

MSK Kids

PATIENT & CAREGIVER EDUCATION

About Your Thoracoabdominal Surgery at MSK Kids

This guide will help you get ready for your thoracoabdominal (thor-A-koh-ab-DAH-mih-nul) surgery at Memorial Sloan Kettering (MSK). It will also help you understand what to expect during your recovery.

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 refer to it as you learn more about your recovery.

In this resource, the words “you” and “your” refer to you or your child.

Your care team

Doctor: _____

Nurse: _____

Phone number: _____

Fax number: _____



Visit www.mskcc.org/pe/thoracoabdominal_surgery to view this guide online.



Memorial Sloan Kettering
Cancer Center

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About Your Surgery

About neuroblastoma

Neuroblastoma is a rare pediatric cancer that develops from an early form of nerve cells called neuroblasts. Normally, neuroblasts develop into nerve cells to build your nervous system before you're born. Neuroblastoma happens when your neuroblasts start to grow out of control and form a tumor.

Treatment plans for neuroblastoma depend on many things, including where the tumor is in your body. If it's in the upper part of your abdomen (belly), your doctor may recommend thoracoabdominal surgery as part of your treatment plan.

About thoracoabdominal surgery

Thoracoabdominal surgery is a common surgical treatment for neuroblastoma in the upper part of your abdomen. It can also be used to help treat other types of tumors, but this is less common. Your surgeon will talk with you if you're having thoracoabdominal surgery for a cancer other than neuroblastoma.

During your thoracoabdominal surgery, your surgeon will make a diagonal incision (surgical cut) from the lower part of your chest (thorax) to the upper part of your abdomen (see Figure 1). This helps them see the area clearly so they can safely remove the tumor.

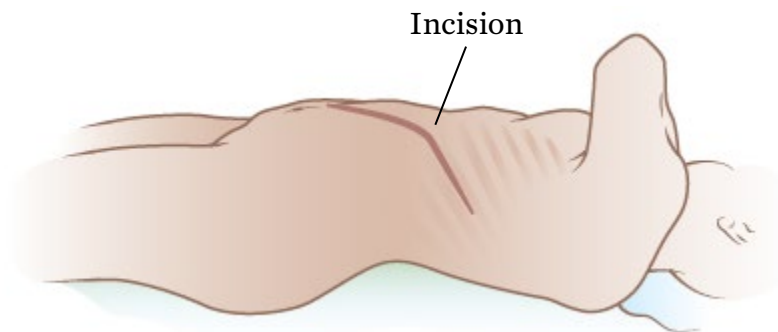


Figure 1. Thoracoabdominal incision

Your surgeon and other members of your care team will talk with you about what to expect before, during, and after your surgery. They'll go into detail about the plan for your surgery and answer any questions you have.

Getting ready for your surgery

You and your care team will work together to get ready for your surgery. It's important to tell us if:

- You take prescription or over-the-counter medications or dietary supplements. You may need to stop taking some of your medications and supplements before your surgery. They could increase your risk for complications during surgery. Vitamins and herbal remedies are examples of dietary supplements.
- You have any allergies.
- You've had a problem with anesthesia in the past.

Using MyMSK

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

If you don't have a MyMSK account, you can visit my.mskcc.org, call 646-227-2593, or call your doctor's office for an enrollment ID to sign up. You can also watch our video *How to Enroll in MyMSK: Memorial Sloan Kettering's Patient Portal* (www.mskcc.org/pe/enroll_mymsk). For help, contact the MyMSK Help Desk by emailing mymsk@mskcc.org or calling 800-248-0593.

About your MyMSK Goals to Discharge Checklist

When your surgery is over, you'll focus on getting well enough to leave the hospital. We'll send a Goals to Discharge Checklist to your MyMSK account to help you track how you're doing. You can use this electronic checklist to see the goals you need to meet before leaving the hospital and update your progress throughout the day. Your updates also send alerts to your surgical team about your progress.

For more information, read the resource *How to Use Your MyMSK Goals to Discharge Checklist*. You can find it online at www.mskcc.org/pe/goals_discharge_checklist or ask your healthcare provider for a copy.

About Enhanced Recovery After Surgery (ERAS)

ERAS is a program to help you get better faster after your surgery. As part of the ERAS program, it's important to do certain things before and after your surgery.

Before your surgery, make sure you're ready by doing the following things:

- **Read this guide.** It will help you know what to expect before, during, and after your surgery. If you have questions, write them down. You can ask your healthcare provider at your next appointment, or you can call their office.
- **Exercise and follow a healthy diet.** This will help get your body ready for your surgery.

After your surgery, help yourself recover more quickly by doing the following things:

- **Read your recovery pathway.** This is a written educational resource your healthcare provider will give you. It has goals for your recovery and will help you know what to do and expect on each day during your recovery.
- **Start moving around as soon as you can.** The sooner you get out of bed and move, crawl, or walk, the quicker you can get back to your normal activities.

Presurgical testing

Before your surgery, you'll have an appointment for presurgical testing (PST) or pediatric presurgical testing (PPST). The date, time, and location of your appointment 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.

During your appointment, you'll meet with a nurse practitioner (NP) who works closely with your surgical team. Your NP will review your medical and surgical history with you. You may have tests, such as an electrocardiogram (EKG) to check your heart rhythm, a chest x-ray, blood tests, and any other tests needed to plan your care. Your NP may also recommend that you see other healthcare providers.

Your NP will also talk with you about which medications to take the morning of your surgery.

It's helpful to bring the following things to your appointment:

- 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 name(s) and telephone number(s) of your healthcare provider(s).

The Pediatric Pain and Palliative Care Team (PACT)

The Pediatric Pain and Palliative Care Team (PACT) is a team of doctors and NPs who support children and families facing serious illnesses at MSK Kids.

The goal of palliative care is to help you and your family during your treatment. We help you with physical, mental, social, and spiritual challenges. Palliative care is important and helpful for everyone: All ages, stages of illness, and if you're in the hospital or an outpatient.

The PACT respects your choices, values, and cultural beliefs. We encourage you and your family to be active in making decisions about your goals and plans of care. We'll work together with all members of your care team. Our goal is to make sure you and your family have the support you need to live as well as possible.

Integrative Medicine

MSK's Integrative Medicine service offers help with discomfort and relaxation and improve your overall well-being. Our specialists are trained and certified in integrative health practices such as:

- Massage therapy
- Music therapy
- Dance therapy
- Yoga
- Meditation
- Mind-body fitness
- Acupuncture

During your first Integrative Medicine visit, an Integrative Medicine Specialist will talk with you about the integrative medicine services available at MSK. They'll also talk with you about:

- Different types of integrative medicine and holistic techniques.
- How to make use of these therapies during your stay.
- How they can help you and your family before surgery and during recovery.

Help your body get ready for surgery

You can recover faster and easier if you help your body be in its best shape for your surgery. This section has examples of things you can do to get your body ready for surgery. Your care team will help you decide which activities are best for you.

Practice breathing and coughing

Practice taking deep breaths and coughing before your surgery. You can do this by:

- Walking around or playing.
- Blowing bubbles or blowing a tissue in the air.
- Using your incentive spirometer, if your care team gave you one.

Exercise

Try to do aerobic exercise (exercise that makes your heart beat faster) every day. Examples of aerobic exercise include walking, swimming, or biking. MSK also offers free virtual classes for all ages that can help you be active. Ask your healthcare provider for more information.

Practice meditation and mindfulness

Mindful breathing, meditation, yoga, movement practice, massage, and acupuncture techniques can support you as you get ready for surgery.

Our Integrative Medicine service videos can help you find the right activities to add into your daily routines before your surgery. You can find it at www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/multimedia. You can also visit www.mskcc.org/meditation to see guided meditation videos made by our expert mind-body specialists.

Follow a healthy diet

Talk with an MSK Kids dietitian to talk about how to get ready for surgery. You can learn how to make sure your nutrition is the best it can be. If you're getting other cancer treatments before your surgery, they can cause taste changes, appetite loss, and trouble digesting food. This can make it hard to eat enough food, which can lead to weight loss.

Your outpatient MSK Kids dietitian can work with you to on a plan that helps with eating challenges. It's also helpful to follow these general guidelines:

- Have small, frequent meals. For example, have a half-sized meal every 2 to 3 hours. Aim for 6 to 8 small meals a day instead of 3 large meals.
- Make and follow a meal schedule. Don't wait to eat until you're hungry. Put the schedule in a place for everyone to see.
- Keep your favorite go-to foods in your home where you can get to them easily.

- Buy single-serving food items that you can eat easily, such as drinkable yogurt smoothies or cheese sticks.
- Cook in batches so you have leftovers.
 - Keep 1 extra serving in your refrigerator for the next day, but not longer.
 - Freeze the other extra servings. When you're ready to use a serving, thaw it in the refrigerator or microwave, not on the kitchen counter. Then reheat it until it's steaming hot.
- Include many different food groups and food types in your diet, unless your doctor or dietitian tells you not to.
- Sometimes drinking is easier than eating. Try getting more calories from liquids than solid foods. For example, have milkshakes or nutritional supplements such as PediaSure® or Carnation Breakfast Essentials®.
- Keep your dining experience enjoyable, with no stress. Try having family mealtimes or group snack times with family.
- Think of your nutrition as being just as important as your medications.

Remember to choose foods that are high in calories and protein. Talk with your MSK Kids dietitian about foods that work best based on what you like or your meal patterns.

Have a carbohydrate drink on the morning of your surgery

One of your healthcare providers will give you a bottle of CF(Preop)® or Ensure® Pre-Surgery to drink the morning of your surgery. These are carbohydrate drinks that make fasting (not eating) before surgery less stressful for your body. This helps you heal and recover better after surgery.

Meet with other healthcare professionals, if needed

MSK has many different healthcare professionals who can help you before, during, and after your cancer treatment.

- **Social workers** can help you cope with the emotional, social, and physical effects of a cancer diagnosis. Our social workers provide counseling and practical assistance. They help families cope with their child's disease, improve communication with family and friends, share information on community resources, and help adjust to medical treatment.
- **Child life specialists** are trained professionals who are experts in human growth and development. If you're worried or stressed about your procedure, they can help you plan ways to be more comfortable and relaxed. MSK's child life specialists have a variety of backgrounds and interests, including education, psychology, fine arts, and art therapy. Together, our skills and certifications offer

a full range of child life services that educate and empower patients and their families during an illness.

- **Counselors and therapists** can meet with you and your family members and provide counseling for emotional problems related to coping with cancer. MSK's counseling center also has support groups that meet regularly.

Your healthcare provider may offer you a referral to these services. You can also ask for a referral if you're interested.

Arrange for housing, if needed

The Ronald McDonald House provides temporary housing for out-of-town pediatric cancer patients and their families. MSK also has arrangements with several local hotels and housing facilities that may give you a special lower rate. Your social worker can talk with you about your options and help you make reservations. You can also call 212-639-8315 to talk with the Pediatric Patient Services Coordinator.

Complete a Health Care Proxy form, if needed

If you're age 18 or older and haven't already completed a Health Care Proxy form, we recommend you complete one now. If you've already completed one or have any other advance directives, bring them to your next appointment.

A health care proxy is a legal document that identifies the person who will speak for you if you can't communicate for yourself. The person you identify is called your health care agent.

Talk with your healthcare provider if you'd like to complete a health care proxy. You can also read the resources *Advance Care Planning* and *How to Be a Health Care Agent* for information about health care proxies, other advance directives, and being a health care agent. You can find them online at www.mskcc.org/pe/advance_care_planning and www.mskcc.org/pe/health_care_agent or ask your healthcare provider for a copy.

7 days before your surgery

Follow your healthcare provider's instructions for taking aspirin

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. Aspirin can cause bleeding.

Follow your healthcare provider's instructions. **Don't stop taking aspirin unless they tell you to.** For more information, read the resource *Common Medications*

Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E. You can find it in the “Educational Resources” section of this guide.

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

Stop taking vitamin E, multivitamins, herbal remedies, and other dietary supplements 7 days before your surgery. These things can cause bleeding. For more information, read the resource *Herbal Remedies and Cancer Treatment*. You can find it in the “Educational Resources” section of this guide.

Have imaging scans, if needed

You’ll need to have imaging scans to help your healthcare providers plan your surgery. If you have them done somewhere other than MSK, your healthcare provider may ask you to bring the disc with copies of the imaging scans to one of your appointments.

2 days before your surgery

Stop taking nonsteroidal anti-inflammatory drugs (NSAIDs)

Stop taking NSAIDs, such as ibuprofen (Advil® and Motrin®) and naproxen (Aleve®), 2 days before your surgery. These medications can cause bleeding. For more information, read the resource *Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E*. 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 from the Admitting Office will call you after 2:00 PM the day before your surgery. If your surgery is scheduled for a Monday, they’ll call you on the Friday before. If you don’t get a call by 4:00 PM, call 212-639-7002.

The staff member will tell you what time to arrive at the hospital for your surgery. They’ll also remind you where to go. For information about MSK’s locations, including directions and parking options, visit www.mskecc.org/locations/directory

Shower or bathe with 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 or bathing with it before your surgery will help lower your risk of infection after surgery.

Your healthcare provider will give you a bottle of 4% CHG solution during one of your appointments before surgery. You can also buy it at your local pharmacy without a prescription. Shower or bathe with it the night before or morning of your surgery.

1. Use your normal shampoo to wash your hair. Rinse your head well.
2. Use your normal soap to wash your face and genital area. Rinse your body well with warm water.
3. Open the 4% CHG solution bottle. Pour some into your hand or a clean washcloth. Don't dilute it (mix it with water).
4. Move away from the shower stream or stand up in the bathtub. Rub the 4% CHG solution gently over your body from your neck to your feet. Don't put it on your face or genital area.
5. Rinse off the 4% CHG solution with warm water.

After your shower or bath, dry yourself off with a clean towel. Put on clean pajamas or clothes. Don't put on any lotion, cream, deodorant, makeup, powder, perfume, or cologne.

Instructions for eating before your surgery



Do not eat any solid foods after midnight the night before your surgery. This includes hard candy and gum.

The morning of your surgery

Remember, don't eat any solid foods after midnight the night before your surgery.

Instructions for drinking before your surgery

You can keep drinking formula, breastmilk, and clear liquids after midnight. Follow the instructions in the table below.

Type of liquid	Amount to drink	When to stop
Formula	Any amount	Stop drinking formula 6 hours before your scheduled arrival time.
Breastmilk	Any amount	Stop drinking breastmilk 4 hours before your scheduled arrival time.
Clear liquids such as water, fruit juice without pulp, carbonated (fizzy) drinks, tea without milk, and coffee without milk	<input type="checkbox"/> Ages 0 to 3: up to 4 ounces (120 milliliters) <input type="checkbox"/> Ages 4 to 8: up to 6 ounces (180 milliliters) <input type="checkbox"/> Ages 9 to 13: up to 8 ounces (240 milliliters) <input type="checkbox"/> Ages 13 and older: up to 12 ounces (360 milliliters)	Stop drinking clear liquids 2 hours before your scheduled arrival time.

It's OK to brush your teeth and take your medications with a small sip of water.



Finish the carbohydrate drink your healthcare provider gave you 2 hours before your scheduled arrival time. Your healthcare provider will tell you the amount to drink.



Do not drink anything starting 2 hours before your scheduled arrival time. This includes formula, breastmilk, water, and other clear liquids.

Take your medications as instructed

If your healthcare provider told you to take certain medications the morning of your surgery, take only those medications with a sip of water. Depending on what medications you take, this may be all, some, or none of your usual morning medications.

Things to remember

- If you wear contact lenses, wear your glasses instead. Wearing contact lenses during surgery can damage your eyes.
- Don't wear any metal objects. Remove all jewelry, including body piercings. The tools used during your surgery can cause burns if they touch metal.
- Don't wear any lotion, cream, deodorant, makeup, powder, perfume, or cologne.

What to bring

- 1 comfort item (such as a blanket or teddy bear).
- 1 or 2 portable electronic devices (such as a smartphone or tablet) and their charger(s).
- All the medications you're taking, including prescription and over-the-counter medications, supplements, patches, and creams.
- Your incentive spirometer, if you have one.
- Your Health Care Proxy form and other advance directives, if you completed them.
- This guide. Your care team will use it to teach you 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.

Meet with a nurse

You'll meet with a nurse before surgery. Tell them the dose of any medications you took after midnight (including prescription and over-the-counter medications, patches, and creams) and the time you took them.

If you have an implanted port or central venous catheter (CVC), the nurse will access it. If you don't, your anesthesiologist will place an intravenous (IV) line in one of your veins 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 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.

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

During your surgery

After you're fully asleep, a breathing tube will be placed into your airway to help you breathe. You'll also have a urinary (Foley) catheter placed to drain urine (pee) from your bladder.

Once your surgery is finished, your incision(s) will be closed with sutures (stitches), Dermabond® (surgical glue), or Steri-Strips™ (thin pieces of surgical tape). They'll also be covered with a dressing.

In the Pediatric Intensive Care Unit (PICU) or Post-Anesthesia Care Unit (PACU)

When you wake up after your surgery, you'll be in the PICU or PACU. If you're in the PACU, a staff member will bring you to the PICU as soon as a bed is ready.

A nurse will be keeping track of your vital signs (body temperature, pulse, blood pressure, and oxygen levels). You may still have a breathing tube. If you don't, you'll be getting oxygen through a thin tube that rests below your nose or a mask that covers your nose and mouth.

Pain medication

Right after your surgery, you'll get IV pain medication through your implanted port, CVC, or IV line. You may get extra pain medication through an epidural catheter or peripheral nerve catheter (nerve block). Tell one of your healthcare providers if your pain isn't managed.

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

Tubes and drains

You'll have 1 or more of the following tubes and drains after your surgery. Your care team will tell you what to expect.

- A chest tube. This will help drain air and liquid from the space around your lung.
- Abdominal drains. These will drain liquid from your abdomen. They'll come out of your incision and be stitched in place.
- A feeding tube. This will be used to give you nutrients.
- A breathing tube. This will help you breathe.
- An arterial line. This will keep track of your blood pressure.
- A urinary catheter. This will drain urine from your bladder. This helps your care team keep track of how much urine you're making.

Your healthcare providers will care for your tubes and drains while you're in the hospital. Most people don't have any tubes or drains by the time they're ready to leave the hospital. If you will have a tube or drain when you leave, your healthcare providers will teach you how to care for it at home. They'll also make sure you have the supplies you need.

Physical therapy and occupational therapy

If you need help moving, crawling, walking, playing, or doing self-care tasks after your surgery, a physical therapist (PT), occupational therapist (OT), or both may visit you.

- Your PT can help you move and function better after surgery. They'll help you get back the strength, balance, and coordination you need to do things like crawling, walking, climbing stairs, playing, or doing sports.
- Your OT can help you improve the skills you need to do important everyday activities. They'll help you if you have trouble with self-care tasks (such as getting dressed and brushing your teeth), play activities, or skills you need for school or work.

Your PT and OT will talk with you about how often you'll have physical therapy, occupational therapy, or both. For more information, read the resource *Staying Active Before and After Surgery for Pediatric Patients*. You can ask one of your healthcare providers for a copy or find it online at www.mskcc.org/pe/staying_active_peds.

Moving to your hospital room

How long you stay in the PICU depends on how you're recovering. Most people stay for 1 to 2 days. You'll stay in the PICU until:

- Your breathing tube and arterial line are removed, if you had them.
- You're able to get out of bed and move around.
- You're able to do breathing exercises (such as using your incentive spirometer or pinwheel).
- Your vital signs are in an acceptable range.

Once you're ready, a staff member will take you to your inpatient hospital room.

In your hospital room

The length of time you're in the hospital after your surgery depends on your recovery and your individual treatment plan. Your care team will tell you what to expect.

When you're taken to your hospital room, you'll meet one of the nurses who will care for you while you're in the hospital. While you're in the hospital, your healthcare providers will teach you how to care for yourself while you're recovering from your surgery.

You can help yourself recover more quickly by doing the following things:

- **Read your recovery pathway.** Your healthcare provider will give you a pathway with goals for your recovery if you don't already have one. It will help you know what to do and expect on each day during your recovery.
- **Start moving around as soon as you can.** The sooner you get out of bed and move, crawl, or walk, the quicker you can get back to your normal activities.
- **Exercise your lungs.** Use your incentive spirometer or pinwheel to help your lungs expand fully. This helps prevent pneumonia (lung infections).
- **Exercise your body.** Your physical and occupational therapists will teach you activities and exercises to help you get stronger.

You can use your MyMSK Goals to Discharge Checklist to track your progress during your recovery. For more information, read the resource *How to Use Your MyMSK Goals to Discharge Checklist*. You can ask your healthcare provider for a copy or find it online at www.mskcc.org/pe/goals_discharge_checklist

Your care team will keep track of the amount of liquid draining from your chest tube and abdominal drain. Once the amount is low enough, they'll remove the tube or drain.

Managing your pain

You'll have some pain after your surgery. Your healthcare providers will create a pain plan for you so you're as comfortable as possible.

- You'll get opioid (also called narcotic) pain medications for a little while to treat the pain from your surgery. You'll get the lowest dose and take them for the shortest amount of time needed.
- You'll get a few other types of pain medications to make sure you're comfortable and so you can take less of the opioid medication(s).
- You may get an epidural or nerve block.

The Pediatric Pain and Palliative Care Team and your anesthesiologist will talk with you about your pain plan and answer your questions.

Your healthcare providers will visit you every day to make sure your pain is as well controlled as possible. If you have pain, tell one of your healthcare providers. It's important to control your pain so you can do your breathing exercises and move around. Controlling your pain will help you recover better.

You'll get a prescription for oral pain medication (pain medication you swallow) before you leave the hospital. Talk with your healthcare provider about possible side effects and when to start switching to over-the-counter pain medications. Bring your prescription pain medication with you to your follow-up visit in clinic.

Managing pain through integrative medicine

Our Integrative Medicine specialists can support you if you're having pain after surgery. We can help you practice mindfulness and meditation through breathing exercises, mindful movement, and use of guided imagery. Massage techniques and music therapy may provide comfort. Playfulness through dancing can shift your mood and take your focus off your pain. If you're interested in managing pain through integrative medicine, ask a member of your care team for an Integrative Medicine consult.

Moving around and walking

Moving around and walking will help lower your risk for blood clots and pneumonia. It will also help you start passing gas and having bowel movements (pooping) again. You'll need to have a bowel movement before you're discharged from the hospital.

You can move around by walking to the sink or bathroom or around the unit. Your nurse, physical therapist, or occupational therapist will help you move around, if needed. Mindful movement therapies, such as dance therapy, tai chi, and yoga, are also available. If you're interested in mindful movement therapy, ask a member of your care team for an Integrative Medicine consult.

Exercising your lungs

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

- Use your incentive spirometer or pinwheel 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. It's best to do these exercises soon after taking your pain medication. Holding your pillow across your incision while you do them can also help.

One of MSK's Integrative Medicine providers can also help you exercise your lungs by guiding you through breathing techniques or meditation.

Eating and drinking

You won't be able to eat or drink anything for at least 3 days after surgery. You'll get all your nutrition from liquid formula through your feeding tube. The formula is easy for your body to digest (break down) and absorb. It has all the nutrients your body needs.

Tube feeds after surgery

Your tube feeding rate is the amount of formula you get through your feeding tube every hour. It's measured in milliliters (mL) per hour.

Your goal feeding schedule is the tube feeding rate and number of hours that gives you the right amount of calories, protein, and fluids.

Your inpatient MSK Kids dietitian will calculate your goal feeding schedule based on your height and weight. At first, you'll have a low tube feeding rate. Your tube feeding rate will slowly be increased to your goal rate or schedule.

You may still be getting some nutrition from tube feedings when you're discharged from the hospital. If you are, your inpatient MSK Kids dietitian nutritionist will tell your case manager which formula and supplies you'll need at home. Your case manager will work with a home care company to have your tube feeding formula and supplies sent to your home.

If you'll have tube feedings after discharge, you'll learn how to use your tube feeding pump while you're in the hospital. Make sure you're comfortable using it before you're discharged.

Eating after surgery

Your surgery team will tell when you can start eating and drinking. This is usually a few days after surgery. At first, you'll only drink liquids. After that, you'll slowly start eating solid food as you're able to take more in.

Your inpatient MSK Kids dietitian will meet with you to talk about foods to include in your diet after surgery. It's best to choose foods high in protein so your body has the nutrients it needs to best recover after surgery. Once you start eating more solid food, your inpatient MSK Kids dietitian will talk with you. You'll set intake goals and discuss how many calories to eat in order to decrease your tube feeds.

Managing bowel changes

Some people have diarrhea (loose or watery bowel movements) while they're in the hospital after surgery. If you do, your care team will help you manage it.

Showering

Wash your face, brush your teeth, and change your pajamas every day. Ask one of your healthcare providers for help if you need it.

You'll be able to shower with help 48 hours (2 days) after your last tube or drain is removed.

Getting chemotherapy

If you're getting chemotherapy as part of your cancer treatment, you may have a chemotherapy treatment while you're in the hospital. Your care team will talk with you about what to expect. If your care team closer to home manages your chemotherapy, your MSK care team will work with them to plan and manage your treatment.

Leaving the hospital

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

Before you're discharged, your healthcare provider will write your discharge order and prescriptions. You'll also get written discharge instructions. One of your healthcare providers will review these instructions with you before you leave.

At home

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 medication. Some people have soreness, tightness, or muscle aches around their incision for a month or two. This doesn't mean something is wrong.

Follow the guidelines below 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 doesn't ease your pain.
- As your incision heals, you'll have less pain and need less pain medication. An over-the-counter pain reliever such as acetaminophen (Tylenol®) or ibuprofen (Advil®) will ease aches and discomfort.
 - Follow your healthcare provider's instructions for stopping your prescription pain medication.
 - Don't take more of any medication than the amount directed on the label or as instructed by your healthcare provider.
 - Read the labels on all the medications you're taking, especially if you're taking acetaminophen. Acetaminophen is an ingredient in many over-

the-counter and prescription medications. But, taking too much can harm your liver. Don't take more than 1 medication that contains acetaminophen without talking with a member of your care team.

- Pain medication should help you resume 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 (having fewer bowel movements than usual).

Preventing and managing constipation

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

- Go to the bathroom at the same time every day. Your body will get used to going at that time. If you feel like you need to go, though, 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.
- Be physically active, if you can.
- Talk with your clinical dietitian nutritionist about the amount of liquid you should drink each day. Aim to drink that much every day, if you can.
 - Choose liquids such as water, juices (such as prune, grape, or pear juice), soups, and ice cream shakes.
 - Avoid liquids with caffeine (such as coffee and soda). Caffeine can pull fluid out of your body.
- Slowly increase the fiber in your diet. Talk with your clinical dietitian nutritionist about how much fiber to eat each day. If you have an ostomy or have had recent bowel surgery, check with your healthcare provider before making any changes in your diet. Foods high in fiber include:
 - Bran or other whole wheat crackers or snacks
 - Whole-grain cereals and breads
 - Unpeeled fruits and vegetables
 - Salad greens
 - Dried apricots, figs, and raisins
- Both over-the-counter and prescription medications are available to treat constipation. Check with your healthcare provider before taking any

medications for constipation, especially if you have an ostomy or have had bowel surgery.

Caring for your incision

Your incision will be covered with a surgical glue called Dermabond®. Don't touch or peel the Dermabond. It will fall off on its own.

If your drain was removed just before you were discharged from the hospital, you may have a dressing (bandage) over the area. You can take off the bandage after 24 to 48 hours (1 to 2 days). Follow your healthcare provider's instructions.

Call your healthcare provider's office if:

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

Showering or bathing

You can follow your usual shower routine, unless you were discharged with a drain in place. If you have a drain, don't shower until it's removed.

Don't submerge your incision under water (such as in a bathtub or pool) for 14 days after your surgery.

Eating and drinking

Your outpatient MSK Kids dietitian will help you manage your diet and nutrition after you're discharged from the hospital. They'll talk with you about foods to include in your diet to help you heal after surgery, gain weight, or both. If you're getting tube feeds at home, they'll talk with you about your tube feeding schedule and rate.

Call your healthcare provider if your appetite isn't back to normal after a few days or if you start vomiting (throwing up).

Physical activity and exercise

You can go back to doing most of your usual activities once you're home. Avoid contact sports and roughhousing for about 6 weeks after surgery. It takes about that long for your incision to heal.

Going back to school

You can go back to school as soon as you feel ready.

Traveling

Most people don't need to follow any special guidelines for traveling. It's OK to travel on a plane.

Follow-up appointment

Your surgeon's office may schedule your follow-up appointment before you're discharged from the hospital. Or, they may call you to schedule it once you're home. Your follow-up appointment can be done either in-person or by telemedicine.

When to call your healthcare provider



Call your healthcare provider if:

- Your incision is starting to look red.
- Redness around your incision is getting worse.
- There's liquid draining from your incision.
- The area around your incision is starting to swell.
- Swelling around your incision is getting worse.
- You have appetite loss (don't feel a desire to eat).
- You're vomiting (throwing up).
- You have any questions or concerns.

Contact information

Monday through Friday from 9:00 AM to 5:00 PM, call your healthcare provider's office.

After 5:00 PM, during the weekend, and on holidays, call 212-639-2000 and ask to speak to the person on call for your healthcare provider.

MSK support services

For more online information, visit the Cancer Types section of www.mskcc.org

Admitting Office

212-639-7606

Call if you have questions about your hospital admission, including requesting a private room.

Anesthesia

212-639-6840

Call if you have questions about anesthesia.

Blood Donor Room

212-639-7643

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

Bobst International Center

888-675-7722

MSK welcomes patients from around the world. If you're an international patient, call for help arranging your care.

Counseling Center

646-888-0200

Many people find that counseling helps them. We provide counseling for individuals, couples, families, and groups, as well as 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

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

Integrative Medicine Service

646-888-0800

Integrative Medicine Service offers many services to complement (go along with) traditional medical care, including music therapy, mind/body therapies, dance and movement therapy, yoga, and touch therapy.

MSK Library

library.mskcc.org

212-639-7439

You can visit our library website or speak with the library reference staff to find more information about your specific cancer type. You can also visit LibGuides on MSK's library website at libguides.mskcc.org

Patient and Caregiver Education

www.mskcc.org/pe

Visit the Patient and Caregiver Education website to search our virtual library. There you can find written educational resources, videos, and online programs.

Patient and Caregiver Peer Support Program

212-639-5007

You may find it comforting to speak with someone who has been through a treatment similar to yours. You can talk with a former MSK patient or caregiver through our Patient and Caregiver Peer Support Program. These conversations are confidential. They may take place 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 if you have 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 Nursing Office

212-639-6892

You may request private nurses or companions. Call for more information.

Resources for Life After Cancer (RLAC) Program

646-888-8106

At MSK, care doesn't end after active treatment. The RLAC Program is for patients and their families who have finished treatment. This program has many services, including seminars, workshops, support groups, counseling on life after treatment, and help with insurance and employment issues.

Social Work

212-639-7020

Social workers help patients, family, and friends deal with issues that are common for cancer patients. They provide individual counseling and support groups throughout the course of treatment and can help you communicate with children and other family members. Our social workers can also help refer you to community agencies and programs, as well as financial resources if you're eligible.

Spiritual Care

212-639-5982

Our chaplains (spiritual counselors) are available to listen, help support family members, pray, contact community clergy or faith groups, or simply be a comforting companion and a spiritual presence. Anyone can request spiritual support, no matter their formal religious affiliation.

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.

Virtual Programs

www.mskcc.org/vp

MSK's Virtual Programs offer online education and support for patients and caregivers, even when you can't come to MSK in person. Through live, interactive sessions, you can learn about your diagnosis, what to expect during treatment, and how to prepare for the various stages of your cancer care. Sessions are confidential, free, and led by expert clinical staff. If you're interested in joining a Virtual Program, visit our website at www.mskcc.org/vp for more information.

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, while 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.



PATIENT & CAREGIVER EDUCATION

Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E

This information will help you identify medications that contain aspirin, other NSAIDs, or vitamin E. It's important to stop taking these medications before many cancer treatments. They affect your platelets (blood cells that clot to prevent bleeding) and can increase your risk of bleeding during treatment.

Other dietary supplements (such as other vitamins and herbal remedies) can also affect your cancer treatment. For more information, read the resource *Herbal Remedies and Cancer Treatment* (www.mskcc.org/pe/herbal_remedies).

Instructions Before Your Cancer Treatment

If you take aspirin, other NSAIDs, or vitamin E, tell your healthcare provider. They'll tell you if you need to stop taking it. You'll also find instructions in the information about your treatment. Read the "Examples of Medications" section to see if your medications contain aspirin, other NSAIDs, or vitamin E.

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 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. **Don't stop taking aspirin unless your**

healthcare provider tells you to.

- If you take vitamin E or a supplement that contains vitamin E, stop taking it 7 days before your surgery or as directed by your healthcare provider.
- If you take an NSAID or a medication that contains 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 medication that contains aspirin, you may need to stop taking it 5 days before your procedure. Follow your healthcare provider's instructions. **Don't stop taking aspirin unless your healthcare provider tells you to.**
- If you take an NSAID or a medication that contains 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. Whether you're just starting chemotherapy or have been getting it, talk with your healthcare provider before taking aspirin, other NSAIDs, or vitamin E.

Examples of Medications

Medications are often called by their brand name. This can make it hard to know their ingredients. The lists below can help you identify medications that contain aspirin, other NSAIDs, or vitamin E.

These lists include the most common products, but there are others. **Make sure your healthcare provider always knows all the prescription and over-**

the-counter (not prescription) medications you're taking, including patches and creams.

Common Medications Containing Aspirin			
Aggrenox [®]	Cama [®] Arthritis Pain Reliever	Heartline [®]	Robaxisal [®] Tablets
Alka Seltzer [®]	COPE [®]	Headrin [®]	Roxiprin [®]
Anacin [®]	Dasin [®]	Isollyl [®]	Saleta [®]
Arthritis Pain Formula	Easprin [®]	Lanorinal [®]	Salocol [®]
Arthritis Foundation Pain Reliever [®]	Ecotrin [®] (most formulations)	Lortab [®] ASA Tablets	Sodol [®]
ASA Enseals [®]	Empirin [®] Aspirin (most formulations)	Magnaprin [®]	Soma [®] Compound Tablets
ASA Suppositories [®]	Epromate [®]	Marnal [®]	Soma [®] Compound with Codeine Tablets
Ascriptin [®] and Ascriptin A/D [®]	Equagesic Tablets	Micrainin [®]	St. Joseph [®] Adult Chewable Aspirin
Aspergum [®]	Equazine [®]	Momentum [®]	Supac [®]
Asprimox [®]	Excedrin [®] Extra-Strength Analgesic Tablets and Caplets	Norgesic Forte [®] (most formulations)	Synalgos [®] -DC Capsules
Axotal [®]	Excedrin [®] Migraine	Norwich [®] Aspirin	Tenol-Plus [®]
Azdone [®]	Fiorgen [®]	PAC [®] Analgesic Tablets	Trigesic [®]
Bayer [®] (most formulations)	Fiorinal [®] (most formulations)	Orphengesic [®]	Talwin [®] Compound
BC [®] Powder and Cold formulations	Fiortal [®]	Painaid [®]	Vanquish [®] Analgesic Caplets
Bufferin [®] (most formulations)	Gelpirin [®]	Panasal [®]	Wesprin [®] Buffered
Buffets II [®]	Genprin [®]	Percodan [®] Tablets	Zee-Seltzer [®]
Buffex [®]	Gensan [®]	Persistin [®]	ZORprin [®]

Common NSAID Medications That Don't Contain Aspirin

Advil®	Duexis®	Mefenamic Acid	PediaCare Fever®
Advil Migraine®	Etodolac®	Meloxicam	Piroxicam
Aleve®	Feldene®	Menadol®	Ponstel®
Anaprox DS®	Fenoprofen	Midol®	Relafen®
Ansaid®	Flurbiprofen	Mobic®	Saleto 200®
Arthrotec®	Genpril®	Motrin®	Sulindac
Bayer® Select Pain Relief Formula Caplets	Ibuprofen	Nabumetone	Toradol®
Celebrex®	Indomethacin	Nalfon®	Treximet®
Celecoxib	Indocin®	Naproxen	Vicoprofen®
Children's Motrin®	Ketoprofen	Naprosyn®	Vimovo®
Clinoril®	Ketorolac	Nuprin®	Voltaren®
Daypro®	Lodine®	Orudis®	
Diclofenac	Meclofenamate	Oxaprozin	

Products Containing Vitamin E

Amino-Opt-E	Aquavit	E-400 IU	E complex-600
Aquasol E	D'alpha E	E-1000 IU Softgels	Vita-Plus E

Most multivitamins contain vitamin E. If you take a multivitamin, check the label.

About Acetaminophen

Acetaminophen (Tylenol®) is generally safe to take during your cancer treatment. It doesn't affect platelets, so it won't increase your chance of bleeding. But, talk with your healthcare provider before taking acetaminophen if you're getting chemotherapy.

Medications Containing Acetaminophen			
Acephen®	Esgic®	Percocet®	Vanquish®
Aceta® with Codeine	Excedrin P.M.®	Primlev®	Vicodin®
Acetaminophen with Codeine	Fiorcet®	Repan®	Wygesic®
Aspirin-Free Anacin®	Lorcet®	Roxicet®	Xartemis XR®
Arthritis Pain Formula® Aspirin-Free	Lortab®	Talacen®	Xodol®
Datril®	Naldegesic®	Tempra®	Zydone®
Di-Gesic®	Norco®	Tylenol®	
Endocet®	Panadol®	Tylenol® with Codeine No. 3	

Read the labels on all your medications

Acetaminophen is safe when used as directed. But, there's a limit to how much you can take in a day. It's possible to take too much without knowing because it's in many different prescription and over-the-counter medications. It's often an ingredient in pain relievers, fever reducers, sleep aids, and cough, cold, and allergy medications.

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	AC	Acetaminop
Acetamin	Acetam	Acetaminoph

Always read and follow the label on the product you're taking. Don't take more than 1 medication that contains acetaminophen at a time without talking with a member of your healthcare team.

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

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

Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E - Last updated on September 21, 2020

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PATIENT & CAREGIVER EDUCATION

Herbal Remedies and Cancer Treatment

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

One week before you have surgery or start chemotherapy or radiation therapy, you must stop taking any herbal or botanical (plant-based) home remedies or other dietary supplements. This is because they can:

- Interact with your other medications.
- Increase or lower your blood pressure.
- Thin your blood and increase your risk of bleeding.
- Make radiation therapy less effective.
- Increase the effects of sedation or anesthesia (medications to make you sleepy).

You can continue to use herbs in your food and drinks, such as using spices in cooking and drinking tea. However, you must stop taking herbal supplements before your treatment. Herbal supplements are stronger than the herbs you would use in cooking.

Common Herbal Supplements and Their Effects

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

Echinacea

- Can cause an allergic reaction, such as a rash or trouble breathing.
- Can lower the effects of medications used to weaken the immune system.

Garlic

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

Ginkgo (also known as *Ginkgo biloba*)

- Can increase your risk of bleeding.

Ginseng

- Can lower the effects of sedation or anesthesia.
- Can increase your risk of bleeding.
- Can lower your blood glucose (sugar) level.

Turmeric

- Can make chemotherapy less effective.

St. John's Wort

- Can interact with medications given during surgery.
- Can make your skin more sensitive to radiation or laser treatment.

Valerian

- Can increase the effects of sedation or anesthesia.

Herbal formulas

- Herbal formulas contain different herbs. We don't know their side effects. You must also stop taking these products 1 week before treatment. Do not start taking herbal formulas again until your doctor tells you it's safe.

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

For more information about herbs and botanicals, visit the Memorial Sloan Kettering (MSK) Integrative Medicine Service website at www.abouterbs.com.

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

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

Herbal Remedies and Cancer Treatment - Last updated on June 24, 2019
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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.

About Your Incentive Spirometer

An incentive spirometer is a device that will expand your lungs by helping you to breathe more deeply and fully. The parts of your incentive spirometer are labeled in Figure 1.

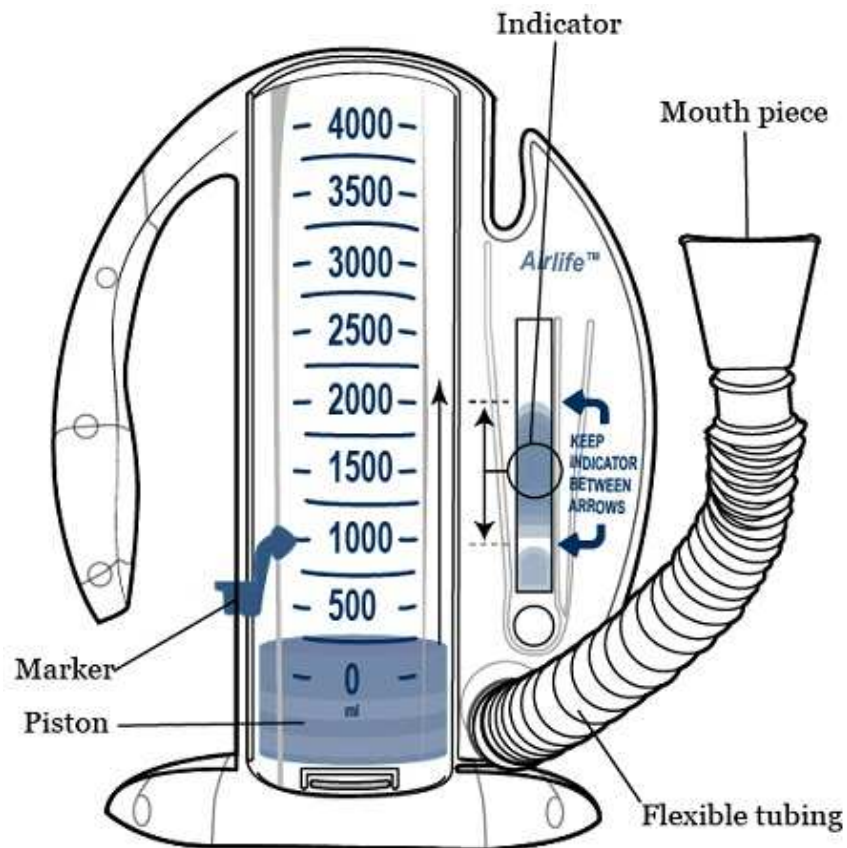


Figure 1. Incentive Spirometer

Use your incentive spirometer after your surgery and do your deep breathing and coughing exercises. This will help keep your lungs active throughout your recovery and prevent complications such as pneumonia.

If you have an active respiratory infection (such as pneumonia, bronchitis, or COVID-19) do not use the device when other people are around.

How To Use Your Incentive Spirometer

Here is a video demonstrating how to use your incentive spirometer:



Please visit www.mskcc.org/pe/incentive_spirometer_video to watch this video.

Setting up your incentive spirometer

The first time you use your incentive spirometer, you will need to take the flexible tubing with the mouthpiece out of the bag. Stretch out the tubing and connect it to the outlet on the right side of the base (see Figure 1). The mouthpiece will be attached to the other end of the tubing.

Using your incentive spirometer

When you're using your incentive spirometer, make sure to breathe through your mouth. If you breathe through your nose, the incentive spirometer won't work properly. You can hold your nose if you have trouble.

If you feel dizzy at any time, stop and rest. Try again at a later time.

To use your incentive spirometer, follow the steps below.

1. Sit upright in a chair or in bed. Hold the incentive spirometer at eye level.
 - o If you had surgery on your chest or abdomen (belly), hug or hold a pillow to help splint or brace your incision (surgical cut) while you're using the incentive spirometer. This will help decrease pain at your incision.
2. Put the mouthpiece in your mouth and close your lips tightly around it. Slowly

breathe out (exhale) completely.

3. Breathe in (inhale) slowly through your mouth as deeply as you can. As you take the breath, you will see the piston rise inside the large column. While the piston rises, the indicator on the right should move upwards. It should stay in between the 2 arrows (see Figure 1).
4. Try to get the piston as high as you can, while keeping the indicator between the arrows.
 - If the indicator doesn't stay between the arrows, you're breathing either too fast or too slow.
5. When you get it as high as you can, hold your breath for 10 seconds, or as long as possible. While you're holding your breath, the piston will slowly fall to the base of the spirometer.
6. Once the piston reaches the bottom of the spirometer, breathe out slowly through your mouth. Rest for a few seconds.
7. Repeat 10 times. Try to get the piston to the same level with each breath.
8. After each set of 10 breaths, try to cough, holding a pillow over your incision, as needed. Coughing will help loosen or clear any mucus in your lungs.
9. Put the marker at the level the piston reached on your incentive spirometer. This will be your goal next time.

Repeat these steps every hour that you're awake.

Cover the mouthpiece of the incentive spirometer when you aren't using it.

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

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

How to Use Your Incentive Spirometer - Last updated on June 27, 2019

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