



PATIENT & CAREGIVER EDUCATION

Managing Your Chemotherapy Side Effects

This information will help you manage the side effects from your chemotherapy.

Key Points

- Take your medications the way your healthcare provider tells you to. This includes:
 - Antinausea medications (medications to keep you from feeling like you're going to throw up).
 - Medications to help you have bowel movements (poop).
- Drink 8 to 10 (8-ounce) glasses of liquids every day. It's very important to stay hydrated (get enough liquids) during your treatment.
- Call your healthcare provider if you:
 - Have a fever of 100.4 °F (38 °C) or higher.
 - Have chills or are shaking.
 - Have signs of infection, such as:
 - A sore throat.
 - A new cough.
 - A burning feeling when you urinate (pee).
 - Redness, swelling, warmth, or pus around your incision (surgical cut) or catheter.
 - Have mouth sores or mouth pain that makes it hard to swallow, eat, or drink.
 - Have nausea (feeling like you're going to throw up) or vomiting (throwing up) even after taking medication to help.
 - Have diarrhea (loose, watery poop) 4 or more times in 24 hours, even after taking medication to help.
 - Have not had a bowel movement or passed gas for more than 2 to 3 days.
 - Have blood in your urine (pee), bowel movements, vomit (throw up), or when you cough.

Your care team is here for you 24 hours a day, 7 days a week. They will help you manage your side effects as you go through treatment.

Possible Chemotherapy Side Effects

Your nurse will go over this information with you and tell you which side effects you may have. You may have some, all, or none of these side effects.

Your nurse will write in the type of chemotherapy you got and the day you got it on the lines below:

You received _____ on _____.

You received _____ on _____.

You received _____ on _____.

You received _____ on _____.

Fatigue



Please visit www.mskcc.org/pe/manage_fatigue_video to watch this video.

Fatigue is feeling unusually tired, weak, and like you have no energy.

Fatigue from chemotherapy treatment can range from feeling a little tired to feeling extremely tired. Fatigue can start quickly or grow slowly over time.

How to manage

- If you feel tired, take a rest break. You can take short naps about 15 to 20 minutes long. Taking shorter naps will help with your fatigue throughout the day. Taking shorter naps will also help you sleep better at night.
- Try to be active to keep your energy levels up. For example, go for a walk outside or on a treadmill. People who do light exercise (such as walking), have less fatigue and can handle chemotherapy treatment better. For more information about how to manage fatigue with exercise, read *Managing Cancer-Related Fatigue with Exercise*

(www.mskcc.org/pe/fatigue_exercise).

- Plan tasks or activities on days and during times where you know you'll have more energy.
- Don't be afraid to ask for help. Ask your family and friends for help with tasks or activities that make you feel tired.
- Drink enough liquids. Drink 8 to 10 (8-ounce) glasses of non-caffeinated liquids every day. Water, juices diluted (mixed) with water, or liquids containing electrolytes (such as Pedialyte®, Gatorade®, Powerade®, and other sports drinks) are good choices.

For more information about how to manage fatigue, read *Managing Cancer-Related Fatigue* (www.mskcc.org/pe/managing_fatigue) and watch the video at the beginning of this section.

□ Nausea, vomiting, or loss of appetite



Please visit www.mskcc.org/pe/chemo_nausea to watch this video.

Some chemotherapy can cause nausea (feeling like you're going to throw up) and vomiting (throwing up). This is because chemotherapy irritates the areas of your brain that control nausea or the cells lining your mouth, throat, stomach, and intestines.

How to manage

- Take your anti-nausea medication as instructed by your healthcare provider.
- Drink 8 to 10 (8-ounce) glasses of liquids every day so you don't get dehydrated (losing more fluid from your body than usual). Water, juices diluted (mixed) with water, or liquids containing electrolytes (such as Pedialyte, Gatorade, Powerade, and other sports drinks) are good choices.
- Don't drink anything that has caffeine (such as coffee, tea, and soda).

- Eat small meals often. Do this throughout the day while you're awake.
- Don't eat greasy foods (such as fried foods).
- Get acupressure treatment. Acupressure is an ancient healing art that's based on the traditional Chinese medicine practice of acupuncture. With acupressure, you put pressure on specific places on your body. For more information about how to use acupressure to reduce nausea and vomiting, read *Acupressure for Nausea and Vomiting* (www.mskcc.org/pe/acupressure_nausea_vomiting).

Call your healthcare provider if you:

- Vomit 3 to 5 times within 24 hours
- Have nausea that doesn't get better after you take your anti-nausea medication
- Can't drink liquids without vomiting
- Feel dizzy or lightheaded (like you might faint)
- Have heartburn or stomach pain

For more information about how to manage nausea and vomiting during chemotherapy, read *Managing Nausea and Vomiting* (www.mskcc.org/pe/nausea_vomiting) and watch the video at the beginning of this section.

Constipation



Please visit www.mskcc.org/pe/chemo_constipation to watch this video.

Constipation is having 1 or all 3 of these:

- Fewer bowel movements than what's normal for you.
- Hard bowel movements.
- A hard time passing bowel movements.

It's a common side effect of medications used to treat pain and nausea. Some chemotherapy can also cause constipation.

How to manage

- Eat foods that are high in fiber. Fruits, vegetables, whole grains, prunes, and prune juice contain fiber.
- Drink at least 8 (8-ounce) glasses of liquids every day, if you can.
- Go for a walk or do light exercises, if you can.
- If needed, take an over-the-counter medication (medication you buy without a prescription) to treat your constipation. One type of medication is a stool softener (such as Colace®), which makes your bowel movements softer and easier to pass. Another type of medication is a laxative (such as Senokot® or MiraLAX®), which helps you have a bowel movement. Your healthcare provider will tell you how much of these medications you should take.

Call your healthcare provider if you:

- Haven't had a bowel movement or passed gas for more than 2 to 3 days
- Have hard bowel movements for more than 2 to 3 days
- Have a hard time passing bowel movements for more than 2 to 3 days

For more information about how to manage constipation, read *Constipation* (www.mskcc.org/pe/constipation) and watch the video at the beginning of this section.

□ Diarrhea

Diarrhea is loose or watery bowel movements (poop), having more bowel movements than what's normal for you, or both. Some chemotherapy can cause diarrhea.

How to manage

- Drink 8 to 10 (8-ounce) glasses of liquids every day. Make sure to drink both water and liquids that contain electrolytes (such as Gatorade, Pedialyte, broths, and juices).
- Take an over-the-counter anti-diarrheal medication, such as loperamide (Imodium®), unless your healthcare provider tells you not to.
- Don't take any stool softeners or laxatives for at least 12 hours, or until your diarrhea stops.
- Avoid:
 - Spicy foods (such as hot sauce, salsa, chili, and curry dishes)
 - High-fiber foods (such as whole-grain breads and cereals, fresh and dried fruits, and beans)
 - High-fat foods (such as butter, oil, cream sauces, and fried foods)
 - Drinks with caffeine (such as coffee, tea, and some sodas)
- Eat small amounts of soft, bland foods that are low in fiber (such as white bread, pasta, rice, and food made from white or refined flour). Eat your food at room temperature.
- Follow the BRATY diet. Eat bananas (B), rice (R), applesauce (A), white toast (T), and yogurt (Y).

For more information about how to manage diarrhea and what foods you should and shouldn't eat, read *Diarrhea* (www.mskcc.org/pe/diarrhea).

Call your healthcare provider if you have:

- 4 or more loose, watery bowel movements in 24 hours that don't get better after you take medication
- Pain and cramping in your belly, along with diarrhea
- Diarrhea that doesn't get better after you follow the BRATY diet for 2 days
- Irritation around your anus (the opening where poop leaves your body) or

rectum (a holding area for poop) that doesn't go away

- Blood in your bowel movements

□ Mucositis

Some chemotherapy can cause mucositis (myoo-koh-SY-tis). Mucositis is redness, swelling, tenderness, or sores in your mouth, or on your tongue or lips. Symptoms can start 3 to 10 days after your first chemotherapy treatment.

How to manage

- Rinse your mouth every 4 to 6 hours, or more often as needed. Use an alcohol-free mouthwash or make your own solution. To make your own solution, mix 1 to 2 teaspoons of salt with 1 quart (4 cups) of water.
 - Swish the mouthwash or solution in your mouth. Gargle well for 15 to 30 seconds. Then spit it out. Don't swallow it.
 - Don't use a mouthwash that contains alcohol or hydrogen peroxide. These can make your sores worse. Use a mouthwash with no alcohol or sugar (such as Biotène® PBF Oral Rinse or BetaCell™ Oral Rinse).
- Use a soft toothbrush for your teeth and gums.
- Don't eat acidic (sour), salty, or spicy foods.
- Don't smoke or use tobacco products.
- Don't eat foods that are hot to touch.
- Keep your lips moisturized with a lip balm.
- Ask your healthcare provider if oral cryotherapy is an option for you. Oral cryotherapy is a procedure that uses extreme cold to destroy tissue.

Call your healthcare provider if you:

- Get mouth sores often
- Have pain when eating or swallowing
- Can't drink enough liquids to keep yourself hydrated (getting enough

fluid in your body)

For more information about how to manage mouth sores, read *Mouth Care During Your Cancer Treatment* (www.mskcc.org/pe/mouth_care).

□ **Weakened immune system**

A weakened immune system can be caused by neutropenia (new-tro-PEE-nia). Neutropenia is when you have a low number of neutrophils (NEW-tro-fills) in your blood. Neutrophils are a type of white blood cell that helps your body fight infections. Neutropenia is often caused by chemotherapy.

When you have neutropenia, you're at greater risk for infection. The following instructions will help to keep you from getting an infection. Follow these instructions until your neutrophil count (the number of neutrophils in your blood) returns to normal.

How to manage

- Don't be near people who are sick.
- Wash your hands with soap and water for at least 20 to 30 seconds.
- Cover all parts of your hands with an alcohol-based hand sanitizer. Rub your hands together for 20 to 30 seconds, or until they're dry.
- Remember to always clean your hands:
 - Before eating a meal
 - After touching something that may have germs (such as after using the bathroom, touching a doorknob, or shaking hands)
- Shower with a 4% chlorhexidine gluconate (CHG) solution antiseptic skin cleaner (such as Hibiclens®). Follow your healthcare provider's instructions.

Call your healthcare provider if you:

- Have a fever of 100.4° F (38° C) or higher
- Are shaking or have chills
- Start to get other signs or symptoms of infection, such as:
 - Redness, swelling, warmth, or pus at the site of an injury or surgical wound, or at a catheter insertion site
 - A new cough
 - A sore throat
 - A burning feeling when you urinate (pee)

For more information about ways to keep from getting an infection, read *Hand Hygiene and Preventing Infection* (www.mskcc.org/pe/hand_hygiene) and *Neutropenia (Low White Blood Cell Count)* (www.mskcc.org/pe/neutropenia).

☐ Increased risk of bleeding

After your chemotherapy treatment, you may have a low platelet count (the number of platelets in your blood) for 10 to 14 days. A low platelet count lowers your body's ability to stop bleeding or bruising.

How to manage

- Use a soft toothbrush for your teeth and gums.
- Be careful not to:
 - Get any cuts, scratches, or scrapes
 - Bump into things or hit things by accident
 - Trip and fall
- If you need to shave, use only an electric razor.
- Don't do activities that can result in injury.
- Don't use:

- Rectal suppositories (solid medication that's inserted through your anus and dissolves)
- Enemas (liquid you put into your rectum through your anus to cause a bowel movement)

Call your healthcare provider if you have:

- Blood in your urine (pee), in your bowel movements (poop), in your vomit (throw up), or when you cough
- Very dark or black bowel movements
- Unexplained (unusual) bruising or bleeding from your nose or gums
- Changes in your vision
- Very bad headaches or any signs of a stroke, such as weakness on one side of your body

For more information about ways to lower your risk of bleeding, read *About Your Low Platelet Count* (www.mskcc.org/pe/low_platelet_count).

□ Hair thinning or hair loss

Some chemotherapy can cause hair loss. Hair loss usually starts about 2 to 4 weeks after your first chemotherapy treatment. If you lose your hair, it will begin to grow back a few months after your last treatment. Your hair may grow back as a different color or texture.

How to manage

- If your hair is long, you may want to cut it short before you begin treatment.
- Wash and condition your hair every 2 to 4 days. Use a baby shampoo or other mild shampoo, and a cream rinse or hair conditioner.
- Use shampoos and conditioners that have sunscreen in them. This will help prevent sun damage to your scalp.
- Don't expose your scalp to the sun. Keep your head covered in the summer.

- In the winter, cover your head with a hat, scarf, turban, or wig to keep it warm. This can also help to contain hair that falls out.
- Sleep on a satin or silk pillowcase. These are smoother than other fabrics and can reduce hair tangles.
- Ask your healthcare provider if scalp cooling treatment (using a cold cap) is an option for you. For more information, read *Managing Hair Loss with Scalp Cooling During Chemotherapy for Solid Tumors* (www.mskcc.org/pe/scalp_cooling).

For more information about hair loss during your cancer treatment, read *Hair Loss and Your Cancer Treatment* (www.mskcc.org/pe/hair_loss_cancer_treatment).

☐ Neuropathy (numbness or tingling in hands and feet)

Some chemotherapy can affect the nerves in your hands or feet. You may start to have some numbness or tingling (slight stinging or poking feeling) in your fingers, toes, or both. This may last for a short time or for the rest of your life, depending on how long you're on chemotherapy. Your healthcare provider can give you medication or change the dose of your chemotherapy to help ease your symptoms.

How to manage

- Exercise regularly (have an exercise routine).
- Quit smoking, if you smoke.
- Don't drink large amounts of alcohol.
- Wear gloves and warm socks in cold weather.
- Be very careful to not burn yourself when using the stove, oven, or an iron. You may not be able to feel heat as much as you used to.
- Wear sturdy shoes and walk carefully if your feet are tingling or numb.
- Get acupuncture. Acupuncture is a form of treatment in traditional

Chinese medicine. It's done by applying very thin needles to certain places on your body. For more information, read *About Acupuncture* (www.mskcc.org/pe/about_acupuncture).

Call your healthcare provider if you have:

- Tingling and numbness that's getting worse
- Trouble handling small objects, such as holding a pen or buttoning a shirt
- Pain, burning, numbness, or tingling in your fingers, toes, or both
- Trouble walking or feeling the ground when you walk

For more information about neuropathy, read *Neuropathic Pain* (www.mskcc.org/pe/neuropathic_pain), *About Peripheral Neuropathy* (www.mskcc.org/pe/about_peripheral_neuropathy), and *Managing Peripheral Neuropathy* (www.mskcc.org/pe/managing_peripheral_neuropathy).

□ Skin and nail changes

Some chemotherapy can cause changes to your skin. You may have darkening of your skin, nails, tongue, and the veins in which you received the chemotherapy. You may also have general skin changes, such as dryness and itchiness. Your nails can get weak and brittle and may crack.

How to manage

- Keep your hands and feet well moisturized. Use fragrance-free creams or ointments (such as Eucerin®, CeraVe®, or Aquaphor®).
- Avoid direct sunlight. Don't expose your scalp or body to the sun. Wear hats with wide brims, light-colored pants, and long-sleeved shirts.
- Use a sunscreen with an SPF of 30 or higher every day.
- Keep your nails short with smooth edges.
- Wear gloves when gardening, cleaning, or washing dishes.
- Ask your healthcare provider if nail cooling treatment is an option for

you. Nail cooling treatment is when your hands, feet, or both are wrapped in ice packs or ice bags. This helps to reduce changes in your nails during chemotherapy treatment.

Call your healthcare provider if:

- Your skin is peeling or blistering
- You have a rash
- You have any new bumps or nodules (lumps) on your skin
- Your cuticles (layer of skin along the bottom edge of your nails) are red and painful
- Your nails are peeling (lifting off the nail bed) or fluid is leaking from under your nails

For more information about nail changes, read *Nail Changes During Treatment* (www.mskcc.org/pe/nail_changes_taxane_chemotherapy) and *Nail Cooling During Treatment with Taxane-based Chemotherapy* (www.mskcc.org/pe/nail_cooling_taxane_chemotherapy).

❑ Cold sensitivity

Cold sensitivity is numbness, tingling (slight stinging or poking feeling), or cramping in your hands or feet. You may also feel tingling on your lips and tongue, or get spasms (twitches) in your throat and jaw. Some people experience an unusual sensation (feeling) with their tongue, like it's heavy and hard to move. Their speech may be slurred as a result.

Cold sensitivity is caused by cold temperatures, such as cold weather, cold foods, and cold drinks.

Cold sensitivity usually gets better or goes away between chemotherapy treatments. The more treatments you have, the longer this may take.

How to manage

- Avoid cold foods and drinks.
- Cover your nose and mouth when you're outside in cold weather so you don't breathe in cold air.
- Wear gloves when you're outside in cold weather or handling cold items.
- Don't use heating pads or hot patches. You may not be able to feel heat as much as you used to and may burn yourself.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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