



PATIENT & CAREGIVER EDUCATION

# About Your Ventriculoperitoneal (VP) Shunt Surgery

This guide will help you get ready for your ventriculoperitoneal (ven-TRIH-kyoo-LOH-PAYR-ih-toh-NEE-ul) shunt surgery at MSK. It will also help you know what to expect as you recover.

Use this guide as a source of information in the days leading up to your surgery. Bring it with you on the day of your surgery. You and your care team will use it as you learn more about your recovery.

## Your care team

Doctor: \_\_\_\_\_

Nurse: \_\_\_\_\_

Phone number: \_\_\_\_\_

Fax number: \_\_\_\_\_

## Your caregiver

Your caregiver will learn about your surgery with you. They'll also help you care for yourself while you're healing after surgery. Write their name below.

Caregiver: \_\_\_\_\_



Visit [www.msk.org/pe/vp\\_shunt](http://www.msk.org/pe/vp_shunt) to view this guide online.

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# About your VP shunt surgery

A VP shunt is used to drain extra cerebrospinal fluid (CSF) from your brain. CSF is the fluid that surrounds your brain and spinal cord. It's made in the ventricles (hollow spaces) inside your brain.

CSF protects your brain and spinal cord by acting as a cushion. However, when you have too much of it, it puts pressure on your brain and skull. Extra CSF fluid can be caused by different things, such as a brain tumor, or it can be present when you're born. This extra fluid also makes your ventricles grow bigger (see Figure 1). This is called hydrocephalus (hy-dro-ceph-a-lus).

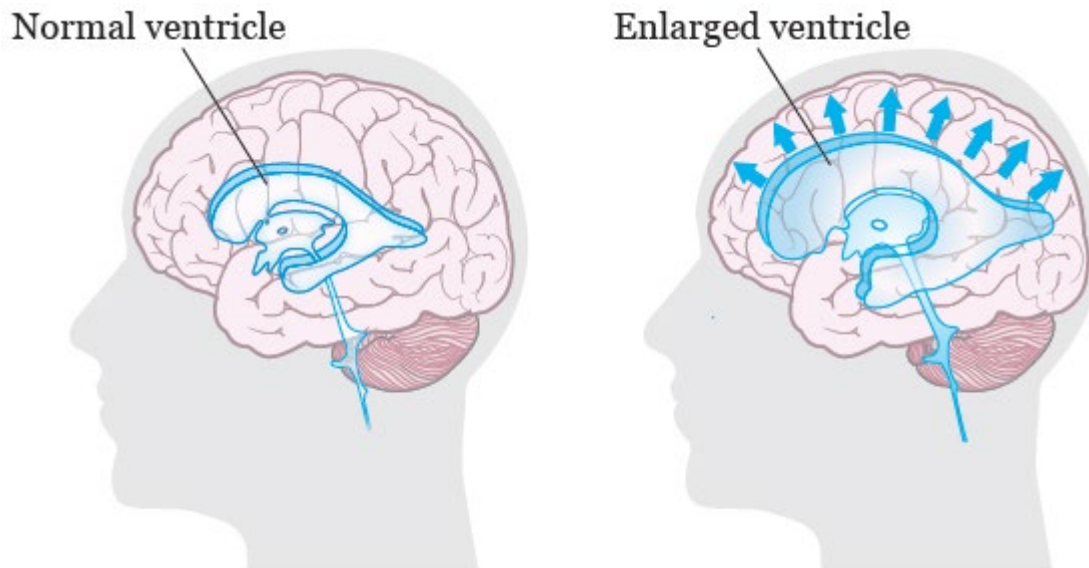


Figure 1. Brain without (left) and with (right) hydrocephalus

# Hydrocephalus

The most common symptoms of hydrocephalus include:

- Headache.
- Fatigue (feeling more tired or weak than usual), drowsiness (not able to stay awake or focus), or both.
- Nausea (feeling like you're going to throw up) and vomiting (throwing up).
- Irritability (feeling angrier than usual).
- Problems with thinking and memory, such as confusion.
- Trouble with balance and walking.
- Not being able to control when you urinate (pee).

## VP Shunt

To help drain the extra CSF from your brain, a VP shunt will be placed into your head. The VP shunt works by taking the fluid out of your brain and moving it into your abdomen (belly), where it's absorbed by your body. This lowers the pressure and swelling in your brain.

A VP shunt has 3 parts (see Figure 2):

- A one-way valve with a reservoir.
- A short catheter (thin, flexible tube).
- A long catheter.

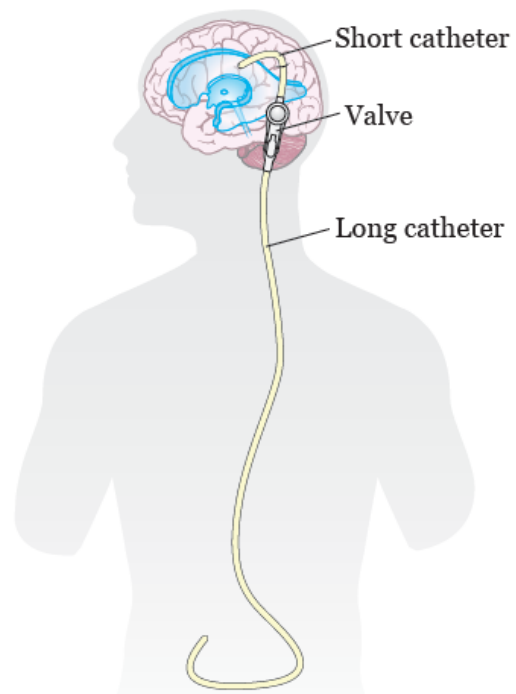


Figure 2. VP shunt

The valve controls the flow of CSF fluid. It's attached on one end to the short catheter so it can drain the fluid away from your brain. The short catheter can be placed in the front, back, or side of your head.

The reservoir collects a small amount of CSF which your doctor can use to sample your CSF for tests if needed.

The long catheter is attached to the other end of the valve. The long catheter is placed under your skin, behind your ear, down your neck, and into your abdomen (belly).

As the VP shunt drains extra CSF and lessens the pressure in your brain, it may ease some of your symptoms. Some symptoms will stop right after the VP shunt is inserted. Others will go away more slowly, sometimes over a few weeks.

The amount of fluid that's drained by your VP shunt depends on the shunt's settings. If you have a **nonprogrammable VP shunt**, your doctor will program the shunt's settings in advance, and they can't be changed. If you have a **programmable VP shunt**, the settings can be changed by your doctor if needed. Your doctor will decide which type of VP shunt is best for you.

## **VP shunt surgery**

Your VP shunt surgery will take place in the operating room while you're asleep. The surgery will take about 1 hour.

Once you're asleep, the doctor will shave off some hair near the area where they will make the incision (surgical cut) on your head. Your entire head won't be shaved.

Your doctor will make 3 small incisions: 1 in your head, 1 in your neck, and 1 in your abdomen. These incisions will help guide the catheter so it can be placed correctly. The doctor will close the incisions with stitches or staples.





# Getting ready for surgery

You and your care team will work together to get ready for your surgery. Help us keep you safe by telling us if any of these things apply to you, even if you're not sure.

- I take an anticoagulant (blood thinner), such as:
  - Aspirin
  - Heparin
  - Warfarin (Jantoven®, Coumadin®)
  - Clopidogrel (Plavix®)
  - Enoxaparin (Lovenox®)
  - Dabigatran (Pradaxa®)
  - Apixaban (Eliquis®)
  - Rivaroxaban (Xarelto®)
- I take an SGLT2 inhibitor, such as:
  - Canagliflozin (Invokana®)
  - Dapagliflozin (Farxiga®)
  - Empagliflozin (Jardiance®)
  - Ertugliflozin (Steglatro®)
- I take prescription medicine(s), including patches and creams. A prescription medicine is one you can only get with a prescription from your healthcare provider.
- I take over-the-counter medicine(s), including patches and creams. An over-the-counter medicine is one you can buy without a prescription.
- I take dietary supplements, such as herbs, vitamins, minerals, or natural or home remedies.

These are examples of medicines. There are others.

Be sure your healthcare provider knows all the medicines you're taking.



- I have a pacemaker, automatic implantable cardioverter-defibrillator (AICD), or other heart device.
- I have sleep apnea.
- I have had a problem with anesthesia (A-nes-THEE-zhuh) in the past. Anesthesia is medicine to make you sleep during a surgery or procedure.
- I'm allergic to certain medicines or materials, including latex.
- I'm not willing to receive a blood transfusion.
- I drink alcohol.
- I smoke or use an electronic smoking device, such as a vape pen or e-cigarette.
- I use recreational drugs, such as marijuana.

## About drinking alcohol

It's important to talk with your healthcare providers about how much alcohol you drink. This will help us plan your care.

If you drink alcohol regularly, you may be at risk for problems during and after your surgery. These include bleeding, infections, heart problems, and a longer hospital stay.

If you drink alcohol regularly and stop suddenly, it can cause seizures, delirium, and death. If we know you're at risk for these problems, we can prescribe medicine to help prevent them.

Here are things you can do before your surgery to keep from having problems.

- Be honest with your healthcare providers about how much alcohol you drink.

- Try to stop drinking alcohol once your surgery is planned. Tell your healthcare provider right away if you:
  - Get a headache.
  - Feel nauseous (like you're going to throw up).
  - Feel more anxious (nervous or worried) than usual.
  - Cannot sleep.

These are early signs of alcohol withdrawal and can be treated.

- Tell your healthcare provider if you cannot stop drinking.
- Ask your healthcare provider questions about drinking and surgery. All your medical information will be kept private, as always.

## **About smoking**

If you smoke, you can have breathing problems when you have surgery. Stopping for even a few days before surgery can help.

Your healthcare provider will refer you to our Tobacco Treatment Program if you smoke. You can also reach the program by calling 212-610-0507 or visit [www.msk.org/tobacco](http://www.msk.org/tobacco) to learn more.

## **About sleep apnea**

Sleep apnea is a common breathing problem. If you have sleep apnea, you stop breathing for short lengths of time while you're asleep. The most common type is obstructive sleep apnea (OSA). With OSA, your airway becomes fully blocked during sleep.

OSA can cause serious problems during and after surgery. Tell us if you have or think you might have sleep apnea. If you use a breathing device, such as a CPAP machine, bring it on the day of your surgery.

## Using MyMSK

MyMSK ([my.mskcc.org](http://my.mskcc.org)) is your MSK patient portal. You can use it to send and read messages from your care team, view your test results, see your appointment dates and times, and more. You can also invite your caregiver to make their own account so they can see information about your care.

If you do not have a MyMSK account, you can sign up at [my.mskcc.org](http://my.mskcc.org). You can get an enrollment ID by calling 646-227-2593 or your doctor's office.

Watch *How to Enroll in MyMSK: Memorial Sloan Kettering's Patient Portal* at [www.msk.org/pe/enroll\\_mymsk](http://www.msk.org/pe/enroll_mymsk) to learn more. You can also contact the MyMSK Help Desk by emailing [mymask@mskcc.org](mailto:mymask@mskcc.org) or calling 800-248-0593.

## Within 30 days of your VP shunt surgery

### Presurgical testing (PST)

You'll have a PST appointment before your surgery. You'll get a reminder from your surgeon's office with the appointment date, time, and location.

You can eat and take your usual medicine(s) the day of your PST appointment.

It's helpful to bring these things to your appointment:

- A list of all the medicines you're taking, including prescription and over-the-counter medicines, patches, and creams.
- Results of any medical tests done outside of MSK in the past year, if you have them. Examples include results from a cardiac stress test, echocardiogram, or carotid doppler study.
- The names and telephone numbers of your healthcare providers.

You'll meet with an advance practice provider (APP) during your PST appointment. They work closely with MSK's anesthesiology (A-nes-THEE-zee-AH-loh-jee) staff. These are healthcare providers with special training in using anesthesia during a surgery or procedure.

Your APP will review your medical and surgical history with you. You may have tests to plan your care, such as:

- An electrocardiogram (EKG) to check your heart rhythm.
- A chest X-ray.
- Blood tests.

Your APP may recommend you see other healthcare providers. They'll also talk with you about which medicine(s) to take the morning of your surgery.

## Identify your caregiver

Your caregiver has an important role in your care. Before your surgery, you and your caregiver will learn about your surgery from your healthcare providers. After your surgery, your caregiver will take you home when you're discharged. They'll also help you care for yourself at home.



### **For caregivers**

Caring for a person going through cancer treatment comes with many responsibilities. We offer resources and support to help you manage them.

Visit [www.msk.org/caregivers](http://www.msk.org/caregivers) or read *A Guide for Caregivers* to learn more. You can ask for a printed copy or find it at [www.msk.org/pe/guide\\_caregivers](http://www.msk.org/pe/guide_caregivers)

## Fill out a Health Care Proxy form

If you have not already filled out a Health Care Proxy form, we recommend you do now. If you already filled one out or have any other advance directives, bring them to your next appointment. A health care proxy is a legal document. It says who will speak for you if you cannot communicate for yourself. This person is called your health care agent.

- To learn about health care proxies and other advance directives, read *Advance Care Planning for Cancer Patients and Their Loved Ones*. You can ask for a printed copy or find it at [www.msk.org/pe/advance\\_care\\_planning](http://www.msk.org/pe/advance_care_planning).
- To learn about being a health care agent, read *How to Be a Health Care Agent*. You can find it at [www.msk.org/pe/health\\_care\\_agent](http://www.msk.org/pe/health_care_agent) or ask for a printed copy.

Talk with a member of your care team if you have questions about filling out a Health Care Proxy form.

## Do breathing and coughing exercises

Practice taking deep breaths and coughing before your surgery. Your healthcare provider will give you an incentive spirometer to help expand your lungs. To learn more, read *How to Use Your Incentive Spirometer*. You can find it in the “Educational resources” section of this guide.

## Do physical activity

Doing physical activity will help your body get into its best condition for your surgery. It will also make your recovery faster and easier.

Try to do physical activity every day. Any activity that makes your heart beat faster, such as walking, swimming, or biking, is a good choice. If it's cold outside, use stairs in your home or go to a mall or shopping center.

## **Follow a healthy diet**

Follow a well-balanced, healthy diet before your surgery. If you need help with your diet, talk with your healthcare provider about meeting with a clinical dietitian nutritionist.

## **Tell us if you're sick**

If you develop any illness before your surgery, call the doctor who scheduled your surgery. This includes a fever, cold, sore throat, or the flu.

## **Buy a 4% chlorhexidine gluconate (CHG) solution antiseptic skin cleanser, such as Hibiclens®, if needed**

A member of your care team may tell you to shower with a 4% CHG solution, such as Hibiclens. This is a skin cleanser that kills germs for 24 hours after you use it. Showering with it before your surgery will help lower your risk of infection after surgery.

If your care team tells you to use a 4% CHG solution, you can buy it at your local pharmacy. You do not need a prescription.

## **7 days before your VP shunt surgery**

### **Follow your healthcare provider's instructions for taking aspirin**

Aspirin can cause bleeding. If you take aspirin or a medicine that has aspirin, you may need to change your dose or stop taking it 7 days before your surgery. Follow your healthcare provider's instructions. **Do not stop taking aspirin unless they tell you to.**

To learn more, read *How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil*. You can find it in the “Educational resources” section of this guide.

## **Stop taking vitamin E, multivitamins, herbal remedies, and other dietary supplements**

Vitamin E, multivitamins, herbal remedies, and other dietary supplements can cause bleeding. Stop taking them 7 days before your surgery. If your healthcare provider gives you other instructions, follow those instead.

To learn more, read *Herbal Remedies and Cancer Treatment*. You can find it in the “Educational resources” section of this guide.

## **2 days before your VP shunt surgery**

### **Stop taking nonsteroidal anti-inflammatory drugs (NSAIDs)**

NSAIDs, such as ibuprofen (Advil® and Motrin®) and naproxen (Aleve®), can cause bleeding. Stop taking them 2 days before your surgery. If your healthcare provider gives you other instructions, follow those instead.

To learn more, read *How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil*. You can find it in the “Educational resources” section of this guide.

# 1 day before your VP shunt surgery

## Note the time of your surgery

A staff member will call you after 2 p.m. the day before your surgery. If your surgery is scheduled for a Monday, they'll call you the Friday before. If you do not get a call by 7 p.m., call 212-639-5014.

The staff member will tell you what time to get to the hospital for your surgery. They'll also remind you where to go. This will be the following location:

The Presurgical Center (PSC) at Memorial Hospital on the 6th floor  
1275 York Ave. (between East 67th and East 68th streets)  
New York, NY 10065  
Take the B elevator to the 6th floor.

## Shower with a 4% CHG solution antiseptic skin cleanser, such as Hibiclens, if needed

A member of your care team may tell you to shower with a 4% CHG solution the night before your surgery. If they do, follow these instructions.

Before you go to bed the night before your surgery:

1. Wash your hair with your usual shampoo and conditioner. Rinse your head well.
2. Wash your face and genital (groin) area with your usual soap. Rinse your body well with warm water.
3. Open the 4% CHG solution bottle. Pour some into your hand or a clean washcloth.



4. Move away from the shower stream. Rub the 4% CHG solution gently over your body from your neck to your feet. Do not put it on your face or genital area.
5. Move back into the shower stream to rinse off the 4% CHG solution. Use warm water.
6. Dry yourself off with a clean towel.

Do not put on any lotion, cream, deodorant, makeup, powder, perfume, or cologne after your shower.

## Instructions for eating and drinking before your surgery



- **Stop eating 8 hours before your arrival time.**
- 8 hours before your arrival time, do not eat or drink anything except the clear liquids listed below. You can keep having them until 2 hours before your arrival time.

Here is a list of what you can have:

- Water.
- Soda.
- Clear juices, such as lemonade, apple, and cranberry juices. Do not drink orange juice or juices with pulp.
- Black coffee or tea (without any type of milk or creamer).
- Sports drinks, such as Gatorade®.
- ClearFast or Ensure® Pre-Surgery drink.
- Gelatin, such as Jell-O®.

## The day of your VP shunt surgery

Remember, starting 8 hours before your arrival time, do not eat or drink anything except the things listed above.

## Instructions for drinking before your surgery



Stop drinking 2 hours before your arrival time. This includes water.

## Take your medicines as instructed

A member of your care team will tell you which medicines to take the morning of your surgery. Take only those medicines with a sip of water. Depending on what you usually take, this may be all, some, or none of your usual morning medicines.

## Shower

Shower and wash your hair with baby shampoo the morning of your surgery. Don't use conditioner or any other hair products such as hair spray or hair gel. After showering, don't put on any lotion, cream, deodorant, makeup, powder, perfume, or cologne.

## Things to remember

- Wear something comfortable and loose-fitting.
- If you wear contact lenses, wear your glasses instead. Wearing contact lenses during surgery can damage your eyes.

- Do not wear any metal objects. Take off all jewelry, including body piercings. The tools used during your surgery can cause burns if they touch metal.
- Leave valuable items at home.
- If you're menstruating (have your monthly period), use a sanitary pad, not a tampon. We'll give you disposable underwear and a pad if you need them.

## What to bring

- Your breathing device for sleep apnea (such as your CPAP machine), if you have one.
- Your incentive spirometer, if you have one.
- Your Health Care Proxy form and other advance directives, if you filled them out.
- Your cell phone and charger.
- Only the money you may want for small purchases, such as a newspaper.
- A case for your personal items, if you have any. Eyeglasses, hearing aids, dentures, prosthetic devices, wigs, and religious articles are examples of personal items.
- Your portable music player, if you choose. However, someone will need to hold it for you when you go into surgery.
- This guide. You'll use it to learn how to care for yourself after surgery.

## Where to park

MSK's parking garage is on East 66th Street between York and 1st avenues. If you have questions about prices, call 212-639-2338.

To get to the garage, turn onto East 66th Street from York Avenue. The garage is about a quarter of a block in from York Avenue. It's on the right (north) side of the street. There's a tunnel you can walk through that connects the garage to the hospital.

There are other parking garages on:

- East 69th Street between 1st and 2nd avenues.
- East 67th Street between York and 1st avenues.
- East 65th Street between 1st and 2nd avenues.

## Once you're in the hospital

When you get to the hospital, take the B elevator to the 6th floor. Check in at the desk in the PSC waiting room.

Many staff members will ask you to say and spell your name and birth date. This is for your safety. People with the same or a similar name may be having surgery on the same day.

We'll give you a hospital gown, robe, and nonskid socks to wear when it's time to change for surgery.



### **For caregivers, family, and friends**

Read *Information for Family and Friends for the Day of Surgery* to help you know what to expect on the day of your loved one's surgery. You can ask for a printed copy or find it at [www.msk.org/pe/info\\_family\\_friends](http://www.msk.org/pe/info_family_friends)

## **Meet with a nurse**

You'll meet with a nurse before surgery. Tell them the dose of any medicines you took after midnight (12 a.m.) and the time you took them. Make sure to include prescription and over-the-counter medicines, patches, and creams.

Your nurse may place an intravenous (IV) line in one of your veins, usually in your arm or hand. If your nurse does not place the IV, your anesthesiologist (A-nes-THEE-zee-AH-loh-jist) will do it in the operating room.

## **Meet with an anesthesiologist**

You'll also meet with an anesthesiologist before surgery. They will:

- Review your medical history with you.
- Ask if you've had any problems with anesthesia in the past, such as nausea or pain.
- Talk with you about your comfort and safety during your surgery.
- Talk with you about the kind of anesthesia you'll get.
- Answer your questions about your anesthesia.

Your doctor or anesthesiologist may also talk with you about placing an epidural catheter (thin, flexible tube) in your spine (back). An epidural catheter is another way to give you pain medicine after your surgery.

## **Get ready for surgery**

When it's time for your surgery, you'll take off your eyeglasses, hearing aids, dentures, prosthetic devices, wig, and religious articles.

You'll either walk into the operating room or a staff member will bring you there on a stretcher. A member of the operating room team will help you

onto the operating bed. They'll put compression boots on your lower legs. These gently inflate and deflate to help blood flow in your legs.

Once you're comfortable, your anesthesiologist will give you anesthesia through your IV line and you'll fall asleep. You'll also get fluids through your IV line during and after your surgery.

## **During your surgery**

After you're fully asleep, your care team will place a breathing tube through your mouth into your airway. It will help you breathe. They'll also place a urinary (Foley) catheter in your bladder. It will drain your urine (pee) during your surgery.

Your surgeon will close your incisions with staples or stitches once they finish your surgery. They may also place Steri-Strips™ (thin pieces of surgical tape) or Dermabond® (surgical glue) over your incisions. They'll cover your incisions with a bandage.

Your care team will usually take out your breathing tube while you're still in the operating room.

Notes \_\_\_\_\_

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## **In the Post-Anesthesia Care Unit (PACU)**

You'll be in the PACU when you wake up after your surgery. A nurse will be keeping track of your temperature, pulse, blood pressure, and oxygen levels. You may get oxygen through a tube resting below your nose or a mask over your nose and mouth. You'll also have compression boots on your lower legs.

### **Pain medicine**

While you're in the PACU, you'll get pain medicine to manage your pain.

### **Moving to your hospital room**

You may stay in the PACU for a few hours or overnight. How long you stay depends on the type of surgery you had. A staff member will bring you to your hospital room after your stay in the PACU.

## **In your hospital room**

The length of time you're in the hospital after your surgery depends on your recovery. Most people stay in the hospital for 1 to 2 days.

In your hospital room, you'll meet one of the nurses who will care for you during your stay.

Your care team will teach you how to care for yourself while you're healing from your surgery.

For the first few days after your surgery, your nurses will do simple tests to make sure your brain is working well.



They will do things such as:

- Ask you questions such as where you are and what time of day it is.
- Ask you to move your arms and legs.
- Shine a small light into your eyes to check the response of your pupils.

Read the resource *Call! Don't Fall!* to learn about what you can do to stay safe and keep from falling while you're in the hospital. You can find it in the "Educational resources" section of this guide.

## **Managing your pain**

You may have a mild headache or feel discomfort around your incision for the first few days after your surgery. At first, you'll get your pain medicine through your epidural catheter or IV line. Once you can eat, you'll get oral pain medicine (pain medicine you swallow).

We will ask you about your pain often and give you medicine as needed. Tell one of your healthcare providers if your pain is not relieved. It's important to control your pain so you can use your incentive spirometer and move around. Controlling your pain can help you recover faster.

You'll get a prescription for pain medicine before you leave the hospital. Talk with your healthcare provider about possible side effects. Ask them when to start switching to over-the-counter pain medicine.

## **Moving around and walking**

Moving around and walking will help lower your risk for blood clots and pneumonia (lung infection). It will also help you start passing gas and having bowel movements (pooping) again. Your nurse, physical therapist, or occupational therapist will help you move around, if needed.

To learn more about how walking can help you recover, read *Frequently Asked Questions About Walking After Your Surgery*. You can find it at [www.msk.org/pe/walking\\_after\\_surgery](http://www.msk.org/pe/walking_after_surgery) or ask for a printed copy.

To learn what you can do to stay safe and keep from falling while you're in the hospital, read *Call! Don't Fall!* You can ask for a printed copy or find it at [www.msk.org/pe/call\\_dont\\_fall](http://www.msk.org/pe/call_dont_fall).

## Exercising your lungs

It's important to exercise your lungs so they expand fully. This helps prevent pneumonia.

- Use your incentive spirometer 10 times every hour you're awake. Read *How to Use Your Incentive Spirometer* to learn more. You can find it in the "Educational resources" section of this guide.
- Do coughing and deep breathing exercises. A member of your care team will teach you how.

## Eating and drinking

You will get ice chips to eat after your surgery. You will start with a liquid diet and then you can start eating your normal foods again, as tolerated.

If you have questions about your diet, ask to see a clinical dietitian nutritionist.

## Imaging Scan

You may have a computed tomography (CT) scan (imaging scan) of your head 1 to 2 days after your surgery. This is to make sure your shunt is in the right place. Your nurse will give you more information about the scan before it's done.

## **Caring for Your Incision**

You will have bandages over your incision. Your doctor will take them off 1 to 2 days after your surgery. After that, you can leave them uncovered. Don't get your incision wet, and don't put any lotions, creams or powders on it for 5 days after your surgery.

## **Planning for discharge**

A physical therapist will work with you before you leave the hospital and help decide if you need help at home, such as special medical equipment or a home care nurse. If needed, your case manager will work with you to arrange for home care visits after you're discharged from the hospital.

A caregiver should help you at home for a few days after your surgery while you recover.

## **Leaving the hospital**

By the time you're ready to leave the hospital, your incision will have started to heal. Before you leave the hospital, look at your incision with your nurse and caregiver. Knowing what your incision looks like will help you notice any changes later.

On the day of your discharge, you should plan to leave the hospital around 11:00 am. Before you leave, your doctor will write your discharge order and prescriptions. You will also get written discharge instructions. Your nurse will review these instructions with you before you leave.

If your ride isn't at the hospital when you're ready to be discharged, you may be able to wait in the Patient Transition Lounge. A member of your healthcare team will give you more information.

# At home

Read *What You Can Do to Avoid Falling* to learn what you can do to keep from falling at home and during your appointments at MSK. You can find it at [www.msk.org/pe/avoid\\_falling](http://www.msk.org/pe/avoid_falling) or ask for a printed copy.

Your first appointment after your surgery will be 7 to 10 days after your surgery. Call your doctor's office to schedule your appointment.

## Managing your pain

People have pain or discomfort for different lengths of time. You may still have some pain when you go home and will probably be taking pain medicine. Some people have soreness, tightness, or muscle aches around their incision for 6 months or longer. This doesn't mean something is wrong.

Follow these guidelines to help manage your pain at home.

- Take your medicine(s) as directed and as needed.
- Call your healthcare provider if the medicine prescribed for you does not help your pain.
- Do not drive or drink alcohol while you're taking prescription pain medicine. Some prescription pain medicines can make you drowsy (very sleepy). Alcohol can make the drowsiness worse.
- You'll have less pain and need less pain medicine as your incision heals. An over-the-counter pain reliever will help with aches and discomfort. Acetaminophen (Tylenol®) and ibuprofen (Advil® or Motrin®) are examples of over-the-counter pain relievers.
  - Follow your healthcare provider's instructions for stopping your prescription pain medicine.
  - Do not take too much of any medicine. Follow the instructions on the label or from your healthcare provider.

- Read the labels on all the medicines you're taking. This is very important if you're taking acetaminophen. Acetaminophen is an ingredient in many over-the-counter and prescription medicines. Taking too much can harm your liver. Do not take more than one medicine that has acetaminophen without talking with a member of your care team.
- Pain medicine should help you get back to your usual activities. Take enough to do your activities and exercises comfortably. You may have a little more pain as you start to be more active.
- Keep track of when you take your pain medicine. It works best 30 to 45 minutes after you take it. Taking it when you first have pain is better than waiting for the pain to get worse.

Some prescription pain medicines, such as opioids, may cause constipation. Constipation is when you poop less often than usual, have a harder time pooping, or both.

## **Caring for your incisions**

- Check your incisions daily for any signs of infection, including redness, swelling, or drainage.
- Keep your incisions clean and dry for 5 days after your surgery. Don't shower for 5 days after your surgery. Avoid baths, hot tubs, and swimming pools until your doctor tells you it's okay.
- Don't use a hair dryer, creams, ointment, or hair products on your incisions until they're completely healed. This takes about 6 weeks.

It's normal for the skin below your incisions to feel numb. This happens because some of your nerves were cut during your surgery. The numbness will go away over time.

Call your doctor's office if:

- The skin around your incisions is very red.
- The skin around your incisions is getting more red.
- You see drainage that looks like pus (thick and milky).

If you go home with staples or stitches in your incisions, your doctor will take them out during your first appointment after surgery. This is usually 7 to 10 days after your surgery.

## Showering

**Do not shower for 5 days after your surgery.** You may take a sponge bath during this time, but don't get your incision wet. Don't use dry shampoo, creams or lotions near your incisions.

**After 5 days, take a shower every day to clean your incision.** If you have staples in your incision, it's okay to get them wet.

Use mild shampoo, such as baby shampoo and soap during your shower.

After you shower, pat the area dry with a clean towel and leave your incision uncovered. Don't put any creams, lotions, or powders on your incision.

## Physical activity and exercise

Your incision may look like it's healed on the outside when you leave the hospital. It will not be healed on the inside. For the first 4 to 6 weeks after your surgery:

- Do not lift anything heavier than 10 pounds (4.5 kilograms).
- Do not do any high-energy activities, such as jogging and tennis.
- Do not play any contact sports, such as football.

Doing physical activity, such as walking and stair climbing, will help you gain strength and feel better. Try to get 20 to 30 minutes of physical activity at least 2 to 3 times a day. For example, you can walk outside or indoors at your local mall or shopping center.

It's common to have less energy than usual after surgery. Recovery time is different for everyone. Do more activity each day as much as you can. Always balance activity periods with rest periods. Rest is an important part of your recovery.

## **Driving**

Ask your healthcare provider when you can drive. Most people can start driving again 4 to 6 weeks after surgery. Do not drive while you're taking pain medicine that may make you drowsy.

You can ride in a car as a passenger at any time after you leave the hospital.

## **Going back to work**

Talk with your healthcare provider about your job. They'll tell you when it may be safe for you to start working again based on what you do. If you move around a lot or lift heavy objects, you may need to stay out a little longer. If you sit at a desk, you may be able to go back sooner.

## **Traveling**

You can travel by bus, train or car. Don't travel on an airplane until your doctor says it's okay.

When traveling a long distance, don't sit for long periods of time. Stop every 2 hours and walk around. This will help keep blood clots from forming in your legs.

## **Managing your feelings**

You may have new and upsetting feelings after a surgery for a serious illness. Many people say they felt weepy, sad, worried, nervous, irritable, or angry at one time or another. You may find that you cannot control some of these feelings. If this happens, it's a good idea to seek emotional support. Your healthcare provider can refer you to MSK's Counseling Center. You can also reach them by calling 646-888-0200.

The first step in coping is to talk about how you feel. Family and friends can help. We can also reassure, support, and guide you. It's always a good idea to let us know how you, your family, and your friends are feeling emotionally. Many resources are available to you and your family. We're here to help you and your family and friends handle the emotional aspects of your illness. We can help no matter if you're in the hospital or at home.

## **Going back to your normal activities**

You can go back to doing your normal activities when your doctor tells you it's okay. If you plan to exercise, ask your doctor if it's safe.

You will then have regular visits with your neurologist, neurosurgeon, or both. They will check on the function of your VP shunt over time.

## **Safety precautions for your VP shunt**

### **Precautions with magnets**

The pressure setting of some VP shunts may accidentally change if you get too close to a magnet. This depends on the VP shunt model.

Ask your doctor if you need to take precautions (safety measures) when coming into contact with magnets. Be sure to follow the VP shunt manufacturer's guidelines for magnet precautions specific for your type of shunt. Your doctor will go over these guidelines with you.



Here are some general rules for many programmable shunts:

- Keep all products with magnets at least 2 inches away from the valve implant site (your head).
- Don't use magnetic therapy pads and pillows.

## **Precautions with magnetic resonance imaging (MRI)**

If you need to have magnetic resonance imaging (MRI), you must tell your MRI technologist that you have a VP shunt **before you have the test**. Your technologist will need to know the model of your shunt and its setting.

Your nurse will give you a wallet card with this information. Carry it with you at all times. You can show your technologist the wallet card.

Depending on the type of VP shunt you have, the magnet in the MRI machine may change your shunt's pressure setting. In this case, **after your MRI, the pressure setting will need to be checked and may need to be reprogrammed by your doctor or nurse practitioner**. In some cases, you may need to have X-rays to find out if the pressure setting has changed.

Some types of VP shunts aren't affected by MRI. Ask your doctor or nurse if your shunt will need to be reprogrammed after an MRI. No matter what type of VP shunt you have, you won't need to take any precautions if you're having a computed tomography (CT) scan, positron emission tomography (PET) scan, or an X-ray.

**If your VP shunt type needs to be reprogrammed after an MRI, you must schedule an appointment with your doctor or nurse to reprogram your VP shunt after your MRI.** Your shunt should be reprogrammed within 4 hours after your MRI.

## Precautions for abdominal surgery

If you ever need to have abdominal surgery, you must tell your doctor so that precautions can be taken. Tell your doctor if you have peritonitis or diverticulitis and you need emergency surgery or antibiotics. Peritonitis is a condition in which the tissue that covers your abdomen is inflamed. Diverticulitis is a condition in which small, bulging pouches develop in the intestines or colon.

## MedicAlert® jewelry

You should always wear a MedicAlert® bracelet or necklace that says you have hydrocephalus and a VP shunt. If you're ever very sick or hurt and need medical help, MedicAlert jewelry will let emergency service workers know about your VP shunt.

You can purchase this type of bracelet or necklace at most drug stores. For more information, visit the MedicAlert® website at: [www.medicalert.org](http://www.medicalert.org).

Notes \_\_\_\_\_

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# When to call your healthcare provider



Call your doctor or nurse if you have any of the following signs and symptoms that your VP shunt isn't working properly:

- Vomiting with little or no nausea.
- A constant headache that won't go away.
- Problems with your eyesight, such as blurry vision, double vision, or loss of vision.
- Irritability.
- Fatigue.
- Loss of coordination or balance.
- Swelling, redness, or both, of the skin that runs along the shunt path
- Difficulty waking up or staying awake.

Call your doctor or nurse if you have signs and symptoms of a VP shunt infection. A VP shunt infection can happen when bacteria infect the tissue around your VP shunt. When the tissue is infected, it can cause your VP shunt to stop working properly and increase pressure in your brain. The signs and symptoms of a VP shunt infection include:

- A fever of 100.4° F (38° C) or higher
- Redness, swelling, or both, of the skin that runs along the shunt path
- Pain around the shunt or around the shunt catheter from the head to the abdomen

These warning signs can happen quickly. If any of these symptoms develop, call your doctor or nurse immediately.





# **MSK support services**

## **Admitting Office**

212-639-7606

Call if you have questions about your hospital admission, such as asking for a private room.

## **Anesthesia**

212-639-6840

Call if you have questions about anesthesia.

## **Blood Donor Room**

212-639-7643

Call for information if you're interested in donating blood or platelets.

## **Bobst International Center**

888-675-7722

We welcome patients from around the world and offer many services to help. If you're an international patient, call for help arranging your care.

## **Counseling Center**

[www.msk.org/counseling](http://www.msk.org/counseling)

646-888-0200

Many people find that counseling helps them. Our Counseling Center offers counseling for individuals, couples, families, and groups. We can also prescribe medicine to help if you feel anxious or depressed. Ask a member of your care team for a referral or call the number above to make an appointment.

## **Food Pantry Program**

646-888-8055

We give food to people in need during their cancer treatment. Talk with a member of your care team or call the number above to learn more.

## **Integrative Medicine Service**

[www.msk.org/integrativemedicine](http://www.msk.org/integrativemedicine)

Our Integrative Medicine Service offers many services to complement (go along with) traditional medical care. For example, we offer music therapy, mind/body therapies, dance and movement therapy, yoga, and touch therapy. Call 646-449-1010 to make an appointment for these services.

You can also schedule a consultation with a healthcare provider in the Integrative Medicine Service. They'll work with you to make a plan for creating a healthy lifestyle and managing side effects. Call 646-608-8550 to make an appointment for a consultation.

## **MSK Library**

[library.mskcc.org](http://library.mskcc.org)

212-639-7439

You can visit our library website or call to talk with the library reference staff. They can help you find more information about a type of cancer. You can also visit the library's Patient and Health Care Consumer Education Guide at [libguides.mskcc.org/patienteducation](http://libguides.mskcc.org/patienteducation)

## **Nutrition Services**

[www.msk.org/nutrition](http://www.msk.org/nutrition)

212-639-7312

Our Nutrition Service offers nutritional counseling with one of our clinical dietitian nutritionists. Your clinical dietitian nutritionist will talk with you about your eating habits. They can also give advice on what to eat during and after treatment. Ask a member of your care team for a referral or call the number above to make an appointment.

## **Patient and Community Education**

[www.msk.org/pe](http://www.msk.org/pe)

Visit our patient and community education website to search for educational resources, videos, and online programs.

## **Patient Billing**

646-227-3378

Call if you have questions about preauthorization with your insurance company. This is also called preapproval.

## **Patient Representative Office**

212-639-7202

Call if you have questions about the Health Care Proxy form or concerns about your care.

## **Perioperative Nurse Liaison**

212-639-5935

Call if you have questions about MSK releasing any information while you're having surgery.

## **Private Duty Nurses and Companions**

917-862-6373

You can request private nurses or companions to care for you in the hospital and at home. Call to learn more.

## **Rehabilitation Services**

[www.msk.org/rehabilitation](http://www.msk.org/rehabilitation)

Cancers and cancer treatments can make your body feel weak, stiff, or tight. Some can cause lymphedema (swelling). Our physiatrists (rehabilitation medicine doctors), occupational therapists (OTs), and physical therapists (PTs) can help you get back to your usual activities.

- **Rehabilitation medicine doctors** diagnose and treat problems that affect how you move and do activities. They can design and help coordinate your rehabilitation therapy program, either at MSK or somewhere closer to home. Call Rehabilitation Medicine (Physiatry) at 646-888-1929 to learn more.
- An **OT** can help if you're having trouble doing usual daily activities. For example, they can recommend tools to help make daily tasks easier. A



PT can teach you exercises to help build strength and flexibility. Call Rehabilitation Therapy at 646-888-1900 to learn more.

### **Resources for Life After Cancer (RLAC) Program**

646-888-8106

At MSK, care does not end after your treatment. The RLAC Program is for patients and their families who have finished treatment.

This program has many services. We offer seminars, workshops, support groups, and counseling on life after treatment. We can also help with insurance and employment issues.

### **Sexual Health Programs**

Cancer and cancer treatments can affect your sexual health, fertility, or both. MSK's sexual health programs can help you before, during, or after your treatment.

- Our **Female Sexual Medicine and Women's Health Program** can help with sexual health problems such as premature menopause or fertility issues. Ask a member of your MSK care team for a referral or call 646-888-5076 to learn more.
- Our **Male Sexual and Reproductive Medicine Program** can help with sexual health problems such as erectile dysfunction (ED). Ask a member of your care team for a referral or call 646-888-6024 to learn more.

### **Social Work**

[www.msk.org/socialwork](http://www.msk.org/socialwork)

212-639-7020

Social workers help patients, families, and friends deal with common issues for people who have cancer. They provide individual counseling and support groups throughout your treatment. They can help you communicate with children and other family members.

Our social workers can also help refer you to community agencies and programs. If you're having trouble paying your bills, they also have information about financial resources. Call the number above to learn more.

### **Spiritual Care**

212-639-5982

Our chaplains (spiritual counselors) are available to listen, help support family members, and pray. They can contact community clergy or faith groups, or simply be a comforting companion and a spiritual presence. Anyone can ask for spiritual support. You do not have to have a religious affiliation (connection to a religion).

MSK's interfaith chapel is located near Memorial Hospital's main lobby. It's open 24 hours a day. If you have an emergency, call 212-639-2000. Ask for the chaplain on call.

### **Tobacco Treatment Program**

[www.msk.org/tobacco](http://www.msk.org/tobacco)

212-610-0507

If you want to quit smoking, MSK has specialists who can help. Call to learn more.

### **Virtual Programs**

[www.msk.org/vp](http://www.msk.org/vp)

We offer online education and support for patients and caregivers. These are live sessions where you can talk or just listen. You can learn about your diagnosis, what to expect during treatment, and how to prepare for your cancer care.

Sessions are private, free, and led by experts. Visit our website to learn more about Virtual Programs or to register.







These are the educational resources that were mentioned in this guide. You can find them online or ask a member of your care team for a printed copy.

- ***A Guide for Caregivers*** ([www.msk.org/pe/guide\\_caregivers](http://www.msk.org/pe/guide_caregivers))
- ***Advance Care Planning for Cancer Patients and Their Loved Ones*** ([www.msk.org/pe/advance\\_care\\_planning](http://www.msk.org/pe/advance_care_planning))
- ***Call! Don't Fall!*** ([www.msk.org/pe/call\\_dont\\_fall](http://www.msk.org/pe/call_dont_fall))
- ***How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil*** ([www.msk.org/pe/check-med-supplement](http://www.msk.org/pe/check-med-supplement))
- ***Frequently Asked Questions About Walking After Your Surgery*** ([www.msk.org/pe/walking\\_after\\_surgery](http://www.msk.org/pe/walking_after_surgery))
- ***Herbal Remedies and Cancer Treatment*** ([www.msk.org/pe/herbal\\_remedies](http://www.msk.org/pe/herbal_remedies))
- ***How to Be a Health Care Agent*** ([www.msk.org/pe/health\\_care\\_agent](http://www.msk.org/pe/health_care_agent))
- ***How to Enroll in MyMSK: Memorial Sloan Kettering's Patient Portal*** ([www.msk.org/pe/enroll\\_mymask](http://www.msk.org/pe/enroll_mymask))
- ***How to Use Your Incentive Spirometer*** ([www.msk.org/pe/incentive\\_spirometer](http://www.msk.org/pe/incentive_spirometer))
- ***What You Can Do to Avoid Falling*** ([www.msk.org/pe/avoid\\_falling](http://www.msk.org/pe/avoid_falling))



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PATIENT & CAREGIVER EDUCATION

# Call! Don't Fall!

This information describes what you can do to keep from falling and stay safe while you're in the hospital. Being in the hospital can make you weak. Follow these guidelines to avoid falling.

- Call for help every time you need to get out of bed or up from a chair.
- Don't go to the bathroom alone.
- Don't bend over. If you drop something, call for help.
- Don't lean on furniture that has wheels, such as your bedside table, over-bed table, or IV pole.
- Wear safe, supportive shoes. Examples include shoes with laces and slippers with nonskid soles. Don't wear shoes or slippers with an open back.
- Call for help right away if you see any spills on the floor.
- Use the grab bars in the bathroom and railings in the hallways.
- If you have glasses or hearing aid(s), wear them when you're awake.
- Let us know what you will need near you. Help us make sure we have:
  - Placed your call button where you can reach it
  - Placed items you may need (such as your phone, books, or glasses) where you can reach them
  - Turned on a night light before it gets dark
  - Raised the top bedrail to keep you safe
  - Removed any clutter from around your bedside and chairside



**Call!  
Don't Fall!**

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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Call! Don't Fall! - Last updated on December 19, 2017

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PATIENT & CAREGIVER EDUCATION

# Herbal Remedies and Cancer Treatment

This information explains herbal remedies and how they can affect your treatment.

## About Herbal Remedies

Herbal remedies are any herbs, botanical (plant-based) supplements, or dietary supplements you take for their health benefits. These may come as tablets, capsules, powders, teas, liquid extracts, and fresh or dried plants.

Some herbal remedies can help prevent or manage side effects of cancer or your treatment. The herbal remedies that can help you depend on what symptoms you have and what treatment you're getting.

Even though herbal remedies can feel safe, they may not all be safe. Herbal remedies do not go through the same testing as prescription medications to make sure they work and are safe.

Some herbal remedies may be harmful. This is because they can:

- Affect how your other medications work.
- Raise or lower your blood pressure.
- Thin your blood and increase your risk of bleeding.
- Keep radiation therapy from working as well as it should.
- Change how your body reacts to sedation (medication to make you calmer) or general anesthesia (medication to make you sleepy).

Talk with your healthcare provider about any herbal remedies or other

supplements you are taking. They can provide an open and safe space to talk about these products.

For more information about herbs and supplements, visit [www.aboutherbs.com](http://www.aboutherbs.com) or call MSK's Integrative Medicine Service at 646-608-8550.

## **Stop taking herbal remedies before your treatment**

**Stop taking herbal remedies and other dietary supplements 7 days (1 week) before you:**

- Have surgery.
- Start chemotherapy.
- Start radiation therapy.
- Have certain procedures. Your healthcare provider will let you know if you need to stop taking herbal remedies before your procedure.

Herbal remedies and other dietary supplements can cause bleeding and affect your treatment. Follow your healthcare provider's instructions for when to restart taking herbal remedies.

You can still use some herbs in your food and drinks, such as using spices in cooking and drinking tea. Herbal remedies are stronger than the herbs you cook with.

## **Common Herbal Remedies and Their Effects**

These are some commonly used herbs and their side effects on cancer treatments.

### **Echinacea (EH-kih-NAY-shuh)**

- Can cause rare but serious allergic reactions, such as a rash or trouble breathing.
- Can keep medications that weaken your immune system from working as well as they should.

## **Garlic**

- Can lower your blood pressure and cholesterol levels.
- Can increase your risk of bleeding.

## **Gingko (also known as Gingko biloba)**

- Can increase your risk of bleeding.

## **Ginseng (JIN-seng)**

- Can keep sedation or general anesthesia from working as well as they should.
- Can increase your blood pressure.
- Can increase your risk of bleeding.
- Can lower your blood glucose (sugar) level.

## **Turmeric (TER-mayr-ik)**

- Can keep chemotherapy from working as well as it should.

## **St. John's Wort**

- Can keep some medications from working as well as they should.
- Can make your skin more sensitive to radiation or laser treatment.

## **Valerian (vuh-LEER-ee-un)**

- Can make sedation or general anesthesia affect you more than they should.

## **Herbal formulas**

- Herbal formulas contain many different herbs and dosages.
- Stop taking these products 7 days (1 week) before treatment. Do not start taking herbal formulas again until your healthcare provider tells you it is safe.

This information does not cover all herbal remedies or possible side effects. Talk with your healthcare provider if you have any questions or concerns.

## Contact Information

- To schedule a consultation with a healthcare provider in Integrative Medicine, call 646-608-8550.
- To make an appointment for Integrative Medicine Service's therapies, classes, and workshops, call 646-449-1010.

For more information, visit [www.mskcc.org/IntegrativeMedicine](http://www.mskcc.org/IntegrativeMedicine) or read *Integrative Medicine Therapies and Your Cancer Treatment* ([www.mskcc.org/pe/integrative\\_therapies](http://www.mskcc.org/pe/integrative_therapies)).

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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Herbal Remedies and Cancer Treatment - Last updated on May 5, 2022

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PATIENT & CAREGIVER EDUCATION

# How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil

This information will help you check if your medicines or dietary supplements have aspirin, other NSAIDs, vitamin E, or fish oil as an active ingredient. NSAID stands for nonsteroidal anti-inflammatory drug.

It's important to stop taking these medicines and supplements before many cancer treatments. They affect your platelets (blood cells that clot to prevent bleeding) and can raise your risk of bleeding.

Other dietary supplements, such as vitamins and herbal remedies, can also affect your cancer treatment. Read *Herbal Remedies and Cancer Treatment* ([www.mskcc.org/pe/herbal\\_remedies](http://www.mskcc.org/pe/herbal_remedies)) to learn more.

**Make sure your healthcare provider always knows all the prescription and over-the-counter medicines and supplements you're taking.** This includes patches and creams.

A prescription medicine is one you can only get with a prescription from your healthcare provider. An over-the-counter medicine is one you can buy without a prescription.

# What is an active ingredient?

An active ingredient is the part of a medicine or supplement that makes it work. Some medicines and supplements have just one active ingredient. Others have more. For example:

- Ibuprofen is the active ingredient in Advil® and Motrin®. Ibuprofen is an NSAID.
- Naproxen is the active ingredient in Aleve®. Naproxen is an NSAID.
- Acetaminophen is the active ingredient in Tylenol®.
- Aspirin, acetaminophen, and caffeine are the active ingredients in Excedrin®.

Generic medicines sometimes use their active ingredient as their name. But people often call medicines and supplements by a brand name, even if they're generic. This can make it hard to know their active ingredients.

## How to find a medicine or supplement's active ingredients

You can always find the active ingredients by reading the label.

### Over-the-counter medicines

Over-the-counter medicines list their active ingredients in the "Drug Facts" label (see Figure 1). Active ingredients are always the first thing on the Drug Facts label.

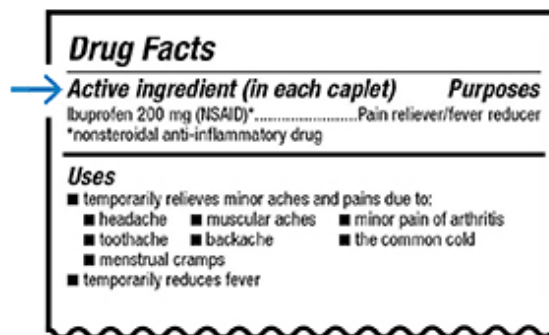


Figure 1. Active ingredients on an over-the-counter medicine label

# Prescription medicines

Prescription medicines list their active ingredients on the label. Their active ingredients and their generic name are the same thing.

Labels often look different depending on which pharmacy you use. Here’s an example of where to find a medicine’s active ingredients (generic name) on a label from MSK’s pharmacy (see Figure 2).

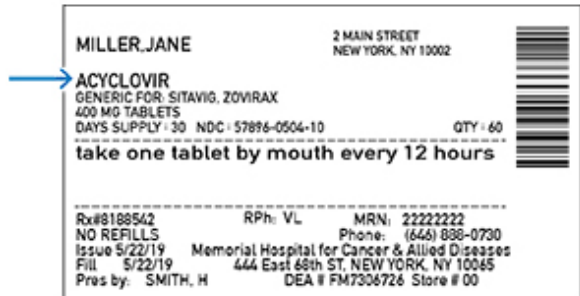


Figure 2. Active ingredients on a prescription medicine label

# Dietary supplements

Dietary supplements list their active ingredients in the “Supplement Facts” label (see Figure 3). The active ingredients always have an amount per serving and % daily value included.

	Amount Per Serving	% Daily Value
Vitamin A (as retinyl acetate and 50% as beta-carotene)	5000 IU	100%
Vitamin C (as ascorbic acid)	60 mg	100%
Vitamin D (as cholecalciferol)	400 IU	100%
Vitamin E (as di-alpha tocopheryl acetate)	90 IU	100%
Thiamin (as thiamin mononitrate)	1.5 mg	100%
Riboflavin	1.7 mg	100%
Niacin (as niacinamide)	20 mg	100%
Vitamin B <sub>6</sub> (as pyridoxine hydrochloride)	2.0 mg	100%
Folate (as folic acid)	400 mcg	100%
Vitamin B <sub>12</sub> (as cyanocobalamin)	6 mcg	100%
Biotin	30 mcg	10%
Pantothenic Acid (as calcium pantothenate)	10 mg	100%

Other ingredients: Gelatin, lactose, magnesium stearate, microcrystalline cellulose, FD&C Yellow No. 6, propylene glycol, propylparaben, and sodium benzoate.

Figure 3. Active ingredients on a supplement label

## Active ingredients to look for

If your medicine or supplement has any of these active ingredients, you may need to stop taking it before, during, or after your cancer treatment or surgery. Follow your care team's instructions.

Active ingredients to look for		
<ul style="list-style-type: none"><li>• Acetylsalicylic acid</li><li>• Alpha-linolenic acid (ALA)</li><li>• Aspirin</li><li>• Acetaminophen*</li><li>• Celecoxib</li><li>• Diclofenac</li><li>• Diflunisal</li><li>• Docosahexaenoic acid (DHA)</li><li>• Eicosapentaenoic acid (EPA)</li></ul>	<ul style="list-style-type: none"><li>• Etodolac</li><li>• Fish oil</li><li>• Fenoprofen Flurbiprofen</li><li>• Ibuprofen</li><li>• Indomethacin</li><li>• Ketoprofen</li><li>• Ketorolac</li><li>• Meclofenamate</li><li>• Mefenamic acid</li><li>• Meloxicam</li></ul>	<ul style="list-style-type: none"><li>• Nabumetone</li><li>• Naproxen</li><li>• Omega-3 fatty acids</li><li>• Omega-6 fatty acids</li><li>• Oxaprozin</li><li>• Piroxicam</li><li>• Sulindac</li><li>• Tolmetin</li><li>• Vitamin E</li></ul>

\* The full name acetaminophen isn't always written out. Look for the common abbreviations listed below, especially on prescription pain relievers.

Common abbreviations for acetaminophen		
<ul style="list-style-type: none"><li>• APAP</li><li>• Acetamin</li></ul>	<ul style="list-style-type: none"><li>• AC</li><li>• Acetam</li></ul>	<ul style="list-style-type: none"><li>• Acetaminop</li><li>• Acetaminoph</li></ul>

## About acetaminophen (Tylenol)

In general, acetaminophen is safe to take during cancer treatment. It doesn't affect platelets. That means it will not raise your chance of bleeding. If you're getting chemotherapy, talk with your healthcare provider before taking acetaminophen.

There is a limit to how much acetaminophen you can take in a day. Always follow the instructions from your care team or on the medicine's label.



Acetaminophen is in many different prescription and over-the-counter medicines. It's possible to take too much without knowing. **Always read the label on the medicines you take.** Do not take more than 1 medicine that has acetaminophen at a time without talking with a member of your care team.

## **Instructions before your cancer treatment**

Tell your healthcare provider if you take aspirin, other NSAIDs, vitamin E, or fish oil. They'll tell you if you need to stop taking it. You'll also find instructions in the information about your treatment.

### **Before your surgery**

Follow these instructions if you're having surgery or a surgical procedure. **If your healthcare provider gives you other instructions, follow those instead.**

- If you take aspirin or a medicine that has aspirin, you may need to change your dose or stop taking it 7 days before your surgery. Follow your healthcare provider's instructions. **Do not stop taking aspirin unless your healthcare provider tells you to.**
- If you take vitamin E, fish oil, or a supplement that has vitamin E or fish oil, stop taking it 7 days before your surgery or as directed by your healthcare provider.
- If you take an NSAID or a medicine that has an NSAID, stop taking it 48 hours (2 days) before your surgery or as directed by your healthcare provider.

## Before your radiology procedure

Follow these instructions if you're having a radiology procedure (including Interventional Radiology, Interventional Mammography, Breast Imaging, and General Radiology). **If your healthcare provider gives you other instructions, follow those instead.**

- If you take aspirin or a medicine that has aspirin, you may need to stop taking it 5 days before your procedure. Follow your healthcare provider's instructions. **Do not stop taking aspirin unless your healthcare provider tells you to.**
- If you take an NSAID or a medicine that has an NSAID, you may need to stop taking it 24 hours (1 day) before your procedure. Follow your healthcare provider's instructions.

## Before and during your chemotherapy

Chemotherapy can lower your platelet count, which can increase your risk of bleeding. No matter if you're just starting chemotherapy or have been getting it, talk with your healthcare provider before taking aspirin, other NSAIDs, vitamin E, or fish oil.

If you have any questions, contact a member of your care team directly. If you're a patient at MSK and you need to reach a provider after 5 p.m., during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil - Last updated on November 29, 2023

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PATIENT & CAREGIVER EDUCATION

# How To Use Your Incentive Spirometer

This information will help you learn how to use your incentive spirometer (in-SEN-tiv spy-rah-MEE-ter). It also answers some common questions about it.

## About your incentive spirometer

After your surgery you may feel weak and sore, and it may be uncomfortable to take deep breaths. Your healthcare provider may recommend using a device called an incentive spirometer (see Figure 1). It helps you practice taking deep breaths.

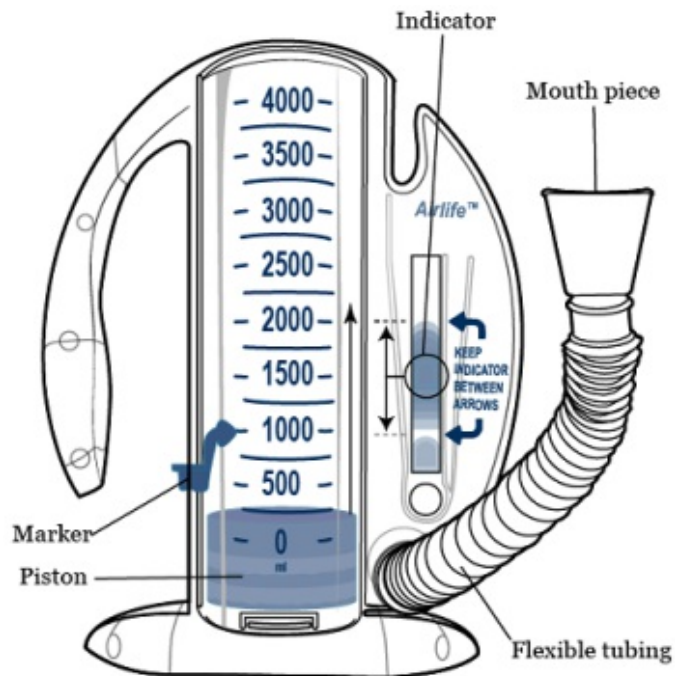


Figure 1. Parts of an incentive spirometer

It's important to use your incentive spirometer after your surgery. Using an incentive spirometer:

- Helps your lungs expand so you can take deep, full breaths.
- Exercises your lungs and makes them stronger as you heal from surgery.

**If you have a respiratory infection, do not use your incentive spirometer around other people.** A respiratory infection is an infection in your nose, throat, or lungs, such as pneumonia (noo-MOH-nyuh) or COVID-19. This kind of infection can spread from person to person through the air.

## How to use your incentive spirometer

Here is a video that shows how to use your incentive spirometer:



Please visit [www.mskcc.org/pe/incentive\\_spirometer\\_video](http://www.mskcc.org/pe/incentive_spirometer_video) to watch this video.

### Setting up your incentive spirometer

Before you use your incentive spirometer for the first time, you will need to set it up. First, take the flexible (bendable) tubing out of the bag and stretch it out. Then, connect the tubing to the outlet on the right side of the base (see Figure 1). The mouthpiece is attached to the other end of the tubing.

### Knowing what number to aim for on your incentive spirometer

Your healthcare provider will teach you how to use your incentive spirometer before you leave the hospital. They will help you set a goal and tell you what number to aim for when using your spirometer. If a goal was not set for you, talk with your healthcare provider. Ask them what number you should aim for.

You can also check the package your incentive spirometer came in. It may have a chart to help you figure out what number to aim for. To learn more, read "What number I should aim for?" in the "Common questions about your

incentive spirometer” section.

## **Using your incentive spirometer**

When using your incentive spirometer, make sure to breathe through your mouth. If you breathe through your nose, your spirometer will not work right.

Follow these steps to use your incentive spirometer. Repeat these steps every hour you’re awake. Follow the instructions from your healthcare provider if they’re different from the ones here.

1. Sit upright in a chair or in bed. Hold your incentive spirometer at eye level.
2. Put the mouthpiece in your mouth and close your lips tightly around it. Make sure you do not block the mouthpiece with your tongue.
3. With the mouthpiece in your mouth, breathe out (exhale) slowly and fully.
  - Some people may have trouble exhaling with the mouthpiece in their mouth. If you do, take the mouthpiece out of your mouth, and then exhale slowly and fully. After you exhale, put the mouthpiece back in your mouth and go on to step 4.
4. Breathe in (inhale) slowly through your mouth, as deeply as you can. You will see the piston slowly rise inside the spirometer. The deeper you breathe in, the higher the piston will rise.
5. As the piston rises, the coaching indicator on the right side of the spirometer should also rise. It should float between the 2 arrows (see Figure 1).
  - The coaching indicator measures the speed of your breath. If it does not stay between the 2 arrows, you’re breathing in either too fast or too slow.
    - If the indicator rises above the higher arrow, you’re breathing in too fast. Try to breathe in slower.
    - If the indicator stays below the lower arrow, you’re breathing in too slow. Try to breathe in faster.

6. When you cannot breathe in any further, hold your breath for at least 3 to 5 seconds. Hold it for longer if you can. You will see the piston slowly fall to the bottom of the spirometer.
7. Once the piston reaches the bottom of the spirometer, breathe out slowly and fully through your mouth. If you want, you can take the mouthpiece out of your mouth first and then breathe out.
8. Rest for a few seconds. If you took the mouthpiece out of your mouth, put it back in when you're ready to start again.
9. Repeat steps 1 to 8 at least 10 times. Try to get the piston to the same level with each breath. After you have done the exercise 10 times, go on to step 10.
10. Use the marker on the left side of the spirometer to mark how high the piston rises (see Figure 1). **Look at the very top of the piston, not the bottom. The number you see at the top is the highest number the piston reached. Put the marker there.** This is how high you should try to get the piston the next time you use your spirometer.
  - Write down the highest number the piston reached. This can help you change your goals and track your progress over time.

**Take 10 breaths with your incentive spirometer every hour you're awake.**

Cover the mouthpiece of your incentive spirometer when you're not using it.

## **Tips for using your incentive spirometer**

Follow these tips when using your incentive spirometer:

- If you had surgery on your chest or abdomen (belly), it may help to splint your incision (surgical cut). To do this, hold a pillow firmly against your incision. This will keep your muscles from moving as much while you're using your incentive spirometer. It will also help ease pain at your incision.
- If you need to clear your lungs, you can try to cough a few times. As

you're coughing, hold a pillow against your incision, as needed.

- If you feel dizzy or lightheaded, take the mouthpiece out of your mouth. Then, take a few normal breaths. Stop and rest for a while, if needed. When you feel better, you can go back to using your incentive spirometer.
- You may find it hard to use your incentive spirometer at first. If you cannot make the piston rise to the number your healthcare provider set for you, it's OK. Reaching your goal takes time and practice. It's important to keep using your spirometer as you heal from surgery. The more you practice, the stronger your lungs will get.

## **Common questions about your incentive spirometer**

### **How often should I use my incentive spirometer?**

How often you will need to use your incentive spirometer is not the same for everyone. It depends on the type of surgery you had and your recovery process.

Most people can take 10 breaths with their spirometer every hour they're awake.

Your healthcare provider will tell you how often to use your spirometer. Follow their instructions.

### **How long after my surgery will I need to use my incentive spirometer?**

The length of time you will need to use your incentive spirometer is not the same for everyone. It depends on the type of surgery you had and your recovery process.

Your healthcare provider will tell you how long you need to use your spirometer. Follow their instructions.

## **How do I clean my incentive spirometer?**

An incentive spirometer is a disposable device and only meant to be used for a short time. Because of this, you may not find cleaning instructions in the package your spirometer came in. If you have questions about cleaning your spirometer, talk with your healthcare provider.

## **What do the numbers on my incentive spirometer measure?**

The large column of your incentive spirometer has numbers on it (see Figure 1). These numbers measure the volume of your breath in milliliters (mL) or cubic centimeters (cc). The volume of your breath is how much air you can breathe into your lungs (inhale).

For example, if the piston rises to 1500, it means you can inhale 1500 mL or cc of air. The higher the number, the more air you're able to inhale, and the better your lungs are working.

## **What number I should aim for?**

The number you should aim for depends on your age, height, and sex. It also depends on the type of surgery you had and your recovery process. Your healthcare provider will look at these things when setting a goal for you. They will tell you what number to aim for.

Most people start with a goal of 500 mL or cc. Your healthcare provider may change your goal and have you aim for higher numbers as you heal from surgery.

The package your incentive spirometer came in may have a chart. You can use the chart to set your goal based on your age, height, and sex. If you cannot find this information, ask your healthcare provider what your goal should be.



## What does the coaching indicator on my incentive spirometer measure?

The coaching indicator on your incentive spirometer measures the speed of your breath. As the speed of your breath changes, the indicator moves up and down.

Use the indicator to guide your breathing. If the indicator rises above the higher arrow, it means you're breathing in too fast. If the indicator stays below the lower arrow, it means you're breathing in too slow.

Aim to keep the indicator between the 2 arrows (see Figure 1). This means your breath is steady and controlled.

## When to call your healthcare provider

Call your healthcare provider if you have any of these when using your incentive spirometer:

- Feel dizzy or lightheaded.
- Pain in your lungs or chest.
- Severe (very bad) pain when you take deep breaths.
- Trouble breathing.
- Coughing up blood.
- Fluid or blood coming from your incision site when you cough.
- Trouble using your spirometer for any reason.

If you have any questions, contact a member of your care team directly. If you're a patient at MSK and you need to reach a provider after 5 p.m., during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

How To Use Your Incentive Spirometer - Last updated on November 24, 2023

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# What You Can Do to Avoid Falling

This information describes what you can do to keep from falling when you come for your appointments at Memorial Sloan Kettering (MSK). It also describes how you can keep from falling while you're at home.

## About Falls

Falls can be very harmful, but there are many ways you can prevent them. Falls can delay your treatment and can make your hospital stay longer. They can also cause you to need more tests, such as magnetic resonance imaging (MRI). Ongoing cancer treatment may also increase your chances of falling and getting hurt.

## Things That Can Make You Fall

Anyone can fall, but some things make you more likely to fall. You're at higher risk for falling if you:

- Are 60 years old or older
- Have fallen before
- Are afraid of falling
- Feel weak, tired, or forgetful
- Have numbness or tingling in your legs or feet
- Have trouble walking or are unsteady
- Can't see well
- Can't hear well
- Feel dizzy, lightheaded, or confused

- Use a walker or cane
- Have depression (strong feelings of sadness) or anxiety (strong feelings of worry or fear)
- Have had a recent surgery with anesthesia (medication that makes you sleep)
- Take certain medications, such as:
  - Laxatives (pills to cause a bowel movement)
  - Diuretics (water pills)
  - Sleeping pills
  - Medications to prevent seizures
  - Some medications for depression and anxiety
  - Pain medications, such as opioid medications
  - Intravenous (IV) fluids (fluids into your vein)
  - Any medication that makes you feel sleepy or dizzy

## How to Avoid Falling During Your MSK Appointments

The following are tips to help you stay safe and avoid falling while you're at MSK:

- Come to your appointment with someone who can help you get around.
- If you use an assistive device such as a wheelchair or cane, bring it to your appointment.
- Wear safe, supportive shoes. Examples include shoes that have a low heel height, a thin, firm midsole, a slip-resistant sole, and laces or Velcro® to close the shoe. Don't wear shoes with an open back. For more information on choosing safe shoes, read the resource *How to Choose Safe Shoes to Prevent Falling* ([www.mskcc.org/pe/safe\\_shoes](http://www.mskcc.org/pe/safe_shoes)).
- Ask a member of our staff, such as a security guard or person at the front desk, for help while you're at MSK. They can also bring you a wheelchair to use

during your appointment.

- Have someone help you while you're in the dressing room or bathroom. If you don't have anyone with you, tell the person at the reception desk. They will find a nurse to help you.
- Use the grab bars while you're in the bathroom.
- When getting up after lying down, sit at the side of the bed or exam table before you stand up
- When getting up after sitting, don't rush and take your time to stand up, so you don't lose your balance.
- If you feel dizzy or weak, tell someone. If you're in a bathroom, look for a call bell that you can use to call for help.

## How to Avoid Falling at Home

The following are tips to help you stay safe and avoid falling at home:

- Set up your furniture so that you can walk around without anything blocking your way.
- Use a nightlight or keep a flashlight close to you at night.
- Remove rugs and other loose items from your floor. If you have a rug covering a slippery floor, make sure the rug doesn't have any loose or fringed edges.
- If your bathroom isn't close to your bedroom (or wherever you spend most of your time during the day), get a commode. A commode is a type of portable toilet that you can put anywhere in your home. Place it nearby so you don't have to walk to the bathroom.
- Put grab bars and handrails next to your toilet and inside your shower. Never use towel racks to pull yourself up. They aren't strong enough to hold your weight.
- Put anti-slip stickers on the floor of your tub or shower.
- Buy a shower chair and a hand-held shower head so you can sit while taking a shower.

- When getting up after you're lying down, sit for a few minutes before you stand up.
- Place items in your kitchen and bathroom cabinets at shoulder height so you don't have to reach too high or bend too low.
- When you're at an appointment with your provider at MSK, tell them about all the medications you take. Some medications can increase your risk of falling. This includes prescription and over-the-counter medications.
- Stay physically active. Doing simple daily activities, such as walking, can help you stay strong and move around better.

**If you're concerned about your risk for falling, talk with your healthcare provider.**

## Additional Resources

For more information about how to keep from falling at home, read the Centers for Disease Control and Prevention (CDC) booklet *Check for Safety: A Home Fall Prevention Checklist for Older Adults*. It's available in English and Spanish on [www.cdc.gov/steady/patient.html](http://www.cdc.gov/steady/patient.html) or by calling 800-CDC-INFO (800-232-4636).

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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