

What should I know about side effects?

- Every person doesn't get every side effect, and some people get few, if any.
- The severity of side effects (how bad they are) varies greatly from person to person. Be sure to talk to your doctor and nurse about which side effects are most common with your chemo, how long they might last, how bad they might be, and when you should call the doctor's office about them. For more information, see the section called "When to call your doctor about side effects from chemotherapy."
- Your doctor may give you medicines to help prevent some side effects before they happen.
- Some types of chemo cause long-term side effects, like heart or nerve damage or fertility problems. Still, many people have no long-term problems from chemo. Ask your doctor about the long-term risks of the chemo drugs you're getting.
- While side effects can be unpleasant, they must be weighed against the need to kill the cancer cells.

How long do side effects last?

Most side effects slowly go away after treatment ends because the healthy cells recover over time. The time it takes to get over some side effects and regain energy varies from person to person. It depends on many factors, including your overall health and the drugs you were given.

Many side effects go away fairly quickly, but some may take months or even years to completely go away. Sometimes the side effects can last a lifetime, such as when chemo causes long-term damage to the heart, lungs, kidneys, or reproductive organs. Certain types of chemo sometimes cause delayed effects, such as a second cancer that may show up many years later.

People often become discouraged about how long their treatment lasts or the side effects they have. If you feel this way, talk to your doctor. You may be able to change your medicine or treatment schedule. Your doctor or nurse also may be able to suggest ways to reduce any pain and discomfort you have.

What are common side effects?

Most people worry about whether they will have side effects from chemo, and, if so, what they'll be like. Here's a review of some of the more common side effects caused by chemotherapy. We also share some tips on how you can manage them.

Fatigue from chemo

Fatigue is one of the most common side effects of cancer treatment. It can range from mild tiredness to feeling completely wiped out. It's different from feeling tired after a long day and doesn't get better with rest or sleep. Fatigue tends to be the worst at the end of a treatment cycle. Like most other side effects, it usually goes away over time after chemo ends.

Things that may help with fatigue:

- Get plenty of rest, and allow time during the day for rest periods.
- Talk with your doctor or nurse about a regular exercise program. Exercise can actually reduce fatigue.
- Eat a well-balanced diet, and drink plenty of liquids.
- Limit your activities. Do only the things that are most important to you.
- Get help when you need it. Ask family, friends, and neighbors to pitch in with things like child care, shopping, housework, or driving. For example, you might ask neighbors to pick up some items for you at the grocery store while doing their own shopping.
- Get up slowly to help prevent dizziness after sitting or lying down.
- Let your doctor know if you are having a hard time sleeping at night.

You can learn more in *Fatigue in People With Cancer*, which you can read online or call us to have a free copy sent to you.

Hair loss from chemo

Hair loss can be distressing. But not all chemo drugs will make you lose your hair. Some people have mild thinning that only they notice. Your doctor will be able to tell you if your chemo is likely to cause hair loss.

If you do lose your hair, it will almost always grow back after the treatments are over. But it might be a different color or texture.

You can lose hair on all parts of your body, not just your scalp. Eyelashes and eyebrows, arm and leg hair, underarm hair, and pubic hair all may be affected.

Hair loss usually doesn't happen right away. More often, it starts after a few treatments. At that point, your hair may fall out slowly or in clumps. Some people shave their heads when this happens. Any hair that remains may become dull and dry.

Things that may help with hair loss:

- Use mild shampoos.
- Use soft-bristle hair brushes.
- Use low heat if you must use a hair dryer.
- Don't use brush rollers to set your hair.
- Don't dye your hair or get a perm.
- Have your hair cut short. A shorter style will make your hair look thicker and fuller. It also will make hair loss easier to deal with if it does happen.
- Use a sunscreen, hat, scarf, or wig to protect your scalp from the sun.
- Use a satin pillowcase.

Sometimes, either during the regrowth of your hair or when you are bald, your scalp may feel extra tender, dry, and itchy. It may help to keep your scalp clean by using a moisturizing shampoo and conditioner. Also, use gentle creams or lotions on your scalp as needed. Even a gentle scalp massage may make your scalp feel better.

After chemo, your hair's texture and fullness may change. Hair dyes contain chemicals that can damage hair. There's no research that supports hair dye doing more damage to hair after chemo, but most doctors recommend patients do not color their hair until it returns to normal. This may be as long as 6 months after treatment.

Should I cover my head if I lose my hair?

Some people who lose all or most of their hair choose to wear turbans, scarves, caps, wigs, or hairpieces. Others leave their heads uncovered. Still others switch back and forth, depending on whether they are in public or at home with family and friends. Here are tips to follow if you choose to cover your head with a wig or hairpiece:

- Shop for your wig or hairpiece before you lose a lot of hair so you can match your natural color, texture, and style.
- You may be able to buy a wig or hairpiece at a specialty shop just for cancer patients.
- A sales person may be able to come to your home to help you.
- You can get more tips or even buy a wig or hairpiece through our "tlc" *Tender Loving Care*® catalog. To order products or catalogs, visit www.tlcdirect.org or call 1-800-850-9445.
- If you would prefer to borrow rather than buy a wig or hairpiece, call us or check with the social work department at your treatment center.

A wig or hairpiece needed as a result of cancer treatment may be a tax-deductible expense. Also, it may be partially or fully covered by your health insurance. If so, ask your doctor for a prescription for a cranial prosthesis. Do not use the word wig on the prescription.

Increased chance of bruising, bleeding, infection, and anemia after chemo

Chemo often causes decreases in your blood cell counts. Blood cells are made in the bone marrow. Three important parts of your blood affected by chemo are:

- **Platelets**, which help blood to clot and stop bleeding
- **White blood cells**, which fight infection
- **Red blood cells**, which carry oxygen to cells

Chemo destroys some of the bone marrow cells so fewer blood cells are produced. A drop in the levels of any one of these cells leads to certain side effects.

Your doctor will check your blood cell count by doing a test called a complete blood count or CBC. This will be done often during your treatment.

Bleeding or clotting problems

Platelets are the blood cells that help stop bleeding by plugging up damaged blood vessels and helping your blood to clot. If you don't have enough platelets, you may bleed or bruise more easily than usual, even from a minor injury. A shortage of platelets is called *thrombocytopenia* (THROM-bo-SY-toe-**PEEN**-ee-uh).

Report these signs of thrombocytopenia to your doctor:

- Unexpected bruising
- Small flat red spots under your skin
- Red or pink urine
- Black or bloody bowel movements
- Any bleeding from your gums or nose
- Bad headaches
- Dizziness
- Pain in joints and muscles

Your doctor will check your platelet count often during your treatment. If it falls too low, you may need a platelet transfusion. There's nothing you can do to help increase your platelet count, but there are some precautions you can take:

- Don't take any medicine without first checking with your doctor or nurse. This includes aspirin and aspirin-free pain relievers, like acetaminophen (Tylenol[®]), ibuprofen, and any other medicines you can buy without a prescription. Some of these medicines can make bleeding problems worse.
- Don't drink any alcohol (beer, wine, or liquor) unless your doctor says it's OK.
- Use an extra-soft bristle toothbrush to clean your teeth, and talk to your doctor before using dental floss.
- If you have a runny nose, blow gently into a soft tissue.
- Take care not to cut or nick yourself when using scissors, needles, knives, or tools.
- Be careful not to burn yourself when ironing or cooking. Use a padded glove rather than a potholder when you reach into the oven.
- Avoid contact sports and other activities that might cause an injury.
- Drink plenty of fluids and eat enough fiber to reduce your chances of getting constipated.
- Use an electric shaver instead of a razor.
- When bending over, keep your head above your heart.

Infection

A low white blood cell count decreases your ability to fight infections. One type of white blood cell, called the *neutrophil* (NEW-trow-fill), is especially important in fighting infections. A shortage of neutrophils is called *neutropenia* (NEW-trow-**PEEN**-ee-uh).

Infections can begin in almost any part of your body and most often start in your mouth, skin, lungs, urinary tract, and rectum.

If your white blood cell count drops too much, your doctor may hold treatment, give you a lower dose of chemo, or, in some cases, give you a growth factor shot that makes your bone marrow produce more white blood cells. When the chemo used is known to cause very low white blood cell counts, growth factor shots may be used to help keep this from happening.

While there's nothing you can do to raise your white blood cell counts on your own, you can do things to help prevent infection, such as:

- Wash your hands often during the day, especially before you eat and after you use the bathroom.
- Stay away from crowds.
- Stay away from people who have diseases you can catch, such as colds, flu, measles, or chicken pox.
- Do not get any immunization shots (vaccines) without first checking with your cancer doctor.
- Stay away from people who have recently had an immunization, such as a vaccine for chicken pox or small pox. Check with your doctor about which vaccines are important and how long you should stay away from people who have had them.
- Clean your rectal area very well but gently after each bowel movement. Ask your doctor or nurse for advice if the area becomes sore or if you have hemorrhoids. Also, check with your doctor before using enemas or suppositories.
- Don't cut, bite, or tear the cuticles of your nails.
- Be careful not to cut or nick yourself when using scissors, needles, or knives.
- Use an electric shaver instead of a razor to prevent breaks or cuts in your skin.
- Use an extra-soft bristle toothbrush that won't hurt your gums, and talk to your doctor before using dental floss.
- Don't squeeze or scratch pimples.
- Take a warm (not hot) bath, shower, or sponge bath every day. Pat your skin dry using a light touch. Don't rub.
- Use lotion or oil to soften and heal your skin if it becomes dry and cracked.
- Clean cuts, scrapes, and broken skin right away with warm water and soap. Use an antibiotic ointment and cover with a bandage.
- Wear waterproof gloves when gardening or cleaning up after animals and others, especially small children. Wash your hands afterward, since gloves can have holes that are too small to see.

Even if you are extra careful, your body may not be able to fight infections when your white blood cell count is low. Look out for and check your body regularly for signs and symptoms of infection. Pay special attention to your eyes, nose, mouth, and genital and rectal areas. Symptoms of infection could be:

- Fever of 100.5°F or greater when your temperature is taken by mouth

- Chills
- Sweating
- Loose stools (This can also be a side effect of chemo.)
- A burning feeling when you urinate
- A bad cough or sore throat
- Unusual vaginal discharge or itching
- Redness, swelling, or tenderness, especially around a wound, sore, pimple, IV site, or central venous catheter
- Abdominal (belly) pain

Report any signs of infection to your doctor right away. If you have a fever, don't use aspirin, acetaminophen (Tylenol), or any other medicine to bring your temperature down without first checking with your doctor.

For much more detail on the immune system, infections and cancer, and how to prevent them, please see *Infections in People With Cancer*. It can be read online, or call us for a free copy.

Anemia

Anemia (uh-NEE-me-uh) is when you have too few red blood cells, and your body tissues don't get enough oxygen to do their work. You may have these symptoms:

- Extreme tiredness (fatigue)
- Dizziness
- Pale skin
- A tendency to feel cold
- Shortness of breath
- Weakness
- Racing heart

You can't do anything to increase your red blood cell counts, but there are things that may help with anemia. Try the ideas listed in the section called "Fatigue from chemo" if your anemia is making you feel very tired. Let your doctor or nurse know if you have any of the symptoms listed above.

If your red blood cell count falls too low, you may need a blood transfusion. Some people can be treated with a growth factor – a drug used to boost the number of red blood cells the bone marrow makes.

You can get a lot more information in *Anemia in People With Cancer*. Call for a free copy, or read it on our website.

Nausea and vomiting

Nausea and vomiting are 2 of the most dreaded side effects of chemo. How often you have these side effects and how bad they are depends on the drugs you are getting and how they affect you.

Nausea and vomiting may start during treatment and last a few hours. Sometimes, but less often, severe nausea and vomiting can last for a few days. Be sure to tell your doctor or nurse if you are very nauseated, if you have been vomiting for more than a day, or if the problem is so bad that you can't keep liquids down.

Nausea and vomiting can almost always be lessened by a change in the way you eat and with drugs that help relieve both symptoms (these drugs are called *anti-emetics*). Different anti-emetics work for different people. You may need to try more than one before you get relief. Don't give up! Keep working with your doctor and nurse to find the anti-emetics that work best for you.

Some people getting chemo feel queasy even before treatment begins. This is called *anticipatory nausea*, and it's very real. The best way to handle anticipatory nausea is by taking anti-emetics to prevent vomiting, and by using relaxation techniques.

Things that may help with nausea and vomiting:

- Avoid big meals so your stomach won't feel too full. Eat frequent, small meals throughout the day instead of a few large meals.
- Drink liquids at least an hour before or after mealtime instead of with your meals.
- Eat and drink slowly.
- Stay away from sweet, fried, or fatty foods.
- Eat foods cold or at room temperature so you won't be bothered by strong smells.
- Chew your food well for better digestion.
- If nausea is a problem in the morning, try eating dry foods, such as cereal, toast, or crackers, before getting up. (Don't try this if your mouth is too dry, or if you have sores in your mouth or throat.)
- Drink cool, clear liquids, such as apple juice, tea, or ginger ale that has lost its fizz.

- Suck on ice cubes, mints, or tart candies. (Don't eat tart candies if you have mouth or throat sores.)
- Try to avoid odors that bother you, such as cooking smells, smoke, or perfume.
- Rest in a chair after eating, but don't lie flat for at least 2 hours after you've finished your meal.
- Wear loose-fitting clothes.
- Breathe deeply and slowly when you feel nauseated.
- Distract yourself by talking with friends or family members, listening to music, or watching a movie or TV show.
- Use relaxation techniques.

Call us or go to our website to get more tips and details in *Nausea and Vomiting*.

Other chemo side effects and tips to manage them

Appetite changes

There may be days when you just can't eat because of things like nausea, taste changes, or mouth and throat problems. You also can lose your appetite if you feel depressed or tired.

When you have a poor appetite, try these tips:

- Eat small meals or snacks whenever you want. You don't have to eat 3 regular meals each day.
- Vary your diet, and try new foods and recipes.
- Take a walk before meals whenever you can. This may help you feel hungrier.
- Change your mealtime routine. For example, eat by candlelight or in a different place.
- Eat with friends or family members. When eating alone, listen to the radio or watch TV.
- If you live alone, you might want to arrange for Meals on Wheels or a program like this to bring food to you. Ask your doctor, nurse, or local American Cancer Society office about services in your area.

For more information, please see *Nutrition for the Person With Cancer During Treatment: A Guide for Patients and Families* or *Nutrition for Children With Cancer*.

Constipation

Some people become constipated (have trouble having bowel movements) from chemo. Others may become constipated because they are less active, eat less than usual, have diet changes, or because they are taking certain pain medicines. Tell your doctor if you haven't had a bowel movement in 2 or more days. You may need to take a laxative or stool softener, but don't use these unless you have checked with your doctor, especially if your white blood cell count or platelet count is low.

Things that may help you deal with constipation:

- Drink plenty of fluids to help keep your stool soft. Warm and hot fluids often work well.
- Eat a lot of high-fiber foods. High-fiber foods include bran, whole-wheat breads and cereals, raw or cooked vegetables, fresh and dried fruit, nuts, and popcorn.
- Get some exercise. Just getting out for a walk can help, as can a planned exercise program. Be sure to check with your doctor before increasing your physical activity.

Diarrhea

When chemo affects the cells lining the intestine, it can cause diarrhea. Diarrhea is most often defined as 2 or more loose stools in 4 hours. If you have diarrhea that lasts for more than 24 hours, or if you have pain and cramping along with it, call your doctor. In severe cases, the doctor may have you take an anti-diarrheal medicine, but don't take any over-the-counter anti-diarrheal medicines without asking your doctor first. Some chemo drugs are known to cause diarrhea. Your doctor will give instructions on what to do if you are getting one of these drugs.

Things that may help control diarrhea:

- Eat smaller amounts of food, but eat more often.
- Avoid coffee, tea, alcohol, and sweets.
- Avoid high-fiber foods, which can lead to diarrhea and cramping. High-fiber foods include whole-grain breads and cereals, raw vegetables, beans, nuts, seeds, popcorn, and fresh and dried fruit.
- Eat low-fiber foods, such as white bread, white rice or noodles, creamed cereals, ripe bananas, canned or cooked fruit without skins, cottage cheese, yogurt, eggs, mashed or baked potatoes without the skin, pureed vegetables, chicken or turkey without the skin, and fish.
- Stay away from fried, greasy, or spicy foods.