

Chemotherapy's Effects on Organs and Body Systems



The side effects of chemotherapy (chemo) depend on the type of chemo and the amount given. Anticipating and managing side effects can help you keep them to a minimum. It can also help give you the best possible experience.

Chemotherapy's effects on organs

Your medical profile and diagnosis is different from those of other people. So is your reaction to treatment. Your side effects may be severe or mild. Or you may not have any. Make sure you talk with your cancer care team about possible side effects before the treatment begins.

Anticancer medicines are made to kill growing cancer cells. So they can also affect normal, fast-growing cells elsewhere. These include:

- Blood cells forming in the bone marrow
- Cells in the digestive tract, such as in the mouth, stomach, intestines, and esophagus
- Cells in the reproductive system, such as in the sexual organs
- Hair follicles

Some anticancer medicines may affect cells of vital organs, such as the heart, kidney, bladder, lungs, and nervous system.

Chemo may have no serious long-term problems for many people. But in some cases, it can cause permanent changes or damage to the heart, lungs, nerves, kidneys, and reproductive or other organs. Certain types of chemo may also have delayed effects. For example, a second cancer may develop in the future. Talk about any long-term effects that may result from your treatment with your cancer care team.

Chemotherapy's potential effects on the kidneys and bladder

Some anticancer medicines cause bladder irritation. Or they may result in temporary or permanent damage to the bladder or kidneys. You may need to collect a 24-hour urine sample to be tested in a lab. Your healthcare provider may ask for a blood sample to see how well your kidneys are working before you begin chemo. Some anticancer medicines cause the urine to change color (orange, red, green, or yellow) or take on a strong or medicine-like odor for 24 to 72 hours. Talk with your healthcare provider to find out if the chemotherapy medicines you are getting will cause any of these side effects.

Drinking plenty of fluids will help you have good urine flow and help to prevent problems. This is especially true if you are taking medicines that affect the kidney and bladder. To get more fluids, drink water, juice, soft drinks, broth, and soup. You may also include ice cream, popsicles, and gelatin. Caffeine can act as a mild diuretic. But even coffee is better than no fluids.

Because medicines can affect your kidney and bladder, tell your healthcare provider right away if you have any of these symptoms:

- Pain or burning during urination
- Frequent urination
- Inability to urinate
- A feeling that you must rush to urinate (urination urgency)
- Reddish or bloody urine

- Fever
- Chills, especially chills that cause your body to shake

Chemotherapy's potential effects on the nerves and muscles

Below are the most common symptoms of nerve and muscle problems because of chemo. But each person has slightly different symptoms. Symptoms may include:

- Weak, sore, tired, or achy muscles
- Walking problems or pain when walking
- Loss of balance
- Clumsiness, problems picking up objects, or both
- Shaking or trembling
- Hearing loss
- Jaw pain
- Stomach pain
- Constipation
- Tingling, numbness, or pain in the hands and feet

Most of the time, these symptoms will get better with time. But improvement may take up to a year or longer after treatment. These symptoms may look like other health problems. So always see your healthcare provider for a diagnosis.

How can I cope with nerve and muscle problems?

The National Cancer Institute (NCI) advises these strategies for reducing nerve and muscle problems related to chemotherapy:

- If your hands and feet are numb, normal sensation is affected when you touch something sharp or hot. Handle objects with care.
- To prevent falls or accidents, move slowly and use handrails. This is especially true if you have weak muscles or if you have problems with balance. Use bathmats in the tub or shower to lower your risk of slipping. Also think about wearing shoes with rubber soles for better traction.
- Ask your healthcare provider about taking pain medicine, if needed.

Chemotherapy's potential effects on the sexual organs

Many people, both men and women, find that chemo affects their sex organs, as well as their ability to have sex. Your age and general health will influence how the medicines will affect your sexual function. The NCI provides this advice for coping with sexual problems linked with cancer and chemotherapy.

Men

Chemo medicines can cause short-term or permanent infertility. They reduce the number of sperm cells and their ability to move. This doesn't always affect a man's ability to have intercourse. Chemo can also damage the chromosomes in the sperm, which could lead to birth defects.

Talk with your healthcare provider about the use of birth control during treatment. You may want to use a condom for the first 48 hours after the last dose of chemo. This is because some chemo medicines can be found in the semen. Your provider can advise you regarding how long to use birth control. If you wish to father a child, you should talk with your provider to find out whether the treatment will affect your fertility. Also talk about the possibility of sperm-banking before you start your treatment.

Women

Chemotherapy can affect a woman's menstrual periods, fertility, and menopause. Consider the following:

- **Effects on the ovaries.** Anticancer medicines can affect the ovaries and reduce their ability to make hormones. Some women find that their menstrual periods become irregular or stop completely during chemo. Related side effects that affect the ovaries may be short-term or permanent.
- **Infertility.** Damage to the ovaries may result in infertility that can be either short-term or permanent. Whether infertility occurs, and how long it lasts, depends on many things. These include the type of medicine, the dose, and your age. Egg harvesting and embryo cryopreservation are possible options, But these procedures may be expensive and time-consuming.
- **Menopause.** Your age and the chemo medicines and dosages will determine whether you have menopause while on chemotherapy. Chemo may also cause menopause-like symptoms, such as hot flashes and dry vaginal tissues. These tissue changes can make intercourse uncomfortable. They may also make you more likely to have bladder or vaginal infections. Possible infections should be evaluated and treated right away. Talk with your cancer care team about the best ways to ease symptoms, such as hot flashes and vaginal dryness. Also ask about ways to prevent infections. Dressing in layered clothing and passing up caffeine and alcohol can help reduce hot flashes. The right kind of clothing also makes a difference in reducing vaginal infections. Don't wear tight slacks or shorts. Choose cotton underwear and pantyhose with a ventilated lining. Take care when using vaginal lubricants to decrease vaginal dryness. Use a water- or mineral oil-based lubricant instead of petroleum jelly. Your healthcare provider may prescribe a vaginal cream or suppository.

Chemotherapy effects on thinking

Research has also shown that chemotherapy can affect how you think and remember things. This is called "chemo-brain." People seem to recover from these changes over time. But these vague "thinking problems" can be very disturbing to both you and your family. Talk with your provider if you think you or your loved one is having trouble thinking or remembering things after getting chemotherapy.

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