



About Your Retroperitoneal Lymph Node Dissection

This guide will help you get ready for your retroperitoneal lymph node dissection (RPLND) 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

It's important to choose someone to help you care for yourself before and after your surgery. This person is called 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.mskcc.org/pe/rplnd to view this guide online.

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About Your Retroperitoneal Lymph Node Dissection

About Your Retroperitoneal Lymph Nodes

Your retroperitoneal (REH-troh-PAYR-ih-toh-NEE-ul) lymph nodes are found in the area between your kidneys along a vein (your vena cava) and an artery (your aorta) (see Figure 1). Your vena cava carries blood to your heart. Your aorta carries blood from your heart to the rest of your body.

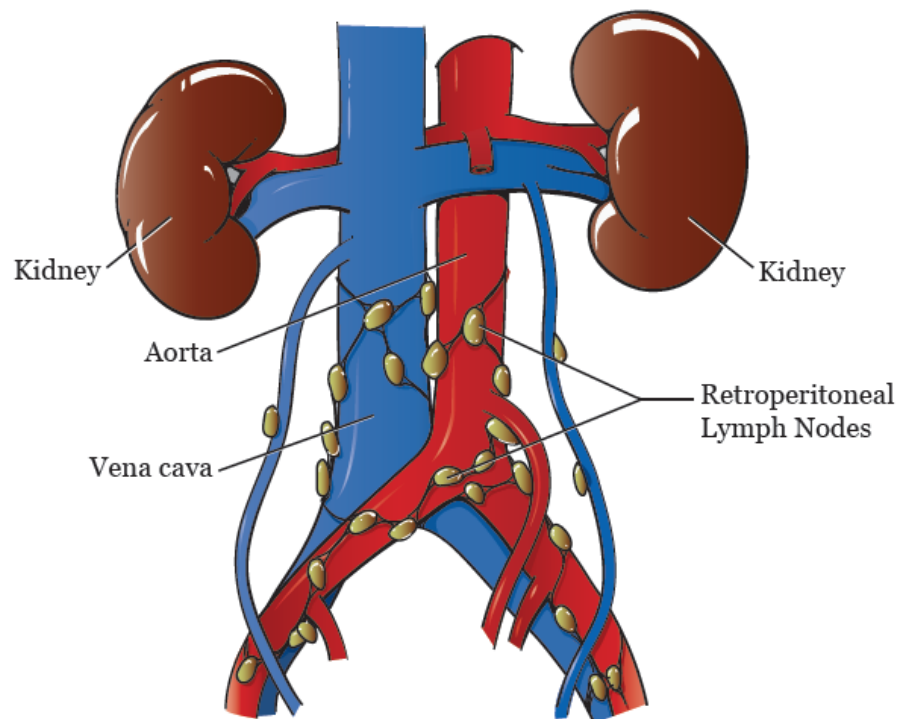


Figure 1. Your retroperitoneal lymph nodes

About Your RPLND Surgery

A RPLND is a treatment for testicular cancer. This surgery removes your retroperitoneal lymph nodes, often the first place where testicular cancer spreads to. These lymph nodes also can be affected by other types of cancer.

During your surgery, your surgeon will make an incision (surgical cut) from the bottom of your ribcage to your pubic area. They'll remove your lymph nodes through this incision. Your surgery will take 3.5 to 5 hours.

Sperm Banking

This surgery can affect the nerves that control the way semen exits your body. Semen can go into your bladder instead of out of your penis. This is called retrograde ejaculation and can affect your fertility (ability to have biological children). For more information, read *Retrograde Ejaculation*. You can find it in the “Educational Resources” section of this guide.

Your surgeon will try to use methods that don’t harm your nerves, if possible. This can prevent retrograde ejaculation. However, it can still take between 1 month and several years before your nerves recover. We strongly recommend that you bank your sperm before your surgery. Your doctor and nurse will talk with you about this in more detail.

For more information, ask your nurse for the resource *Sperm Banking*, or search for it at www.mskcc.org/pe.

Notes _____

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 the following statements apply to you, even if you're not sure.

- I take a blood thinner, such as:
 - Aspirin
 - Heparin
 - Warfarin (Jantoven® or Coumadin®)
 - Clopidogrel (Plavix®)
 - Enoxaparin (Lovenox®)
 - Dabigatran (Pradaxa®)
 - Apixaban (Eliquis®)
 - Rivaroxaban (Xarelto®)

There are others, so be sure your healthcare provider knows all the medications you're taking.
- I take prescription medications (medications my healthcare provider prescribes), including patches and creams.
- I take over-the-counter medications (medications I buy without a prescription), including patches and creams.
- I take dietary supplements, such as herbs, vitamins, minerals, or natural or home remedies.
- I have a pacemaker, automatic implantable cardioverter-defibrillator (AICD), or other heart device.
- I have sleep apnea.
- I've had a problem with anesthesia (medication to make me sleep during surgery) in the past.
- I'm allergic to certain medication(s) 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, e-cigarette, or Juul®.
- I use recreational drugs.

GLP-1 medicines for weight loss

It's important to tell your healthcare provider if you take a GLP-1 medicine. You will need to follow special eating and drinking instructions before your surgery or procedure. **It is very important to follow these instructions. If you do not follow them, your surgery may be delayed or canceled.**

- **Follow a clear liquid diet the day before your surgery.** Do not eat any solid food. Read *Clear Liquid Diet* to learn more. You can find it at www.msk.org/pe/clear-liquid-diet or ask for a printed copy.
- **Stop drinking 8 hours before your arrival time.** Do not eat or drink anything after this time, including clear liquids. You can have small sips of water with your medicines.

Read *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* to learn more. You can ask for a printed copy or find it at www.msk.org/pe/eat-drink-glp1.

Here are some examples of GLP-1 medicines. There are others, so be sure your care team knows all the medicines you take. Sometimes, these are prescribed to help manage diabetes or other conditions. Other times, they are prescribed for weight loss.

- Semaglutide (Wegovy[®], Ozempic[®], Rybelsus[®])
- Dulaglutide (Trulicity[®])
- Tirzepatide (Zepbound[®], Mounjaro[®])
- Liraglutide (Saxenda[®], Victoza[®])

About Drinking Alcohol

The amount of alcohol you drink can affect you during and after your surgery. It's important to talk with your healthcare providers about how much alcohol you drink. This will help us plan your care.

- If you stop drinking alcohol suddenly, it can cause seizures, delirium, and death. If we know you're at risk for these problems, we can prescribe medications to help keep them from happening.
- If you drink alcohol regularly, you may be at risk for other problems during and after your surgery. These include bleeding, infections, heart problems, and a longer hospital stay.

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

- Be honest with us about how much alcohol you drink.
- Try to stop drinking alcohol once your surgery is planned. Tell us 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 us if you cannot stop drinking.
- Ask us questions about drinking and surgery. We will keep all your medical information 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.

About Sleep Apnea

Sleep apnea is a common breathing problem. It causes you to 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. Please 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 MSK MyChart

MSK MyChart (mskmychart.mskcc.org) is MSK's 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 an MSK MyChart account, you can sign up at mskmychart.mskcc.org. You can also ask a member of your care team to send you an invitation.

If you need help with your account, call the MSK MyChart Help Desk at 646-227-2593. They are available Monday through Friday between 9 a.m. and 5 p.m. (Eastern time).

Within 30 days of your Retroperitoneal Lymph Node Dissection

Presurgical Testing (PST)

You'll have a PST appointment before your surgery. The date, time, and location will be printed on the appointment reminder from your surgeon's office. You can eat and take your usual medications the day of your appointment.

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

- A list of all the medications you're taking, including prescription and over-the-counter medications, patches, and creams.
- Results of any tests done outside of MSK, such as a cardiac stress test, echocardiogram, or carotid doppler study.
- The names and telephone numbers of your healthcare providers.

During your PST appointment, you'll meet with a nurse practitioner (NP). They work closely with anesthesiology staff (specialized healthcare providers who will give you anesthesia during your surgery). Your NP will review your medical and surgical history with you. You may have tests to plan your care. Examples are:

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

Your NP may recommend you see other healthcare providers. They'll also talk with you about which medications to take the morning of your surgery.

Identify Your Caregiver

Your caregiver plays 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.

For information, visit www.mskcc.org/caregivers or read *A Guide for Caregivers*. You can ask your healthcare provider for a copy or find it at www.mskcc.org/pe/guide_caregivers

Complete 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.

- For information about health care proxies and other advance directives, read *Advance Care Planning for Cancer Patients and Their Loved Ones*. You can find it at www.mskcc.org/advance_care_planning or ask your healthcare provider for a copy.
- For information about being a health care agent, read *How to Be a Health Care Agent*. You can ask your healthcare provider for a copy or find it at www.mskcc.org/pe/health_care_agent
- If you have more questions about filling out a Health Care Proxy form, talk with your healthcare provider.

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.

For more information, read *How to Use Your Incentive Spirometer*. You can find it in the "Educational Resources" section of this guide.

Exercise

Exercising will help your body get into its best condition for your surgery and make your recovery faster and easier.

Try to do aerobic exercise every day. Aerobic exercise is any exercise that makes your heart beat faster, such as walking, swimming, or biking. 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.

Buy a 4% Chlorhexidine Gluconate (CHG) Solution Antiseptic Skin Cleanser (Such as Hibiclens®)

4% CHG solution 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. You can buy a 4% CHG solution antiseptic skin cleanser at your local pharmacy without a prescription.

7 days before your Retroperitoneal Lymph Node Dissection

Follow Your Healthcare Provider's Instructions for Taking Aspirin

Aspirin can cause bleeding. If you take aspirin or a medication that contains 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.

For more information, 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.

For more information, read *Herbal Remedies and Cancer Treatment*. You can find it in the “Educational Resources” section of this guide.

2 days Before Your Retroperitoneal Lymph Node Dissection

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.

For more information, 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 Retroperitoneal Lymph Node Dissection

Note the Time of Your Surgery

A staff member from the Admitting Office 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 arrive at the hospital for your surgery. They'll also remind you where to go. This will be:

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

Visit www.msk.org/parking for parking information and directions to all MSK locations.

Follow a High-Fat Diet

You'll need to follow a high-fat diet the day before your surgery. A high-fat diet includes dairy products (cheeses, whole milk), avocado, meats, and baked goods.

Shower With a 4% CHG Solution Antiseptic Skin Cleanser (Such as Hibiclens)

The night before your surgery, shower with a 4% CHG solution antiseptic skin cleanser.

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

Important: If you take a GLP-1 medicine, do not follow these instructions. Follow the instructions in *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* (www.msk.org/pe/eat-drink-glp1) instead.



Stop eating at midnight (12 a.m.) the night before your surgery. This includes hard candy and gum.

Your healthcare provider may have given you different instructions for when to stop eating. If so, follow their instructions. Some people need to fast (not eat) for longer before their surgery.

The day of your surgery

Instructions for drinking

Important: If you take a GLP-1 medicine, do not follow these instructions. Follow the instructions in *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* (www.msk.org/pe/eat-drink-glp1) instead.

Between midnight (12 a.m.) and 2 hours before your arrival time, only drink the liquids on the list below. Do not eat or drink anything else. Stop drinking 2 hours before your arrival time.

- Water.
- Clear apple juice, clear grape juice, or clear cranberry juice.
- Gatorade or Powerade.
- Black coffee or plain tea. It's OK to add sugar. Do not add anything else.
 - Do not add any amount of any type of milk or creamer. This includes plant-based milks and creamers.
 - Do not add flavored syrup.

If you have diabetes, pay attention to the amount of sugar in your drinks. It will be easier to control your blood sugar levels if you include sugar-free, low-sugar, or no added sugar versions of these drinks.

It's helpful to stay hydrated before surgery, so drink if you are thirsty. Do not drink more than you need. You will get intravenous (IV) fluids during your surgery.



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

Your healthcare provider may have given you different instructions for when to stop drinking. If so, follow their instructions.

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 With a 4% CHG Solution Antiseptic Skin Cleanser (Such as Hibiclens)

Shower with a 4% CHG solution antiseptic skin cleanser before you leave for the hospital. Use it the same way you did the night before.

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

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. Remove all jewelry, including body piercings. The tools used during your surgery can cause burns if they touch metal.
- Leave valuable items at home.

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. Examples of personal items include eyeglasses, hearing aids, dentures, prosthetic devices, wigs, and religious articles.
- This guide. You'll use it when you learn how to care for yourself after surgery.

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.

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



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.mskcc.org/pe/info_family_friends

Meet With a Nurse

You'll meet with a nurse before surgery. Tell them the dose of any medications you took after midnight and the time you took them. Make sure to include prescription and over-the-counter medications, 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 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, including 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.

Get Ready for Your Surgery

When it's time for your surgery, you'll need to remove 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 place 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.

Once they finish your surgery, your surgeon will close your incisions with staples or stitches. They'll cover your incisions with a bandage.

Your breathing tube is usually taken out while you're still in the operating room.

Notes _____

In the Post-Anesthesia Care Unit (PACU)

When you wake up after your surgery, you'll be in the PACU. 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 Medication

You'll get IV pain medication while you're in the PACU.

- If you're getting IV pain medication, it will be put into your bloodstream through your IV line.

You'll be able to control your pain medication using a button called a patient-controlled analgesia (PCA) device. For more information, read *Patient-Controlled Analgesia (PCA)*. You can ask your healthcare provider for a copy or find it at www.mskcc.org/pe/pca

Tubes and Drains

You'll have a Foley catheter in your bladder to keep track of how much urine you're making. For most people, it's removed 3 to 4 days after surgery.

Moving to Your Hospital Room

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

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 7 days.

In your hospital room, you'll meet one of the nurses who will care for you during your stay. Soon after you get there, a nurse will help you out of bed and into your chair.

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

Managing Your Pain

You'll have some pain after your surgery. At first, you'll get your pain medication through your IV line. You'll be able to control your pain medication using a PCA device. Once you're able to eat, you'll get oral pain medication (medication you swallow).

Your healthcare providers will ask you about your pain often and give you medication as needed. If your pain is not relieved, tell one of your healthcare providers. 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 medication 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 medications.

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.

Read *Frequently Asked Questions About Walking After Your Surgery* to learn more about how walking after surgery can help you recover. You can find it at www.mskcc.org/pe/walking_after_surgery or ask your healthcare provider for a copy.

Read *Call! Don't Fall!* to learn what you can do to stay safe and keep from falling while you're in the hospital. You can ask a member of your care team for a copy or find it at www.mskcc.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. For more information, read *How to Use Your Incentive Spirometer*. 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 won't be able to eat anything for 2 to 3 days after your surgery. After 2 to 3 days, you'll start taking sips of water and progress to clear liquids. You'll then start a 5-gram low-fat diet.

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

Showering

You can shower daily once your doctor says it's OK. Taking a warm shower is relaxing and can help ease muscle aches.

If you have a bandage over your incision, you can remove it before you shower. Use soap when you shower and gently wash your incision. Pat the areas dry with a towel after showering. Leave your incision uncovered unless there is drainage. Call your doctor if you see any redness or drainage from your incision.

Do not take tub baths until you discuss it with your doctor at the first appointment after your surgery.

Planning for Discharge

Your first appointment after surgery will be 3 to 4 weeks after your surgery. Your nurse will give you instructions on how to make this appointment, including the phone number to call.

During this appointment, your doctor will discuss your pathology results with you in detail.

Leaving the Hospital

Before you leave, look at your incision with one of your healthcare providers. Knowing what it looks like will help you notice any changes later.

On the day of your discharge, plan to leave the hospital around 11 a.m. Before you leave, your healthcare provider will write your discharge order and prescriptions. You'll also get written discharge instructions. One of your healthcare providers will review them with you before you leave.

If your ride is not at the hospital when you're ready to leave, you may be able to wait in the Patient Transition Lounge. A member of your care 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.mskcc.org/pe/avoid_falling or ask your healthcare provider for a copy.

Filling Out Your Recovery Tracker

We want to know how you're feeling after you leave the hospital. To help us care for you, we'll send questions to your MSK MyChart account. We'll send them every day for 10 days after you're discharged. These questions are known as your Recovery Tracker.

Fill out your Recovery Tracker every day before midnight (12 a.m.). It only takes 2 to 3 minutes to complete. Your answers to these questions will help us understand how you're feeling and what you need.

Based on your answers, we may reach out to you for more information. Sometimes, we may ask you to call your surgeon's office. You can always contact your surgeon's office if you have any questions.

For more information, read *About Your Recovery Tracker*. You can find it at www.msk.org/pe/recovery-tracker or ask for a printed copy.

Managing Your Pain

People have pain or discomfort for different lengths of time. You may still have some pain when you go home and may need to take pain medication. Some people have soreness, tightness, or muscle aches around their incision for 6 months or longer. This does not mean something is wrong.

Follow these guidelines to help manage your pain at home.

- Take your medications as directed and as needed.
- Call your healthcare provider if the medication prescribed for you does not help your pain.
- Do not drive or drink alcohol while you're taking prescription pain medication. Some prescription pain medications can make you drowsy (very sleepy). Alcohol can make the drowsiness worse.

- As your incision heals, you'll have less pain and need less pain medication. 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 medication.
 - Do not take too much of any medication. Follow the instructions on the label or from your healthcare provider.
 - Read the labels on all the medications you're taking. This is very important if you're taking acetaminophen. Acetaminophen is an ingredient in many over-the-counter and prescription medications. Taking too much can harm your liver. Do not take more than one medication that has acetaminophen without talking with a member of your care team.
- Pain medication should help you get back to your normal activities. Take enough medication to do your activities and exercises comfortably. It's normal for your pain to increase a little as you start to be more active.
- Keep track of when you take your pain medication. 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 medications (such as opioids) may cause constipation. Constipation is when you poop less often than usual, have a harder time pooping, or both.

Preventing and Managing Constipation

Talk with your healthcare provider about how to prevent and manage constipation. You can also follow these guidelines.

- Go to the bathroom at the same time every day. Your body will get used to going at that time. But if you feel like you need to go, do not put it off.
- Try to use the bathroom 5 to 15 minutes after meals. After breakfast is a good time to go. That's when the reflexes in your colon are strongest.
- Exercise, if you can. Walking is an excellent form of exercise.
- Drink 8 to 10 (8-ounce) cups (2 liters) of liquids daily, if you can. Choose water, juices (such as prune juice), soups, and milkshakes. Avoid liquids with caffeine, such as coffee and soda. Caffeine can pull fluid out of your body.

- Slowly increase the fiber in your diet to 25 to 35 grams a day. Unpeeled fruits and vegetables, whole grains, and cereals contain fiber. If you have an ostomy or recently had bowel surgery, ask your healthcare provider before changing your diet.
- Both over-the-counter and prescription medications can treat constipation. Ask your healthcare provider before taking any medications for constipation. This is very important if you have an ostomy or have had bowel surgery. Follow the instructions on the label or from your healthcare provider. Examples of over-the-counter medications for constipation are:
 - Docusate sodium (Colace®). This is a stool softener (medication that makes your bowel movements softer) that causes few side effects. You can use it to help prevent constipation. Do not take it with mineral oil.

Don't take any over-the-counter laxatives (medications that cause bowel movements). If any of these medications cause diarrhea (loose, watery bowel movements), stop taking them. You can start again if needed.

If you haven't had a bowel movement in 2 days, call your healthcare provider.

Caring for Your Incision

Take a shower every day to clean your incision. Follow the instructions in the "Showering" section.

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

Call your healthcare provider's office if:

- The skin around your incision is very red or getting more red.
- The skin around your incision is warmer than usual.
- The area around your incision is starting to swell or getting more swollen.
- You see drainage that looks like pus (thick and milky).
- Your incision smells bad.

If you go home with staples in your incision, your healthcare provider will take them out during your first appointment after surgery. It's OK to get them wet. If you have Steri-Strips or Dermabond on your incision, they'll loosen and fall or peel off on their own. If they have not fallen off after 10 days, you can take them off.

Showering

Take a shower every day to clean your incision. If you have staples or stitches in your incision, it's OK to get them wet.

Take your bandage(s) off before you shower. Use soap during your shower, but do not put it directly on your incision. Do not rub the area around your incision.

After you shower, pat the area dry with a clean towel. Leave your incision uncovered, unless there's drainage. Call your healthcare provider if you see any redness or drainage from your incision.

Do not take tub baths until you talk with your healthcare provider at the first appointment after your surgery.

Eating and Drinking

Eating a balanced diet with lots of calories and protein will help you heal after surgery. Try to eat a good protein source (such as meat, fish, or eggs) at each meal. You should also try to eat fruits, vegetables, and whole grains.

Follow a low-fat diet for 2 weeks after your surgery. After that, you can slowly increase the amount of fat in your diet to an amount that you can tolerate. For more information, read *Minimal Fat Diet*. You can find it in the "Educational Resources" section of this guide.

Do not eat nuts, corn, or popcorn for 1 year after surgery, because these foods are hard to digest.

You'll also need to avoid all laxatives.

It's also important to drink plenty of liquids. Choose liquids without alcohol or caffeine. Try to drink 8 to 10 (8-ounce) cups of liquids every day.

Do not drink alcohol while you're taking pain medications.

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

Physical Activity and Exercise

When you leave the hospital, your incision may look like it's healed on the outside. It will not be healed on the inside. For the first 12 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 aerobic exercise, such as walking and stair climbing, will help you gain strength and feel better. Walk at least 2 to 3 times a day for 20 to 30 minutes. You can walk outside or indoors at your local mall or shopping center.

It's common to have less energy than usual after surgery. Feeling tired (fatigue) is common after surgery, and may last for 6 to 8 weeks. Increase your activities 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 1 month after surgery. Do not drive while you're taking pain medication 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.

Managing Your Feelings

After surgery for a serious illness, you may have new and upsetting feelings. Many people say they felt weepy, sad, worried, nervous, irritable, and angry at one time or another. You may find that you can't 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. Your healthcare providers can 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. This is true whether you're in the hospital or at home.

When to Call Your Healthcare Provider



Call your healthcare provider if:

- You have a fever of 100.5 °F (38 °C) or higher.
- You have chills.
- You have nausea or vomiting.
- You have diarrhea or constipation.
- You have any new swelling in your legs.
- You're having trouble breathing.
- The skin around your incision is very red or getting more red.
- The skin around your incision is warmer than usual.
- The area around your incision is starting to swell or getting more swollen.
- You see drainage that looks like pus (thick and milky).
- Your incision smells bad.
- You have any questions or concerns.

MSK Support Services

Visit the Cancer Types section of MSK's website (www.mskcc.org/cancer-care/types) for more information.

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

332-699-7968

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

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 medications to help if you feel anxious or depressed. To make an appointment, ask your healthcare provider for a referral or call the number above.

Food Pantry Program

646-888-8055

We give food to people in need during their cancer treatment. For more information, talk with your healthcare provider or call the number above.

Integrative Medicine and Wellness Service

www.msk.org/integrativemedicine

Our Integrative Medicine and Wellness 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 and Wellness 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.

Male Sexual and Reproductive Medicine Program

646-888-6024

Cancer and cancer treatments can affect your sexual health, fertility, or both. Our Male Sexual and Reproductive Medicine Program can help with sexual health problems, such as erectile dysfunction (ED). We can help before, during, or after your treatment. Call for more information or to make an appointment.

MSK Library

library.mskcc.org

You can visit our library website or email asklibrarian@mskcc.org to talk with the library reference staff. They can help you find more information about a type of cancer. You can also visit libguides.mskcc.org/patienteducation to see the library's Patient Education Resource Guide.

Patient and Caregiver Education

www.mskcc.org/pe

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

Patient and Caregiver Peer Support Program

212-639-5007

It can be comforting to talk with someone who has been through a treatment like yours. You can talk with a former MSK patient or caregiver through our Patient and Caregiver Peer Support Program. Your conversations are private. They can be in person or over the phone.

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

646-357-9272

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

Social Work

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. They also have information about financial resources, if you're having trouble paying your bills. Call the number above for more information.

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

212-610-0507

If you want to quit smoking, MSK has specialists who can help. Call for information.

Virtual Programs

www.mskcc.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 for more information about Virtual Programs or to register.

External Support Services

There are many other support services available to help you before, during, and after your cancer treatment. Some offer support groups and information. Others can help with transportation, lodging, and treatment costs.

Visit www.mskcc.org/pe/external_support_services for a list of these support services. You can also talk with an MSK social worker by calling 212-639-7020.

Notes _____

- ***A Guide for Caregivers*** (www.msk.org/pe/guide-caregivers)
- ***Advance Care Planning for People With Cancer and Their Loved Ones*** (www.msk.org/pe/advance-care-planning)
- ***Call! Don't Fall!*** (www.msk.org/pe/call-dont-fall)
- ***Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines*** (www.msk.org/pe/eat-drink-glp1)
- ***Frequently Asked Questions About Walking After Your Surgery*** (www.msk.org/pe/walking-after-surgery)
- ***Herbal Remedies and Cancer Treatment*** (www.msk.org/pe/herbal-remedies)
- ***How to Be a Health Care Agent*** (www.msk.org/pe/health-care-agent)
- ***How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil*** (www.msk.org/pe/check-med-supplement)
- ***How To Use Your Incentive Spirometer*** (www.msk.org/pe/incentive-spirometer)
- ***Patient-Controlled Analgesia (PCA)*** (www.msk.org/pe/pca)
- ***What You Can Do to Avoid Falling*** (www.msk.org/pe/avoid-falling)



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 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 or read *Integrative Medicine Therapies and Your Cancer Treatment* (www.mskcc.org/pe/integrative_therapies).

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

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) 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).

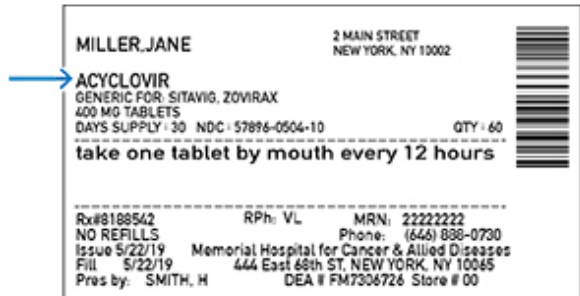


Figure 2. Active ingredients on a prescription medicine label

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 ₆ (as pyridoxine hydrochloride)	2.0 mg	100%
Folate (as folic acid)	400 mcg	100%
Vitamin B ₁₂ (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">• Acetylsalicylic acid• Alpha-linolenic acid (ALA)• Aspirin• Acetaminophen*• Celecoxib• Diclofenac• Diflunisal• Docosahexaenoic acid (DHA)• Eicosapentaenoic acid (EPA)	<ul style="list-style-type: none">• Etodolac• Fish oil• Fenoprofen Flurbiprofen• Ibuprofen• Indomethacin• Ketoprofen• Ketorolac• Meclofenamate• Mefenamic acid• Meloxicam	<ul style="list-style-type: none">• Nabumetone• Naproxen• Omega-3 fatty acids• Omega-6 fatty acids• Oxaprozin• Piroxicam• Sulindac• Tolmetin• Vitamin E

* 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">• APAP• Acetamin	<ul style="list-style-type: none">• AC• Acetam	<ul style="list-style-type: none">• Acetaminop• Acetaminoph

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 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.

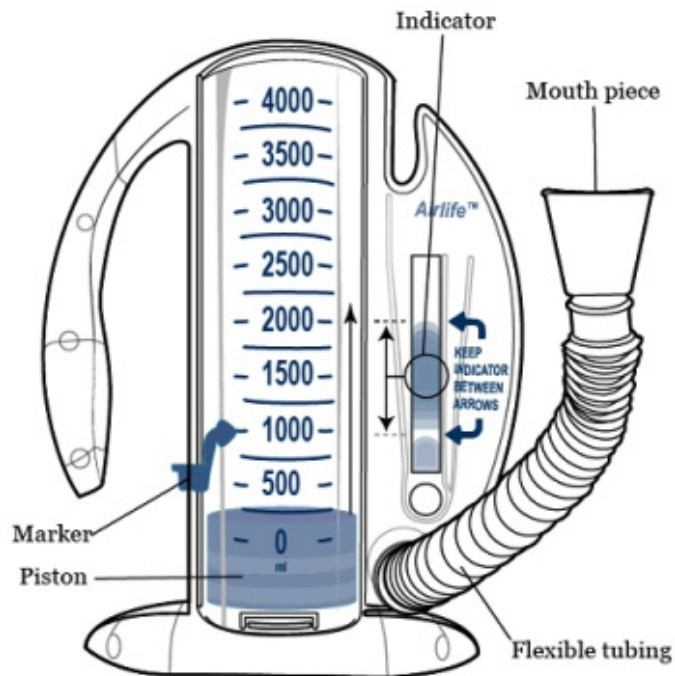


Figure 1. Parts of an incentive spirometer

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 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 to search our virtual library.

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

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PATIENT & CAREGIVER EDUCATION

Minimal-Fat Diet

This information explains how to follow a minimal-fat diet.

On a minimal-fat diet, you limit how much total fat you eat. There is no range of fat for this diet. The goal is to get your daily fat intake as close to 0 grams as possible.

Your doctor may prescribe this diet if your lymphatic system (the tissues and organs in your body that help fight infections) is leaking fluid. The leaked fluid can build up in your abdomen (belly) or chest. If you eat less fat, your lymphatic system will make less fluid and the leak may heal.

Use this resource to help you choose the best foods to eat while you're on this diet. Also, be sure to check the nutrition labels on packaged foods so that you know how much fat is in your food.

Your healthcare provider will tell you when to go back to your regular diet.

Key Points of a Minimal-Fat Diet

- Eat only foods with 0 grams of fat.
- Don't use any fat to prepare food, such as butter, margarine, or oil.
- Use Teflon® nonstick pans to stop foods from sticking when you cook.
- Use fat-free condiments (such as ketchup and mustard), spices, herbs, garlic, and onions to flavor your food.

What to Eat on a Minimal-Fat Diet

Food Group	Eat	Do Not Eat
Dairy	<ul style="list-style-type: none"> • Skim (fat-free) milk • Fat-free cultured or frozen yogurts • Fat-free cottage cheese • Other fat-free dairy products such as fat-free cheeses and fat-free ice cream 	<ul style="list-style-type: none"> • Low-fat or whole-fat: <ul style="list-style-type: none"> ◦ Milk ◦ Yogurts ◦ Puddings ◦ Cheeses
Drinks	<ul style="list-style-type: none"> • Coffee (black or with fat-free half and half or skim milk) • Tea with lemon or skim milk • Soda • Juices • Fruit punch • Fat-free hot chocolate with skim milk or water 	<ul style="list-style-type: none"> • Creamers • Coconut milk • Smoothies containing dairy products with fat (such as yogurt, ice cream, or milk) • Fruit beverages that should be avoided (see “Do Not Eat” under “Fruits”) • Non-dairy milk alternatives, such as almond milk, soy milk, cashew milk, and oat milk
Breads, Cereals, and Grains	<ul style="list-style-type: none"> • Hot or cold cereals • Plain pasta • White rice • Rice noodles • Fat-free white bread • Fat-free varieties of Vita Muffins® and Vita Tops® • Fat-free rolls • Matzos • Zwieback® crackers • Fat-free crackers • Angel food cake • Fat-free cookies • Fat-free cakes 	<ul style="list-style-type: none"> • Any items with nuts, seeds, or coconut • Doughnuts • Croissants • Pastries • Pies • Whole-grain products • Brown rice

Fruits	<ul style="list-style-type: none"> • Except for those fruits listed under “Do Not Eat”, you can have all other fruits in these forms: <ul style="list-style-type: none"> ◦ Fresh ◦ Frozen ◦ Jarred ◦ Canned ◦ Dried • Jellies • Jams • Juices 	<ul style="list-style-type: none"> • Coconut • Cherimoya • Dried figs • Papaws • Sapodillas • Sapotes • Avocado • Any fruit with toppings containing fat such as whipped cream
Vegetables	<ul style="list-style-type: none"> • Except for those vegetables listed under “Do Not Eat”, you may have all others in these forms: <ul style="list-style-type: none"> ◦ Fresh ◦ Frozen ◦ Jarred ◦ Canned ◦ Juiced • Boca Original Vegan Burger® and other fat-free veggie burgers • Air-popped popcorn • Fat-free kidney beans, black beans, and pink beans 	<ul style="list-style-type: none"> • Any vegetables with: <ul style="list-style-type: none"> ◦ Butter ◦ Oil ◦ Margarine ◦ Sauces that contain fat • Olives • Chickpeas (garbanzo beans) • Soybeans • Avocados • Jarred vegetables in oil
Meats and Other Proteins	<ul style="list-style-type: none"> • Up to 6 ounces a day of fat-free turkey breast or other packaged deli meats labeled fat-free • Egg whites • Fat-free varieties of Eggbeaters® 	<ul style="list-style-type: none"> • All others
Fish	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • All
Fat	<ul style="list-style-type: none"> • Fat-free butter-type spreads (such as Promise® and “I Can’t Believe It’s Not Butter®”) limited to 2 servings a day 	<ul style="list-style-type: none"> • Butter • Margarine • All oils except for medium-chain

	<ul style="list-style-type: none"> • Medium-chain triglyceride oil (sold in pharmacies or health food stores) <ul style="list-style-type: none"> ◦ As a salad dressing with vinegar or lemon juice ◦ Mixed in fruit such as applesauce ◦ To sauté food at low heat (not deep fry) 	triglyceride oil <ul style="list-style-type: none"> • Cooking oil sprays • Regular salad dressings
Soups	<ul style="list-style-type: none"> • Fat-free broth • Health Valley® fat-free soups 	<ul style="list-style-type: none"> • All others
Liquid Nutritional Supplements	<ul style="list-style-type: none"> • Boost Breeze® (Nestlé) • Carnation Breakfast Essentials®, powdered vanilla or strawberry mixed with skim milk • Ensure Clear™ (Abbott) 	<ul style="list-style-type: none"> • Carnation Breakfast Essentials® ready-to-drink or powdered chocolate • All others containing fat
Condiments/Other	<ul style="list-style-type: none"> • Ketchup • Fat-free mustard • Fat-free mayonnaise • Fat-free salsa • Louisiana “Original” Hot Sauce™ • Soy sauce • Vinegar • Pickles • Pickle relish • Plain horseradish • Sauerkraut • Fat-free salad dressings • Molly McButter®, limited to 2 teaspoons a day • Fat-free pasta sauce • Marshmallows 	<ul style="list-style-type: none"> • Regular or low-fat mayonnaise • Nuts • Seeds • Olives • Peanut butter • Any items with added fat

Buying Nutritional Supplements

You can buy nutritional supplements at your local market or drug store. You can also order them online for home delivery.

Here is a list of companies you can order nutritional supplements from:

Abbott Nutrition

800-258-7677

www.abbottstore.com

Carnation

800-289-7313

www.carnationbreakfastessentials.com

Nestlé

800-422-ASK2 (800-422-2752)

www.nestlehealthscience.us

Sample Menus

Double Milk

Double Milk has twice the amount of calories and protein of skim milk. To make the Double Milk in the sample menus:

1. Combine 1 quart of skim milk with 1 envelope of nonfat, dry milk powder.
2. Blend well and refrigerate.

Menu 1

Breakfast

- Farina with skim or Double Milk
- Boost Breeze® or Ensure Clear™ beverage
- Dry toast with jelly
- Coffee with fat-free half and half or skim milk

Lunch

- Fat-free black beans over white rice, topped with fat-free salsa and fat-free Greek yogurt

- Carnation Breakfast Essentials® powder with skim milk or Double Milk
- Fresh pineapple

Dinner

- Mixed green salad with fat-free dressing
- Fat-free spaghetti with fat-free tomato sauce
- Green beans prepared in fat-free broth
- Toasted fat-free bread with garlic powder
- Fruit juice
- Fat-free frozen yogurt over angel food cake with maple syrup

Snack

- Fat-free pretzels
- Double Milk with fat-free chocolate syrup

Menu 2

Breakfast

- Eggbeaters® with fat-free salsa or ketchup
- BlueBran VitaMuffin™ with strawberry jam
- Fresh orange
- Tea with lemon and honey

Lunch

- Fat-free cottage cheese with fruit
- Zwieback with apricot jam
- Strawberry Carnation Breakfast Essentials® powder with skim milk or Double Milk

Dinner

- Fat-free veggie burger with ketchup and mustard
- Baked sweet potato with marshmallows
- Homemade coleslaw (shredded cabbage, carrots, onions, fat-free mayonnaise, and vinegar)
- Fat-free ice cream with fat-free chocolate syrup
- Fruit juice

Snack

- Fat-free yogurt

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 p.m., during the weekend, or on a holiday, call 212-639-2000.

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

Minimal-Fat Diet - Last updated on February 7, 2022

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PATIENT & CAREGIVER EDUCATION

Retrograde Ejaculation

This information will help you understand retrograde ejaculation and how it may affect you.

About Retrograde Ejaculation

Ejaculation is when semen comes out of your penis after reaching orgasm (an intense feeling of pleasure). Retrograde ejaculation is when semen flows back into your bladder, instead of out through your penis.

When you're sexually excited, sperm leave your testicles and travel up the vas deferens (duct that sends sperm from your testicles to your urethra) to the ejaculatory duct (see Figure 1). When they reach the ejaculatory duct, the sperm mix with semen from the seminal vesicles and the prostate.

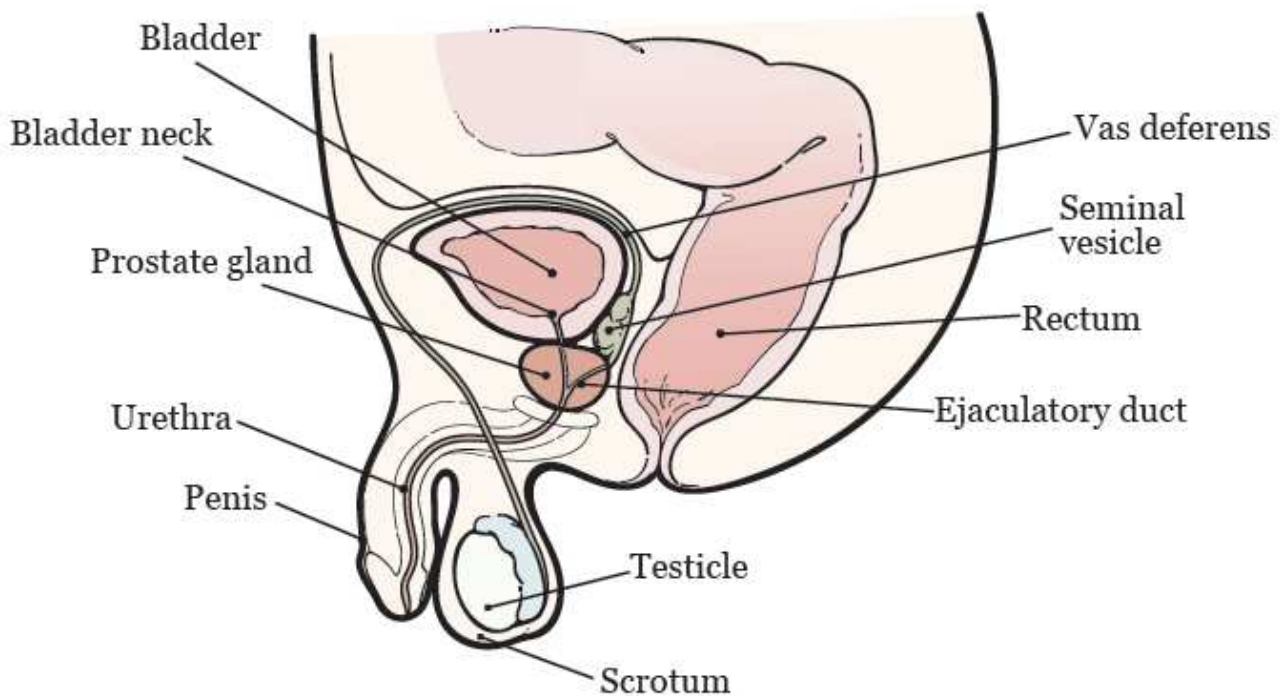


Figure 1. Male reproductive system

During orgasm, your bladder neck closes and semen exits your body through your penis. When your bladder neck closes, it prevents semen from flowing back and going into your bladder. If you have retrograde ejaculation, your bladder neck doesn't close at orgasm. This means that semen flows backward into your bladder instead of forward through your penis.

Causes of Retrograde Ejaculation

You may get retrograde ejaculation after you have a retroperitoneal lymph node dissection (RPLND). RPLND is surgery to remove some of the lymph nodes in your abdomen (belly). This surgery is a treatment for testicular cancer. During surgery, the nerves that control your bladder neck may be injured. Sometimes, these nerves can be spared, but it can take a month to several years for them to begin to work again. Your doctor can tell you if surgery is an option for you.

You may also get retrograde ejaculation after you have transurethral resection of the prostate (TURP). TURP is a surgery done to treat urinary problems caused by an enlarged prostate. TURP may cause injury to the nerves causing your bladder neck to stay open during orgasm.

Retrograde ejaculation can also be caused by diabetes, multiple sclerosis (MS), certain medications, and spinal cord injury.

Sexuality

Retrograde ejaculation isn't harmful or painful, but it may cause a small change in sensation during sex because no semen exits the penis. This is called a dry ejaculate. A dry ejaculate doesn't affect erection (getting hard for sex) or orgasm. You will still be able to enjoy sexual activity. After sexual activity, your urine (pee) may be cloudy because it has semen in it.

Fertility

If you plan to have a family after your surgery, tell your doctor you want to bank your sperm before surgery. If you haven't banked your sperm before surgery and want to have a family, your doctor can tell you about your options and refer you to a specialist. For more information, read our resource *Instructions for Your Retrograde Semen Analysis* (www.mskcc.org/pe/retrograde_semen_analysis).

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.

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Retrograde Ejaculation - Last updated on December 12, 2018

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