotherapy may also be used to treat immune system diseases.

**Biotherapy** is the use of medication that increases the ability of the immune system to fight cancer and infection. It can also reduce some side effects of cancer treatment.

## Why do I need it?

Cancer cells divide and grow in a way that is not normal. Chemotherapy and biotherapy stop cancer cells from dividing or growing. They can also help the immune system work more normally.

**Chemotherapy** is used to:

- Make a tumor shrink before surgery or radiation treatment
- Destroy cancer cells that may be left after surgery or radiation
- Help radiation and biotherapy work better

**Biotherapy** is used to:

- Help chemotherapy work better
- Help the immune system work better

## Will I receive other treatments?

Sometimes chemotherapy and biotherapy are the only treatments used for cancer or immune system diseases. Often other treatments will be given. These treatments may include surgery or radiation.

Your doctor will create a treatment plan based on:

- The type of cancer or other disease
- Where the cancer or disease is found in your body
- The effect of the cancer or other disease on your body’s normal functions
- Your general health

## Talking with your doctor about chemotherapy or biotherapy

Talk with your doctor about the potential benefits, risks, and alternatives in your unique situation.

Benefits	Risks and Complications	Alternatives
<p>Depending on the type of cancer or other disease and how advanced it is, chemotherapy may:</p> <ul style="list-style-type: none"> <li>• <b>Cure the disease</b>, so no disease cells can be measured.</li> <li>• <b>Control the disease</b>, or keep it from growing or spreading.</li> <li>• <b>Relieve symptoms</b> caused by the disease. Relieving symptoms helps keep you more comfortable and can improve your quality of life while living with cancer or another disease.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Low blood counts.</b> Chemotherapy lowers the number of blood cells in the body. If the numbers are too low, you may need a blood transfusion.</li> <li>• <b>Infection.</b> When white blood cell numbers are low, you are at risk for infection.</li> <li>• <b>Allergic reaction.</b> Some chemotherapy and biotherapy medications can cause an allergic reaction in some patients. Symptoms include fever, rash, blood pressure changes, and difficulty breathing. Severe reactions are rare.</li> <li>• <b>Mouth sores and change in taste.</b> Some chemotherapy or biotherapy medication can damage the lining of the mouth, esophagus, and intestinal tract (gut). This can change the way some foods taste to you.</li> <li>• <b>Long-term effects.</b> Chemotherapy and biotherapy can have long-term effects on different body systems. Some effects may not be noticed for several years after treatment.</li> </ul>	<p>Alternatives depend on the reason chemotherapy or biotherapy is needed. In some cases, there is no alternative.</p> <p>Although chemotherapy and biotherapy medication may have risks or complications, they may still be the best methods for treating your disease.</p>

## What happens before?

These steps will help your chemotherapy or biotherapy go more smoothly:

- **Your healthcare provider will take a complete medical history.** This is very important for safe care. Be sure to report all medical problems, recent illnesses, allergies, and current medications. Report any previous side effects to chemotherapy or biotherapy medication.
- **You will receive a complete physical exam.** This is to make sure that your body is healthy enough to have chemotherapy or biotherapy.
- **You may have lab tests, x-rays, or other tests.** These tests help tell if the chemotherapy or biotherapy is working. They also tell if it is safe for you to receive chemotherapy or biotherapy.
- **You may have an IV placed in a vein.** This is so the chemotherapy or biotherapy can be given through the IV. If you have a central line, you will not need to have an IV.
- You may be given medicine to prevent nausea.

## What happens during?

Chemotherapy or biotherapy can be given in different ways. These include:

- **By vein:** Chemotherapy or biotherapy may be given as a liquid through an IV or central line.
- **By mouth:** Chemotherapy or biotherapy may be given as a pill or liquid by mouth. These medications should be taken at the same time each day.
- **By injection:** Some chemotherapy or biotherapy medication is given as a shot. The shot can cause some discomfort.
- **By lumbar puncture (back poke):** Some chemotherapy is given in the spinal fluid during a lumbar puncture.

Often, two or more medications are given at the same time. Each one treats the disease in a different way.

**Medication safety:** If these medications are given in the hospital or within 48 hours before you are admitted, hospital staff will take precautions. They will take special care with the medication, your body fluids, and soiled laundry. You may see a sign on the hospital room

reminding staff about steps they need to take. Research shows that long-term exposure can harm healthcare workers who come in contact with these medications every day. Everyone taking extra care reduces the risk. If you're having an IV treatment, you can help by alerting your nurse if you see any leak from the IV.

If you receive treatments at home, you'll need to take steps to handle the medication safely. See page 3 for more information.

## What happens after?

- You may receive extra IV fluid. This is to protect your body from side effects of the medication.
- You may be asked to stay at the clinic or hospital to watch for side effects from the medication.
- Your healthcare providers will tell you about side effects to watch for. They will also tell you what to do if you experience these side effects.
- Your healthcare provider will tell you about your next appointment and tests you will need.

## How often will I need treatments? And for how long?

Your treatment plan depends on your disease, how far it has advanced, and the type of medications you will receive.

Chemotherapy and biotherapy are usually given in cycles. A **cycle** is one or more medications given on a single day or over several days in a row. The **duration** of each treatment could be minutes, hours, or days, depending on your treatment plan. The **frequency** of treatments may be weekly, every other week, or monthly. And the **length** of treatment from start to finish could be from a few months to two years or more.

## How will my doctor know if the treatment is working?

Your doctor will use physical exams and tests to measure how the treatment is working. Tests may include blood draws, lumbar punctures, bone marrow tests, x-rays, CT and MRI scans, or echocardiograms.

## Safety with body fluids and soiled laundry at home

If you go home right after a chemotherapy or biotherapy treatment at the hospital, you'll need to take some precautions for 48 hours afterward. You'll also need to take these steps if medication is prescribed to be used at home. Follow these steps for body fluids or laundry that is soiled with body fluids or medication:

- **Protect your hands.** Always wear latex or nitrile gloves when handling body fluids, washing linens, or changing diapers. Wash your hands after removing the gloves.
- **Clean up body fluids.** Immediately clean up any body fluids if the patient vomits or has an accident (diarrhea, wetting the bed).
- **Take extra steps to clean laundry soiled with body fluids or medication.** Immediately wash soiled clothing, sheets, or other items, separate from other laundry. Put them through **two** wash/rinse cycles, using hot water.
- **Change diapers or pads often, and dispose of them in one place.** Change diapers/briefs or absorbent pads often to reduce the contact time between the skin and body fluids. With each diaper change, clean the skin well and consider applying a protective ointment to prevent skin irritation. Choose one place to dispose of soiled items, rather than putting them in trash cans around the house. For example, use a lined trash container in the bathroom.

## Safely using chemotherapy or biotherapy at home

You may have a prescription to take the medication at home. For safety, only the patient should handle the medication if possible. Following are notes about handling and taking each type of medication.

### Capsules or tablets:

- **Notes for you:** Do not crush or break pills unless your doctor tells you to. Wash your hands after taking the medication.
- **Notes for anyone else handling the medication:** Wear latex or nitrile protective gloves, and wash your hands after removing the gloves.

### Oral liquids:

- **Handling the medication:** Wear latex or nitrile gloves when you handle the medication. Wash your hands after removing the gloves.
- **Taking or giving the medication:** Use an oral syringe to measure each dose. This helps avoid spills. Store the syringe with the medication.
- **Handling medication spills:** Clean up spilled medication right away. (Paper towels or cloths used to clean a spill can be put in the regular trash.)

### Ointments or creams:

- **Notes for you:** If you are applying the medication, wash your hands before and after.
- **Notes for someone else applying the medication:** Wear latex or nitrile gloves to apply the medication. Remove the gloves as soon as you are finished, and immediately throw the gloves away. Wash your hands after removing the gloves.

### Injections or IV medications:

- Call your home care provider or pharmacy about how to dispose of supplies.
- **Handling a medication spill:**
  - Keep others away from the medication, and protect your hands with latex or nitrile gloves.
  - Clean up the spill. Use your spill kit if you were given one, or use paper towels or cloths.
  - Put the supplies used to clean the spill in a hazard bag if you were given one. If you don't have a hazard bag, use a large trash bag.
  - Call your home care provider or pharmacy to find out how to dispose of the cleaning supplies.

## If chemotherapy gets on the skin or in the eyes

Chemotherapy on the skin or in eyes may produce irritation. Follow these tips:

- **If it gets on the skin**, completely wash and rinse the area using a large amount of soap and water. If the area stays red for over an hour afterward, call your doctor.
- **If it gets into the eye**, immediately flush the eye for 15 minutes using tap water. Seek emergency care at once.
- **If a patient uses diapers or incontinence pads**, keep the skin clean and dry, since there is chemotherapy in urine or stool. Change diapers or pads frequently and use a protective cream to avoid skin irritation.

## Storing medication

The pharmacy may give the medication to you in a resealable plastic bag. Store it in this bag in a cool, dry place (not the bathroom). Keep it out of the reach of children and pets.

## Disposing of medication

If there is any medication left over, do not flush it down the toilet. Take any leftover oral medication or ointment to the police department or another medication disposal location. To find disposal locations, go to:

[www.medicationsdisposal.utah.gov](http://www.medicationsdisposal.utah.gov)

## Other general guidelines

- **Do not share medications.** Sharing can be dangerous with any medication, but this is especially true for chemotherapy or biotherapy. Never share your medications with anyone.
- **Use caution around pregnant or breastfeeding women.** Women who are pregnant, breastfeeding, or who may become pregnant should NOT handle chemotherapy or biotherapy.
- **Take extra steps to avoid infection.** Often, chemotherapy can interfere with the body's ability to fight infections. While you are taking these medications, try to avoid contact with people who are sick, wash your hands often, and keep your home clean.

## When to call your healthcare provider

- **Side effects:** Call your doctor if you have any unexpected or severe side effects such as rash, bleeding, or fever.
- **Chemotherapy that spills on the skin:** Call the doctor if skin stays red for more than an hour after washing off a spill. (One exception: if medication is an ointment intended to go on the skin, follow your doctor's instructions about what to expect.)
- **Chemotherapy in the eye:** Seek emergency care right away if chemotherapy gets into someone's eye.
- **After cleaning up an IV medication spill:** Contact your home care provider or pharmacist after cleaning up a spill (see page 3). They can tell you what to do with the cleaning supplies.
- **Questions:** Call your doctor or pharmacist if you have any questions or concerns about the medication.