

Better, Faster Recovery after Esophagectomy

with the Enhanced Recovery after Surgery (ERAS) Program



STRONG
MEMORIAL HOSPITAL

What is the Enhanced Recovery after Surgery (ERAS) program?

Enhanced Recovery after Surgery is based on scientific evidence about surgical recovery. Our goal is to work with you to provide an improved surgical experience and to get you back to normal as soon as possible after your surgery.

How do we do this?

By changing the way we manage your care before and after surgery.

We also include **you** as a very important part of the team.

This booklet will:

- Help you prepare for your surgery.
- Explain how you play an active part in your recovery.
- Give you daily goals to achieve.

Research shows that you will recover faster if you do the things explained in this booklet. There are instructions about eating and drinking, physical activity, and controlling your pain. These things will help you to feel better faster and to go home safer and sooner.

Please bring this booklet with you on the day of surgery. Use it as a guide during your hospital stay. We may refer to it as you recover and review it with you when you are ready to go home.

Having surgery can be stressful for you and your family. The good news is that you are not alone. We will support you each step of the way. Please ask us if you have questions about your care. We want to be sure to answer all your questions!

Use this space to write down your questions as you go through the booklet. There is more space in the back of the booklet.



Your Surgical Care Team

You will see many different people from your team during your hospital stay. We work together to check your condition and plan the best steps towards returning your body to its normal state.

Surgeons:



Dr. Carolyn Jones
Attending Surgeon



Dr. Paul Feingold
Attending Surgeon



Dr. Michal Lada
Attending Surgeon



Dr. Christian Peyre
Attending Surgeon



Dr. Ryan Campagna
Attending Surgeon

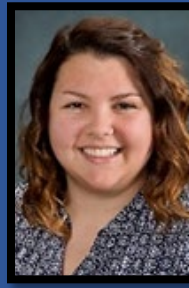
Advance Practice Providers:



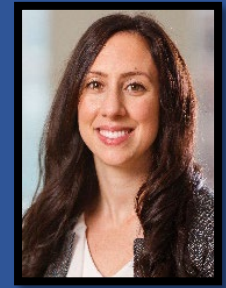
Wendy Hurley
*Physician Assistant
(PA)*



Kara Mestnik
*Nurse Practitioner
(NP)*



Alicia Frelie
*Nurse Practitioner
(NP)*



Stephanie Monnat
*Nurse Practitioner
(NP)*



Olga Feeney
*Nurse Practitioner
(NP)*



Megan Poirier
*Physician Assistant
(PA)*



Taylor McCabe
*Nurse Practitioner
(NP)*



Kathleen Williams
*Nurse Practitioner
(NP)*

Nurse Navigator:



Melissa Sayles
*Registered Nurse (RN)
Nurse Navigator*



Other team members include: Anesthesiologists, Residents, Fellows, Registered Nurses (RNs), Patient Care Technicians (PCTs), Respiratory Therapists, Physical Therapists, and Environmental Services (the people who help us keep our spaces clean)

**Contact
us**

URMC Thoracic & Foregut Surgery at AC2
601 Elmwood Avenue
Rochester, NY 14642
Phone: (585) 275-1509
Fax: (585) 276-2356

Before Surgery

You can prevent many problems during and after your surgery by being as strong and as healthy as possible.

Here is how:

- ✓ Quit smoking.
- ✓ Exercise regularly. Staying physically active can help you recover after your surgery. We suggest you do at least one of the following every day to keep your stamina up:
 - 20 minutes of exercise
 - Walk 1 mile (brisk pace)
 - Take 7,500 steps a day
- ✓ Avoid alcohol. Drinking more than 2 alcoholic beverages a day (or more than 14 drinks a week) is considered high alcohol consumption. Alcohol use can weaken your immune system, weaken your heart, increase your stress response, and slow your healing. You can help decrease the chance of having complications from your surgery by not drinking alcohol for 4 weeks before your surgery. If you drink more than 2 drinks a day (or more than 14 drinks a week), we suggest you slowly reduce how many alcoholic beverages you are drinking and stop completely 4 weeks before your surgery.
- ✓ Eat a variety of healthy foods. Your body burns a lot of energy during and after surgery. Fuel up by increasing your calories from nutrient-packed foods.
- ✓ Discuss your surgery with family and friends. Who will help you when you get home?
 - Think about things like bathing, shopping, making meals, and housework.
 - Do you have pets? You will need help walking the dog.
 - Think about how you will get home from the hospital and how you will get to your follow-up appointments. You will not be allowed to drive for at least 2 weeks.
 - You may find it easier to have more than one person help you.
- ✓ Review your pre-admission and medication instructions.

Next, we will talk about how to get ready for your upcoming surgery.



Stock up on the medicines, foods, and drinks you will need before and after your surgery. **If instructed, you will specifically need the following:**

A bottle of MiraLAX[®] powder

Liquid nutritional supplements. There is more information on the following pages about these. You will need at least 15 servings.

Up to 7 days before surgery



If you are on anticoagulants (an-tie-coh-AG-you-lents) (blood thinners or anti-platelet medications), we will be in touch with you about when to stop those medications in anticipation of your surgery.

7 days before surgery



If you take NSAIDs (nonsteroidal anti-inflammatory medications) such as Ibuprofen, Motrin[®], Aleve[®], Naproxen, Mobic, Meloxicam, etc., **please stop 7 days before surgery.**

5 days before surgery

Bowel Regimen



If we told you to do a bowel regimen...

Start your bowel regimen by drinking 17 grams of MiraLAX® in 8 oz. of fluid (like water, coffee, or juice). Do this one time per day. If you have not had a bowel movement by the afternoon of the second day of the regimen, increase to 17 grams two times per day. If you start to experience more than 2-3 bowel movements, reduce back to once daily. If you are having loose stools, you may stop or skip a few doses.

MiraLAX® is a laxative. Laxatives are used to treat and prevent constipation. You are constipated if you find it hard have a bowel movement (BM, poop) or you rarely have a BM (less than 2 times per week).

Be sure to increase the amount of fluids you drink while taking MiraLAX®.

Why is it important to do this? Being sure your bowels are empty before surgery lessens chances of complications while you are in the hospital.



If we told you to drink nutritional supplements...

- ✓ Start drinking nutritional supplements such as Ensure Enlive®. Other options include Impact Recovery® or Boost®.
- ✓ Drink 3 bottles (or cans or cartons, depending on the product) each day.
- ✓ Do this each day up until midnight, the night before your surgery.

Liquid nutrition supplements are high in protein and contain vitamins and minerals.

You can find these drinks at Walmart, Target, drug stores, and supermarkets. Many stores have their own brands, which have the same basic ingredients.

Here are some of the nutritional drinks you can find at your local store. All drinks come in different flavors.

Drink	Amount	Protein (grams)	Carbs	Calories	For diabetic?
BOOST PLUS®	8 oz.	14	45 g	360	
Boost Glucose Control®	8 oz.	16	16 g	190	Yes
Boost Breeze®	8 oz.	9	54 g	250	
Carnation Instant Ready to Drink®	8 oz.	10	41 g	240	*
Carnation Instant Breakfast Powder®	1 pkt	5	39 g	130	*
Carnation Instant Breakfast Powder Light Start – Sugar-free	8 oz.	5	17 g	150	Yes
Ensure Plus®	8 oz.	13	51 g	350	
Ensure Enlive®	8 oz.	20	45 g	350	
Ensure Original®	8 oz.	9	33 g	220	
Ensure Clear®	10 oz.	8	37 g	180	
Ensure High Protein®	8 oz.	16	19 g	160	
Glucerna Shake®	8 oz.	10	16 g	180	Yes
Impact Advanced Recovery®	6 oz.	18	15 g	200	
Kellogg's Special K Protein Shake®	10 oz.	15	24 g	190	

*Available in "No Sugar Added"

3 days before surgery



If we told you to take Flomax...

- Start 3 nights before surgery
Flomax helps reduce the symptoms of an enlarged prostate gland by relaxing the muscles in the bladder and prostate so you can pee easily after surgery

2 days before your surgery



These medications should be stopped until instructed to restart:

- ✓ Stop taking ACE inhibitors. These are blood pressure medications ending with the letters "**pril**".
- ✓ Stop taking your ARBs. These are blood pressure medications ending with the letters "**sartan**".

By stopping these medications, it helps reduce the chances of your blood pressure dropping while in surgery.



Unless otherwise directed by your provider, start a full liquid diet for **all** meals (e.g. milkshakes, ice cream, frozen yogurt, nutritional supplements, cream soups, broth, fruit juice, water, coffee, tea). **No Solid Foods.**

Please continue with tube feeds if you are on them.

1 day before surgery



Call Strong Surgical Department at (585) 275-8256 between 2:30 and 7:00 p.m. (If your surgery is scheduled for Monday, please call on Friday for an arrival time). Ask:

- ✓ What time should I arrive at the hospital?
I should arrive at: _____.
- ✓ What time is my surgery?
My surgery is at: _____.



If you are doing a bowel regimen, drink your last dose of MiraLAX before midnight.



Before going to sleep, shower or bathe with soap and water.

Use a clean washcloth and a clean towel.

Put on clean bedtime clothing and sleep on clean sheets.



Absolutely no smoking after midnight.



Nothing to eat or drink after midnight.

Stop your tube feedings by midnight if you are on them.

Day of Surgery



Take only the medicines we told you to take, at the usual time, before leaving for the hospital. You may take **TYLENOL[®]** (acetaminophen) if needed.

Take medicines with very little water, less than one ounce (2 tablespoons).



Bring comfortable walking shoes. You will need these when you start walking after surgery.

Pack comfortable clothes to wear home.



No smoking.



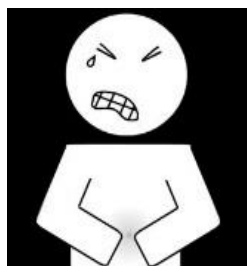
Nothing to eat or drink.



Shower or bathe with soap and water.

Put on clean clothes.

After surgery



You have had major surgery and can expect some pain.

We will carefully monitor your pain and work with you to control it. We will give you two or more pain medicines. Each medicine does different things – and they work together – to help with controlling your pain.

These medications will be given through your J-tube (feeding tube placed during surgery unless you already have one).

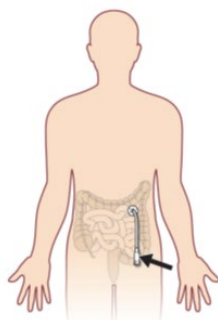
Please speak up if your plan needs to be adjusted. If your pain level is too high, that will slow your progress. Without proper pain control, you will not be able to cough and deep breathe effectively. This can lead to complications like pneumonia.



Be active. This is the most important thing you can do to recover quickly.

This will help speed up the return of bowel function, improve circulation, and prevent infections and blood clots. We will help you get out of bed just hours after your surgery.

We expect you to walk several times per day and be out of bed in a chair most of the day.



You will have a small tube placed through your abdomen. This tube goes into the small intestines during your surgery. It is called a Jejunostomy (Jay-joon-ah-stomy) feeding tube or J-tube; it is used to give you liquid nutrition and medicines until you are able to drink and eat well. You will go home with the J-tube still in. You will begin practicing taking care of this tube soon after surgery.

Your surgeon will let you know when it is safe to remove your tube. It will be removed in the outpatient clinic, usually after 1-2 months once you are able to eat well enough by mouth.



You will have a small tube called a nasogastric (Nay-zoe-gas-trik) tube or NG tube coming out of your nose. It is put in during surgery. It drains fluid, bile (stomach acid) and air from your stomach to keep the conduit (new esophagus) decompressed (or to relieve any pressure).



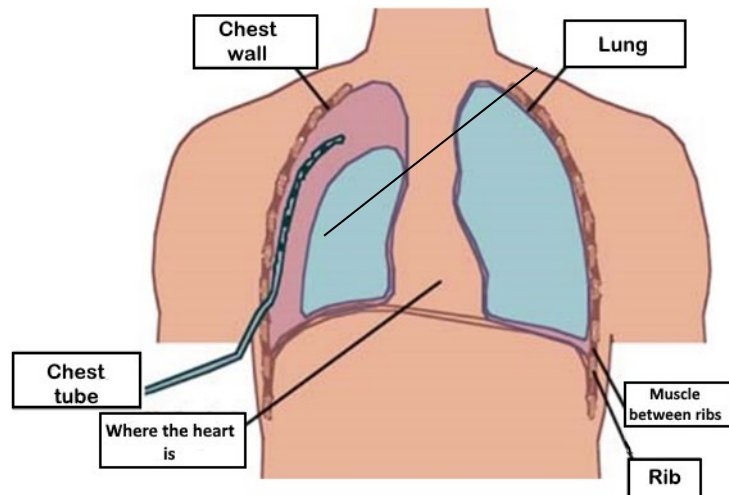
You will wake up with a tube in your chest from surgery called a chest tube.

A **chest tube** is a hollow, flexible tube used to remove blood, air, or fluid from around the lungs.

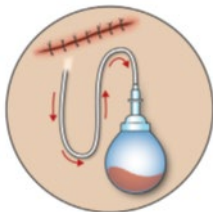
Chest tubes are necessary after most chest operations. The tube is attached to a collection chamber. The chamber collects the fluid that drains from the space between your chest wall and lung. We measure the amount of fluid that collects in the chamber.

We will remove the tube as soon as possible; usually within a few days.

You will be able to walk with this tube. We will help you. It is very important the tube does not become kinked.



We remove the tube when the drainage is low.



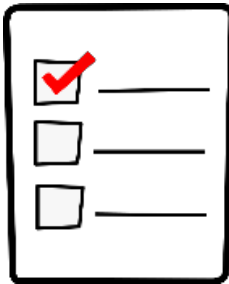
You will have a small tube called a Jackson Pratt drain or JP. This helps drain any extra fluid near and around your incision and conduit (your new esophagus). You will begin practicing taking care of this drain soon after surgery. You will probably go home with this drain. It will be removed when you no longer need it, usually in the clinic 1-2 weeks after discharge.



We will check your vital signs (blood pressure, heart rate, blood oxygen, temperature, and breathing) at least every 4 hours throughout your stay.



You will receive Lovenox[®] or a similar medicine that helps prevent blood clots. We give this medicine to you as a shot.



You will have daily goals. These include targets for activity and adequate nutrition. You may have meetings with specialists to help you with healthy nutrition, home care, managing your pain, and getting stronger through exercise (physical therapy).

You will work with a respiratory therapist (a specialist in breathing) throughout your stay. The therapist will help you with:

- ✓ Coughing and breathing deeply to prevent pneumonia
- ✓ Learning how to use a cough pillow
- ✓ Using an Incentive Spirometer (to exercise your lungs)
- ✓ Using a Flutter Valve (to clear mucus)

You will take the pillow, the spirometer, and the flutter valve home. At home, you will continue working on building up your lungs.



Some people need extra (supplemental) oxygen after lung surgery. This makes breathing easier and helps you stay more active. The oxygen flows through a nasal cannula (CAN-you-lah), which is a small tube with prongs that sit just inside the nostrils.

If you need supplemental oxygen, we will take care of setting it up so you will have it at home. It is short-term for most people.

Going Home

How long you stay in the hospital will depend on the type of surgery you have. You can go home when you are medically ready and it is safe for you. This could be as soon as 5 days after surgery if no complications or concerns. We will talk with you about going home (discharge) every day.

Generally, it will be safe for you to go home when:

- ✓ Your pain is controlled with medication.
- ✓ You are tolerating your tube feeds without feeling sick and having bowel movements.
- ✓ You are walking at your baseline.
- ✓ Your drain outputs are acceptable and NG and chest tube have been removed.

I want to go home as soon as possible!

We get it. Here is what you can do to help make that happen:

- ✓ Do your leg and breathing exercises as directed. Use the examples in this booklet.
- ✓ Stay active. If the pain is unbearable, stop and ask to discuss your pain regimen.
- ✓ Remember to be up and walking at least four times each day. We encourage you to walk some stairs too. Ask the nurses to help if necessary.
- ✓ Be involved in your post-operative care.
- ✓ Work with nursing to learn how to take care of your feeding tube and JP drain.

Before you leave the hospital, your care team will review your discharge instructions with you. We will cover things like:

- ✓ Signs and symptoms of infection and when to call your doctor.
- ✓ Home activity and how much weight you can safely lift (no more than 10 pounds, which is about the same as a gallon of milk).
- ✓ Showering and wound care, including care of your JP drain.
- ✓ Medicine changes.
- ✓ Managing pain.
- ✓ Follow-up appointments.

Your doctor will let you know at your follow up visit when it is safe for you to start driving again.

You will need extra help from family and friends for the first few days.

Please make plans for extra help at home.



What else can I expect after surgery?

You may have a clear watery, light pink or yellow drainage from the place where the tube went into your chest. If you do, put a dry bandage over it. Change the bandage as needed until the drainage stops. Keep your skin as dry as possible.

Nerve pain is normal with chest surgery. We give you special medicine – before and after surgery – to help lessen nerve pain. People describe this nerve pain as band-like, starting at the back and traveling along the rib cage to the front, below the nipples. It will eventually go away but may take some time.

It is common while on tube feeds to have loose stools or even diarrhea. Expect to have 2-4 loose stools per day. If you start to experience more than 2-4 loose stools per day, please call us. We can discuss adding in a medication such as Imodium® to slow your loose stools down.



**Questions?
Call us!**

**(585)
275-1509**

How do I prevent infection?

Surgical site infections may occur in the part of your body where surgery took place. Infections happen in about 1-3 out of every 100 patients who have surgery.

Things my surgical team does to prevent infection

- ✓ We may remove some of your hair immediately before surgery using electric clippers if the hair is in the area where the incision will occur.
- ✓ We will give you antibiotics before your surgery starts.

Things I do – before and after surgery – to prevent infection

- ✓ Good hand washing is the best way to prevent infection.
- ✓ Tell your doctor about other medical problems you may have. Problems such as allergies, diabetes, and obesity could affect your surgery and your treatment.
- ✓ Quit smoking. Patients who smoke get more infections. Talk to your doctor about how you can quit. We can help!
- ✓ Do not shave near the surgery site. This can irritate your skin and make it easier to get an infection.
- ✓ Make sure that everyone on your healthcare team cleans their hands before examining you, either with soap and water or an alcohol-based hand rub.
- ✓ It is OK to remind us about clean hands or glove use during your hospital stay.



- ✓ Family and friends who visit should not touch your surgical wound or bandages.
- ✓ Family and friends should wash their hands before and after visiting you.

How do I take care of the incision sites?

- ✓ You will have small incisions (cuts) on your right chest, shoulder blade area, and abdomen. Under the skin, we close the incisions with dissolvable sutures (stitches). We also use a special adhesive (glue) on top of the skin. Do not pick at the skin glue!
- ✓ Over the next few weeks, the skin glue will flake off. This is normal.
- ✓ When we remove your chest tube, we may close it up with sutures. The sutures will be removed at your follow-up visit. You can remove the bandage 2 days after we remove the chest tube. After that, it is OK to take a shower.
 - Clean the site with normal soap and water.
 - Do not apply any lotions, creams, or powders.
 - It is normal to have clear watery, light pink or yellow drainage. Place a bandage to protect your clothing. Change daily until it stops or more often to keep skin dry.
 - Call us if you have a bad-smelling, thick yellow drainage. This is not normal. This is a sign of possible infection.

What are some signs of infection?

- ✓ Fever higher than 101° F.
- ✓ Tender, red skin around the incision(s).
- ✓ Thick or bad-smelling drainage from the surgical site.
- ✓ Vomiting (throwing up) for more than 8 hours.
- ✓ Having a lot of pain or pain that is getting worse.
- ✓ Changing the bandage multiple times every day.

How do I take care of my Jackson-Pratt (JP) drain?

How do I change the bandage around my JP drain?

- ✓ Wash your hands with soap and water.
- ✓ Loosen the tape and gently remove the old gauze.
- ✓ Using a gauze and warm soapy water, gently cleanse the skin around your JP drain site.

- ✓ Using a clean gauze, pat the area dry.
- ✓ Place a new gauze on your JP drain site and secure it with medical tape.
- ✓ Wash your hands.
- ✓ You may shower with a waterproof dressing over the site where the drain enters your skin. Place a tegaderm or some cling/saran wrap on your skin to keep the water out. Be sure to avoid tension or pulling on the tube.

How do I empty the JP drain?

- ✓ Wash your hands with soap and water.
- ✓ Remove the plug from the bulb.
- ✓ Pour the fluid into a measuring cup.
- ✓ Squeeze the bulb flat and put the plug back in. The bulb should stay flat until it starts to fill with fluid again.
- ✓ Measure the amount of fluid you pour out of the JP drain. Write down the amount along with the date and time you collected it on the chart provided on the next page.
- ✓ Flush the fluid down the toilet and wash your hands.



When should I call the Provider? Call us if:

- ✓ You suddenly stop draining fluid or think that your JP drain is blocked.
- ✓ You have a fever higher than 101° F.
- ✓ You have increased pain, redness, or swelling around the drain site.
- ✓ You have questions about your JP drain care.
- ✓ Your JP drain breaks or comes out.
- ✓ You have cloudy yellow, green, or brown drainage from your JP drain site, or the drainage smells bad (normal JP drainage is clear and light pink or yellow in color).

JP drain			JP drain		
Date	Time	Amount	Date	Time	Amount
1/5/1999	8:00am	30 mL			

How do I prevent blood clots?

When a blood clot forms in a deep vein, usually in the leg, it is called deep vein thrombosis (DVT). When the clot breaks off and travels from the leg up to the lungs, it is called a pulmonary embolism (PE). DVT and PE are serious, life-threatening conditions. Surgery, being less active, being overweight, and smoking increase your chances of developing blood clots. To prevent blood clots:

- ✓ While you are in the hospital, you will wear IPC (intermittent pneumatic compression) devices or knee-high sleeves on your legs for the first 24 hours or so. IPCs inflate and deflate regularly to help circulate blood.
- ✓ The devices use cuffs around the legs that fill with air and squeeze your legs, much like a blood pressure cuff. Then the cuff deflates and relaxes. The process then repeats over and over. This increases blood flow through the veins of your legs and helps prevent blood clots.
- ✓ Continue to do ankle and foot exercises regularly.
- ✓ You will need a daily shot of a medicine called Lovenox to prevent blood clots. We will give this to you in the hospital. Some people need Heparin instead which is three times per day.

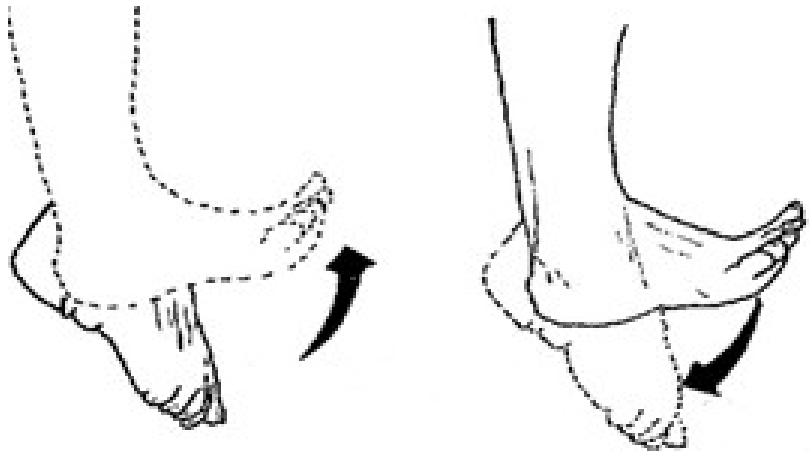
Exercises

One way that you can help prevent blood clots is to keep your calf muscles moving.

- ✓ Sit while doing these exercises.
- ✓ Sit up straight; no slouching!
- ✓ Start by repeating each exercise 2 to 3 times.
- ✓ Work up to doing each exercise 10 times.
- ✓ Try to do the exercises several times each day.
- ✓ Do all exercises slowly.

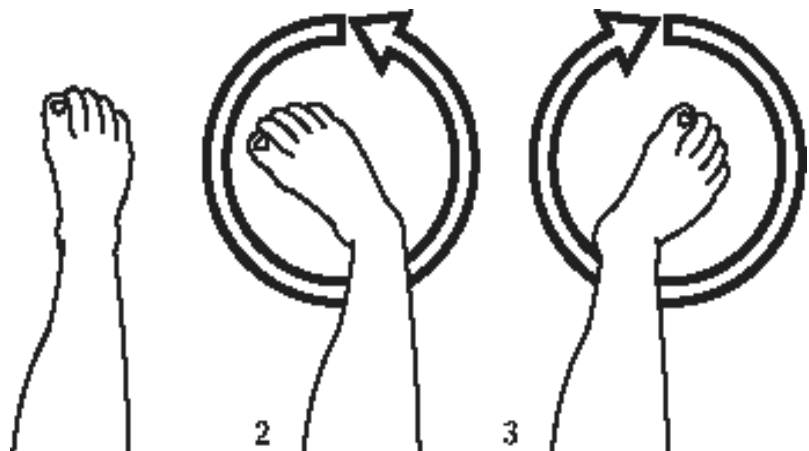
Ankle pumps

Move each foot up and down like you are pressing down and lifting up on a car's gas pedal.



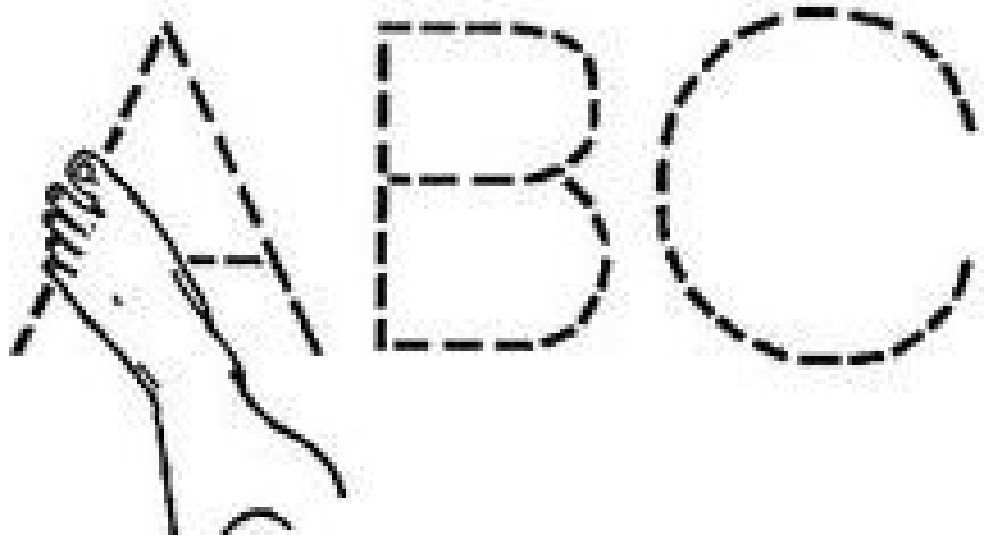
Ankle circles

- ✓ Make circles with your ankles by moving your toes in one direction.
- ✓ Now, make circles in the other direction.



Ankle alphabet

- ✓ Act as if you are writing the alphabet with each foot.
- ✓ Do not move all your leg to do this, just move your ankle.
- ✓ Complete the alphabet, taking short rests if you get tired.



How do I prevent lung infections or other complications?

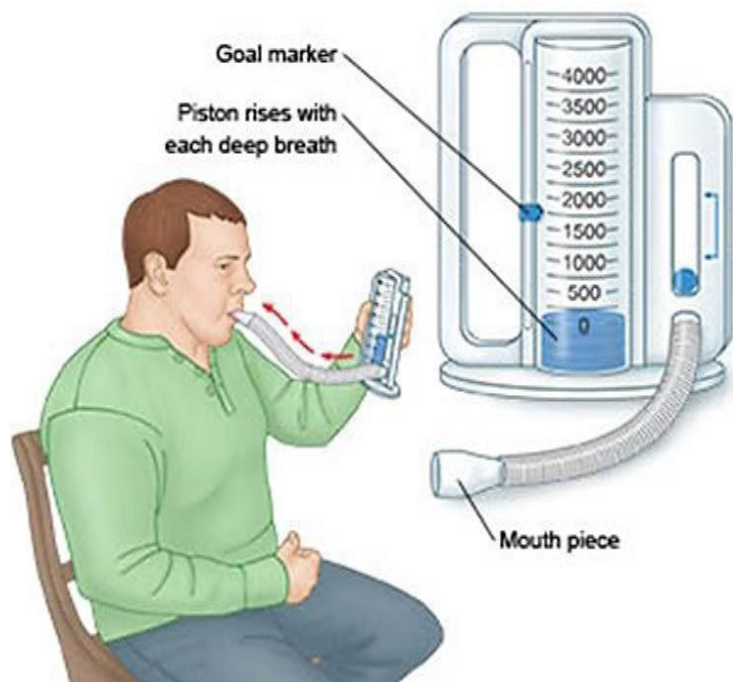
Lung infections can occur for several reasons: you had lung problems to begin with, you just had surgery, or you are less active than usual. To prevent lung infections:

- ✓ Use your incentive spirometer and flutter valve every hour while you are awake.
- ✓ Practice deep breathing and coughing. While coughing, support your incision for comfort. Place your hands flat on top of each other and apply slight pressure to the surgical site or you can firmly hold a pillow across the surgical site to help you breathe deeply and cough. Ask for pain medicine if you are unable to do this well.

How to use an incentive spirometer

An incentive spirometer (spi-RAH-meh-ter) is a tool that helps you do breathing exercises. It measures how deeply you inhale (breathe in).

- ✓ Sit up as straight as you can. You may sit in a chair or in your bed.
- ✓ Hold the spirometer in an upright position.
- ✓ The Respiratory Therapist will place the goal marker on the level you need. This is your goal - to make the piston (indicator) rise to that level.
- ✓ Breathe out normally. Place the mouthpiece into your mouth and tightly seal your lips around it.



- ✓ Breathe in slowly and deeply through your mouth. Breathe in as deeply as you can. This will make the indicator rise. Try to raise the indicator as high as you can to reach your goal. If you are having trouble getting the indicator to rise up, make sure your lips are sealed fully around the mouthpiece. Try thinking about sucking up the last bit of milkshake with a straw when breathing in.
- ✓ When you cannot breathe in any longer, hold your breath for 2 to 5 seconds.
- ✓ Remove the mouthpiece from your mouth. Then, breathe out slowly.
- ✓ Rest and breathe normally. The indicator will return to the bottom.
- ✓ Repeat this exercise 10 times per hour.

When you are done, try to cough a few times. This will help remove fluid from your lungs and keep your lungs clear

Information & Resources

It is very important to stop smoking. Here are some places that can help you:

**University of Rochester Medical Center
Center for Community Health & Prevention**

<https://www.urmc.rochester.edu/community-health/patient-care/stop-smoking.aspx>

New York State Smokers' Quitline

<https://www.nysmokefree.com/>

Some smokers are more likely to quit with the structure of a group support, but others may prefer to get one-on-one help via the telephone. If this sounds like you, try the New York State Smokers' Quitline. It offers:

- ✓ A free starter kit of nicotine patches, gum or lozenges for eligible NYS smokers
- ✓ Trained Quitline Specialists offering help with quit plans
- ✓ Information about local stop smoking programs
- ✓ Informational taped messages

Call the NYS Smokers' Quitline at 1-866-NY-QUITS (1-866-697-8487).

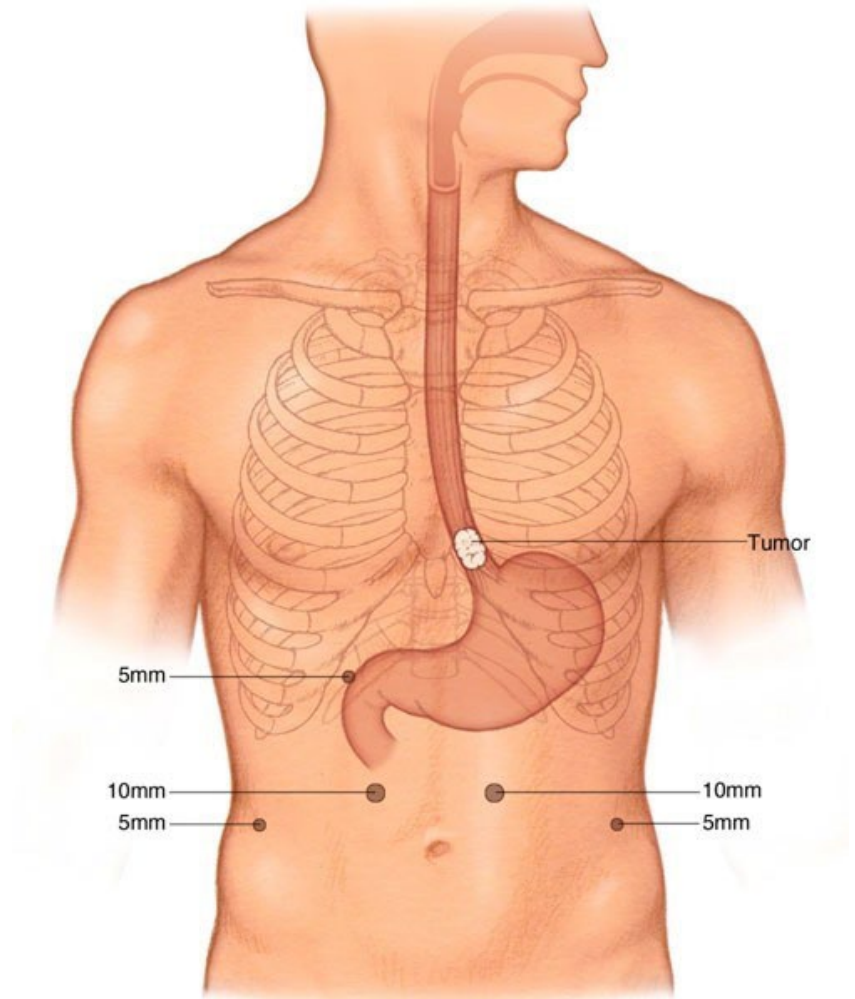
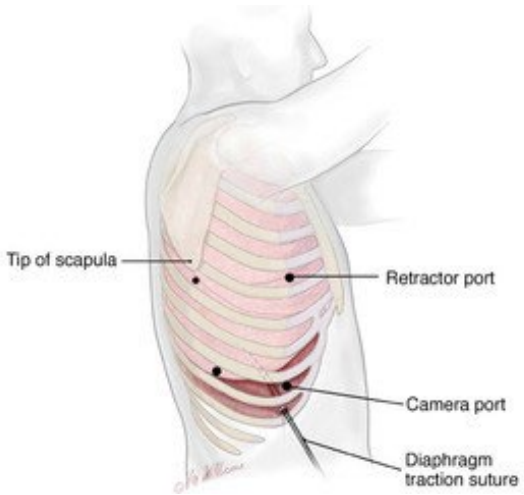
American Heart Association

www.heart.org/quitsmoking

URMC Healthy Living Center

46 Prince Street Suite 3001
Rochester, New York 14607
(585) 530-2050

Individual counseling is provided; a treatment plan typically includes four to six appointments, the first of which is in-person but the remaining can be done by phone. The Healthy Living Center is located at 46 Prince St. with plenty of free parking. Call (585) 530-2050 for information.



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These pictures show areas on your body where your surgeon (doctor performing your surgery) will make incisions (cuts). Locations and sizes may vary.

