MANAGING CHEMOTHERAPY SIDE EFFECTS
YOU CAN DO THIS.

You have cancer. You’re facing chemotherapy. And chances are, you’re really worried. (Maybe even scared.)

It’s OK—that’s natural.

But keep in mind, advances in science and medicine have made—and continue to make—major progress in the treatment of cancer.

YOU HAVE EVERY REASON TO BE HOPEFUL.

Of course, a lot of your anxiety may come from what you’ve heard about chemotherapy itself. That it causes side effects. Hair loss. Vomiting. Weakness. And while it’s true that chemotherapy can cause these side effects—and many others—it’s also true that you’ll have more ways to cope with them than ever before.

But it starts with knowledge. By reading the information in this booklet, you’ll have a better idea of what to expect and, most importantly, what you can do to help manage the side effects of chemotherapy.

After all, being aware of what’s ahead of you can take you a step closer to putting cancer treatment behind you.
Treating Cancer With Chemotherapy

CANCER IS A DISEASE THAT HAPPENS WHEN YOUR BODY makes too many cells, and when some cells don’t die when they should.¹

WHEN YOUR BODY IS HEALTHY, THE CELLS THAT MAKE UP YOUR ORGANS (such as your heart and your kidneys) grow and divide regularly to keep your organs working well. Over time, these cells grow old and die and are replaced by new cells.¹

Sometimes, this process doesn’t happen the way it should. When more cells grow than needed and they don’t die off, they can grow to form a tumor.¹ If the tumor is malignant—meaning it invades and damages surrounding tissues and spreads to other parts of the body—it is called cancer.¹,²

There Are Many Types of Cancer

There are more than 100 diseases that are called cancer.³ Doctors usually group these cancers into 5 major categories, based on where they start:⁴

1. Cancer that begins in the skin or tissues that line or cover organs is known as carcinoma.
2. Bone cancer or cancer that starts in the connective or supportive tissues of the body is known as sarcoma.
3. Cancer that starts in bone marrow which forms the blood is known as leukemia.
4. Cancers that begin in the immune system cells are known as lymphoma and myeloma.
5. Cancer in the brain and spinal cord is known as central nervous system cancer.

In most cases, your doctor will also tell you the stage of your cancer. The stage indicates how big the tumor has grown and whether or not it has spread to other parts of the body.¹
There Are Several Types of Cancer Treatments

Your doctor will work with you to determine the best treatment options for the type and stage of cancer you have. Your treatment plan may include surgery, radiation therapy, hormone therapy, biological therapy, stem cell transplantation, chemotherapy, or some combination of these options.

Chemotherapy: A Vital Tool

Doctors, at times, rely on chemotherapy to shrink the tumor or tumors in your body. In some cases, your doctor will prescribe chemotherapy so that all of the cancer cells can be eliminated from your body. In other cases he or she will use chemotherapy drugs to control the growth of the tumor. Chemotherapy is also used to reduce or relieve the symptoms of the cancer.

Chemotherapy Attacks Cancer Cells

The goal of chemotherapy is the use of one or more medicines to attack cancer cells as they divide. Chemotherapy is usually given in a series of cycles. For example: once a week for 4 weeks, followed by a period of rest before starting again for another 4 weeks. With each dose of medicine you normally receive, a portion of the cancer cells may be killed. Over time the cancer cells are gradually reduced and possibly eliminated completely. Your doctor will design your chemotherapy schedule so that you receive chemotherapy drugs which based on prior experience offer the best hope of treating your cancer.

Chemotherapy drugs can come in any of the following forms:

- Intravenously (iV), which are given directly into the bloodstream, either in the hospital or in an outpatient clinic
- Oral or by mouth in a pill or liquid you can take at home
- Intramuscular as a shot given into a muscle
- Intralesional through an implant at the location of the tumor
- Topical as a cream or lotion you can rub on your skin

You May Have Some Side Effects While on Chemotherapy

It’s important to know that chemotherapy drugs have potential side effects. However, not everyone who takes a drug will experience side effects. Your doctor can’t predict how your body may react to your chemotherapy.

Your doctor may give you additional medications to try to help prevent some side effects. He or she may also recommend lifestyle changes to help prevent or manage a particular side effect.

Talk with your doctor to learn more about side effects you might experience while you are being treated. Use this guide to learn about each issue and how you can manage any symptoms you do experience. This may help you complete your chemo plan as successfully and comfortably as possible.
FULLY ENJOY THOSE DAYS WHEN YOU FEEL WELL.
YOUR BLOOD COUNTS

Your Complete Blood Count

UNDERSTANDING YOUR COMPLETE BLOOD COUNT (CBC) is important because chemotherapy and radiation can reduce the number of blood cells in your body. This reduction increases your risk of infection, fatigue and bleeding. Bleeding can lead to the possibility of transfusion. While you are receiving chemotherapy, your doctor will regularly monitor the levels of certain cells in your body through a complete blood count.

Three important measurements in your complete blood cell count:

1. **WHITE BLOOD CELLS (WBCs)**
   - White blood cells are cells that help your body fight infection. They do this by protecting it from harmful bacteria and viruses. White blood cells are a key part of your natural defenses. Without enough white blood cells, the body cannot fight infection as well as it normally does. One potential side effect of many types of chemotherapy is a low white blood cell count, which can make you prone to infections and fever.9,10

2. **RED BLOOD CELLS (RBCs)**
   - Red blood cells contain hemoglobin (HEE-moh-glow-bin), or Hb. This is a protein that contains iron and carries oxygen from the lungs to the rest of the body. Oxygen is critical to the health of your tissues and organs. A lower-than-normal number of red blood cells is called anemia (ah-NEE-mee-ah). Anemia can make you look pale, feel tired and have low energy.11

3. **PLATELETS**
   - Platelets are cells that help your body stop bleeding by working with other blood factors to form a clot. A low platelet count, called thrombocytopenia (throm-boh-sy-toh-PEE-nee-ah), may increase the risk of excessive bleeding or bruising.11,12
Your Complete Blood Count and Related Side Effects

The complete blood count helps your doctor look for certain side effects of chemotherapy. These side effects include changes in the number of the types of cells in your blood. Chemotherapy works by killing rapidly dividing cells. Unfortunately, chemotherapy can’t tell the difference between cancer cells and rapidly dividing healthy cells, such as white blood cells. Because chemotherapy kills fast-growing blood cells as well as cancer cells, side effects involving your blood are a common result of chemotherapy. 10

Tracking Your Blood Count

When your doctor talks about your “counts,” he or she is referring to the information from your CBC. Your doctor will monitor your counts and work with you to determine if there are any problems to address. Below is a sample chart of normal ranges to help you track your own blood counts. Note that different labs may use different ranges.

<table>
<thead>
<tr>
<th>UNDERSTANDING YOUR BLOOD COUNTS*13</th>
<th>Conventional/US Units (Normal adult ranges)</th>
<th>International Units (Normal adult ranges)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Blood Cells (WBCs)</td>
<td>4.5–11.0 x 10^3/µL</td>
<td>4.5–11.0 x 10^9/L</td>
</tr>
<tr>
<td>Neutrophils</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segmented</td>
<td>54%–62%</td>
<td>0.54–0.62</td>
</tr>
<tr>
<td></td>
<td>3.8 x 10^3/µL</td>
<td>3800 x 10^9/L</td>
</tr>
<tr>
<td>Bands</td>
<td>3%–5%</td>
<td>0.03–0.05</td>
</tr>
<tr>
<td></td>
<td>0.62 x 10^3/µL</td>
<td>620 x 10^9/L</td>
</tr>
<tr>
<td>Eosinophils</td>
<td>1%–3%</td>
<td>0.01–0.03</td>
</tr>
<tr>
<td></td>
<td>0.20 x 10^3/µL</td>
<td>200 x 10^9/L</td>
</tr>
<tr>
<td>Basophils</td>
<td>&lt;0.75%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.04 x 10^3/µL</td>
<td></td>
</tr>
<tr>
<td>Red Blood Cells (RBCs)</td>
<td>4.0–6.2 x 10^6/µL</td>
<td>4.0–6.2 x 10^12/L</td>
</tr>
<tr>
<td>Hemoglobin (Hb or Hgb)</td>
<td>14–18 g/dL (Male)</td>
<td>8.7–11.2 mmol/L (Male)</td>
</tr>
<tr>
<td></td>
<td>12–16 g/dL (Female)</td>
<td>7.4–9.9 mmol/L (Female)</td>
</tr>
<tr>
<td>Hematocrit (Hct)</td>
<td>39%–51% (Male)</td>
<td>0.39–0.51 (Male)</td>
</tr>
<tr>
<td></td>
<td>35%–47% (Female)</td>
<td>0.35–0.47 (Female)</td>
</tr>
<tr>
<td>Platelets (Plts)</td>
<td>150–450 x 10^3/µL</td>
<td>150–450 x 10^9/L</td>
</tr>
</tbody>
</table>

*Complete blood count, or CBC, may include additional blood cell counts not included in this table. Normal ranges may vary by laboratory.

Chemotherapy can reduce the number of blood cells in your body. This may delay your treatment or reduce your chemotherapy dose. 9,14,15 It’s important for you to understand what your blood counts mean.

If your “numbers” fall outside the above ranges, your doctor may reduce or delay the next chemotherapy dose.
Chemotherapy is called myelosuppressive (my-eh-low-suh-PRESS-iv) when it suppresses your body's ability to produce blood cells. Side effects from chemotherapy involving blood cells include:¹⁰

**ANEMIA**

*Anemia* (ah-NEE-mee-ah) is a condition in which your body has fewer red blood cells than normal.¹⁶

- Red blood cells contain hemoglobin (HEE-moh-glow-bin).
- Hemoglobin is a protein that carries oxygen from the lungs to the body's tissues and organs.
- Oxygen is critical to the health of your tissues and organs and also gives red blood cells their color.

**NEUTROPENIA**

*Neutropenia* (nu-tro-PEE-nee-ah) is the term for a low number of a certain type of infection-fighting white blood cell, called a neutrophil (NU-tro-fill).

- One serious potential side effect of chemotherapy is a low white blood cell count.⁹ The fewer white blood cells you have and the longer your white blood cell count is low after a cycle of chemotherapy, the more risk you have for developing an infection, some of which may be serious.⁹ If you do get an infection, you may need to be hospitalized for treatment. Your doctor may need to delay chemotherapy treatment or reduce your chemotherapy dose until your white blood cell count improves.⁹,¹⁷,¹⁸

**THROMBOCYTOPENIA**

*Thrombocytopenia* (throm-boh-sy-toh-PEE-nee-ah) is the name for a low platelet count.

- Platelets help your body form blood clots; therefore, a low platelet count may cause you to experience bruising or excessive bleeding.¹¹,¹²

All of these side effects may be related to your chemotherapy. All are diagnosed through your complete blood count test. And you can track them on your own to help reduce the possibility that they will affect your treatment.

**ASK YOUR DOCTOR – INFORMATION ABOUT TESTS YOU MAY NEED**

- What types of lab tests will I need?
- How frequently will I be tested?
- Will you explain the results of my complete blood count?
YOUR BLOOD COUNTS

Managing a Low White Blood Cell Count

(NEUTROPENIA)

ONE POTENTIAL SIDE EFFECT OF CHEMOTHERAPY is a low number of a specific type of infection-fighting white blood cell, called a neutrophil. This is a condition known as neutropenia (nu-tro-PEE-nee-ah).⁹

A Low White Blood Cell Count Can Put Your Chemotherapy Treatment on Hold

Your doctors have carefully determined your chemotherapy dose and schedule, or cycle, to produce the best chance for success. A low white blood cell count is the most common cause of chemotherapy dose reductions or delays in chemotherapy treatment.¹⁷ Depending on your treatment goals, keeping your chemotherapy treatment on schedule is an important step toward success.¹⁴

A Low White Blood Cell Count Can Put You at Risk for Some Infections

The fewer white blood cells you have and the longer your white blood cell count is low, the more risk you have for getting an infection, some of which may be serious.⁹ If you do get an infection, you may need to be hospitalized for treatment. Your doctors may need to delay chemotherapy treatment until your white blood cell count has improved and reduce their next planned chemotherapy dose.¹⁷,¹⁸
Who Is Most at Risk for Infection?

You may have a higher risk of a low white blood cell count or potentially serious infection if: 14, 15

- You are receiving strong, or myelosuppressive, chemotherapy, which suppresses the production of white blood cells.
- You already have a low white blood cell count when you start chemotherapy.
- You have had previous chemotherapy or radiation treatment.
- You are 65 years of age or older.
- You have other medical conditions such as diabetes, cardiovascular disease, or COPD (chronic obstructive pulmonary disease).
- You have previously had severe neutropenia or febrile neutropenia.
- You have open wounds or an already active infection.
- You have advanced cancer.

DIAGNOSING INFECTION

While on chemotherapy, you should take your temperature every day. If you develop a fever (temperature of 100.5°F/38°C or higher), notify your doctor immediately. Some infections associated with a low white blood cell count can be life threatening. 19

An infection can happen in a number of places throughout your body. Specific symptoms can indicate the site of your infection and help target your treatment.

<table>
<thead>
<tr>
<th>WATCH FOR SIGNS OF INFECTION</th>
<th>19-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever (temperature of 100.5°F/38°C or higher)</td>
<td>Urinary burning or urgency</td>
</tr>
<tr>
<td>Chills</td>
<td>Unusual vaginal discharge or itching</td>
</tr>
<tr>
<td>Cough or sore throat</td>
<td>Redness, swelling, or sores on skin</td>
</tr>
<tr>
<td>Severe constipation or diarrhea</td>
<td>Shortness of breath/chest pain</td>
</tr>
<tr>
<td>Mouth ulcers or sores in the throat or around the rectum</td>
<td>Irregular or rapid heartbeat</td>
</tr>
<tr>
<td>Vomiting that continues 12 hours after treatment</td>
<td>Blood in urine or stool</td>
</tr>
</tbody>
</table>

Be sure to report any of the signs of infection or other conditions listed in the table above to your doctor immediately.
HELP YOUR BODY BE READY TO FIGHT INFECTION

It’s always a good idea to help protect yourself from infection. Always wash your hands with soap and plenty of water. Many infections are transmitted by hands and things that you touch, such as doorknobs. Washing your hands thoroughly is an important part of helping to prevent infection. Using a skin cleanser containing alcohol is also a good way to prevent infection.

In addition, take these simple steps to help protect yourself against infection:22

• Avoid people with colds or the flu. Avoid large crowds to reduce your likelihood of coming into contact with someone who is sick.
• Bathe and carefully dry your skin.
• Use an electric razor instead of a blade to avoid cuts.
• Use moisturizing lotion to prevent cracks in your skin.
• Wear gloves for gardening and wash up afterward.
• Clean cuts and scrapes right away with warm water and soap. Then, cover the area with a clean bandage.
• Cook your food thoroughly to kill any potential germs that may be on raw food.
Talk to Your Doctor About Infection

Talk to your doctor about steps that you can take to help avoid infection. Use the following questions to start a discussion.

ASK YOUR DOCTOR – HELPING TO PROTECT YOURSELF FROM INFECTION

- Am I at special risk for infection?
- Will my chemotherapy put me at risk for a low white blood cell count and infection?
- What are the signs of infection?
- How serious can an infection be for me?
- How long will I be at risk for infection?
- What should I do if I have a fever?
- How can I help reduce my risk of infection?
- Are there financial programs available to help cover out-of-pocket costs?
MANAGING A LOW WHITE BLOOD CELL COUNT

YOUR BLOOD COUNTS

Managing a Low Red Blood Cell Count

(ANEMIA)

ANEMIA (AH-NEE-MEE-AH) CAUSED BY CHEMOTHERAPY is a medical condition in which your body has fewer red blood cells than normal. This is because chemotherapy can reduce the number of blood cells in your body, including red blood cells.

RED BLOOD CELLS CONTAIN HEMOGLOBIN (HEE-MOH-GLOW-BIN). Hemoglobin is a protein that carries oxygen from the lungs to the body’s tissues and organs. Therefore, without enough red blood cells, the amount of oxygen circulating in your body may be low. Oxygen is critical to the health of your tissues and organs.

Anemia can result in the need for blood transfusions or other treatments as prescribed by your doctor.16,25
Recognizing Anemia Caused by Chemotherapy

Anemia can be difficult to identify because early symptoms may be mild. In addition, it is easy to mistake some symptoms of anemia for symptoms of other diseases or side effects of medication. Your healthcare provider will consider many factors to diagnose your anemia, including results of blood tests and a physical exam. Symptoms of anemia can include:

- Shortness of breath
- Fatigue, tiredness, dizziness, or fainting
- Pale skin, including decreased pinkness of the lips, gums, lining of the eyelids, nail beds, and palms
- Rapid heartbeat (tachycardia)
- Feeling cold

Because the symptoms of anemia are easily confused with the symptoms of other conditions, be sure to talk to your doctor if you are experiencing any of the symptoms listed above.
Treating Anemia Caused by Chemotherapy

Different options are available to manage anemia caused by chemotherapy, including:

- Carefully watching your condition with regular checkups
- Taking certain medicines to increase your red blood cell count
- Undergoing a red blood cell transfusion to increase your red blood cell count

Your doctor will discuss the benefits and risks of each of these options with you.
Treating Other Causes of Anemia

Sometimes, anemia can be caused by things other than chemotherapy. Deficiencies in certain vitamins and minerals, such as iron, folate, and vitamin B₁₂, can also cause anemia. In these cases, your doctor may prescribe appropriate supplements for you to take.¹⁶

Talk to Your Doctor About Anemia Caused by Chemotherapy

Anemia caused by chemotherapy can be a serious side effect. That’s why it’s important to talk to your doctor about your risk of developing anemia, as well as how it may be treated in case it occurs. The following questions are a great way to start a conversation.

ASK YOUR DOCTOR – TREATING ANEMIA CAUSED BY CHEMOTHERAPY

- Does my chemotherapy put me at risk for anemia?
- What will you look at to determine whether I have anemia caused by chemotherapy?
- Could anemia caused by chemotherapy affect my treatment?
- Could my anemia be caused by something besides chemotherapy?
Managing a Low Platelet Count

(THROMBOCYTOPENIA)

Platelets, called thrombocytes (throm-boh-sites), are fragments of bone marrow cells that are found in the circulating blood and are critical in stopping bleeding. They rush to the site of an injury and work with other blood factors to form a blood clot. This helps stop the bleeding.

A low platelet count is called thrombocytopenia (throm-boh-sy-toh-PEE-nee-ah).

Causes of a Low Platelet Count

Thrombocytopenia is a common side effect of some chemotherapy. Chemotherapy works by destroying cells that grow rapidly, such as cells in the bone marrow that generate platelets. Normally, there are trillions of platelets in the blood; however, certain chemotherapy medicines can lower the platelet count.

A low platelet count typically occurs 7 to 10 days following administration of chemotherapy. It usually takes several days to weeks before the number of platelets increases to an adequate level.

Signs of Low Platelet Counts

A low platelet count puts you at risk for certain side effects, such as bleeding. Bleeding can be dangerous, because:

- If you do not have enough platelets to form a clot, you may not be able to stop bleeding.
- Even a small cut can cause you to lose a large amount of blood.

Another important reason your doctor may monitor your platelets is that a low platelet count can interrupt your chemotherapy as planned by your doctor.
Treating a Low Platelet Count

If you have a severely low platelet count, you may require treatment with a platelet transfusion. Platelets are given in a platelet transfusion. Like red blood cell transfusions, platelet transfusions take place in hospitals and some clinics. Also like red blood cell transfusions, platelet transfusions may be associated with the risk of reactions and infections.  

Avoid Situations That May Cause Bleeding.

Lowering Your Risk of Bleeding

If your platelet count is low, you should try to avoid situations that may cause injury, bruising, or bleeding.

- Consider low-impact activities for exercise, such as walking or swimming.
- Shave with an electric razor instead of a blade.
- Use a soft-bristle toothbrush.

Ask Your Doctor – Low Platelet Count

- Am I at risk of developing a low platelet count?
- How will I know if my platelet count is low?
- What can I do to reduce my risk of bleeding?
- What should I do if I start bleeding?
MANAGING SIDE EFFECTS

Nausea and Vomiting

NAUSEA AND VOMITING ARE FREQUENT SIDE EFFECTS of chemotherapy and radiation therapy. Chemotherapy causes the release of a substance called serotonin and other chemicals in the small intestine, which signal the vomiting center in your brain to induce vomiting.29

CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING CAN BE:

- **ACUTE** (occurs within the first 24 hours of chemotherapy administration)
- **DELAYED** (occurs after 24 hours)
- **ANTICIPATORY** (occurs before a new cycle of chemotherapy; occurs as a conditioned response, which means it happens in response to a stimulus, such as chemotherapy. The symptoms usually occur after initial exposure to chemotherapy medicines.)29,30

Cancer Treatments Likely to Cause Nausea and Vomiting

Certain chemotherapy medicines are more likely to cause nausea and vomiting than others. Chemotherapy medicines are classified as minimal, low, moderate, or high in their likelihood to cause vomiting. Certain types of chemotherapy are frequently associated with a high probability of nausea and vomiting, and doctors usually recommend appropriate medicines to take with them. In addition, radiation as a cancer treatment can cause nausea and vomiting.31

Helping Prevent Nausea and Vomiting

Certain medicines for controlling nausea and vomiting, called antiemetics (an-tee-uh-MET-iks), have been developed over the last several years. Some of these medicines block the signal in the brain and gut that causes nausea and vomiting.32 There are many different kinds of antiemetics.
Controlling Anticipatory Nausea and Vomiting

Anticipatory nausea and vomiting may be treated with behavioral therapy as well as traditional medicines. In some clinical studies, medicines that treat anxiety have provided some relief. 29,31

Other Actions to Manage Nausea and Vomiting

There are several things you can do to help control nausea and vomiting. First and foremost, make sure you receive and take your antiemetics as your doctor has ordered. Let your healthcare professional know if your pharmacy does not have them or if you are not sure how to take them.

In addition to taking your medicine, the following general suggestions may help you prevent or control nausea and vomiting: 20

- Try bland foods that are easy to digest and are not likely to upset your stomach, such as plain crackers or toast.
- Have soft drinks, such as cola and ginger ale, that are warm and flat.
- Eat foods that are warm or cool, rather than hot or cold.
- Avoid strong-smelling foods, such as fish, onions, garlic, and any food as it is being cooked.
- Eat 5 to 6 smaller meals, rather than 3 large meals, throughout the day.
- Wait at least 1 hour after your chemotherapy before eating or drinking.
- If you feel the urge to vomit, try slow, deep breathing. Other relaxing hobbies, such as reading or watching television, may help.

ASK YOUR DOCTOR – NAUSEA AND VOMITING

- Is my chemotherapy likely to cause nausea or vomiting?
- What can I do to reduce nausea and vomiting?
- Are there treatments I can take to ease nausea?
- What foods should I avoid during chemotherapy?
- How long will my nausea and vomiting last?
MANAGING SIDE EFFECTS

Pain

PAIN IS ONE OF THE MOST COMMON AND FEARED SYMPTOMS of cancer. However, modern medicines can help control pain. If you experience pain, talk with your doctor about the type of medicine that is best for your condition.

You and your doctor also may discuss other methods of controlling pain, including exercises, acupuncture, massage, and more.

Causes of Pain

Pain may be an effect of the cancer or a side effect of cancer treatment. If not adequately managed, pain can impact your quality of life.32

Always tell your doctor if you have pain or if your pain increases. Your doctor can help you find the medicine or combination of medicines and doses to control your pain. Always take your medicine as prescribed.

Treating Pain

The type of pain medicine your doctor recommends depends on how severe your pain is. Doctors have patients rate pain on a scale of 1 to 10, with 1 being no pain and 10 being the worst pain. In general, your doctor may use the guidelines listed on the next page.
MILD TO MODERATE PAIN (1–3)
For pain at the low end of the 1 to 10 scale, your doctor may recommend over-the-counter (OTC) medicines.\textsuperscript{32,33}

MODERATE TO SEVERE PAIN (4–6)
If OTC medicine does not relieve your pain, or you have moderate to severe pain, your doctor may prescribe stronger medications.

SEVERE PAIN (7–10)
For severe pain or pain not relieved with medicines recommended for pain on the scale from 1 to 6, your doctor may prescribe a different dose.\textsuperscript{32,33} Your doctor also may recommend adding additional treatments or medicine if needed.

TAKEN “AS NEEDED”
Your doctor may give you pain medicine with instructions to “take as needed.” Your doctor can help you understand when and how you should use these medications to manage pain.\textsuperscript{32}

LONG LASTING
If your pain relief does not last long enough, let your doctor know and ask your doctor about extended-release medicines. These medicines can control pain for a longer period of time.\textsuperscript{32}

IMMEDIATE RELIEF
If your pain intensifies during certain times of the day or with certain activities, your doctor may prescribe a rapid-acting pain medicine. This medicine will give you more pain relief when it is needed.\textsuperscript{32}
Concerns About Addiction to Pain Medicine

Pain medicine was developed for controlling the type of pain that cancer patients frequently encounter. When taken to treat cancer pain, addiction to pain medication is rare. Talk with your doctor about how to use these medicines appropriately for your circumstances.

TALK WITH YOUR DOCTOR ABOUT HOW TO USE PAIN MEDICATION SAFELY.

Pain Medicine Side Effects

Pain medicine may make you feel sleepy, cause you to become constipated, or cause nausea and vomiting. Below are tips on dealing with these common side effects.

SLEEPINESS DUE TO PAIN MEDICINE: Planning a rest time just after you take your pain medicine may be helpful. If you have to be awake or alert, talk to your doctor.

CONSTIPATION DUE TO PAIN MEDICINE: Increase fluid and fiber intake to prevent constipation. If you become constipated, speak to your doctor.

NAUSEA AND VOMITING DUE TO PAIN MEDICINE: For nausea and vomiting, a variety of medicines can help relieve your symptoms. Taking your medicine with food may also help.

Not everyone experiences these side effects, and not every pain medicine causes them to the same degree. Talk to your doctor if you experience side effects with your pain medicine.
Nonmedicinal Treatments for Pain

There are many other techniques for controlling pain that you may wish to discuss with your healthcare professional. These are described below.32

ACUPUNCTURE

In acupuncture, a licensed specialist inserts thin needles into the body at certain points. Acupuncture is now a widely practiced method of pain relief. Ask your doctor for more details and if this is something that might help you.

EMOTIONAL SUPPORT AND COUNSELING

Anxiety or depression may make your pain seem worse. Also, pain can cause you to feel worried, depressed, or easily discouraged. These are normal feelings that can be relieved.

Try to talk about your feelings with someone you feel comfortable with—a doctor, a nurse, a social worker, a friend or family member, a member of the clergy, or another person with cancer.

You may also wish to talk with a counselor or a mental health professional. Your doctor, nurse, or the social services department at your local hospital can help you find a counselor who is specially trained to help people with chronic illnesses.

IMAGERY

Imagery involves using your imagination to create mental pictures of situations. The way imagery relieves pain is not completely understood.

Imagery can be thought of as a deliberate daydream that uses all of your senses—sight, touch, hearing, smell, and taste. Some people believe that imagery is a form of self-hypnosis.

MASSAGE

Many forms of massage may help reduce pain. Some massage therapists specialize in chronic pain. You can also ask friends or family members to help.

You also may be able to do massage on yourself. Try using a slow, steady, circular motion. Massage over or near the area of pain with just your bare hand or with hand lotion or warm oil.

Check with your doctor before getting a massage to make sure that it is acceptable for your condition.

ASK YOUR DOCTOR – PAIN

- If I experience pain as a result of cancer or cancer-related treatment, what can I do to lessen it?
- What medicines do you recommend to treat pain?
- What other steps can I take to reduce pain?
MOUTH SORES ARE A COMMON SIDE EFFECT OF CERTAIN chemotherapy medicines, as well as radiation to the head and neck.35

Chemotherapy and radiation kill rapidly dividing cells, such as cancer cells.6 The gastrointestinal (GI) tract is how you eat and digest food. It includes the mouth and the part of the throat known as the esophagus and the intestines. The GI tract is also made up of cells that divide rapidly.35

For this reason, the GI tract can be affected by chemotherapy and radiation treatment. Damage can happen to the cells lining the mouth, throat, and gastrointestinal tract caused by chemotherapy or radiation therapy. This is called mucositis (mew-ko-SY-tis). It can impact your quality of life and may cause delays in treatment.35

Mouth Sores

Symptoms of mouth sores can occur 5 to 10 days following treatment with chemotherapy. You may experience a burning sensation followed by ulcers, and your mouth may appear red (inflammation) with sores (ulcerations). You may also experience discomfort or pain.35,36

- Pain from mouth sores may make it difficult to eat and/or talk.
- Because the linings of your mouth and GI tract also serve to protect you against infection, these types of sores make you more susceptible to bacterial, fungal, or viral infections.
- Mouth sores can become severe enough that your chemotherapy dose may need to be reduced or delayed to give your mouth time to heal.
Cancer Treatments That Commonly Cause Mouth Sores

While mouth sores can happen with any treatment for cancer, mucositis is common when you receive the following treatments: 37

- High-dose chemotherapy or radiation along with stem cell transplants
- Radiation for head and neck cancer
  - Radiation to the pelvis and abdominal area can lead to mucositis in other areas of the GI tract
- Combined chemotherapy and radiation therapy

Other Factors That Make Mouth Sores Worse

A number of other factors contribute to the severity of mouth sores, including: 36,38

- Dry mouth
- Poor oral and dental health prior to treatment
- Smoking and the use of chewing tobacco during episodes of mucositis
- Consuming spicy foods, hard foods (eg, potato chips), and alcohol
- Other diseases, such as diabetes or AIDS

Helping Prevent and Treating Mouth Sores

Treatment for mouth sores generally consists of good oral care, mouthwashes, and cryotherapy (sucking on ice chips). 36,38 In addition, medicines that treat mouth sores are available.

**ORAL CARE**

Good oral care helps prevent mouth sores: 36,38

- Rinse your mouth with a saltwater solution frequently.
- Brush your teeth cautiously; your doctor may direct you to use an alternate method of brushing your teeth.
- Avoid mouthwashes that contain alcohol.

**PRACTICE GOOD ORAL CARE TO HELP PREVENT OR TREAT MOUTH SORES.**
MOUTHWASHES
Special medicated mouthwashes are available that may be prescribed by your doctor.39

CRYOTHERAPY (ICE CHIPS)
You help prevent mouth pain by sucking on ice chips when the chemotherapy medicine is most concentrated in the body.36
This technique, called cryotherapy (kri-oh-THER-uh-pee), works by decreasing blood flow to the cells in the mouth. It reduces exposure to the medicine and decreases the risk of developing mouth sores.40

PRESCRIPTION MEDICINES
For some patients, prescription medicines are available that protect against severe mouth sores.40,41 Talk to your doctor about your risk for developing mouth sores and prevention that is right for you.

ASK YOUR DOCTOR – MOUTH SORES
• What can I do if I develop mouth sores?
• Are they serious?
• How can I prevent mouth sores?
MANAGING SIDE EFFECTS

Constipation

CONSTIPATION IS DIFFICULTY PASSING STOOLS or a decrease in the number of stools. It may be accompanied by gas, stomach cramps, or pressure. Constipation may lead to stool impaction. This is a severe form of constipation where the stool will no longer pass through the colon or rectum.34,42

Causes of Constipation

Constipation is caused by a slowing of the intestinal activity. The normal wave-like action of the intestines serves to continually move stools out of the body. When this action slows, the stools become hard, dry, and difficult to pass.

Constipation can have a number of causes, including:6,34,43
- Chemotherapy medicines
- Pain medicines
- Decreased activity
- Poor diet
- Inadequate fluid intake
- Recent surgery
- Tumors
- Certain pain medications

Diagnosing Constipation

Symptoms of constipation include:34,42,44
- Fewer bowel movements than normal. There is actually no “normal” schedule for bowel movements; everyone’s schedule is different. If you normally move your bowels once per day, a change may be doing so every second or third day.
- Hard, difficult-to-pass bowel movements. You may pass small, marble-like pieces of stool without a satisfactory elimination.
- Cramping or flatulence (gas).
IT IS EASIER TO PREVENT CONSTIPATION THAN TO TREAT IT ONCE IT HAPPENS.

Preventing Constipation
It is easier to prevent constipation with lifestyle changes than to treat it once it happens. Here are some tips:6,42,43

• Drink plenty of water. Fluids keep the stool soft. Try to drink 6 to 8 glasses (8 oz) of fluids a day.
• Eat foods high in fiber, such as fruit, vegetables, and nuts.
• Avoid foods that are low in fiber, such as cheese, meat, and processed foods.
• If your doctor approves, exercise daily. Exercise helps stimulate digestion and prevent constipation. Even moderate activity, such as walking, will help.

It may also help to keep track of your bowel movement schedule so you can learn which lifestyle measures work best for you. If you miss a bowel movement, try increasing your fluid intake or adjusting your diet. Call your doctor if your bowels have not moved in 2 days.

If you are taking steps to manage nausea and vomiting as outlined on page 20, be aware that several of those guidelines conflict with those for preventing constipation, discussed above. However, the guidelines for managing nausea and vomiting should be followed only when you are given your chemotherapy, while the guidelines listed above should be followed at all other times during your treatment, if needed.

Treating Constipation
If you have tried the above lifestyle changes and still experience constipation, your doctor may prescribe laxatives. Laxatives are available in liquid, tablet, gum, powder, and granule forms.

ASK YOUR DOCTOR – CONSTIPATION
• Am I likely to develop constipation as a result of my chemotherapy?
• What treatments do you recommend for constipation?
• What foods should I eat or avoid to prevent constipation?
MANAGING SIDE EFFECTS

Diarrhea

CHEMOTHERAPY CAN DAMAGE HEALTHY CELLS such as those that line the interior of the digestive tract. The result can be a disruption in the delicate fluid balance that these cells maintain. This causes watery bowel movements, otherwise known as diarrhea.35,42

The Challenge of Managing Diarrhea

Diarrhea is not only an inconvenient side effect of cancer treatment, but also can be life threatening if not adequately managed.

At its extreme, diarrhea can cause the amount of sodium and potassium (important salts known as electrolytes) to reach dangerously low levels. This is known as hyponatremia (hi-po-nuh-TREE-mee-ah) and hypokalemia (hi-po-kuh-LEE-mee-ah), respectively. The body continually regulates sodium in order to maintain levels within a narrow range. Diarrhea can disrupt this delicate balance by causing the body to excrete too much sodium and potassium in the stool. Symptoms of mildly low sodium levels include:34

- Tiredness
- Confusion
- Headache
- Nausea

Severely low sodium levels can lead to seizures or coma. Severely low potassium levels can affect the function of muscles throughout the body, including the heart.34

TAKE DIARRHEA SERIOUSLY

DIARRHEA CAN SOMETIMES BE SEVERE. IN FACT, DIARRHEA CAN EVEN BE LIFE THREATENING IF IT IS NOT PROPERLY MANAGED.34

BE SURE TO TALK TO YOUR DOCTOR IF YOU EXPERIENCE SYMPTOMS OF DIARRHEA.
Factors That Make Diarrhea Worse

Some factors may make diarrhea worse. For example:

- Damage to the intestines as a result of surgery or radiation may make the GI system more susceptible to irritation. 35
- Other medicines (such as antibiotics) and conditions (such as irritable bowel syndrome) may make diarrhea worse. 34

Treating Diarrhea

Diarrhea can be addressed in different ways.

**DIET**

Several changes in your diet may help reduce the discomfort of diarrhea.

- Avoid foods that may irritate the GI system, such as greasy, spicy, or fried foods. 20
- Avoid milk and milk products. 20
- Avoid high-fiber foods that may be difficult to digest. 20

Your diet should be limited to simple, easy-to-digest foods, and then expanded as the diarrhea begins to subside. 45, 46

**FLUIDS**

Staying hydrated (giving your body plenty of liquids) is very important in the management of diarrhea. 45 You must consume enough liquids to make up for your normal daily use and for the volume of fluids lost from diarrhea. 20

Electrolytes are important for helping your muscles and other body parts work properly. 45 In fact, insufficient levels of electrolytes can be life threatening. 34

**MEDICINAL THERAPY**

Your doctor can recommend medicines to treat diarrhea. Ask him or her if there are prescription or over-the-counter medicines you can take.

**ASK YOUR DOCTOR – MANAGING DIARRHEA**

- Am I likely to develop diarrhea?
- What foods should I eat or avoid to prevent diarrhea?
- What other steps should I take to avoid diarrhea?
- What treatments would you recommend if I develop diarrhea?
MANAGING SIDE EFFECTS

Digestive Tract Complications

CHEMOTHERAPY CAN DAMAGE HEALTHY CELLS IN THE lining of the upper digestive tract, such as the throat and stomach. This can cause complications such as heartburn and ulcers. Heartburn and upper digestive tract ulcers can cause considerable discomfort, pain, and even be life threatening. These side effects can be severe enough that your doctor may have to delay your treatment or reduce your dose of chemotherapy to alleviate the symptoms.

Treating Digestive Tract Complications

Stomach acid contributes to the symptoms of both heartburn and ulcers. Reducing the amount of stomach acid in your upper digestive tract can help reduce these side effects. Here are some steps you can take:

- Don’t eat foods that can cause heartburn, such as coffee and chocolate.
- Don’t eat for at least 2 hours before going to bed to prevent heartburn from occurring at night.
- If this is a problem, try sleeping with your head elevated to prevent stomach acid from traveling up the throat.
- Many different types of medicines are available to treat heartburn and ulcers. Consult your doctor to determine which of these medicines may be appropriate for you.

ASK YOUR DOCTOR – MANAGING UPPER DIGESTIVE TRACT COMPLICATIONS

- Is my chemotherapy likely to cause heartburn and/or upper digestive tract ulcers?
- If so, what can I do to relieve the symptoms?
- Can I take steps to prevent upper digestive tract complications before they occur?
Managing Side Effects

Hair Loss

Chemotherapy damages rapidly dividing cells such as cancer cells, but also healthy cells such as hair follicles. Chemotherapy-related damage to these cells leads to hair loss, also called alopecia (al-oh-PEE-shee-ah). Hair loss typically begins 2 or 3 weeks after the first chemotherapy treatment.¹

Coping With Hair Loss

Remember, hair loss associated with chemotherapy is almost always temporary.¹ Your hair will typically grow back about 1 to 2 months after you finish your chemotherapy. In the meantime, here are a few tips to help you cope with the temporary hair loss:¹⁹

- Cut your hair before it falls out. The experience of losing hair is sometimes worse than dealing with it once it’s gone. If you expect to lose all or a lot of your hair, consider cutting it first may be easier.
- Plan ahead; shop for a wig before your hair is gone, especially if you wish to match your natural color. Or, take this opportunity to try a different color.
- Some insurance companies cover the cost of a wig. Talk with your insurer.
- Remember to cover your head or use sunscreen on your scalp. Skin that has been covered with hair may be particularly sensitive to the sun's ultraviolet rays.
- Treat your new hair gently once it grows back. Avoid chemicals, bleach, peroxide, or colors.
- The American Cancer Society program “Look Good...Feel Better” has information about wigs and head coverings. Call 1-800-395-LOOK or visit lookgoodfeelbetter.org for more information.

Ask Your Doctor – Hair Loss

- Is chemotherapy likely to make me lose my hair?
- If I do lose any hair, will it grow back?
Numbness and Tingling

(PERIPHERAL NEUROPATHY)

NUMBNESS AND TINGLING IN YOUR HANDS AND FEET

is a condition called peripheral neuropathy (puh-RIF-er-uhl noo-ROP-uh-thee). Peripheral neuropathy can be a side effect of certain chemotherapy medicines. This is because some chemotherapy medicines can damage the nerves that provide your sense of touch and enable you to move your muscles.

Causes of Peripheral Neuropathy

There are many possible causes of numbness and tingling. Some of the more common include:

- Certain chemotherapy medicines
- Diabetes
- Uremia, a condition that occurs when kidney problems—or other conditions that increase the amount of protein to be broken down by the body—cause the level of a substance produced when protein is broken down to be too high
- Malnutrition
- Certain medicines or toxic substances
- Nerve damage from cancer

Symptoms of Peripheral Neuropathy

In addition to numbness and tingling, other symptoms of peripheral neuropathy include:

- Weakness
- Pain in the arms, hands, legs, and/or feet
- Abnormal sensations, such as burning, tingling, and numbness decrease sensation of touch
- Extreme reactions to warmth and cold
Areas of the body most commonly affected by peripheral neuropathy are the fingers and toes. Symptoms usually start at the tip and move upward.24

Bowel function may also be affected. It can cause or worsen constipation.51

**IF YOU HAVE SYMPTOMS OF PERIPHERAL NEUROPATHY, NOTIFY YOUR DOCTOR.**

**Treating Peripheral Neuropathy**

The main goal of treatment for peripheral neuropathy caused by chemotherapy is to reduce symptoms. Treatments may include medications, exercise or occupational therapy, and education.

Recovery from peripheral neuropathy is usually slow, and sometimes symptoms persist.52

- Acupuncture is believed to relieve pain in certain cases. Ask your doctor for more details if this is something that might help you.
- Massage increases blood flow and may provide pain relief.
- Physical therapy uses range of motion and stretching exercises that may help strengthen muscles that are weak and improve other symptoms.

You and your doctor should discuss the risks and benefits of changes to your chemotherapy regimen to manage the symptoms of peripheral neuropathy, and how they may affect your treatment goals.

**ASK YOUR DOCTOR – NUMBNESS AND TINGLING**

- Am I at risk of developing peripheral neuropathy?
- What are the symptoms of peripheral neuropathy?
- What impact can peripheral neuropathy have on my chemotherapy treatment?
Forgetfulness and Inability to Concentrate

CHEMOTHERAPY HAS BEEN ASSOCIATED WITH FORGETFULNESS or difficulty concentrating. How it causes these problems is not yet clear. Some cancer patients refer to the forgetfulness or inability to concentrate that is associated with chemotherapy as “chemobrain.” Your problems with memory and concentration may improve once you complete your chemotherapy, but there is also a possibility that these will be long-term problems.

Treating “Chemobrain”

At this time, there are no proven treatments for the forgetfulness and concentration problems associated with chemotherapy. Scientists are studying possible treatments to help relieve these side effects. Some researchers believe that helping patients change certain behavior patterns may provide some benefit. For example, activities that provide mental stimulation, such as memory exercises and quizzes, have been used as treatment.
Other Ways to Manage “Chemobrain”

While there may not be confirmed treatments at this time, there are things you can do to reduce the impact these problems have on your everyday life.55,66

- Minimize distractions when you need to complete tasks that require concentration.
- Use a daily organizer to help you remember appointments.
- Keep a journal of daily events and activities.
- Carry a notebook and use it to write down important information.
- Get plenty of sleep.
- Exercise daily.
- Manage stress.

ASK YOUR DOCTOR – FORGETFULNESS AND CONCENTRATION PROBLEMS

- What is “chemobrain” and what causes it?
- What should I do if I experience forgetfulness or have problems concentrating?
MANAGING SIDE EFFECTS

Changes in Reproduction and Sexuality

Not all chemotherapy treatment will result in side effects related to reproductive ability or sexuality, but some may. It is perfectly natural for patients who have been diagnosed with cancer to be concerned about the effect of their illness on their sexuality. Especially right after the diagnosis, you may temporarily lose interest in sex as you focus on understanding your cancer and the treatments available. During or after treatment, you may have difficulty accepting the way your body looks or functions and may have fears about your partner’s acceptance of the changes.

Possible Side Effects

Changes in your reproductive ability or sexuality due to cancer or cancer treatment may include:

**WOMEN**
- Infertility
- Irregular menstrual cycles
- Disease- or treatment-related menopause and related symptoms
- Vaginal dryness
- Reduced sexual desire

**MEN**
- Erectile dysfunction
- Infertility
- Reduced sexual desire

Some of these side effects will resolve after treatment is completed; others may be more long term.
Managing Sexual Dysfunction

Coping with sexual dysfunction is very difficult. Maintaining open communication with your doctor and your partner, as well as taking steps to improve your self-esteem, may help.

COMMUNICATE

One of the most common problems with cancer and sexuality is people’s reluctance to talk about it with their sexual partner and their healthcare team. However, communication is the key to coping with this difficult topic. Cancer care specialists are used to addressing these sensitive issues every day.

Perhaps more important, sharing your thoughts, feelings, and any fears you may have regarding sexual dysfunction with your partner is essential to maintaining an intimate relationship with that person. Through open communication, you and your partner can work toward finding other ways to express yourselves beyond intercourse, such as gentle touching, holding hands, kissing, hugging, and sharing emotional closeness.

SUPPORT A POSITIVE SELF-IMAGE

Concerns about the impact of cancer and its treatment on sexuality are often closely linked to issues of self-esteem and body image. Radiation treatment and chemotherapy can produce side effects such as hair loss and extreme fatigue. These effects and others can strongly influence how a person with cancer feels about his or her body and sexuality.

To support a positive self-image, follow these suggestions that have helped many patients with cancer:

- It sounds simple, but looking better may actually help you feel better. Try to maintain the same grooming habits—fashion, hairstyle, and so on—as you did before your diagnosis.
- Plan special activities for both the days when you’re feeling well and those when you aren’t. Acknowledge that cancer and treatment can cause shifts in mood.
- Enjoy the days when you’re feeling well. On those days that are difficult, keep a positive outlook—plan all the things you’d like to do as soon as you feel better.
- If you need help with clothes and hair and other aspects of your appearance, don’t hesitate to ask for it. The “Look Good...Feel Better” program of the American Cancer Society (lookgoodfeelbetter.org), for example, can help.
- The American Cancer Society publications “Sexuality for Women and Their Partners” or “Sexuality for Men and Their Partners” may be helpful to you. For more information, visit cancer.org.
Managing Reproductive Issues

If you think you may want to have children after cancer treatment and the treatment may cause sterility, you may wish to bank eggs or sperm. However, you must do this before you receive your treatment.

Talk to your doctor in advance about your wish to have children, as you discuss treatment options.

Treating Reproductive and Sexual Problems

There are now several medicines for men with erectile dysfunction. There are also medicines available to help women deal with the symptoms of menopause.

Make sure to tell your doctor what symptoms you are experiencing so that proper steps can be taken to provide relief.

ASK YOUR DOCTOR – REPRODUCTIVE AND SEXUAL PROBLEMS

- What impact might my chemotherapy have on my sex drive?
- Will my chemotherapy treatment prevent me from having children?
- Should I bank my eggs/sperm before I begin chemotherapy?
- Will chemotherapy cause me to experience menopause?
- What treatments are available to treat erectile dysfunction?
TREATING SIDE EFFECTS

Treatments Used to Help Reduce the Risk of Side Effects

Fortunately, many medicines are available to help manage side effects. Some medicines come in more than one form. Talk with your pharmacist if you have difficulty swallowing tablets or capsules—a liquid form may exist.

Taking Steps to Protect Against Infection

Your doctor can help protect you against infection while on chemotherapy. Please see page 11 for information on preventing infections.

Treatments for Low Red Blood Cell Counts

If you are diagnosed with anemia while receiving chemotherapy to treat certain types of cancer, there are multiple treatment options. Please see page 15 for more information about treating anemia caused by chemotherapy.

When you go to fill a prescription, if you have insurance, always bring your insurance card with you. That way, your pharmacy can verify insurance coverage if needed.
ANTINAUSEANTS/ANTIEMETICS
Nausea and vomiting are common side effects of chemotherapy. However, the continued development of antinauseant and antiemetic medicines means that nausea and vomiting due to chemotherapy can be alleviated.59

PAIN RELIEVERS
Pain may be an effect of cancer or a side effect of chemotherapy. There are several different categories of medicines commonly used to help treat pain.32,33 Pain relievers include common over-the-counter medicines as well as prescription medicines.

MUCOSITIS (MOUTH SORES) TREATMENTS
For some patients, prescription medicines are available that protect against severe mouth sores.40,41 Talk to your doctor about a medicine that is right for you.

GASTRIC-ACID INHIBITORS
Chemotherapy and radiation treatment can damage the lining of the intestines, causing upper digestive tract complications such as heartburn and ulcers. Gastric-acid inhibitors are a type of prescription medicine that can prevent or reduce these complications.47

LAXATIVES AND STOOL SOFTENERS
Chemotherapy can alter the wave-like movement inside the intestines that continually moves stools out of the body. When this activity is slowed, the resulting side effect can be constipation. Laxatives and stool softeners are treatments that make it easier for your body to pass stools.42

ANTIDIARRHEALS
Diarrhea, or watery bowel movements, can be more than a very uncomfortable and inconvenient side effect of chemotherapy; it can be life threatening if not properly managed. Antidiarrheals are medicines prescribed to treat this potentially serious side effect.42
**TREATING SIDE EFFECTS**

*When to Call Your Healthcare Professional*

If you experience any of the following at any time during your cancer treatment, inform your doctor immediately:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever higher than 100.5°F (38°C)</td>
<td></td>
</tr>
<tr>
<td>Chills</td>
<td></td>
</tr>
<tr>
<td>Cough or sore throat</td>
<td></td>
</tr>
<tr>
<td>Vomiting that continues 12 hours after treatment</td>
<td></td>
</tr>
<tr>
<td>Severe constipation or diarrhea</td>
<td></td>
</tr>
<tr>
<td>One or more of the following symptoms in conjunction with frequent diarrhea or vomiting</td>
<td></td>
</tr>
<tr>
<td>- Dry mouth</td>
<td>- Dizziness/light-headedness</td>
</tr>
<tr>
<td>- Increased thirst</td>
<td>(especially when rising to a standing position)</td>
</tr>
<tr>
<td>- Decreased urination</td>
<td>- Weight loss</td>
</tr>
<tr>
<td>- Increased heart rate</td>
<td>- Rapid breathing</td>
</tr>
<tr>
<td>Bleeding or bruising</td>
<td></td>
</tr>
<tr>
<td>Shortness of breath/chest pain (If you have extreme chest pain, call 911)</td>
<td></td>
</tr>
<tr>
<td>Urinary burning or urgency</td>
<td></td>
</tr>
<tr>
<td>Unusual vaginal discharge or itching</td>
<td></td>
</tr>
<tr>
<td>Blood in the urine or stool</td>
<td></td>
</tr>
<tr>
<td>Redness, swelling, or sores on the skin</td>
<td></td>
</tr>
<tr>
<td>Rapid heartbeat</td>
<td></td>
</tr>
<tr>
<td>Pain in a new place or pain that is not relieved by your pain medicine</td>
<td></td>
</tr>
<tr>
<td>Mouth sores</td>
<td></td>
</tr>
</tbody>
</table>

*This information is general in nature and does not constitute medical advice. You should ask your doctor for guidance on when to communicate any potential side effects.*
Questions for Your Healthcare Professional

TREATING SIDE EFFECTS

THERE ARE A LOT OF THINGS TO CONSIDER WHEN TALKING to your doctor about chemotherapy. Sometimes it’s not easy to remember all of the questions you’d like to ask. To help, this section contains the questions previously listed throughout this booklet. Tear the pages out and bring them with you to your next appointment as a reminder of the topics you’d like to discuss.

DISCUSSION TOPIC – POSSIBLE SIDE EFFECTS OF CHEMOTHERAPY

What possible side effects should I expect?
When might they start?
Will they get better or worse as my treatment goes along?
How can I prepare for or lessen their impact?
Are there treatments that can help relieve the side effects? What are they?
Do you usually recommend them?
Which side effects are more serious?
Which side effects are most common?
How can I best monitor myself for complications related to either my disease or my treatment?

DISCUSSION TOPIC – TESTS YOU MAY NEED

What types of lab tests will I need?
How frequently will I be tested?
Will you explain the results of my complete blood count?
DISCUSSION TOPIC – HELPING TO PROTECT YOURSELF FROM INFECTION

Will my type of chemotherapy put me at risk for a low white blood cell count and infection?
Are there other factors that put me at a higher risk for infection?
What are the signs of infection?
How serious can an infection be for me?
How long will I be at risk for infection?
What should I do if I have a fever?
Can I help protect myself against infection from the first cycle of strong chemotherapy?

DISCUSSION TOPIC – ANEMIA

Am I at risk for anemia?
What will you look at to determine whether I have anemia?
Could anemia affect my treatment?
Could my anemia be caused by something besides chemotherapy?

DISCUSSION TOPIC – LOW PLATELET COUNT

Am I at risk of developing a low platelet count?
How will I know if my platelet count is low?
What can I do to reduce my risk of bleeding?
What should I do if I start bleeding?

DISCUSSION TOPIC – NAUSEA AND VOMITING

Is my chemotherapy likely to cause nausea or vomiting?
What can I do to reduce nausea and vomiting?
Are there treatments I can take to ease nausea?
What foods should I avoid during chemotherapy?
How long will my nausea and vomiting last?
DISCUSSION TOPIC – PAIN
If I experience pain as a result of cancer or cancer-related treatment, what can I do to lessen it?
What medicines do you recommend to treat pain?
What other steps can I take to reduce pain?

DISCUSSION TOPIC – MOUTH SORES
What can I do if I develop mouth sores?
Are they serious?
How can I prevent mouth sores?

DISCUSSION TOPIC – CONSTIPATION
Am I likely to develop constipation as a result of my chemotherapy?
What treatments do you recommend for constipation?
What foods should I eat or avoid to prevent constipation?

DISCUSSION TOPIC – DIARRHEA
Am I likely to develop diarrhea?
What foods should I eat or avoid to prevent diarrhea?
What other steps should I take to avoid diarrhea?
What treatments would you recommend if I develop diarrhea?

DISCUSSION TOPIC – DIGESTIVE TRACT COMPLICATIONS
Is my chemotherapy likely to cause heartburn and/or upper digestive tract ulcers?
If so, what can I do to relieve the symptoms?
Can I take steps to prevent upper digestive tract complications before they occur?

DISCUSSION TOPIC – HAIR LOSS
Is chemotherapy likely to make me lose my hair?
If I do lose any hair, will it grow back?
DISCUSSION TOPIC – NUMBNESS AND TINGLING
Am I at risk of developing peripheral neuropathy?
What are the symptoms of peripheral neuropathy?
What impact can peripheral neuropathy have on my chemotherapy treatment?

DISCUSSION TOPIC – FORGETFULNESS AND CONCENTRATION PROBLEMS
What is “chemobrain” and what causes it?
What should I do if I experience forgetfulness or have problems concentrating?

DISCUSSION TOPIC – REPRODUCTIVE AND SEXUAL PROBLEMS
What impact might my chemotherapy have on my sex drive?
Will my chemotherapy treatment prevent me from having children?
Should I bank my eggs/sperm before I begin chemotherapy?
Will chemotherapy cause me to experience menopause?
What treatments are available to treat erectile dysfunction?

NOTES


MANAGING CHEMOTHERAPY SIDE EFFECTS

Sponsored by
Amgen
One Amgen Center Drive
Thousand Oaks, CA 91320-1799
www.amgen.com

© 2011 Amgen. All rights reserved.