Chemotherapy
What It Is, How It Helps
What's in this guide

If your doctor has told you that you have cancer, you may have a lot of questions. Can I be cured? What kinds of treatment would be best for me? Will it hurt? How long will treatment take? How much will it cost? How will my life change while I’m being treated and after treatment ends? These are all normal questions for people with cancer.

This guide will explain one type of treatment – chemotherapy (key-mo-THER-uh-pee) – a little better. We’ll try to help you know what chemotherapy is and what it will be like.

If you have more questions, ask your cancer care team to help you. It’s always best to be open and honest with them. That way, they can help you decide which treatment is best for you.
Questions about chemotherapy

What is chemotherapy?

Chemotherapy is the use of strong drugs to treat cancer. You will often hear chemotherapy called “chemo” (KEY-mo), but it’s the same thing.

Chemo was first used to treat cancer in the 1950s. The chemo drugs you get have been tested many times. Research shows they work to help kill cancer cells.

What does chemo do?

Doctors choose what drugs to give you based on the kind of cancer you have and how much cancer is in your body (the stage). Your cancer care team will talk to you about the goals of chemo before you start treatment.

Chemo may be used to:

- Keep the cancer from spreading.
- Make the cancer grow slower.
- Kill cancer cells that may have spread to other parts of the body (metastasized – meh-TAS-tuh-sized).
- Make side effects from cancer better, like pain or blockages.
- Cure cancer.
Will chemo be my only cancer treatment?

Sometimes chemo is the only cancer treatment needed. More often, it’s part of a treatment plan that can include surgery and radiation therapy (RAY-dee-A-shun THER-uh-pee).

Here’s why:

- Chemo may be used to shrink tumors before surgery or radiation.
- It may be used after surgery or radiation to help kill any cancer cells that are left.
- It may be used with other treatments if the cancer comes back.
How does chemo work?
The body is made up of trillions of cells. Cancer starts when something causes changes in a normal cell. This cancer cell then grows out of control and makes more cancer cells. If cancer isn’t treated, it can spread to other places in your body and cause more problems.

Chemo kills cells that grow fast, like cancer cells. It can affect normal cells that grow fast, too, like the cells that make hair or blood. But most normal cells can fix themselves.

You will probably get more than one chemo drug. This is called combination chemotherapy. The drugs work together to kill more cancer cells.

How is chemo given?
Most chemo drugs are given in one of these ways:

- Sometimes chemo is a pill or liquid. You just swallow it. You can take it at home, but you must be careful to follow the directions.

- Chemo can be given like a flu shot. The shots may be given in your doctor’s office, a hospital, a clinic, or at home.

- Most often, chemo drugs are put into your blood through a tiny plastic tube called a catheter (CATH-it-ur) that’s put in a vein. This is called IV (intravenous – in-truh-VEEN-us) chemo.

- Other types of chemo can be put right into the spine, chest, or belly (abdomen), or rubbed on the skin.
You may get chemo once a day, once a week, or even once a month. It may all be given in 1 day, or you may need to get it for a few days in a row. It depends on the type of cancer you have and the drugs you’re getting.

Chemo is usually given with breaks between treatment cycles. The breaks give your body time to rebuild healthy new cells and help you get your strength back. How long you get chemo depends on the type of cancer you have, your treatment goals, and how the cancer and your body work with the drugs.

**Does chemo hurt?**

There may be a little pain when a needle is used (just like getting your blood taken can sting), but the drugs should cause no pain. If you do feel pain, burning, coolness, or anything new when getting chemo, tell your nurse right away.

**Can I take my other drugs while I’m taking chemo?**

Some other drugs can affect your chemo. Be sure to tell your cancer care team about all the drugs you take. Don’t forget prescription drugs and those you can get without a prescription. Tell them about vitamins, herbs, and anything else you take. Make and keep a list of all the drugs you take. Keep this list up to date and share it with all your doctors.

Your doctor can tell you whether it’s OK to take these drugs while you get chemo. Once chemo starts, be sure to check with your doctor before you start any new drugs, and before you stop the ones you’ve been taking.
How will I know if my chemo is working?
Your cancer team will tell how well your treatment is working by doing physical exams, blood tests, and x-rays. Ask your team to explain any test results to you, and how they show if your treatment is working.

Keep in mind that side effects do not tell you if the chemo is – or is not – working.

How much does chemo cost?
The cost of chemo depends on a lot of things, such as which drugs are used, how you get them, and how often you get them. You can ask your cancer care team about cost and, if you need it, where to get help paying for chemo.

If you have health insurance, check to see if it pays for your drugs. You will want to keep your health insurance, even if you must be out of work for treatment. If you have health insurance through your job, you may consider Family Medical Leave or see if you are protected under the Americans with Disabilities Act. You can call us at 1-800-227-2345 to learn more about this.

If your insurance does not pay for treatment, or if they told you they will not pay for a claim, talk to your cancer care team. You may also want to talk to a patient support person (patient navigator) at your treatment center. This person can help you look into government programs, like Medicare or Medicaid, or find other groups that may help you. Drug assistance programs are also offered through many of the companies that make the drugs.
Cancer treatment can cost a lot. It’s good to know what kind of coverage you have and what help you may be able to get.

**What should I ask my cancer care team?**

Your chemo will be planned just for you. Work with your cancer care team to decide what’s best for you. Ask questions. Ask the doctor, nurses, and others on your team all the questions you have. They know the most about chemo and how it works.

Be ready. Write down your questions ahead of time. Take them with you. Don’t be afraid to say you are confused or need more information. Nothing you say will sound silly or strange to your cancer care team. All patients getting chemo have questions.

Here are some you might want to ask:

- What is the goal of chemo in my case? Is the goal to cure my cancer or to help control the cancer from getting worse?
- How will we know if the chemo is working?
- Are there other ways besides chemo to treat my cancer?
- If chemo doesn't work, are there other treatments for me?
- How will I get chemo, how often, and for how long?
- Where will I get chemo?
- What side effects should I watch for? Should I call you if I have any of these side effects – even at night or on a weekend? At what phone number?
- Is there anything I should do to get ready for treatment?
• Will I need surgery or radiation? If so, when and why?
• Does my insurance pay for chemo? If not, how will I pay for it?
• Will I be able to work (or go to school) during treatment?

Will I be able to work during treatment?

During chemo, many people can keep doing the things they were doing every day, such as going to work or school. But the side effects of chemo keep some people from being able to do some things they used to do. Also, some treatments may need to be given in the hospital.

If chemo means you can’t work or play like you used to, you may need to make some changes. One way to do this is to get your chemo late in the day or right before the weekend. This way it may not affect your daily life as much.

Fatigue (fuh-TEEG) – feeling very tired – is a common side effect of chemo. This can make it hard to put in a full day’s work or do other things you want to do. You might try changing your work hours either by working part time or working different hours so that you can get the rest you need.

Federal and state laws may say your employer has to allow you to change your work hours during treatment. If you’d like to know more about your rights at work, call your American Cancer Society toll free at 1-800-227-2345, or visit www.cancer.org, click on the “Live Chat” button, and connect with us through computer chat.
What about chemo side effects?

Chemo drugs are very strong. They kill any cell that’s growing fast, even if it’s not a cancer cell. So, some normal, healthy cells that grow quickly can be harmed. This can cause side effects.

Ask your cancer care team what side effects you may expect from the chemo you will get.

If you have bad side effects, blood tests may be done to find out if you need a lower dose of chemo, or if you need longer breaks between doses. Keep in mind that even if chemo causes problems, the “good” for you will likely outweigh the “bad” of the side effects.

For most people, side effects go away over time after treatments end. How long it will take is different for each person. Some side effects might not go away at all. If you start to feel upset or sad about how long treatment is taking or the side effects you have, be sure to talk to your cancer care team. They can help you with side effects.

Common chemo side effects

Nausea and vomiting
Some chemo drugs can cause nausea (feeling sick to your stomach) and vomiting (throwing up). These symptoms often start a few hours after treatment and last a short time. In some cases, they may last for a few days. Be sure to ask your cancer care team if your chemo might cause this and what you can do about it.
If your doctor gives you a drug to help nausea and vomiting, be sure to take it. Tell your team right away if the drug isn’t working. Call your team if you have been vomiting for more than 1 day or if you can’t keep liquids down.

Hair loss
Some chemo can make your hair fall out. You may lose the hair on your head, face, arms, armpits, and groin. You may lose hair slowly or almost overnight. Not all chemo drugs have this effect. Some only cause the hair to thin out. Your cancer care team can tell you what to expect from the chemo drugs you’re getting. In most cases, hair grows back after chemo. But it may not be the same color or may be different in other ways.

Ask your team for tips on taking care of your hair and scalp both before and during chemo. Some people choose to wear head covers, such as caps, scarves, turbans, or wigs and hairpieces. Many health plans cover at least part of the cost of a wig or hairpiece. Also, you can deduct these costs from your income taxes.

Bone marrow changes
The bone marrow is the liquid inner part of some bones. It’s where all your blood cells are made (red blood cells, white blood cells, and platelets). It’s often affected by chemo, which can cause your blood cell counts to drop.

- **Red blood cells** (RBCs) carry oxygen from the lungs to all parts of the body. During chemo, the bone marrow may not be able to make enough red blood cells. Not having enough red blood cells is called anemia (uh-NEE-me-uh). This can
make you feel short of breath, weak, and tired. It can also make your skin, mouth, or gums look pale.

- **White blood cells** (WBCs) fight infection. Chemo lowers the number of your white blood cells, which makes you less able to fight infections. Your cancer care team may suggest ways to stay safer from infection, such as staying away from people with colds or fevers, staying away from crowds of people, and washing your hands often.

- **Platelets** (PLATE-lets) form blood clots that stop bleeding from cuts or bruises. If your bone marrow can’t make enough platelets, you may bleed too much, even from small cuts. If your platelet count is very low, you will need to be very careful. Even brushing your teeth too hard could make your gums bleed. So, you might need to use a soft-bristle toothbrush or one made from foam. Check with your team about flossing.

These effects on the bone marrow will not last long. Blood tests will be done to see when your bone marrow is making new blood cells again. And there are treatments that can be used if your blood cell counts get too low.

**Mouth and skin changes**
Some chemo drugs can cause sores in the mouth and throat. Good mouth care is a key part of treatment. Be sure to brush your teeth and gums after each meal. Try to see a dentist before starting chemo. A dentist can show you the best ways to take care of your teeth and gums during treatment.
Some people have skin problems – such as redness, itching, peeling, dryness, and acne. Most skin problems are not bad, but some need to be treated. Some people are allergic to chemo. This can cause hives (or skin welts), itching, or trouble breathing. Chemo is usually given in the doctor’s office or clinic where a nurse can watch you for this type of problem. These problems must be treated right away.

Ask your cancer care team for tips on taking care of your mouth and skin both before and during chemo. If you have any side effects, tell your team about them right away. There are often things they can do to help you and keep the problems from getting worse.

**Changes in your sex life**
Sometimes sexual desire is low or even gone for some time, but it comes back when treatment ends.

Most patients can have sex during treatment, but some don’t feel like it. This does not mean that something is wrong.

To learn more about the sexual effects of cancer treatments and how to deal with them, please call us at **1-800-227-2345**.

Most chemo can cause birth defects if a woman gets pregnant during treatment. Some chemo can affect a man’s sperm, which may cause problems if he gets a woman pregnant while he is in treatment. Ask your doctor about what kind of birth control you should use and how long you need to use it.
Fertility problems
Some chemo drugs can leave you unable to have children. This effect does not always go away after treatment ends. If you think you may want to have children someday, tell your doctor before you start treatment.

Memory changes
Cancer and its treatment can affect your memory and thinking. This may be called “chemo brain” or “chemo fog.” In rare cases, it can last for a long time after treatment. This happens more often in treatments that use large doses of chemo drugs.

If you notice this, talk to your cancer care team. There are health care workers who can help you with thinking exercises and other types of treatment to help these effects.

Emotional changes
Chemo and cancer can affect a patient’s emotions. Chemo changes your normal life and can make it harder to get things done. You may feel sad or scared. There may be some strain on how you get along with others. But there are ways to cope with these things. Talk to your cancer care team about counseling, support groups, and things you can do to help be less stressed and more relaxed.

Your friends and family can give you emotional support, too. But your loved ones may not be sure how to talk to you about cancer and chemo. It’s good to let them know it’s OK to talk about these things.
Can chemo side effects be prevented and treated?
There are ways to stop most chemo side effects or make them better. Be sure to talk to your cancer care team if you have side effects.

Remember that not everyone gets the same chemo drugs. Some chemo drugs cause more side effects than others. Your overall health and fitness will also affect how your body reacts to chemo.

Most people have to change their work hours to get chemo. Ask your cancer care team what you’ll be able to do during treatment – on chemo days and in between treatments.

What can I do to take care of myself during chemo?
During your chemo, take extra care of yourself. Your cancer care team will give you tips on how to do this. But here are some basic things you should do:

- **Get plenty of rest.** You may feel more tired than normal during treatment. Give yourself time for rest breaks when you need them.

- **Eat healthy foods.** It’s important for your body to get enough protein and calories to make new healthy cells that it lost during treatment. Your doctor, nurse, or dietitian (die-uh-TISH-un) may work with you to make sure you are eating the right foods to get what you need. If you have trouble eating or don’t feel like eating, talk to your cancer care team.
• **Get exercise and fresh air if your doctor says you can.** Exercise can help reduce stress and tiredness, and can help you feel like eating. Check with your cancer care team about your exercise plan to make sure it’s OK.

• **Ask your cancer care team about alcohol.** Alcohol can cause problems with some chemo drugs. Your team can talk to you about a safe amount of alcohol to drink.

• **Check with your cancer care team before taking vitamins or supplements.** There is no “magic” diet, herb, or substance that can cure cancer, no matter what anyone claims. If you already take vitamins or supplements, tell your doctor what you take and ask if it’s OK to keep taking them.

• **Keep thinking about the treatment goals.** Dealing with chemo can be hard. A good way to handle the effects of chemo is to remind yourself why you’re getting it.

• **Learn more about your cancer and treatment.** The more you know, the better you will be able to cope.

• **Take time to enjoy your hobbies.** Doing the things you like to do can help you cope with chemo.

**Will chemo affect my family?**

People cannot catch your cancer diagnosis or your chemotherapy side effects by standing or sitting near you. You can be close to family and friends. Your cancer care team will tell you if there are any special things you need to do at home because of the chemo.
If you have side effects, your family and friends can do things to help. When someone asks, “How can I help?” have a few ideas ready.

• You may not feel like eating, so ask loved ones to take turns cooking foods that you think you can eat.

• You might get tired after each treatment and need extra rest. Ask your friends and neighbors to do little jobs for you until you feel better.

• Your treatment may take a long time. Ask a friend to drive you and keep you company during treatment.

Keep in mind that your family cares about you, and they may feel upset about your cancer and the chemo. Let your family and friends know how much their support means to you. Be honest about how you feel. Get into the habit of talking things over with your loved ones so they can share your ups and downs.

There will be times when the people closest to you feel tired or sad, too. You can help them feel better by reminding them how important they are to you. You can also point out how much their support and help mean to you.
Follow-up care

What does “follow-up” mean?

No matter what type of cancer you have had, after your chemo ends you will still need to see your cancer care team. They will check how you are doing and help you deal with any problems you may have. This part of your treatment is called follow-up care.

After treatment, there’s a chance that the cancer might come back. There’s no way to know if this will happen to you, but your team will want to watch for this.

Here are some questions you may want to ask your cancer care team after chemo ends:

- When can I go back to doing things I used to do?
- How often will I need to see you?
- Which tests will be done and why?
- Do I need to be on a special diet?
- What should I watch for to know if the cancer is back?

When should I call the doctor?

After treatment, you may be more aware of your body and changes in how you feel from day to day. If you have any of the problems listed here, tell your cancer care team right away.

- Pain that doesn't go away or is getting worse
- New lumps, bumps, or swelling
• Nausea, vomiting, diarrhea, not wanting to eat, or trouble swallowing
• Weight loss when you’re not trying to lose weight
• Fever or cough that doesn’t go away
• New rash, new bruises, or bleeding
• Any other signs your team tells you to watch for

How can I learn more about my cancer and cancer treatment?
If you’d like more details on chemo, please call us. You can also visit www.cancer.org to read more online.

For cancer information, day-to-day help, and emotional support, call the American Cancer Society at 1-800-227-2345. We’re here when you need us.
This is a short review of chemotherapy (key-mo-THER-uh-pee) or chemo. It tells you what chemo is, how chemo works, things you can do to take care of yourself while getting treatment, and common side effects to watch for.

It also gives you lists of questions you may want to ask your cancer care team so you can know what to expect with this common cancer treatment.

For the latest cancer information, day-to-day help, and emotional support, call the American Cancer Society at 1-800-227-2345. We're here for you every step of the way.