



National Comprehensive  
Cancer Network®

2026

## NCCN Guidelines for Patients®

Cancer care recommendations from leading experts at the  
National Comprehensive Cancer Network® (NCCN®)

# Nausea and Vomiting



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## NCCN Guidelines for Patients®

The essential guide for people facing cancer.

Based on care recommendations from leading cancer experts.

Explains high-quality cancer care provided at  
state-of-the-art cancer centers.

Reviewed and revised every year.

Did you know that top cancer centers across the United States work together to improve cancer care? This alliance of leading cancer centers is called the National Comprehensive Cancer Network® (NCCN®).

Because cancer care is always evolving, NCCN develops and frequently updates evidence-based cancer care recommendations used by health care providers worldwide. These recommendations are known as the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®).

The NCCN Guidelines for Patients plainly explain these expert recommendations, so you can talk with your care team about the best care for you.

**These NCCN Guidelines for Patients are based on the  
NCCN Guidelines® for Antiemesis, Version 1.2026 — April 3, 2026.**

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## Contents

- 4 Chapter 1  
About nausea and vomiting
- 8 Chapter 2  
Causes of nausea and vomiting
- 20 Chapter 3  
Preventing nausea and vomiting
- 32 Chapter 4  
Managing nausea and vomiting
- 41 Chapter 5  
Other resources
- 45 Words to know
- 47 NCCN Contributors
- 48 NCCN Cancer Centers
- 50 Index

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National Comprehensive Cancer Network (NCCN) and NCCN Foundation  
3025 Chemical Road, Suite 100, Plymouth Meeting, PA 19462 USA

# 1

## About nausea and vomiting

- 5 What are nausea and vomiting?
- 5 What causes nausea and vomiting?
- 6 How are nausea and vomiting prevented?
- 7 How are nausea and vomiting treated?
- 7 Is nausea and vomiting care different for children?
- 7 How can I get the best care?

Nausea and vomiting are common side effects of cancer treatment that can often be prevented. In other words, your life doesn't have to come to a complete stop because you're receiving cancer medicines. This chapter explains the basics of nausea and vomiting for adults and children. The rest of this guide details what you can do about these side effects.

### What are nausea and vomiting?

Having cancer and undergoing cancer treatment can be very stressful. You may feel a wide range of emotions and discomforts. Your care team wants to help you focus on your treatment. But sometimes the side effects caused by cancer treatment can overshadow the treatment itself.

Nausea and vomiting are two side effects of cancer treatment people tend to worry about.

- Nausea is a sensation that makes you feel like you're going to throw up. You feel woozy, queasy, or sick to your stomach. Nausea often comes before vomiting but it can also occur without vomiting.
- Vomiting is forcefully throwing up what's in your stomach. It usually comes out of your mouth, but it can also come out of your nose. Frequent vomiting can affect quality of life and overall well-being and may lead to dehydration (when your body loses too much water to function normally).



#### Important note

**For the first time, this guide includes NCCN recommendations for children (along with adults) undergoing cancer treatment who experience nausea and vomiting.**

Not every person gets sick from cancer therapy. But if you have these side effects, it's important to reduce them as much as possible to keep them from interfering with your treatment and quality of life.

### What causes nausea and vomiting?

Nausea and vomiting are reflexes to substances in the intestine and stomach that your body doesn't like and wants to get rid of. Nausea and vomiting can occur together or separately.

This guide is about nausea and vomiting that comes from cancer treatments like chemotherapy and radiation therapy.

Nausea can happen during or within hours after a cancer treatment (acute), or it can take a day or more (delayed). Delayed nausea may be more intense and harder to treat. You can become dehydrated and need fluids, which are given through an IV (intravenous) tube inserted into your body.

## 1 About nausea and vomiting

This guide also explains what you need to know about preventing nausea and vomiting. Medicines used to prevent and treat these side effects have come a long way over the years. When they can't be prevented, there are other ways to help you cope. But prevention is key. See *Chapter 3: Preventing nausea and vomiting*.

### How are nausea and vomiting prevented?

It's important to try to prevent these side effects before they develop because after they start, they can be much harder to stop. Your health care provider will develop a treatment plan for you that helps reduce or prevent these side effects.

The goal is to prevent you from feeling sick in the first place. You want to stay ahead of the symptoms the best you can.

This plan will also help you cope if prevention doesn't work or comes too late.

The first step is for your care team to learn all they can about you. This includes specifics about you as well as your medical history of nausea and vomiting.

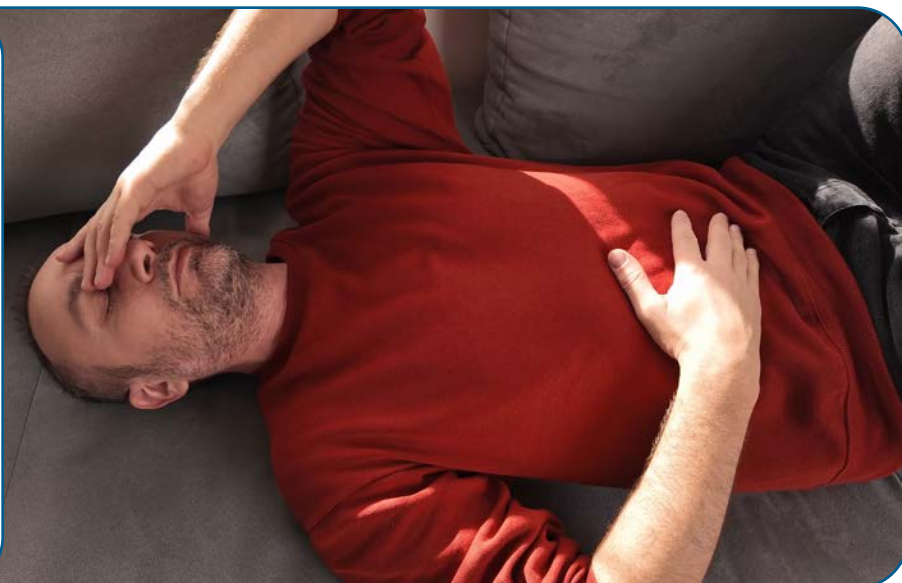
Below are a few useful terms to help you in talking with your care team:

- **Emesis** is the medical term for vomiting.
- **Antiemesis** means preventing nausea and vomiting.
- **Antiemetics** are medicines for preventing or relieving nausea and vomiting.

Other factors your care team will consider when planning how to prevent nausea and vomiting are listed in *Chapter 3: Preventing nausea and vomiting*, **Guide 7**.

Stick to the schedule and the instructions you receive with your antiemetic (antinausea/antivomiting) drugs. Make sure you use these medicines at the right times and at the correct dosages. Don't skip a scheduled dose even if

**Nausea can develop during or within hours after cancer treatment (acute) or it can take one or more days to develop (delayed). Delayed nausea is common in cancer treatment.**



## 1 About nausea and vomiting

you feel fine. If you wait until you start feeling sick, it may be too late for the medicine to work.

### How are nausea and vomiting treated?

If you're not getting any relief with prevention efforts and you experience breakthrough nausea and vomiting (emesis), your provider may have to take a different approach.

Depending on your cancer treatment, you may need to use a combination of antiemetic medicines. These medicines work best if taken on a schedule or as soon as you begin to feel queasy.

Your provider might also recommend different strategies like eating small meals and drinking plenty of fluids.

There are several other management options, including complementary therapies. For more information, read *Chapter 4: Managing nausea and vomiting*.

### Is nausea and vomiting care different for children?

Most of the information in this guide applies to both adults and children unless otherwise noted. Throughout the guide, we use “you” and “your” when informing readers directly. “You” can apply to adults with cancer, parents reading on behalf of their children, or older children themselves.

Most **but not all** medicines mentioned here are safe for children, who typically receive



**Preventing nausea and vomiting is the goal. Once these side effects start, they can be hard to stop.**

lower doses than adults. (See **Guide 3** and **Guide 5** for child-specific information.) Also, while delayed nausea (nausea that occurs more than 24 hours after cancer treatment) can happen to anyone, it's more common in children. More information on this and other types of nausea and vomiting can be found in *Chapter 2: Causes of nausea and vomiting, Guide 1*.

### How can I get the best care?

Advocate for yourself. You have an important role to play in your care. Many people feel more satisfied when they actively take part in planning their cancer care.

The *NCCN Guidelines for Patients* will help you play a larger role in your care. Discuss the recommendations in this guide with your care team. Ask questions about your options and share your goals and concerns.

Don't know what to ask? You're not alone. That's why we include suggested questions to ask at the end of chapters.

Keep reading to find the best care for you.

# 2

## Causes of nausea and vomiting

- 9 What can nausea and vomiting do to your body?
- 10 Cancer treatments that cause nausea and vomiting
- 14 Other cancer-related causes of nausea and vomiting
- 14 Risk of nausea and vomiting
- 19 Key points
- 19 Questions to ask

## 2 Causes of nausea and vomiting

Nausea and vomiting are not uncommon when you're being treated for cancer. These side effects can happen before, during, and after cancer treatment for adults and children. This chapter explains which cancer treatments can cause nausea and vomiting.

Nausea and vomiting are two of the most common side effects of cancer treatment. (Other side effects of cancer treatment can include constipation, diarrhea, fatigue, hair loss, itchy skin, infections, and mouth problems. These aren't covered in this guide.)

Side effects can happen from the cancer itself, from health problems caused by cancer, and from cancer treatment. Sometimes it can be hard to tell the difference between the side effects of cancer treatment and the symptoms of the cancer itself.

### What can nausea and vomiting do to your body?

Not only can nausea and vomiting be unpleasant, but they can also be serious and harm your body, especially if they happen repeatedly. Nausea and vomiting that aren't treated can get worse with time. They can also interrupt or delay your treatment schedule.

Nausea and vomiting can cause you to:

- Not want to eat
- Lose fluids (become dehydrated)

**Every cancer therapy has a risk of side effects. These side effects can happen before, during, or after treatment. Sometimes cancer therapies are combined, which may increase the risk of side effects.**

- Be low in electrolytes, which are minerals that your body needs to function
- Miss out on vitamins you need from food or drink
- Lose the energy you need to carry out your daily activities

They may also:

- Result in cancelation or delay of necessary cancer treatment
- Reduce your body's ability to heal wounds
- Alter the ability of your mind and body to function normally
- Tear your esophagus (the tube-shaped organ between your throat and stomach)

Of course, no one wants to experience nausea and vomiting. But the good news is there are many treatments available to prevent and treat these side effects. For more information, see *Chapter 3: Preventing nausea and vomiting* and *Chapter 4: Managing nausea and vomiting*.

### Cancer treatments that cause nausea and vomiting

Many cancer treatments cause nausea and vomiting. Your body may react to these therapies as if they're harmful even though they're meant to be helpful. The side effects you're likely to have depend on the type of cancer treatment you get. Common treatments include:

- **Chemotherapy** is medicine that targets fast-growing cells, including cancer cells and healthy cells. Chemotherapy is the most common cause of nausea and vomiting related to cancer treatment.
- **Radiation therapy** uses high-energy particles or rays to kill cancer cells. Radiation causes nausea and vomiting when it affects fast-growing cells in the intestine.
- **Targeted therapy** finds cancer cells and blocks how they grow and move in the body. Though targeted therapy can cause nausea and vomiting, it's more likely to cause other side effects.
- **Immunotherapy** boosts the immune system's ability to find and destroy cancer cells. Immunotherapy can cause different side effects. One side effect is colitis, an inflammation of the colon. Symptoms of colitis include stomach cramps, diarrhea, bloody stools (poop), and nausea and vomiting.

The amount (dose) of therapies can also affect your body. Higher doses often cause more severe side effects.

### How does vomiting start?

Vomiting is when the stomach forcefully empties what's inside, which comes out of the mouth as vomit. It's the body's way of protecting itself from substances or germs it doesn't like. But how exactly does it happen? Here's a simplified, step-by-step description.

A substance (such as germs, alcohol, or a chemotherapy drug) enters the body, or a sensation (pain, anxiety, or motion) affects the body.



Special receptors in different areas of the body (stomach, brain, ear, and more) detect the substance or sensation.



These receptors send danger signals to an area of the brain called the chemoreceptor trigger zone.



The chemoreceptor trigger zone activates another mechanism in the brain called the vomiting center. (Some danger signals bypass the chemoreceptor trigger zone and go directly to the vomiting center.)

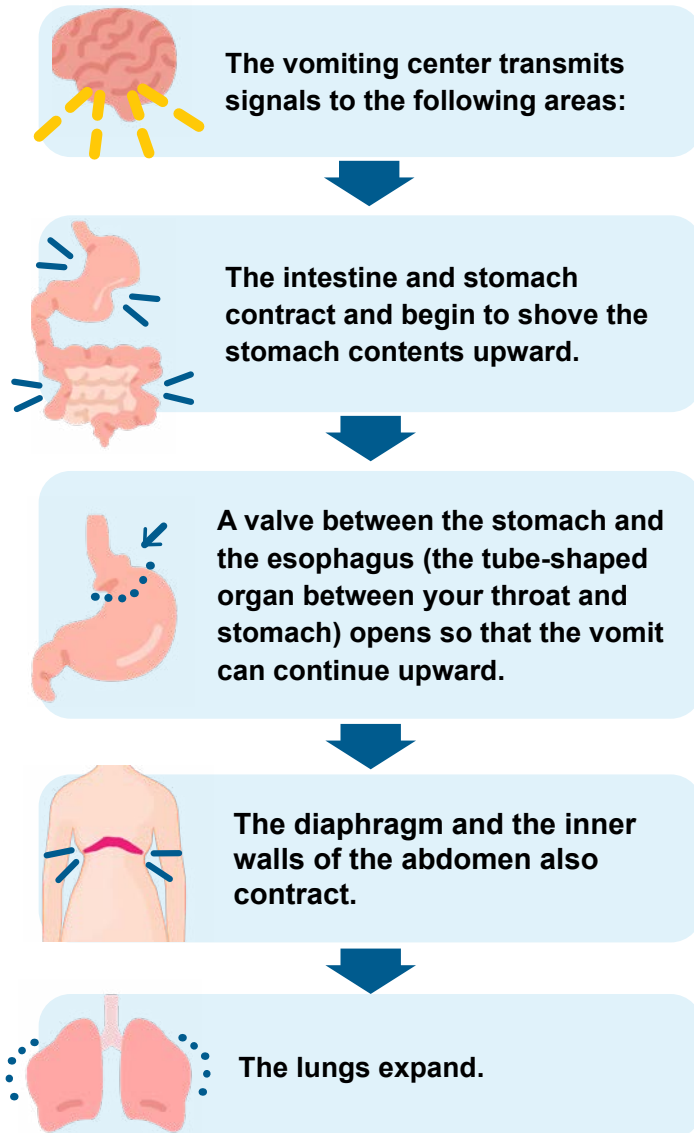


**The vomiting center jumps into action. It sends out a series of orders to several areas of the body to perform specific functions.**

### How does your body react to its vomiting center?

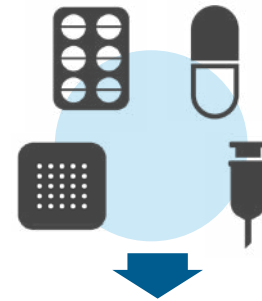
(Continued from page 10.)

Once the vomiting center is triggered, it affects your body in the following ways.



These actions close off the airway (to prevent vomit from entering it) and propel the vomit up the throat and out of the mouth.

### Breaking the chain of events with antiemetics



Several key interactions happen throughout this sequence of events. This is when antiemetics get to work.

These medicines block the signals at different points of communication between the stomach and the brain. This interrupts or shuts down a part of the sequence.

Researchers still haven't developed a drug that will stop the entire vomiting process all at once (but they're working on it). That's why some people need 2 or more antiemetic drugs to get relief.

## 2 Causes of nausea and vomiting

Nausea and vomiting related to chemotherapy, targeted therapy, and immunotherapy are grouped together and called chemotherapy-induced nausea and vomiting. Nausea and vomiting related to radiation therapy are referred to as radiation-induced nausea and vomiting. (The term induced means to bring on.)

### **Chemotherapy-induced nausea and vomiting**

Chemotherapy is a systemic (whole-body) drug therapy that attacks fast-growing cancer cells. It can also damage normal cells in the process. Damage to normal cells causes side effects. Again, even though they're separate from and not considered chemotherapy, targeted therapy and immunotherapy also cause side effects and are part of this category of chemotherapy-induced nausea and vomiting.

There are several types of chemotherapy-induced nausea and vomiting. They include acute, delayed, anticipatory, breakthrough, and refractory (persistent). Read about the different types of chemotherapy-induced nausea and vomiting in **Guide 1**.

### **Radiation-induced nausea and vomiting**

Radiation therapy is a systemic therapy that often uses a large machine to send high-energy rays (radiation) into the body to kill cancer cells. The risk of nausea and vomiting gets higher as the doses of radiation get larger and more frequent and reach more areas of the body.

Radiation therapy aims to kill rapidly dividing cancer cells. It can also damage healthy tissue, causing side effects. Radiation that treats the upper abdomen or whole body may reach the stomach and intestine (the long section of the digestive system that absorbs nutrients

### **A note about nausea**

**Although it seems like nausea and vomiting are two phases of the same illness, they may be separate conditions. Nausea often occurs without vomiting during cancer treatment or pregnancy, for example. Antiemetics can prevent or greatly reduce vomiting, but they may be less effective against nausea.**

from food). Because the digestive system has many rapidly dividing cells, it's more sensitive to radiation treatment. So when the stomach and the intestine receive radiation, nausea and vomiting are more likely to happen.

**Avoid becoming dehydrated. Drink small amounts of fluids throughout the day.**



### Guide 1 Types of chemotherapy-induced nausea and vomiting

<p><b>Acute nausea and vomiting</b></p>	<p><b>Occur soon after treatment (within minutes to hours)</b></p>	<ul style="list-style-type: none"> <li>• Usually stops within the first 24 hours after therapy.</li> <li>• Peaks after 5 to 6 hours and then begins to lessen.</li> <li>• Linked to the type and amount of treatment, person-specific factors (risk factors), and the person's history of nausea and vomiting.</li> </ul>
<p><b>Delayed nausea and vomiting</b></p>	<p><b>Occur more than 24 hours after treatment</b></p>	<ul style="list-style-type: none"> <li>• Often more common, more severe, and more resistant to treatment than acute nausea.</li> <li>• Commonly occur with chemotherapy drugs that have a high risk of causing vomiting, such as cisplatin, carboplatin, cyclophosphamide, or doxorubicin.</li> </ul>
<p><b>Anticipatory nausea and vomiting</b></p>	<p><b>Occur in anticipation of the next treatment</b></p>	<ul style="list-style-type: none"> <li>• Come from an emotional or physical reaction to a past bad experience when getting treatment. The person anxiously expects (anticipates) the bad experience to happen again.</li> <li>• Can be triggered by smells, sights, or sounds related to treatment.</li> <li>• Younger people are more likely to have this type.</li> <li>• Younger people also may be more likely to develop this type because they have less control over vomiting.</li> <li>• Nausea is more common than vomiting with this type. Anti-anxiety medication may help.</li> </ul>
<p><b>Breakthrough nausea and vomiting</b></p>	<p><b>Happen despite prevention with antiemetic drugs</b></p>	<ul style="list-style-type: none"> <li>• Additional or different antiemetic drugs are needed to control nausea and vomiting.</li> </ul>
<p><b>Refractory nausea and vomiting</b></p>	<p><b>Keep happening after each treatment cycle</b></p>	<ul style="list-style-type: none"> <li>• Antiemetics weren't able to control nausea or vomiting in previous treatment cycles. So nausea and vomiting keep coming back with each following cycle.</li> </ul>

### Other cancer-related causes of nausea and vomiting

Besides cancer treatments, other factors can cause nausea and vomiting in people with cancer. These can include:

- Anxiety
- Infection
- Balance issues
- Certain types of cancer
- Lack of minerals in the body (electrolyte imbalance)
- Supplements and herbal products
- Side effects of other drugs (for example, drugs for pain)

Issues related to the abdomen (belly):

- Your intestine is blocked or you're very constipated
- Food stays in your stomach for too long
- You have an abnormal buildup of fluid in your abdomen

### Risk of nausea and vomiting

Every cancer therapy has a risk of side effects. These side effects can happen before, during, or after treatment. The risk depends on the specific type of treatment and the part of the body being treated. Your health care provider will select an antiemetic treatment based on your cancer therapy's risk of causing nausea and vomiting.

Sometimes cancer therapies are combined, which may increase the risk of side effects. If you're getting more than one cancer therapy, your health care providers will base your antiemesis plan on the cancer therapy drug that has the highest risk of side effects. Your care team will also consider other factors that put you at risk of nausea and vomiting, such as those in *Chapter 3: Preventing nausea and vomiting*, **Guide 7**.

### Risks from chemotherapy drugs

Chemotherapy drugs are grouped into 4 levels based on their risk of nausea and vomiting: high, moderate, low, and minimal. The higher the drug's risk level, the more likely it is to cause nausea and vomiting.

When people don't get antiemetic medicine before high-risk chemotherapy, most have the side effect of vomiting. But when people do get preventive medicines before high-risk chemotherapy, a lot fewer of them develop vomiting.

To assess the level of risk, your care team will also consider the form of cancer therapy. These therapies include drugs injected into your body (IVs and injections) and those you swallow (pills, tablets, and capsules).

Cancer drugs with moderate to high risk taken by mouth (including chemotherapies, immunotherapies, and targeted therapies) for adults are listed in **Guide 2** and for children in **Guide 3**.

### Guide 2

#### Adults: Oral (pills, tablets, capsules) cancer drugs with moderate to high risk of nausea and vomiting

Generic name	Brand name
Abemaciclib	Verzenio
Adagrasib	Krazati
Avapritinib	Ayvakit
Avutometinib	Avmapki
Azacitidine	Vidaza
Binimetinib	Mektovi
Bosutinib	Bosulif
Busulfan	Myleran
Cabozantinib	Cabometyx
Ceritinib	Zykadia
Crizotinib	Xalkori
Cyclophosphamide	Cytoxan
Dabrafenib	Tafinlar
Defactinib	Avmapki Fakzynja
Elacestrant	Orserdu
Enasidenib	Idhifa
Encorafenib	Braftovi
Estramustine	Emcyt

Generic name	Brand name
Etoposide	Vepesid
Fedratinib	Inrebic
Imatinib	Gleevec
Lenvatinib	Lenvima
Lomustine	Gleostine
Midostaurin	Rydapt
Mirdametinib	Gomekli
Mitotane	Lysodren
Niraparib	Zejula
Olaparib	Lynparza
Procarbazine	Matulane
Rucaparib	Rubraca
Selinexor	Xpovio
Sunvozertinib	Zegfrovy
Taletrectinib	Ibtrozi
Temozolomide	Temodar
Tovorafenib	Ojemda
Trifluridine/tipiracil	Lonsurf

## 2 Causes of nausea and vomiting

Cancer drugs with high risk given by IV or injection (including chemotherapies, immunotherapies, and targeted therapies) for

### Guide 3

**Children: Oral (pills, tablets, capsules) cancer drugs with moderate to high risk of nausea and vomiting**

Generic name	Brand name
Abemaciclib	Verzenio
Azacitidine	Vidaza
Cabozantinib	Cabometyx
Crizotinib	Xalkori
Cyclophosphamide	Cytoxan
Dabrafenib	Tafinlar
Enasidenib	Idhifa
Etoposide	Vepesid
Imatinib	Gleevec
Lenvatinib	Lenvima
Lomustine	Gleostine
Midostaurin	Rydapt
Procarbazine	Matulane
Selinexor	Xpovio
Temozolomide	Temodar
Tovorafenib	Ojemda

adults are listed in **Guide 4** and for children in **Guide 5**.

### Guide 4

**Adults: IV and injectable cancer drugs with high risk of nausea and vomiting**

Generic name	Brand name
Busulfan	Busulfex
Carboplatin	Paraplatin
Carmustine	BiCNU
Cisplatin	Platinol
Cyclophosphamide	Cytoxan
Dacarbazine	DTIC-Dome
Datopotamab deruxtecan-dlnk	Datroway
Doxorubicin	Adriamycin
Epirubicin	Ellence
Fam-trastuzumab deruxtecan-nxki	Enhertu
Ifosfamide	Ifex
Melphalan	Evomela
Sacituzumab govitecan-hziy	Trodelvy
Streptozocin	Zanosar
Thiotepa	Tepadina
Zolbetuximab-clzb	Vyloy

### Guide 5

#### Children: IV and injectable cancer drugs with high risk of nausea and vomiting

Generic name	Brand name
Busulfan	Busulfex
Carboplatin	Paraplatin
Carmustine	BiCNU
Cisplatin	Platinol
Cyclophosphamide	Cytoxan
Cyclophosphamide and anthracycline	Cytoxan and Adriamycin
Cyclophosphamide & etoposide	Cytoxan and Vepesid
Cytarabine	Cytosar-U
Cytarabine and daunorubicin	Cytosar-U and Cerubidine
Cytarabine and etoposide	Cytosar-U and Vepesid
Cytarabine and methotrexate	Cytosar-U and Trexall
Dacarbazine	DTIC-Dome
Dactinomycin	Cosmegen
Doxorubicin	Adriamycin
Doxorubicin and Ifosfamide	Adriamycin and Ifex
Doxorubicin and Methotrexate	Adriamycin and Trexall
Etoposide and Ifosfamide	Vepesid and Ifex
Etoposide and Thiotepa	Vepesid and Tepadina
Idarubicin	Idamycin
Ifosfamide	Ifex
Melphalan	Evomela
Methotrexate	Trexall
Thiotepa	Tepadina

### Risks from radiation therapy

Radiation therapy is more likely to cause nausea and vomiting when it's given in larger or more frequent doses and when more areas of the body are being treated. Like chemotherapy, radiation therapy also has 4 risk levels. The level of risk is based on the areas of the body receiving radiation. Radiation to the whole body has the highest risk of nausea and vomiting. Radiation to the arms and legs has the lowest risk. See **Guide 6**.

When chemotherapy and radiation are given together (chemoradiation therapy), the type, dose, and schedule of antiemetic drugs are based on the chemotherapy's risk of side effects.

#### Guide 6 Radiation therapy and risk of nausea and vomiting

Risk level	Area treated
High	<ul style="list-style-type: none"><li>• Whole body</li></ul>
Moderate	<ul style="list-style-type: none"><li>• Upper abdomen</li><li>• Brain and spine</li></ul>
Low	<ul style="list-style-type: none"><li>• Head and neck</li><li>• Chest</li><li>• Pelvis</li></ul>
Minimal	<ul style="list-style-type: none"><li>• Arms and legs</li><li>• Breasts</li></ul>



### When to contact your care team

Nausea and vomiting can be caused by medical conditions not related to your cancer treatment. It's important to call your care team if:

- You continue to have nausea and vomiting despite taking antiemetics.
- Nausea interferes with your ability to eat.
- You vomit 2 or more times in a 24-hour period.
- You notice signs of dehydration, such as increased thirst, darker urine (pee), infrequent peeing, dizziness, and dry mouth and lips.
- For children, peeing 2 or fewer times in a 12-hour period.
- You feel bloated.
- You have pain or a swollen stomach before nausea and vomiting occurs.
- You're bothered by the side effects from your antiemetic medications.

### Key points

- Nausea and vomiting are two of the most common side effects of cancer treatment.
- Sometimes the side effects of cancer treatment can be hard to tell apart from the symptoms of the cancer itself.
- Higher amounts (doses) of chemotherapy or radiation therapy often cause more severe side effects.
- Your care team will select antiemetic treatment based on your cancer therapy's risk of causing nausea and vomiting.
- The types of chemotherapy-induced nausea and vomiting include acute, delayed, anticipatory, breakthrough, and refractory (persistent).
- The higher a chemotherapy drug's risk level, the more likely it will cause nausea and vomiting.
- Radiation therapy is more likely to cause nausea and vomiting when it's given in larger or more frequent doses and when more areas of the body are treated.

### Questions to ask

- What side effects can I expect from my cancer treatment?
- What is my treatment's risk level of nausea and vomiting?
- Can I switch to a different cancer treatment if nausea and vomiting become really bad?
- When should I let you know if I'm experiencing nausea and vomiting?
- What side effects are caused by the antiemetic medicine I will be given?

### What's next

Now you know what can cause nausea and vomiting. This information can help you prepare in case either one occurs. Find out more about preventing nausea and vomiting in the next chapter.

# 3

## Preventing nausea and vomiting

- 21 Let your care team know
- 22 Drugs to prevent nausea and vomiting
- 29 Combinations of antiemetics
- 30 Radiation-induced nausea and vomiting
- 30 Key points
- 31 Questions to ask

### 3 Preventing nausea and vomiting

Your care team can make a prevention plan that may include different antiemetic (antinausea/antivomiting) drugs. Follow the prevention plan as long as the risk of nausea and vomiting exists.

If your provider or care team hasn't already talked to you about antiemetic drugs, you should ask about them.

Many experts believe antiemetics aren't used as often as they should be. This is a problem that involves both people with cancer and health care providers. Some people don't want to bother their care team with questions. Or they've heard that cancer treatment is supposed to cause nausea and vomiting—and that these side effects are a routine part of treatment. This is untrue. Not everyone who receives cancer treatment experiences nausea and vomiting.

At the same time, some care providers may underestimate how often nausea and vomiting occur or how disruptive they can be for people.

#### Let your care team know

If your provider or care team isn't aware you're having nausea or vomiting, they may not ask you about it. But they do want to help. If you develop these side effects from your cancer treatment, don't suffer. Call a member of your care team and let them know right away, whether it's day or night.

Also, if you've been given antiemetic medicines but they're not working or you don't like their side effects, let your care team know about that, too. There are many options to treat nausea and vomiting.

**"Come armed to each and every appointment with all of your questions and concerns, and do not leave until you get them all answered!"**



## Drugs to prevent nausea and vomiting

When treating nausea and vomiting, medicines are taken before and after cancer treatment. Nausea and vomiting are usually much easier to prevent than to treat once they've started. That's why this guide emphasizes prevention.

In addition to drugs, other types of therapy like meditation or breathing exercises may help you feel better. When and how much you eat can also affect nausea and vomiting. We'll

discuss these non-drug methods in *Chapter 4: Managing nausea and vomiting*.

Providers need to think about many factors when deciding how to prevent nausea and vomiting. Your provider and care team will look at the whole picture—from before your cancer treatment until after the last dose. See **Guide 7**.

### Guide 7

#### What to consider when making an antiemesis plan

<b>Cancer treatment information</b>	• The type of treatment you'll receive
	• How much of the treatment you'll receive (dose)
	• When and how often you'll receive the treatment
	• Whether the treatment is a pill, an IV, or other
<b>Risk factors</b>	• Younger age
	• Female sex
	• Past cancer treatments
	• Motion sickness
	• Anxiety
	• Less than 7 hours of sleep the night before chemotherapy
	• Current medications
	• History of morning sickness (during pregnancy)
• History of drinking alcohol	

## 3 Preventing nausea and vomiting

Things your provider considers to prevent nausea and vomiting include:

- Your type of cancer treatment
- Your level of risk (risk factors) for nausea and vomiting from the cancer treatment
- What antiemetic drug (or drugs) you should receive
- Side effects of the drug(s)
- What time to give you the drug(s) (for example, 30 minutes before cancer treatment)
- How much you'll need (dose)
- Your past use of antiemetic drugs

Also, while there is some risk of drug interactions between antiemetics and cancer drugs, your care team will monitor you and give you antiemetics for a limited time or at a low dose to minimize that risk.

### Timing of drugs

Preventing nausea and vomiting is the goal. So antiemetic drugs are given before cancer treatment.

If cancer treatment is likely to cause delayed nausea and vomiting, you may be given additional medicines to take for several days following treatment. After the last dose of chemotherapy, your risk of vomiting lasts for at least 3 days with high-risk chemotherapy drugs and 2 days with moderate-risk chemotherapy drugs. If you're still vomiting or experiencing nausea at that point, ask your provider if you should continue to take antiemetic medicine.

**Sometimes vomiting can be easier to prevent than nausea.**

For cancer therapy with moderate to high risk of nausea and vomiting, your provider can give you antiemetic drugs on a planned schedule. This might be in the morning or evening, once a day, or more than once a day. Depending on your response, your provider may decide to switch and treat you with antiemetic drugs only when needed (vs. on a schedule).

For cancer treatment with low risk of nausea and vomiting, your provider will likely give you antiemetic drugs only when needed.

If you have questions about how much or when to take any type of antiemetic drug, ask your provider or pharmacist for more information.

But if you're experiencing nausea and/or vomiting even with prevention (called breakthrough emesis), your provider may give you another drug to take as needed. For more information on breakthrough emesis, see the next chapter: Managing nausea and vomiting.

### 3 Preventing nausea and vomiting

#### Forms of drugs

Antiemetic drugs come in different forms. These include the kind you swallow, such as tablets, capsules, and oral liquids, and those that dissolve in your mouth. Other antiemetics are injected into your body—into a vein, into a muscle, or under your skin. Some antiemetics

can be given at an infusion center (through IV) before cancer treatment. Other forms are transdermal patches (placed on your skin) and rectal suppositories (inserted into the rectum). See **Guide 8** and **Guide 9**.

#### Guide 8

#### Adults and children: Common antiemetic drugs

Type of drug	Generic name	Brand name	Forms available
<b>5-HT3 antagonists</b>	Palonosetron	Aloxi	injection
	Granisetron	Kytril	tablet, injection
		Sancuso	skin patch
		Sustol	injection
	Ondansetron	Zofran	tablet, oral liquid, injection, dissolvable tablet
<b>Neurokinin-1 (NK-1) receptor antagonists</b>	Aprepitant Emulsion	Cinvanti	IV push/infusion
	Aprepitant	Emend	capsule, oral liquid
	Fosaprepitant	Emend	injection
	Netupitant, Palonosetron	Akynzeo	capsule
	Fosnetupitant, Palonosetron	Akynzeo	injection
	Rolapitant	Varubi	tablet
<b>Atypical antipsychotic</b>	Olanzapine	Zyprexa	tablet
		Zyprexa Zydis	dissolvable tablet
<b>Anticholinergics</b>	Scopolamine	Transderm Scop	skin patch
<b>Corticosteroid</b>	Dexamethasone	Decadron	tablet, injection

## 3 Preventing nausea and vomiting

### Types of drugs

There are different types (classes) of antiemetics and even different ways they're given. Your provider will recommend what's known to work for preventing or treating your type of nausea and vomiting. For example, scientists have found that 5-HT3 antagonists are the most effective type of drug for preventing radiation-induced nausea and vomiting. If you'll be receiving radiation therapy, your provider may recommend a 5-HT3 antagonist with or without other medicine.

The different classes of antiemetic drugs are as follows.

### 5-HT3 antagonists

Serotonin is a neurotransmitter (a chemical messenger that helps neurons communicate with each other) triggered by cancer therapy to carry the vomiting impulse from the intestine to the brain. 5-HT3 antagonists are a type of drug that blocks serotonin from reaching the brain, which can prevent nausea and vomiting. They also sometimes decrease diarrhea, a common side effect of chemotherapy and/or radiation therapy.

The most common side effects of 5-HT3 antagonists are headache and constipation.

### Neurokinin-1 receptor antagonists

Neurokinin-1 (NK-1) receptor antagonists prevent both acute and delayed nausea and vomiting by blocking a neurotransmitter called

#### Guide 9

#### Adults and children: Common antiemetic drugs (continued)

Type of drug	Generic name	Brand name	Forms available
Dopamine receptor antagonists	Prochlorperazine	Compazine	tablet, injection, suppository
	Promethazine	Phenergan	tablet, oral liquid, suppository
	Metoclopramide	Reglan	tablet, oral liquid, injection
	Haloperidol	Haldol	tablet, oral liquid, injection
Benzodiazepine	Lorazepam	Ativan	tablet, oral liquid, injection
Cannabinoids	Dronabinol	Marinol	capsule
		Syndros	oral liquid
Motion sickness medicine	Scopolamine	Transderm Scōp	skin patch

## 3 Preventing nausea and vomiting

substance P. Substance P has dozens of functions, including setting off the vomiting reflex. NK-1 receptor antagonists are drugs that prevent substance P from attaching to the NK-1 receptors in the brain, which may stop or reduce the vomiting reflex. NK-1 receptor antagonists can be used with cancer drugs that have a moderate or high risk of nausea and vomiting.

Common side effects of NK-1 receptor antagonists include tiredness (fatigue), hiccups, and headache.

### Atypical antipsychotic

Olanzapine (Zyprexa) is a drug that has been used historically for treating mental health conditions. But providers have discovered it also prevents and treats acute, delayed, and refractory nausea and vomiting in people receiving moderate- to high-risk chemotherapy at lower doses than those used to treat mental health conditions. It can also stimulate appetite.

Olanzapine disables several neurotransmitters linked to nausea and vomiting caused by cancer therapy. It's typically given in combination with 2 or 3 other antiemetic drugs prior to chemotherapy. But it may be given on its own the night before to help with anticipatory nausea and vomiting. It may also be given by itself or with other antiemetics after chemotherapy.

Olanzapine sometimes causes drowsiness (sedation), fatigue, and dizziness. It should be used with caution in older people and those with dementia. Because this medicine can cause sedation, it's recommended to be taken at bedtime.

Check with your care team if you were prescribed olanzapine in combination with

prochlorperazine or metoclopramide because of the risk of additional side effects.

### Anticholinergics (motion sickness medicine)

Anticholinergics, like scopolamine, block a chemical in the body called acetylcholine. Acetylcholine is a neurotransmitter that stimulates muscles in the gastrointestinal (GI) tract that can trigger nausea and vomiting. By blocking acetylcholine and other neurotransmitters, scopolamine can decrease the contractions of the GI tract, lessening nausea and vomiting. It can be used for breakthrough nausea and vomiting or in managing existing nausea and vomiting.

Because capsules or pills may be difficult to keep down during breakthrough emesis, scopolamine comes as a patch applied to the skin behind the ear. It releases the medicine through the skin and into the body. One patch works for about 3 days in adults, but children might only need half of a patch. Be sure by checking with your doctor about the dose.

Side effects of scopolamine may include dry mouth, blurred vision, trouble peeing (urinating), and trouble pooping (constipation).

### Corticosteroids

Corticosteroids (steroids) have been used for years to prevent both acute and delayed nausea and vomiting caused by cancer therapy. The main steroid used for nausea and vomiting is dexamethasone (Decadron). If your chemotherapy already includes a steroid, like prednisone, you may not need dexamethasone as an antiemetic.

Steroids can have many side effects, such as insomnia (trouble sleeping), upset stomach, mood swings, increased appetite, fluid

### More insights



#### **Take your medicine on time.**

It's important to take anti-nausea and antiemetic drugs at the scheduled time and dose, even if you don't feel nauseated. If you wait until you begin to feel sick, it may be too late for the drugs to provide relief.



#### **Why did my doctor give me an antipsychotic drug?**

For many years now, olanzapine (Zyprexa) has been widely used to prevent nausea and vomiting in people receiving cancer treatment. But olanzapine has been used even longer to treat depression, bipolar disorder, and schizophrenia. Scientists have found that olanzapine blocks some of the same neurotransmitters involved in both vomiting and mental health conditions.



#### **Can I try cannabis?**

You may hear that smoking marijuana (scientifically known as cannabis) or taking capsules, edibles, or drops made from the active compounds in cannabis (cannabinoids) will drastically reduce nausea or vomiting. You may hear that they'll dull your pain or help you sleep. But before you take a trip to your nearest dispensary, discuss this with your doctor.

Only in some cases is it appropriate for children to be prescribed cannabinoids.

For adults, don't stop or skip your prescribed medications in place of non-prescribed cannabis products. The ingredients in these products can interfere with your current cancer therapy or your antiemetic treatment. Also, the active ingredients and effects can vary greatly between products.

One cannabinoid antiemetic medication (dronabinol) is available and approved by the FDA. Check with your doctor or pharmacist to get trustworthy information on this topic.

retention (puffiness), and increased blood sugar levels. So how much, how often, and how long steroids are used are customized for each person.

One strategy to decrease the side effects of steroids includes taking dexamethasone in the morning with breakfast to help reduce insomnia and an upset stomach.

### 3 Preventing nausea and vomiting

There is some disagreement in the medical community that if you're receiving chemotherapy along with an immune checkpoint inhibitor (ICI) (a type of immunotherapy), dexamethasone could lessen the ICI's effect. Although this chance is small, if you're receiving ICIs, your provider might choose another antiemetic.

#### **Dopamine receptor antagonists**

Dopamine receptor antagonists were the first class of drugs used for nausea and vomiting due to cancer treatment. These drugs block the neurotransmitter dopamine from reaching the chemoreceptor trigger zone in the brain.

Dopamine receptor antagonists can cause numerous side effects, such as drowsiness, dry mouth, uncontrollable muscle movements or tremors, and blurred vision. Older people may be more affected by these side effects.

#### **Benzodiazepines**

Benzodiazepines are anti-anxiety drugs. They reduce anticipatory nausea and vomiting by helping people who are anxious to feel calmer and more relaxed. Benzodiazepines are also sometimes used to reduce anxiety due to breakthrough nausea and vomiting (emesis). The main benzodiazepine drug for nausea and vomiting is lorazepam (Ativan).

Benzodiazepines are used in combination with other antiemetic drugs. Their most common side effects are drowsiness, dizziness, and confusion. Benzodiazepines can also cause dangerously slow breathing in people who are taking opioid-based pain medicine. If you're taking lorazepam regularly, talk to your care team before you stop taking it to avoid unwanted side effects.

#### **Cannabinoids**

Cannabinoids are drugs that contain an active ingredient in marijuana called tetrahydrocannabinol (THC). Cannabinoids

**Cannabinoids are sometimes used to treat nausea and vomiting when standard antiemetic drugs haven't worked. They also have some undesirable side effects, such as dizziness, sleepiness, lightheadedness, anxiety, and mood changes. Talk to your doctor before using cannabinoids.**



## 3 Preventing nausea and vomiting

prevent nausea and vomiting by blocking receptors in the central nervous system's endocannabinoid system. The endocannabinoid system regulates many functions, some of which involve hunger and mood.

Cannabinoids are sometimes used to treat nausea and vomiting when standard antiemetic drugs haven't worked.

Experts generally discourage use of cannabinoids in children because of the lack of research on their effects. But they can be successfully used in some cases. One cannabinoid that may be recommended by a care team for use in children is dronabinol.

When used appropriately, cannabinoids can stimulate appetite in people having cancer treatment. But they also have some undesirable side effects, such as dizziness, sleepiness, lightheadedness, anxiety, and mood changes.

Before using cannabinoids, ask your provider about any possible side effects you might have.

### Heartburn medicine

Along with nausea and vomiting, cancer treatment can cause indigestion and heartburn. Drugs called histamine H2 antagonists (H2 blockers) and proton pump inhibitors reduce the stomach acid that causes heartburn. Some are available over the counter, and others are by prescription only.

H2 blockers include famotidine (known as Pepcid and Zantac 360). Common proton pump inhibitors are lansoprazole (Prevacid), omeprazole (Prilosec), and esomeprazole (Nexium).

**Therapy that works for one person may not work for another. Let your care team know if your antiemetics aren't helping. Your provider can switch one drug for another or add a medicine from a different class.**

## Combinations of antiemetics

Many people, regardless of the length of their cancer treatment, need an antiemesis plan that prevents both acute and delayed nausea and vomiting.

Antiemesis treatment usually includes more medicines for the acute period (first day of cancer therapy) than for the delayed period (next 2 or 3 days of cancer therapy). But because acute and delayed emesis can overlap during cancer therapy, it can be difficult to come up with an antiemesis plan that's completely effective for every day.

Your antiemesis plan also depends on the risk of nausea and vomiting from your cancer therapy. Cancer therapy with a high risk of nausea and vomiting may require a combination of up to 3 or 4 antiemetic drugs. Cancer treatment with a moderate risk may include 2 or 3 antiemetics. Low-risk cancer therapy may involve only 1 antiemetic. Cancer therapy with a minimal risk may not require any antiemetics.

Remember that the antiemetic therapy that works for one person may not work for

another. Be sure to let your care team know if the drugs aren't helping. If the first drug or a combination of drugs doesn't work, your provider can switch 1 drug for another or add a medicine from a different class.

### Radiation-induced nausea and vomiting

Some types of radiation therapy—to the upper abdomen or the whole body—may cause nausea and vomiting. Antiemetic treatment is given on each day of radiation therapy to prevent these side effects. The recommended treatment is a 5-HT<sub>3</sub> antagonist (granisetron or ondansetron) with or without a steroid (dexamethasone).

When radiation is given together with chemotherapy (chemoradiation), the antiemetic treatment is based on whether the drugs or the radiation treatment has the higher risk of nausea and vomiting.

### Key points

- To prevent nausea and vomiting, most medicines are taken before cancer treatment. However, some medicines are taken during or after cancer treatment.
- 5-HT<sub>3</sub> antagonists block serotonin from reaching the brain, which can prevent acute nausea and vomiting.
- Neurokinin-1 (NK-1) receptor antagonists prevent both acute and delayed nausea and vomiting.
- Olanzapine is used for acute, delayed, anticipatory, and refractory nausea and vomiting in people receiving moderate-to-high-risk chemotherapy.
- Benzodiazepines reduce anticipatory nausea and vomiting by helping people who feel anxious to feel calmer and more relaxed.
- Corticosteroids (steroids) can prevent acute and delayed nausea and vomiting.
- Cannabinoids are sometimes used to treat nausea and vomiting when standard antiemetic drugs haven't worked. Use in children can be helpful in some cases but is generally discouraged.

### Questions to ask

- Could another medicine that's not part of my cancer treatment be causing nausea and vomiting?
- What medicine can I take to reduce nausea and vomiting?
- Can I take more than one antiemetic medicine?
- Will my antiemetic medicines cause any side effects?
- Will my insurance cover the cost of antiemetic treatment?

### What's next

Unfortunately, preventing nausea and vomiting doesn't always work. But knowing what goes into preventing nausea and vomiting can help manage these side effects. In the next chapter, you'll find out more about the variety of ways nausea and vomiting can be managed.



**Let us know what  
you think!**

**Please take a moment to  
complete an online survey about  
the NCCN Guidelines for Patients.  
[NCCN.org/patients/response](https://www.nccn.org/patients/response)**

# 4

## Managing nausea and vomiting

- 33 Treatment if prevention doesn't work
- 35 Coping with nausea and vomiting
- 37 Complementary therapies
- 38 Accept support
- 40 Key points
- 40 Questions to ask

Even with prevention, nausea and vomiting may still happen. This chapter explains various drug options and many non-drug strategies to manage and cope with these side effects.

Despite using antiemetic drugs before cancer therapy, some people still have nausea and vomiting during or after therapy (called breakthrough emesis). The treatment plan changes from preventing nausea and vomiting to reducing these side effects.

### Treatment if prevention doesn't work

Your provider or care team may ask you to try one or more of the following treatment options for breakthrough nausea and vomiting.

#### **Add another medicine**

The first option is to add another drug from a different drug class. The idea is to choose a drug that works differently from the antiemetic drug(s) you're already taking.

#### **Take several medicines**

You may need to take several antiemetic medicines, each of which works in a separate way. This strategy attempts to block the emetic reaction at different points in the process. Your provider or pharmacist may also recommend taking your medicine on a different schedule or at different times of the day. (Ask your provider or pharmacist first before doing this on your own.)

#### **Go on an around-the-clock schedule**

Instead of taking your antiemetic drug(s) on an as-needed basis, you may be put on a schedule to take your medicine around the clock.

#### **Try a different route**

If you can't keep down a pill because you're vomiting, you might be able to receive the medicine in another form. For example, some pills also come as a tablet or a film that quickly dissolves under your tongue. Other methods include IV, injection, skin patch, or suppository (a medicine placed in the rectum). If one method gives you trouble, ask if you can try a different one.

#### **See if it's something else**

Before you receive your next round of cancer therapy, your provider should check that there isn't another reason why you're having nausea and vomiting. Be open with your provider about any side effects you have. There might be another cause that's related or even unrelated to your cancer. Other causes could be a lack of minerals in your body, stomach problems, or another disease.

Even something like heartburn can be confused with nausea. In this case, your provider can give you antacid therapy to reduce stomach acid. Your care team may also help you find other ways to cope.

#### **Keep track of your side effects**

Your provider may ask you to be aware of how you're feeling between visits. Pay close attention to when you feel nauseated or when you vomit. You can write down that information and share it with your provider. Your care

## 4 Managing nausea and vomiting

team needs to know exactly what you're experiencing to be able to help.

Think about ways to keep track of your side effects. You can write them down in a weekly diary or create your own way to record any side effects you experience. Tracking your side effects in a journal or app may reveal a helpful pattern.

You also need to remember to take your antiemetic drugs as prescribed. Use a calendar or an app to remind yourself when to take your medicine. This will help you stay on schedule and, if needed, record any missed doses. Caregivers can also use these tools to help you take your medicine on time.

You can try one of these smartphone apps to help you keep track of medicines, appointments, and symptoms:

- **The MASCC Antiemesis Tool** – Developed by the Multinational

Association of Supportive Care in Cancer, this tool is available as a PDF or an app to help people talk with their providers about nausea and vomiting.

- **Wave Health** – Designed for people getting cancer treatment, this app keeps track of symptoms, medicines, mood, activity, and sleep.
- **Cancer.Net Mobile** – An app from the American Society of Clinical Oncology (ASCO) for tracking side effects. You can set reminders for medicines and appointments, too.

### Report problems and ask questions

Your providers need to know if your antiemetic drugs aren't working. If the side effects continue or get worse with time, call your provider or care team as soon as possible.

Another thing you can do between visits is to make a list of questions. Review these questions with your primary care provider.

**Finding the right antiemesis drug or drugs might take several tries. If preventing nausea or vomiting doesn't work, there are many treatments available to reduce these side effects.**



## 4 Managing nausea and vomiting

Some people don't want to ask questions—they may think their questions aren't important or that they're wasting the provider's time. You need to know that your care team wants to help you by answering any questions you have.

Other people on your team can also answer your questions. In addition to your primary care provider, feel free to talk to your nurse practitioner, medical oncologist, radiation oncologist, oncology nurse, pharmacist, physical therapist, psychologist, or social worker.

For some helpful questions, see “Questions to ask” at the end of this chapter.

### Coping with nausea and vomiting

In addition to treatment, several other strategies can help you cope with nausea and vomiting.

#### **Eat small meals**

Instead of 3 large meals (breakfast, lunch, and dinner), try eating small, frequent meals throughout the day. Eating less food more often can be easier and less filling than eating fewer larger meals.

#### **Drink plenty of fluids**

Nausea can turn you off from eating and drinking, while vomiting can cause you to lose a lot of fluids. To avoid getting dehydrated, drink small amounts of liquids frequently throughout the day. In addition to water, electrolyte supplements (Pedialyte) and low-sugar sports drinks (Gatorade) can replace important minerals. If you do get dehydrated,



### **Report all your drugs and supplements**

Let your care team know if you're taking (or want to take) complementary therapies like nutritional supplements, vitamins, or herbs. Some of these therapies can interfere with your cancer treatment or cause complications.

For instance, taking the over-the-counter supplement St. John's wort while being treated with the antiemetic granisetron can increase the risk of a rare but serious condition called serotonin syndrome.

Put together a list of all the medications you take, including any herbals, supplements, and over-the-counter products. Make copies and provide this list whenever you have an appointment with a new doctor or specialist.

your provider may need to give you IV fluids in a health care setting to help you feel better.

Ginger ale or flat cola might also help settle your stomach. Don't drink as much while you're eating, though—it'll make you feel full faster.

## 4 Managing nausea and vomiting

### Eat to avoid more nausea

It's normal to want to stop eating when you feel nausea coming on. Surprisingly, an empty stomach can make nausea worse. If it's been a while since you've eaten, have a little food even if you're not hungry. As noted, eat small portions frequently throughout the day.

### Eat cool food

Hot food has a stronger smell and taste. If the smell or taste bothers you, eat food that is cold or room temperature.

### Stay away from spicy food

You might love spicy food, but if you're having nausea, it's best to avoid it. Spicy food can irritate the digestive tract and sometimes make nausea worse.

### Try ginger

You might also find that not just ginger ale, but ginger tea and ginger itself can be helpful. This root has been used to settle upset stomachs for centuries. Though more research needs to be done, some people find that ginger capsules, powdered ginger, or ginger-flavored foods and drinks help relieve nausea.

### Talk to a dietitian

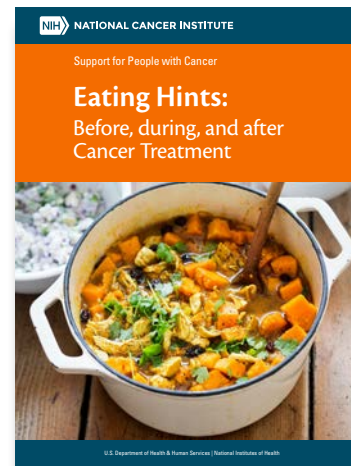
It's important to try to eat as healthily as possible and take in as many nutrients as you can. Ask your provider or care team to put you in touch with a registered dietitian or a certified nutritionist. They can recommend ways to get enough nutrition even if you don't feel like eating.

### Avoid offensive smells

Common smells that never bothered you before may become unexpectedly unpleasant.

Strong smells—or even mild ones—can make you feel nauseated. Smells you might want to avoid include:

- Food while it's cooking
- Scented candles
- Scented hair products
- Perfume
- Smoke



### For more information on eating

Take a look at the National Cancer Institute's **Eating Hints: Before, During, and After Cancer Treatment** at

[www.cancer.gov/publications/patient-education/eating-hints](http://www.cancer.gov/publications/patient-education/eating-hints)

Here you can learn more about eating small meals, having a full liquid diet, and avoiding foods that make you feel sick.

## 4 Managing nausea and vomiting

### Sniff pleasant smells

Though many smells can trigger nausea, some have been known to help. For short-term relief, try taking long deep sniffs of a newly opened alcohol wipe. The smell of peppermint or sucking on peppermint candy may also ease your queasiness.

### Get some fresh air

A breath of fresh air can help. Breathe in deeply and exhale slowly.

## Complementary therapies

Complementary therapies offer other ways to prevent or reduce nausea and vomiting. However, these therapies are meant to be used alongside standard therapies—they shouldn't be used instead of your prescribed therapy.

Important to know: While complementary therapies can be helpful to some people in some cases, there isn't much high-level research backing their use over what your provider prescribes. Talk to your provider before using any type of complementary therapy.

Some types of complementary therapies used for nausea and vomiting are as follows.

- **Acupuncture and acupressure** – These ancient practices use needles (acupuncture) or pressure (acupressure) to reduce nausea and pain. Bracelets for seasickness and motion sickness (Sea-Bands) are a popular form of acupressure.
- **Behavioral therapy (also known as cognitive behavioral therapy)** – A psychological treatment that helps change thinking patterns or behaviors.
- **Relaxation techniques** – Activities that reduce anxiety in the mind by lowering

**You may feel sick to your stomach and not feel like eating but an empty stomach can make nausea worse. Eating small portions throughout the day can help.**



## 4 Managing nausea and vomiting

stress and tension in the body. Examples include breathing exercises, mindful meditation, and muscle relaxation.

- **Hypnotherapy** – A therapy guided by a trained specialist who uses hypnosis and the power of suggestion to relieve symptoms or affect behavior.
- **Yoga** – A series of breathing techniques and physical poses along with meditation to boost overall health. Be sure to ask your provider first if it's okay for you to practice yoga.
- **Guided imagery** – A relaxation technique in which a person visualizes positive mental images. This can reduce the anxiety associated with nausea and vomiting.
- **Music therapy** – A therapy given by a trained music therapist using music to encourage relaxation and enhance quality of life.
- **Virtual reality games** – These engaging video games can help distract adults and children and reduce their perception of nausea and vomiting.

### Complementary therapy for anticipatory nausea and vomiting

Anticipatory nausea and vomiting occur in advance of the next cancer treatment. So prevention is important. In addition to anti-anxiety medicine, complementary therapies can be useful here, too. Some people find that behavioral therapy, hypnotherapy, or guided imagery can soothe the stress that leads to anticipatory nausea and vomiting.

To learn more about complementary therapy, ask your care team. If you're interested, ask for a referral to a specialist in complementary therapy. Some cancer centers and hospitals have complementary care or integrative medicine programs for people with cancer.

You can also speak with a social worker, psychologist, or other mental health professional if you have any issues or need guidance.

### Accept support

Taking good care of yourself is the most important thing you can do. This might mean getting healthier to prepare for treatment or staying on track with your treatment plan. It also means reaching out to the people in your life when you need help.

- Accept offers from friends or loved ones to do your grocery shopping or run errands.
- Ask a friend or family member to prepare a meal to help you avoid cooking smells.
- Ask your care team to help you find more resources about nausea and vomiting.
- Be honest and let your provider and your loved ones know when you're not feeling well.

Finding ways to cope can take time. Having the support of your family, friends, and care team can help you focus on the most important person right now—you.

### What to do after you vomit

This guide is mostly about preventing nausea and vomiting.  
But what if you just threw up? Now what do you do?



**Sit and rest for 15 to 20 minutes.** Let your stomach settle before doing anything else.



**Rinse your mouth.** If you have a bad or acidic taste in your mouth, mix 1/4 teaspoon of baking soda into 1 cup of warm water. Baking soda neutralizes stomach acid. Swish it around your mouth and spit it out. Rinse with plain water.



**Drink slowly.** If you've given your stomach time to settle and you haven't thrown up again, drink sips of water or suck on a few ice chips every few minutes. Gatorade, Pedialyte, and other clear fluids are good, too. After a while, you can try broth or Jell-O.



**Suck on hard candy.** Or lick a popsicle or a lollipop. These help produce saliva, which aids digestion and soothes your stomach.



**Chew gum.** The action of chewing is believed to get your stomach and intestines back on track.



**Try bland foods.** If you feel like eating and you can keep down water for several hours without throwing up, start with small bites of light, bland food. Try crackers, rice, toast, applesauce, or bananas. Go slowly. Avoid heavy, large meals and spicy, fatty, oily, or acidic foods.



**Sit up.** Keep sitting upright for an hour or longer after eating. Lying down can cause indigestion.

If you throw up again after eating or drinking, start over by letting your stomach settle.

### Key points

- Tell your provider if your antiemetic medicine isn't working.
- Keep track of when you're nauseated and when you vomit. Share this information with your care team.
- Remember to take your antiemetic drugs as prescribed. Use a calendar, ask a caregiver, or download an app to set a reminder.
- Eating frequent small meals may feel better than eating fewer large meals.
- An empty stomach can make nausea worse. Try to eat small portions throughout the day, even if you're not hungry.
- Stay hydrated by drinking small amounts of fluids throughout the day.
- Complementary therapies are sometimes used alongside standard therapies.

### Questions to ask

- Can you help me find a registered dietitian or certified nutritionist?
- What else can I do to prevent nausea and vomiting?
- Are there any complementary therapies that might help?
- What if the nausea just won't go away?
- What symptoms should I report right away and who do I contact?

# 5

## Other resources

- 42 What else to know
- 42 What else to do
- 42 Where to get help
- 43 Questions to ask

Want to learn more? Here's how you can get additional help.

### What else to know

This guide helps you know your options so you can make informed decisions and improve your cancer care. But it's not the only resource that you have.

Ask for as much information and help as you need. Many people are interested in learning more about:

- How to reduce or manage the side effects of cancer treatment
- Being a part of a care team
- Getting financial help
- Finding a cancer care professional who's an expert in their field
- Coping with other health problems

### What else to do

Your health care center can help you with next steps. It often has on-site resources to help meet your needs and find answers to your questions. Health care centers can also inform you of resources in your community.

In addition to help from your providers, the resources listed in the next section provide support for many people like yourself.

### Where to get help

Look through the list below and visit the provided websites to learn more about these organizations.

#### **AIM at Melanoma**

[aimatmelanoma.org](http://aimatmelanoma.org)

#### **Blood Cancer United**

[bloodcancerunited.org](http://bloodcancerunited.org)

#### **CancerCare**

[cancercares.org](http://cancercares.org)

#### **Cancer Hope Network**

[cancerhopenetwork.org](http://cancerhopenetwork.org)

#### **Cholangiocarcinoma Foundation**

[cholangiocarcinoma.org](http://cholangiocarcinoma.org)

#### **Imerman Angels**

[imermanangels.org](http://imermanangels.org)

#### **National Leiomyosarcoma Foundation**

[nlmsf.org](http://nlmsf.org)

#### **NMDP**

[nmdp.org](http://nmdp.org)

#### **Triage Cancer**

[triagecancer.org](http://triagecancer.org)

### Questions to ask

- How much will treatment cost?
- What help is available to pay for medicines and other treatments?
- Do you know any specialists who provide complementary therapy?
- Will my insurance cover complementary therapies?
- Is a clinical trial for nausea and vomiting an option for me?



### **We want your feedback!**

**Our goal is to provide helpful  
and easy-to-understand  
information on cancer.  
Take our survey to let us know  
what we got right and what we  
could do better.**

**[NCCN.org/patients/feedback](https://www.nccn.org/patients/feedback)**



# Words to know

**abdomen**

The belly area between the chest and pelvis.

**acute nausea and vomiting**

Nausea and vomiting that happen within a few minutes to a few hours after cancer therapy.

**anticipatory nausea and vomiting**

Nausea and vomiting that occur in advance of the next treatment.

**antiemesis**

Prevention of nausea and vomiting.

**antiemetic**

A drug used to prevent or treat nausea and vomiting.

**behavioral therapy**

A psychological treatment that helps change thinking patterns or behaviors.

**breakthrough nausea and vomiting**

Nausea and vomiting that happen despite trying to prevent them. Also called breakthrough emesis.

**central nervous system**

The brain and spinal cord.

**chemoreceptor trigger zone**

An area in the brain that receives emetic signals from the body and transmits them to the vomiting center.

**chemotherapy**

Drugs that stop the life cycle of cancer cells so the cells don't increase in number.

**chemotherapy-induced nausea and vomiting**

Nausea and vomiting brought on by chemotherapy, immunotherapy, or targeted therapy.

**complementary therapy**

Nonmedication treatment given alongside standard therapy.

**constipation**

A symptom of infrequent bowel movements (poop), typically 3 or fewer a week.

**dehydration**

A condition where the body lacks enough water and other fluids to work normally.

**delayed nausea and vomiting**

Nausea and vomiting that occur more than 24 hours after treatment is given. It's more common in children but can happen to anyone being treated for cancer.

**digestive system**

A series of organs (including the stomach, intestines, and others) that breaks down food for the body to use as energy. Also called the gastrointestinal (GI) system.

**electrolyte**

An essential mineral in the body's fluids that helps control vital functions.

**emesis**

The physical action of expelling what's in the stomach out of the mouth. Also called vomiting.

**esophagus**

A tube-shaped organ that carries food between the throat and stomach.

**guided imagery**

A relaxation technique in which a person visualizes positive mental images to reduce stress and increase well-being.

**hypnotherapy**

A therapy that uses hypnosis and the power of suggestion to relieve symptoms or affect behavior.

**immune checkpoint inhibitor (ICI)**

A type of immunotherapy that blocks proteins called checkpoints to help the immune system kill cancer cells.

**immunotherapy**

A drug treatment that uses a person's own immune system to find and destroy cancer cells.

**intestine**

A long, tube-shaped organ of the digestive system that absorbs nutrients from food.

**intravenous (IV)**

A method of giving drugs by a needle or tube inserted into a vein.

**long-term side effect**

An unhealthy or unpleasant physical or emotional response to treatment that continues for months or years after treatment.

**music therapy**

A therapy using music to encourage relaxation and enhance quality of life.

**nausea**

The sensation when you feel like you're going to throw up.

**neurotransmitter**

A chemical messenger that neurons use to communicate with one another and with other cells.

**quality of life**

A person's overall satisfaction with their well-being and ability to participate in regular activities.

**radiation-induced nausea and vomiting**

Nausea and vomiting brought on by radiation therapy.

**radiation therapy**

A treatment that uses high-energy rays (radiation) to kill cancer cells.

**rectal suppository**

A form of medicine inserted into the rectum and absorbed by the body.

**rectum**

The last section of the large intestine ending at the anus.

**refractory nausea and vomiting**

Nausea and vomiting that keeps happening after each treatment cycle despite antiemetics.

**side effect**

An unhealthy or unpleasant physical or emotional response to treatment.

**systemic therapy**

Treatment (such as chemotherapy) that affects the entire body.

**targeted therapy**

Treatment with drugs that target a specific or unique feature of cancer cells.

**transdermal drug**

A medicine absorbed through the skin.

**treatment plan**

A personalized program that includes all parts of cancer care.

**vomiting**

The physical action of expelling what's in the stomach out of the mouth. Also called emesis.

**vomiting center**

An area in the brain that controls the act of vomiting.

# NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Antiemesis, Version 1.2026. It was adapted, reviewed, and published with help from the following people:

Dorothy A. Shead, MS  
Senior Director  
Patient Information Operations

Christine McLaughlin  
Medical Writer

Susan Kidney  
Senior Graphic Design Specialist

The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Antiemesis, Version 1.2026, were developed by the following NCCN Panel Members:

\*Michael J. Berger, PharmD, BCOP/  
Chair  
The Ohio State University Comprehensive  
Cancer Center - James Cancer Hospital  
and Solove Research Institute

Sidharth Anand, MD, MBA/Vice Chair  
UCLA Jonsson  
Comprehensive Cancer Center

Rajiv Agarwal, MD  
Vanderbilt-Ingram Cancer Center

Nusayba A. Bagegni, MD  
Siteman Cancer Center at Barnes-  
Jewish Hospital and WashU Medicine

Sally Barbour, PharmD, CPP, BCOP  
Duke Cancer Institute

Jill Beck, MD  
Fred & Pamela Buffett Cancer Center |  
Children's Hospital and Medical Center

Heather Bitar, DO  
City of Hope National Medical Center

George E. Brown, RPh, BCOP, MS  
Case Comprehensive Cancer Center/  
University Hospitals Seidman Cancer Center  
and Cleveland Clinic Taussig Cancer Institute

Anthony Christensen, PharmD, BCOP  
St. Jude Children's Research Hospital/  
The University of Tennessee  
Health Science Center

Elizabeth Dow-Hillgartner, PharmD,  
BCOP  
University of Wisconsin  
Carbone Cancer Center

Kevin Du, MD, PhD, MSCI  
Yale Cancer Center/Smilow Cancer Hospital

Nakia Duncan, PharmD, BCGP, BCPS  
UT Southwestern Simmons  
Comprehensive Cancer Center

Christopher Fausel, PharmD, MHA,  
BCOP  
Indiana University Melvin and Bren Simon  
Comprehensive Cancer Center

Eric Goodlev, MD  
Fox Chase Cancer Center

Cassia Griswold, PharmD, BCOP  
Mayo Clinic Comprehensive Cancer Center

Laura Hall, PharmD  
Vanderbilt-Ingram Cancer Center | Monroe  
Carell Jr. Children's Hospital at Vanderbilt

Andrea Iannucci, PharmD, BCOP  
UC Davis Comprehensive Cancer Center

Nusrat Jahan, MD  
O'Neal Comprehensive  
Cancer Center at UAB

Nicole Kaiser, RPh, BCOP  
University of Colorado Cancer Center |  
Children's Hospital Colorado

Emily Kathol, PharmD, BCOP  
Fred & Pamela Buffett Cancer Center

\*Reginald King, PharmD  
The UChicago Medicine  
Comprehensive Cancer Center |  
UChicago Medicine Comer  
Children's Hospital

\*Emily Konerman, PharmD, MPH  
The Ohio State University Comprehensive  
Cancer Center - James Cancer Hospital  
and Solove Research Institute

Mark G. Kris, MD  
Memorial Sloan Kettering Cancer Center

Janine Martino, PharmD, BCOP  
UC San Diego Moores Cancer Center

\*Jonathan Metts, MD  
Moffitt Cancer Center

Cindy O'Bryant, PharmD, BCOP  
University of Colorado Cancer Center

Stacy Prelewicz, PharmD, BCOP  
Huntsman Cancer Institute  
at the University of Utah

Grazyna Riebandt, PharmD, BCOP  
Roswell Park Comprehensive Cancer Center

Jane E. Rogers, PharmD, BCOP  
The University of Texas  
MD Anderson Cancer Center

Susan Scott, MD  
Johns Hopkins Kimmel Cancer Center

Bridget Scullion, PharmD, BCOP  
Dana-Farber/Brigham and Women's Cancer  
Center | Mass General Cancer Center

Laura Sedig, MD, MSc  
University of Michigan Rogel Cancer Center |  
C.S. Mott Children's Hospital

Eve M. Segal, PharmD, BCOP  
Fred Hutchinson Cancer Center

Maria Silveira, MD, MPH, MA  
University of Michigan Rogel Cancer Center

Melanie Smith, MD  
Robert H. Lurie Comprehensive Cancer  
Center of Northwestern University

Kelly Truby, NP-C  
The UChicago Medicine  
Comprehensive Cancer Center

Suzanne Walker, PhD, CRNP  
Abramson Cancer Center  
at the University of Pennsylvania

## NCCN

Sara Espinosa, PhD  
Oncology Scientist, Medical Writer

Beth McCullough, RN, BS  
Guidelines Coordinator

# NCCN Cancer Centers

For contact information, visit [NCCN.org/cancercenters](https://www.nccn.org/cancercenters).

Abramson Cancer Center  
at the University of Pennsylvania  
*Philadelphia, Pennsylvania*

Case Comprehensive Cancer Center/  
University Hospitals Seidman Cancer Center and  
Cleveland Clinic Taussig Cancer Institute  
*Cleveland, Ohio*

City of Hope National Medical Center  
*Duarte, California*

Dana-Farber Cancer Institute  
*Boston, Massachusetts*

Duke Cancer Institute  
*Durham, North Carolina*

Fox Chase Cancer Center  
*Philadelphia, Pennsylvania*

Fred & Pamela Buffett Cancer Center  
*Omaha, Nebraska*

Fred Hutchinson Cancer Center  
*Seattle, Washington*

Huntsman Cancer Institute at the University of Utah  
*Salt Lake City, Utah*

Indiana University Melvin and Bren Simon  
Comprehensive Cancer Center  
*Indianapolis, Indiana*

Johns Hopkins Kimmel Cancer Center  
*Baltimore, Maryland*

Mass General Brigham Cancer Institute  
*Boston, Massachusetts*

Mayo Clinic Comprehensive Cancer Center  
*Phoenix/Scottsdale, Arizona*  
*Jacksonville, Florida*  
*Rochester, Minnesota*

Memorial Sloan Kettering Cancer Center  
*New York, New York*

Moffitt Cancer Center  
*Tampa, Florida*

O'Neal Comprehensive Cancer Center at UAB  
*Birmingham, Alabama*

Robert H. Lurie Comprehensive Cancer Center  
of Northwestern University  
*Chicago, Illinois*

Roswell Park Comprehensive Cancer Center  
*Buffalo, New York*

Siteman Cancer Center at Barnes-Jewish Hospital  
and WashU Medicine  
*St. Louis, Missouri*

St. Jude Children's Research Hospital/  
The University of Tennessee Health Science Center  
*Memphis, Tennessee*

Stanford Cancer Institute  
*Stanford, California*

The Ohio State University Comprehensive Cancer Center -  
James Cancer Hospital and Solove Research Institute  
*Columbus, Ohio*

The UChicago Medicine Comprehensive Cancer Center  
*Chicago, Illinois*

The University of Texas MD Anderson Cancer Center  
*Houston, Texas*

UC Davis Comprehensive Cancer Center  
*Sacramento, California*

UC San Diego Moores Cancer Center  
*La Jolla, California*

UCLA Jonsson Comprehensive Cancer Center  
*Los Angeles, California*

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*Ann Arbor, Michigan*

University of Wisconsin Carbone Cancer Center  
*Madison, Wisconsin*

UT Southwestern Simmons  
Comprehensive Cancer Center  
*Dallas, Texas*

Vanderbilt-Ingram Cancer Center  
*Nashville, Tennessee*

Yale Cancer Center/Smilow Cancer Hospital  
*New Haven, Connecticut*



# Index

**5-HT3 antagonists** 25, 30  
**acupuncture and acupressure** 37  
**anticholinergics** 26  
**anxiety** 14, 28–29, 37–38  
**behavioral therapy** 37  
**benzodiazepines** 28  
**cannabis** 27  
**cannabinoids** 28–29  
**corticosteroids** 26–27  
**dopamine receptor antagonists** 28  
**forms of drugs** 24  
**guided imagery** 38  
**hypnotherapy** 38  
**music therapy** 38  
**neurokinin-1 receptor antagonists** 25–26  
**olanzapine** 26–27  
**relaxation techniques** 37–38  
**risk factor** 23  
**schedule** 23, 27, 33–34  
**timing of drugs** 23  
**types of drugs** 25–29  
**virtual reality games** 38  
**yoga** 38



# NCCN Guidelines for Patients<sup>®</sup>

Cancer care recommendations from leading experts at the  
National Comprehensive Cancer Network<sup>®</sup> (NCCN<sup>®</sup>)

# Nausea and Vomiting

To support the NCCN Guidelines for Patients, visit

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**NCCN**

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Cancer Network<sup>®</sup>

3025 Chemical Road, Suite 100  
Plymouth Meeting, PA 19462  
215.690.0300

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