Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Your Retroperitoneal Lymph Node Dissection (RPLND)

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

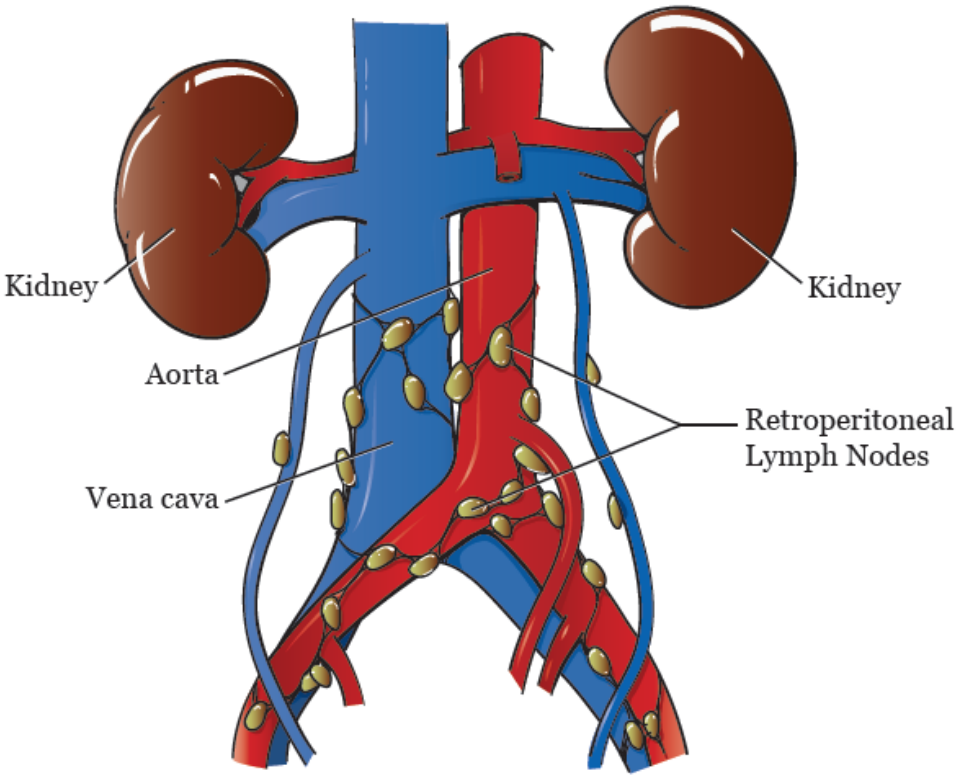


Figure 1. Your retroperitoneal lymph nodes

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 ½ 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). Read *Retrograde Ejaculation* to learn more. 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.

Read *Sperm Banking* to learn more. You can find it in the "Educational Resources" section of this guide.

Notes _____

Before your retroperitoneal lymph node dissection

This section will help you get ready for your surgery. Read it when your surgery is scheduled. Refer to it as your surgery gets closer. It has important information about what to do to get ready.



As you read this section, write down questions to ask your healthcare provider. You can use the space below.

Notes _____

Getting ready for your 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 any prescription medicines. A prescription medicine is one you can only get with a prescription from a healthcare provider. Examples include:
    - Medicines you swallow.
    - Medicines you take as an injection (shot).
    - Medicines you inhale (breathe in).
    - Medicines you put on your skin as a patch or cream.
- I take any over-the-counter medicines, including patches and creams. An over-the-counter medicine is one you can buy without a prescription.
- I take any 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 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 use recreational drugs, such as marijuana.

Always be sure your healthcare providers know all the medicines and supplements you're taking.

You may need to follow special instructions before surgery based on the medicines and supplements you take. If you do not follow those instructions, your surgery may be delayed or canceled.

GLP-1 medicines for weight loss

It's important to tell your healthcare provider if you take a GLP-1 medicine for weight loss. 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. Some of these are meant to be used to help manage diabetes but are sometimes prescribed just for weight loss.

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

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 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 or use an electronic smoking device, you can have breathing problems when you have surgery. Vapes and e-cigarettes are examples of electronic smoking devices. Stopping for even a few days before surgery can help prevent breathing problems during and after surgery.

We will refer you to our Tobacco Treatment Program if you smoke. You can also reach the program by calling 212-610-0507. To learn more, visit www.msk.org/tobacco

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

You can eat and take your usual medicines the day of your 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 doctors 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 medicines 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 or read *A Guide for Caregivers* to learn more. You can ask for a printed copy or go to www.msk.org/pe/guide-caregivers to find it online.

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 can't 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 People With Cancer and Their Loved Ones*. You can find it at www.msk.org/pe/advance-care-planning or ask for a printed copy.
- 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 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. We 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.

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 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 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 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 Presurgical Center (PSC) 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 for 2 days 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

Shower with a 4% CHG solution antiseptic skin cleanser 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.
   - Open the 4% CHG solution bottle. Pour some into your hand or a clean washcloth.
   - 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.
3. Move back into the shower stream to rinse off the 4% CHG solution. Use warm water.
4. 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



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

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 honey.
    - 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. 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 don't need them. Examples include extra credit cards, extra cash, and jewelry.

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.
- This guide. You'll use it to 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.

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

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 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.

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'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.

After your retroperitoneal lymph node dissection

This section will help you know what to expect after your surgery. You'll learn how to safely recover from your surgery both in the hospital and at home.



As you read this section, write down questions to ask your healthcare provider. You can use the space below.

Notes _____

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

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

You'll be able to control your pain medicine using a button called a patient-controlled analgesia (PCA) device. Read *Patient-Controlled Analgesia (PCA)* to learn more. You can find it at www.msk.org/pe/pca or ask for a printed copy.

Tubes and drains

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

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 7 days.

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

Your care team 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 medicine through your IV line. You'll be able to control your pain medicine using a PCA device. 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 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

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 not 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. Then you'll 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 mild soap and water and let it gently run over your incision. Do not scrub 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. Your healthcare provider will write your discharge order and prescriptions before you leave. You'll also get written discharge instructions. One of your healthcare providers will review them with you before you leave.

If your ride isn't 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.msk.org/pe/avoid-falling or ask for a printed 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.

To learn more, read *Common Questions About MSK's 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 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 medicines 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.

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, don't 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 a great type of exercise that can help prevent and manage constipation.
- 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 per 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 medicines can treat constipation. Ask your healthcare provider before taking any medicine 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.

An example of over-the-counter medicines for constipation is Docusate sodium (Colace®). This is a stool softener (medicine 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.

Do not take any over-the-counter laxatives (medicines that cause bowel movements). If any of these medicines cause diarrhea (loose, watery bowel movements), stop taking them. You can start again if you need to.

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 haven't 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. Read *Minimal-Fat Diet* to learn more. 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. Try to drink 8 to 10 (8-ounce) cups of liquids every day. Choose liquids without alcohol. Limit liquids with caffeine.

Do not drink alcohol while you're taking pain medicine

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

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 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 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. Feeling tired (fatigue) is common after surgery and may last for 6 to 8 weeks. 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 1 month 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.

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.

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 have 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.

Contact information

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call.

If you're not sure how to reach your healthcare provider, call 212-639-2000.

Support services

This section has a list of support services. They may help you as you get ready for your surgery and recover after your surgery.



As you read this section, write down questions to ask your healthcare provider. You can use the space below.

Notes _____

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
www.msk.org/international
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
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 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.

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.

Nutrition Services
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
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
646-357-9272
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
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 **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
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
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
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.

External support services

There are many other 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.msk.org/pe/external-support-services for a list of these support services. You can also call 212-639-7020 to talk with an MSK social worker.

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Educational resources

This section lists the educational resources mentioned in this guide. It also has copies of the resources that are most important for you to read. They will help you get ready for your surgery and recover after your surgery.



As you read these resources, write down questions to ask your healthcare provider. You can use the space below.

Notes _____

These are the educational resources 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)
- ***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)
- ***Common Questions About MSK's Recovery Tracker*** (www.msk.org/pe/recovery-tracker)
- ***Frequently Asked Questions About the Goals to Discharge Checklist*** (www.msk.org/pe/goals-discharge-checklist)
- ***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)
- ***Information for Family and Friends for the Day of Surgery*** (www.msk.org/pe/info-family-friends)
- ***Minimal-Fat Diet*** (www.msk.org/pe/minimal-fat-diet)
- ***Patient-Controlled Analgesia (PCA)*** (www.msk.org/pe/pca)
- ***Retrograde Ejaculation*** (www.msk.org/pe/retrograde-ejaculation)
- ***Sperm Banking*** (www.msk.org/pe/sperm-banking)
- ***What You Can Do to Avoid Falling*** (www.msk.org/pe/avoid-falling)

Memorial Sloan Kettering Cancer Center

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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Memorial Sloan Kettering Cancer Center

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.

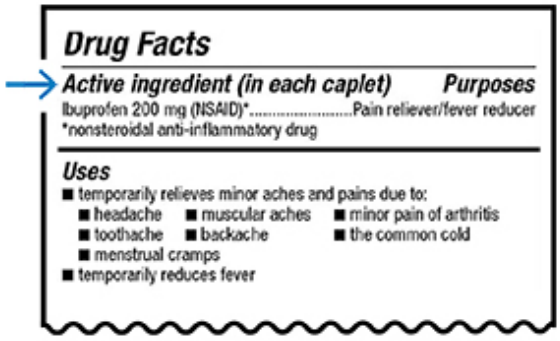


Figure 1. Active ingredients on an over-the-counter medicine label

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).

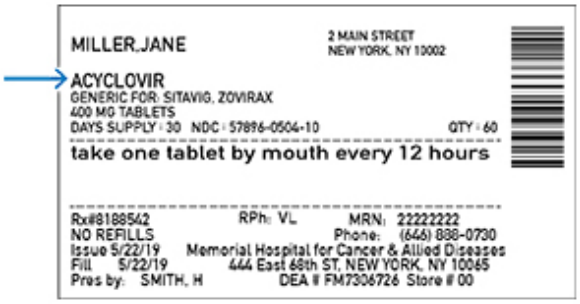
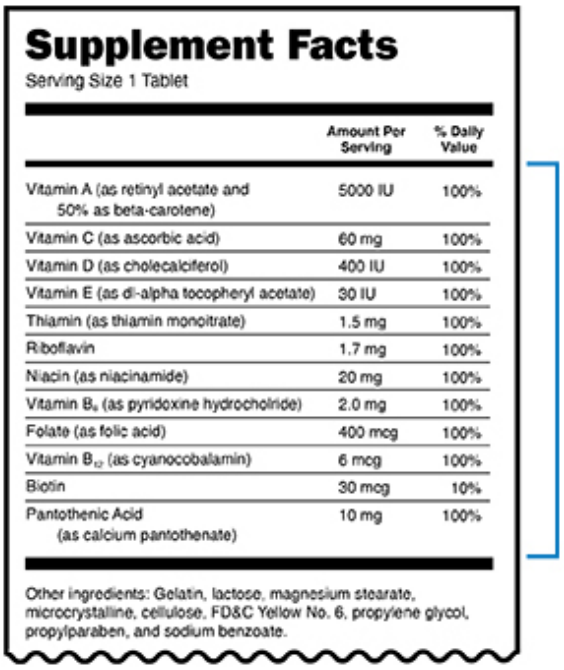


Figure 2. Active ingredients on a prescription medicine label

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.



Supplement Facts

Serving Size 1 Tablet

	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 dl-alpha tocopheryl acetate)	30 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		
• Acetylsalicylic acid • Alpha-linolenic acid (ALA) • Aspirin • Acetaminophen* • Celecoxib • Diclofenac • Diflunisal • Docosahexaenoic acid (DHA) • Eicosapentaenoic acid (EPA)	• Etodolac • Fish oil • Fenoprofen Flurbiprofen • Ibuprofen • Indomethacin • Ketoprofen • Ketorolac • Meclofenamate • Mefenamic acid • Meloxicam	• 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		
• APAP • Acetamin	• AC • Acetam	• 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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Memorial Sloan Kettering Cancer Center

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.

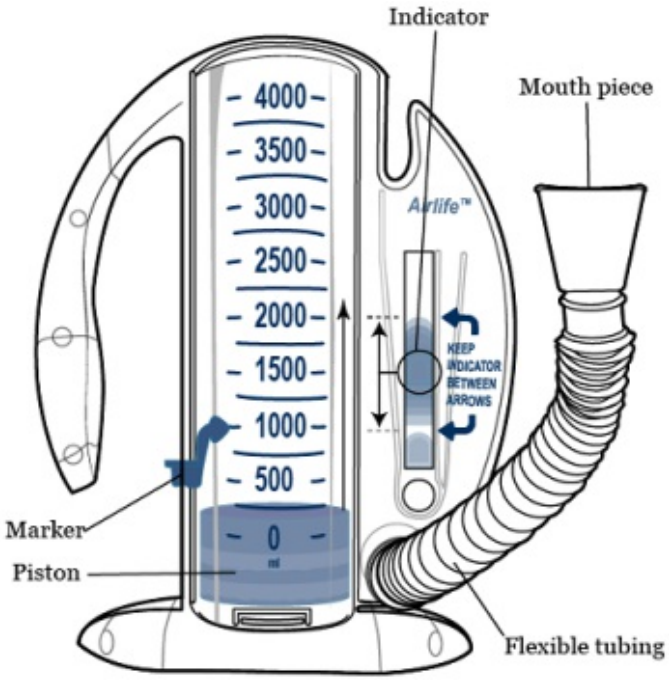


Figure 1. Parts of an incentive spirometer

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 what a minimal-fat diet is and how to follow it. It also has sample menus.

About a minimal-fat diet

After you eat, the fat from your food travels through your lymphatic (lim-FA-tik) system before entering your bloodstream. Your lymphatic system helps fight infection and drain extra fluid from your body.

Sometimes surgery or an injury can harm your lymphatic system and cause it to leak fluid. This fluid can build up in your abdomen (belly), chest, or neck. When you eat fat, your lymphatic system makes more fluid for the fat to travel through. More fluid means more leaking.

A minimal-fat diet helps by limiting how much total fat you eat. When you eat minimal (very little) fat, your lymphatic system makes less fluid. This gives the leak time to heal.

The goal of a minimal-fat diet is to eat as little fat as possible. Aim to keep your daily fat intake as close to 0 grams as you can. Daily fat intake is the amount of fat you get from everything you eat and drink in a day.

Most people follow a minimal-fat diet for about 2 weeks. Some people may need to stay on this diet longer. Your healthcare provider will tell you when you can go back to your usual diet.

Following a minimal-fat diet for more than 2 weeks

Some people may need to be on a minimal-fat diet for more than 2 weeks. If you do, talk with your healthcare provider or clinical dietitian nutritionist. They may have you take some of the following, so you get enough nutrients while you're on this diet.

Vitamin and mineral supplements

Vitamin and mineral supplements help fill in nutrition gaps when you're not able to eat enough or your diet is limited. They come as tablets, capsules (pills), gummies, powders, and liquids. They can be:

- A single vitamin, such as vitamin C, D, or B12.
- A single mineral, such as calcium, iron, or zinc.
- A multivitamin (a mix of both vitamins and minerals).

Ask your healthcare provider or clinical dietitian nutritionist if you need to take any supplements. **Do not start taking a supplement before you talk with your healthcare provider or clinical dietitian nutritionist.**

You can buy vitamin and mineral supplements at your local supermarket or pharmacy. You also can order them online.

Make sure to read the supplement's label. Do not take more than the recommended daily amount (RDA) of any vitamin or mineral.

Oral nutrition supplements (nutrition shakes you drink)

Oral nutrition supplements give you extra calories and protein when you're not hungry or your diet is limited. They come as liquids or powders you can mix with liquids. Examples are Boost Breeze®, Carnation Breakfast Essentials®, Ensure Clear®, or Ensure Max Protein®.

You can buy oral nutrition supplements at your local supermarket or pharmacy. If the store does not have them, ask a pharmacist or store manager to order them for you. You can also order them online.

It's best to drink oral nutrition supplements between meals. If you drink them

with a meal, they can be filling. This keeps you from eating more of your food.

Medium-chain triglycerides (MCTs)

MCTs are a type of fat that your body absorbs (takes in) differently than regular fats. After you eat, the fat from the MCTs goes right into your bloodstream instead of through your lymphatic system.

MCTs help you get extra calories while keeping your daily fat intake low. This can be helpful if:

- You need to stay on a minimal-fat diet for more than 2 weeks.
- It's hard to get enough calories while you're on a minimal-fat diet.

Your healthcare provider or clinical dietitian nutritionist may suggest you use an MCT oil while on a minimal-fat diet. You can add it to many foods and drinks, such as salad dressing and coffee.

You can buy MCT oil at your local pharmacy, health food store, or online.

Do not use an MCT oil unless your healthcare provider or clinical dietitian nutritionist tells you to.

Nutrition Facts label

Use this guide to help you choose the best foods and drinks while you're on a minimal-fat diet. Make sure to check the Nutrition Facts label on packaged foods and drinks (see Figure 1).



Nutrition Facts

1 serving per container

Serving size	**8 oz**
Amount per serving	
Calories	**60**
	% Daily Value*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 890mg	**37%**
Total Carbohydrate 8g	**3%**
Dietary Fiber 1g	**4%**
Total Sugars 1g	
Protein 3g	
Vitamin A	4%
Vitamin C	0%
Calcium	0%
Iron	2%

* The Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Figure 1. Nutrition Facts label showing 0 grams (0 g) of total fat in each 8 ounce (8 oz) serving

When you read the Nutrition Facts label, pay attention to:

- **Serving size.** This is the amount of food or drink that the numbers on the Nutrition Facts label are based on. All the calories, fat, protein, and other nutrients listed are for that exact serving size.
- **Total fat.** This tells you how many grams of fat are in 1 serving of the food or drink. Total fat includes all kinds of fat, such as saturated and trans fats.

Key points of a minimal-fat diet

- Eat foods with as close to 0 grams of fat as possible.
- Do not use any fat (such as butter, margarine, or oil) to cook food.
- Use nonstick pans to stop food from sticking when you cook, instead of oil or butter.
- Use fat-free condiments (such as ketchup and mustard), spices, herbs, garlic, and onions to flavor your food.

Minimal-fat diet guidelines

The tables in this section show what you can and cannot eat or drink on a minimal-fat diet. Items listed under the “Can Eat or Drink” column have 0.5 grams of fat or less in each serving.

Dairy	
Can Eat or Drink	**Do Not Eat or Drink**

• Fat-free:
  ◦ Milk or lactose-free milk
  ◦ Yogurt, Greek yogurt, or frozen yogurt
  ◦ Pudding
  ◦ Cottage cheese
  ◦ Ice cream
  ◦ Half & half
  ◦ Creamer
	• 1%, 2%, low-fat, or whole:
	  ◦ Milk
	  ◦ Yogurt, Greek yogurt, or frozen yogurt
	  ◦ Pudding
	  ◦ Cottage cheese
	  ◦ Ice cream
	  ◦ Half & half
	  ◦ Creamer

Meats, Meat Substitutes, and Proteins

Can Eat or Drink	Do Not Eat or Drink
• Lite turkey breast, 2 oz • 99% fat-free ground turkey meat, 2 oz • Deli meats labeled as “fat-free” • Egg whites • Fat-free varieties of liquid egg substitutes (egg white-based or plant-based) • Shrimp, 3 oz • Scallops, 1.75 oz • Crab, 3 oz • Cod, 3 oz • Haddock, 3.5 oz • Pollock, 3 oz • Fat-free veggie burgers • Beans cooked without fat (such as kidney, black, pinto, white, and lima) • Lentils cooked without fat	• All red meat, including processed red meat (such as bacon, hot dogs, and sausages) • Deli meats not labeled as “fat-free” • Chicken • Egg yolks (the yellow part at the center of an egg) • Tofu • Tempeh • Seitan • Mussels • Squid • Tilapia • Salmon • Sardines • Mackerel • Trout • Catfish • All other fish and shellfish not listed in the “Can Eat or Drink” column • Chickpeas (garbanzo beans) • Soybeans

Fruits

Can Eat or Drink	Do Not Eat or Drink

• Except for the fruits listed under the “Do Not Eat or Drink” column, you can have all other fruits in these forms:
  ◦ Fresh
  ◦ Frozen
  ◦ Jarred
  ◦ Canned
  ◦ Dried
  ◦ Jellies
  ◦ Jams
  ◦ Juices
	• Coconut
	• Avocados
	• Olives
	• Any fruit with toppings that have fat, such as whipped cream

Vegetables

Can Eat or Drink	Do Not Eat or Drink

• Except for the vegetables listed under the “Do Not Eat or Drink” column, you can have all other vegetables in these forms:
  ◦ Fresh
  ◦ Frozen
  ◦ Jarred
  ◦ Canned
  ◦ Juiced
	• Jarred vegetables in oil
	• Any vegetables with:
	  ◦ Butter
	  ◦ Oil
	  ◦ Margarine
	  ◦ Sauces that have fat in them

Breads, Cereals, and Grains

Can Eat or Drink	Do Not Eat or Drink

• Fat-free hot or cold cereals
• Fat-free white bread
• Fat-free muffins
• Fat-free rolls
• White pasta
• White rice
• Rice noodles
• Matzos
• Fat-free crackers
	• Any item with nuts, seeds, or coconut
	• All other pastas, rice, or noodles not listed in the “Can Eat or Drink” column
	• Whole-grain and whole-wheat products, such as:
	  ◦ Wheat berries/Bulgur
	  ◦ Brown or wild rice
	  ◦ Quinoa
	  ◦ Barley
	  ◦ Spelt
	  ◦ Buckwheat
	  ◦ Amaranth
	  ◦ Millet
	  ◦ Teff

Soups

Can Eat or Drink	Do Not Eat or Drink
• Fat-free soups • Fat-free broths	• All other soups not listed in the “Can Eat or Drink” column • All other broths not listed in the “Can Eat or Drink” column

Drinks

Can Eat or Drink	Do Not Eat or Drink
• Water, including carbonated (fizzy) and flavored water • Coconut water with no pulp • Coffee (black or with fat-free half & half or fat-free milk) • Tea with lemon or fat-free milk • Soda • Fruit and vegetable juices • Fruit punch • Fat-free hot chocolate with water or fat-free milk	• Coconut milk • Smoothies or shakes that have dairy products with fat, such as yogurt, ice cream, or milk • Nut milks, plant milks, nondairy creamers, and other dairy alternatives (such as almond milk, soy milk, and oat milk) • Some fruit juices (see items listed under the “Do Not Eat or Drink” column in the “Fruits” table) • Some vegetable juices (see items listed under the “Do Not Eat or Drink” column in the “Vegetables” table)

Oral Nutrition Supplements

Can Eat or Drink	Do Not Eat or Drink
• Boost Breeze • Carnation Breakfast Essentials (powdered vanilla or powdered strawberry mixed with fat-free milk) • Ensure Clear • Ensure Max Protein (limit to 1 a day)	• Carnation Breakfast Essentials ready-to-drink or powdered chocolate • All other oral nutrition supplements that have fat in them

Desserts, Sweets, and Snacks

Can Eat or Drink	Do Not Eat or Drink
• Fat-free hard candies and gummies • Marshmallows • Angel food cake • Fat-free cakes • Fat-free cookies • Fat-free pretzels • Fat-free potato chips • Air-popped popcorn	• All chocolate that has fat in it, including non-dairy and vegan • All other hard candies and gummies not listed in the “Can Eat or Drink” column • All cakes and cookies not listed in the “Can Eat or Drink” column • Pastries (such as croissants and Danishes) • Doughnuts • Pies • Microwave popcorn

Fats

Can Eat or Drink	Do Not Eat or Drink

• Fat-free butter-type spreads (limit to 2 servings a day)
• Medium-chain triglyceride (MCT) oil
  ◦ Mix MCT oil with vinegar or lemon juice to make a salad dressing
  ◦ Mix MCT oil in fruit (such as applesauce)
	• Butter
	• Margarine
	• Cooking oil sprays
	• All other oils not listed in the “Can Eat or Drink” column
	• Regular, low-fat, or lite salad dressings
	• Regular, low-fat, or light mayonnaise
	• Nuts
	• Nut butters (such as peanut butter and almond butter)
	• Seeds (such as chia, pumpkin, sunflower, poppy, and sesame)
	• Seed butters (such as sunflower seed butter)
	• Olives
	• Coconut
	• Avocado

Condiments/Other	
Can Eat or Drink	**Do Not Eat or Drink**
• Ketchup • Fat-free mustard • Fat-free mayonnaise • Fat-free salsa • Fat-free hot sauce • Soy sauce • Vinegar • Lemon juice • Pickles • Pickle relish • Plain horseradish • Sauerkraut • Fat-free salad dressings • Fat-free pasta sauce • Fat-free butter-type spreads (limit to 2 servings a day) • Maple syrup • Honey • Fat-free chocolate syrup • All herbs and spices • All seasonings (such as salt, pepper, garlic powder, and cumin) • Sugar substitutes (such as artificial sweeteners or plant-based sweeteners)	• Regular, low-fat, or light mayonnaise • Guacamole • Hummus • Any dip that has fat in it • Any item with added fat, such as tartar sauce, alfredo sauce, or any marinade with oil in it

Sample menus

Here are 2 sample menus to help give you meal ideas. We did not include portion sizes because everyone's calorie and protein needs are different. Eat or drink the amounts that work for your own nutrition goals.

These sample menus include Double Milk as a drink option. Double Milk has twice the number of calories and twice the amount of protein as fat-free milk. You can find the recipe for Double Milk after the sample menus.

Menu 1

Breakfast	• Farina with fat-free milk or Double Milk • Fat-free Greek yogurt • Toasted fat-free white bread with jelly • Berries • Coffee with fat-free half & half or fat-free milk
Mid-morning snack	• Fat-free pretzels • Pear
Lunch	• Fat-free black beans over white rice, topped with fat-free salsa and fat-free Greek yogurt • Fat-free milk or Double Milk • Fresh pineapple • Fresh carrots
Afternoon snack	• Air-popped popcorn
Dinner	• Mixed green salad with fat-free dressing • White spaghetti with fat-free tomato sauce • 3 oz cod • Green beans cooked in fat-free broth • Toasted fat-free white bread with garlic powder
Evening snack	• Fat-free frozen yogurt over angel food cake with maple syrup

Menu 2

Breakfast	• Hard-boiled egg whites with fat-free salsa or ketchup • Fat-free muffin • Fresh orange • Tea with lemon and honey
Mid-morning snack	• Double Milk with fat-free chocolate syrup
Lunch	• Fat-free cottage cheese with fruit • Fat-free crackers with apricot jam • Fat-free milk • Cucumber slices
Afternoon snack	• Fat-free yogurt • Pear
Dinner	• Fat-free veggie burger with ketchup and fat-free mustard • Baked sweet potato with marshmallows • Homemade coleslaw (shredded cabbage, carrots, onions, fat-free mayonnaise, and vinegar) • Apple
Evening snack	Fat-free ice cream with fat-free chocolate syrup

Double Milk recipe

To make Double Milk:

1. Mix 1 quart of fat-free milk with 1 packet of non-fat, dry milk powder. Mix them together well.
2. Put the mixture in the refrigerator until you're ready to use it.

Contact information

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

To talk with a clinical dietitian nutritionist, ask a member of your care team for a referral.

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

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