Esophagectomy

Your surgery is on: ________________

Your surgery time is: ________________

Please come to the hospital at: __________
Welcome

Welcome to the Thoracic Surgical Division at University Health Network – Toronto General Hospital Division. At UHN, we do over 50 esophagectomy surgeries each year. UHN is a teaching hospital. We train approximately 6 new thoracic surgeons each year.

Your surgeon has scheduled you for esophageal surgery. This booklet gives you information about your surgery. It will help you prepare for surgery, know what to expect while in hospital and help you get ready for your discharge from hospital and recovery at home.
# Table of Contents

**Welcome** .................................................................................................................................. 2

**Preparing for your Surgery** .................................................................................................... 4
- What is the lung surgery I am having? .................................................................................... 4
- Tests before your surgery .................................................................................................... 5
- Your Pre-admission Visit .................................................................................................. 5
- Can the time for my surgery change? .................................................................................. 6

**My Hospital Stay** .................................................................................................................. 7
- Where will I go after my surgery? ..................................................................................... 7
- How will I feel after surgery? ......................................................................................... 7
- What will happen after surgery? ..................................................................................... 7
- What incisions, tubes or drains can I expect? .................................................................. 9
- How will my pain be managed? ...................................................................................... 11
- Are there any side effects of pain medicine? ............................................................... 13
- Are there any other ways to control my pain? ............................................................... 13
- How can my family be involved in my care? .................................................................. 13

**Going Home** .......................................................................................................................... 14
- What symptoms may I feel as I recover? ........................................................................ 14
- What instructions do I follow once I am home after surgery? .................................... 16
- When should I call the surgeon? .................................................................................... 19
- Who do I call for more information? .............................................................................. 19

**Appendix** ............................................................................................................................... 20
- Deep breathing exercises ................................................................................................. 20
- Walking ............................................................................................................................... 20
- Shoulder exercises ........................................................................................................... 21
- Posture ............................................................................................................................... 21

**Definitions** ............................................................................................................................... 22

**Websites** .................................................................................................................................. 24
Preparing for your Surgery

What is the esophageal surgery I am having?
The esophagus is a muscle shaped like a tube. It connects your throat to your stomach. Food travels down this tube and goes into your stomach. The lining of the esophagus may get damaged. This damage can be caused by: reflux, swallowing a poisonous liquid or a cancer.

You may have trouble swallowing. You may have “heartburn” because of reflux. Reflux refers to fluid from your stomach backing up into your esophagus. If this has occurred over several years, the cells can be permanently damaged and a malignancy or cancer can develop.

If a cancer has developed, the esophagus must be removed. This is called an esophagectomy. If the damage or cancer involves the stomach as well, both the esophagus and stomach will be removed. This is called an esophagogastrectomy.

You will stay in the hospital 10 to 14 days. Your discharge from hospital is based on your recovery. You may be told during morning rounds by the team that you are well enough to go home that day. You should prearrange your own ride home before coming into hospital.
Tests before your surgery

To prepare for your surgery, you will have a complete physical examination. You may also need several tests before your surgery. These tests help the surgeon to plan your surgery.

These tests may include one or more of the following:

- a chest x-ray (CXR)
- an esophagoscopy
- pulmonary function test (PFT)
- exercise oximetry
- bone scan
- CAT (CT) scan of your chest and stomach
- ultrasound scan
- motility study
- barium swallow
- MRI brain

We will give you information about the tests that you need. We do these tests to look for any other health problems. Your risk of surgery can be decreased by managing these health problems before surgery.

Your Pre-admission Visit

For specific information about your pre-admission visit, please refer to “Your Information Guide for Surgery” booklet.

During your pre-admission visit, you will go up to 10 Eaton South, the inpatient ward where you will go after surgery. Our physiotherapist may show you the Step Down Unit during this tour.

*Please note: If you do not come for your pre-admission visit, your surgery will be canceled unless other arrangements have been made for you.
What special instructions do I follow before my surgery?

- You may be given a bowel prep to follow before your surgery. This cleans out your bowel (intestines) by making you go to the washroom. If you have questions about this, call your surgeon’s office or the Advanced Practice Nurse.

- You will be given a special sponge. It contains soap to reduce the chance of infection. Shower at home the morning of surgery. Use the sponge to wash your body and then rinse the soap off.

Can the time for my surgery change?

Yes. Several of our Thoracic surgeons perform lung transplants. If we need to do a transplant or another emergency comes up, we may need to reschedule your surgery for another date and time.

How can I plan for my discharge from hospital?

Please do the following before coming in to the hospital:

- The head of your bed at home will need to be raised 15-20cm (6-8 inches). This is a permanent change after this kind of surgery. You can put pieces of wood or books under the bed frame legs. You may wish to buy a large foam wedge to put under the mattress. You can purchase these foam wedges at medical supply stores. Do not plan to simply use extra pillows on the bed. This is not safe.

- Re-organize the kitchen. Place heavier items that you use often within easy reach.
In this section, we will tell you what to expect while you are in the hospital. We will help you understand the equipment that we will use to care for you and tell you how your family can help.

**Where will I go after surgery?**

You may stay in the Post Anaesthetic Care Unit (PACU)/recovery room from several hours to overnight. The length of time depends on your health. When you are stable, we will take you up to 10 Eaton South (10ES). You will go to the Step Down Unit (SDU).

There are 4 beds in the SDU. There are both male and female patients being cared for in this room. A Thoracic Nurse will be in the room with you at all times. You will stay in the SDU from 1 to 2 days.

As your health improves you will be moved to a regular ward room. You will stay on 10ES until you are discharged.

**How will I feel after surgery?**

- During your surgery, we will give you a general anaesthetic. This will make you feel sleepy for some time after the operation.
- You may have nausea and be sick to your stomach. The nurse will tell you to take deep breaths. This helps to decrease your nausea and fully expand your lungs.
- During your surgery, you will also have a breathing tube in your throat. This may cause your throat to be sore afterwards. It should feel better after a couple of days. Tell your nurse and doctor if your throat is sore.

**What will happen after surgery?**

- Your nurse will be checking your blood pressure, pulse and temperature. The nurse will also be checking your heart, breathing and oxygen level.
- In the SDU, the nurses will wake you up every 2-4 hours throughout the night.
- You must do deep breathing and coughing exercises. These are the exercises that the Pre-admission nurse and physiotherapist taught you. These exercises are very important. They will keep your lungs clear and well expanded. After surgery, your body will make more mucous in your lungs than usual. You must cough the mucous out.
Use your incentive spirometer yourself and do the exercises at least 10 times per hour while you are awake. Instructions are also at the end of this book (see the Appendix on page 20).

• You will walk in the halls of the unit. Walking will also help to expand your lungs. To get you back to walking, your team will help you follow these steps.
  1. First we will help you sit at the side of your bed and “dangle” your legs.
  2. You may be out of bed and sitting in the chair at your bedside on the evening of surgery.
  3. On the morning after your surgery, we will help you to sit in a chair.
  4. The first morning after surgery you will go for a short walk out in the hallway. You will have a high-wheeled walker to help support you.
  5. You will walk out in the hallway 2 to 3 times a day.
  6. Your activity will be gradually increased. The nurse and physiotherapist will continue to help you until you can walk on your own.

*Please note: On 10ES, 23 laps around the unit equals one mile.

• A physiotherapist may treat you once or twice a day. How often you see the physiotherapist will depend on your condition during the daytime. The physiotherapist will help you with your:
  ○ Deep breathing and coughing exercises. These exercises help to clear your lungs of mucous. This will help to prevent pneumonia.
  ○ Shoulder exercises on the side of your operation. These exercises help to keep your shoulder joint moving fully.
Your nurse will help you with these exercises at night.

• You will have a barium swallow test 5-7 days after your surgery. This test will show us if you are healing well inside. We are looking to see that there is no leakage of fluid where the esophagus has been rejoined.

• If there is no leak, your diet will slowly be restarted. You will start with sips of water, then sips of clear fluids. You will be slowly increased to a special diet.

• For details on eating, see page 18.
What incisions, tubes or drains can I expect?

You will have:

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<thead>
<tr>
<th>Incisions, tubes or drains</th>
<th>Explanation</th>
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</table>
| **Incisions**             | Your surgeon will tell you where your incision will be. He or she will tell you how big it will be. You will have 2 or 3 of the following incisions:  
- A thoracotomy means the incision is on your side.  
- A laparotomy means the incision is down the middle of your abdomen.  
- A neck incision on the side of your neck.  
- Your incisions may be from 8-25cm (2.5-10 inches) long.  
You may be having video assisted surgery (VATS). Your surgeon will discuss this with you. |
<p>| <strong>Stitches / Sutures / Staples</strong> | The surgeons usually use dissolvable stitches to close your incisions. This means they go away on their own. If they are not dissolvable, the nurse will usually remove the stitches 5 - 7 days after your operation. You may need to go to your family doctor to have your stitches removed. We will tell you if this is necessary. If you have staples, the nurse will usually remove them 7-10 days after your operation. You may need to go to your family doctor to have your staples removed. We will tell you if this is necessary. You will be given a staple remover to take to your family doctor. |
| <strong>Dressings</strong>             | You will have dressings covering your incisions. The first dressing will be changed 2 days after your surgery. Then, the dressings will be changed at least once daily. You will not be able to shower for 7-10 days. The nurse will help you with a daily sponge bath. |
| <strong>Chest Tube</strong>            | You will have 1-2 chest tubes coming out of the side of your chest. These tubes remove air and fluid from your chest cavity. The tubes are attached to a machine called a Pleurovac™. The Pleurovac™ is then attached to a suction source either on the wall or battery operated. The chest tubes will go into your side through small incisions or holes. Your chest tube(s) is usually removed 1-7 days after your surgery. To keep the chest tubes in place, we will use stitches to secure them. These are not dissolvable. The stitches will be removed 1-7 days after the tubes are taken out. |</p>
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<tr>
<th>Incisions, tubes or drains</th>
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<tr>
<td>J-tube (Jejunostomy feeding tube)</td>
<td>You may have a small tube placed into your bowel through your abdomen. This tube is put during your surgery. It is used for giving you liquid food and medications until you are able to drink and eat well. You may go home with this J-tube still in. Removing the J-tube depends on your weight, swallowing and eating patterns once home. It may be taken out when you come back to see the surgeon. This will be 3 - 6 weeks after surgery.</td>
</tr>
<tr>
<td>NG tube (nasogastric tube)</td>
<td>You will have a small tube coming out of your nose. This tube is put in during your surgery. The tube drains fluid, bile and air from your stomach. The tube is attached to a suction source. The NG tube will help to prevent nausea and vomiting. It will be in for 5-7 days after your surgery.</td>
</tr>
<tr>
<td>JP drain (Jackson Pratt drain)</td>
<td>You will have a small drainage tube coming out of the incision in your neck. You may also have one of these drains coming out of the incision in your stomach. The JP drains any fluid from the area. The drains will be in for 7-10 days after your surgery.</td>
</tr>
<tr>
<td>Heart Monitor</td>
<td>You will be on a heart monitor. This does not necessarily mean that there is a problem with your heart. We do this routinely for all patients who have this surgery. You will be on the heart monitor for 1 - 2 days.</td>
</tr>
<tr>
<td>Foley Catheter</td>
<td>You will have a tube draining your bladder. This is called a foley catheter. The nurse will measure how much urine you pass. This tube will usually be in for 1-5 days. When the tube is removed, the nurse will still measure your urine.</td>
</tr>
<tr>
<td>Intravenous (IV)</td>
<td>You will have an IV. We will use it to give you fluids and medicines. The IV will stay in until you are drinking well. This is usually in for 5-7 days. You will not be able to drink until you have had a barium swallow test done.</td>
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<tr>
<td>Arterial Line</td>
<td>You will have an arterial line. This tube looks like an IV. It is used to take blood samples without having to poke you with a needle. This is usually put in the opposite arm to the IV. The arterial line will be in for 1-2 days.</td>
</tr>
</tbody>
</table>
Incisions, tubes or drains | Explanation
--- | ---
Oxygen | An oxygen mask will cover your nose and mouth. When you do not need the oxygen mask anymore, you may be placed onto nasal prongs. Nasal prongs sit below your nose. Both types give you extra oxygen. You may need this for a few days after surgery. When your lungs are working well enough the oxygen will be taken off.
Pain Medicine Pump | You will have a pump for the pain medicine. This will be attached to your IV, to an extra pleural catheter or to the epidural tube.

How will my pain be managed?
We will work with you to manage your pain. We encourage you to take the pain medicine regularly. This will stop the pain from getting worse. You will only be on the pain medicine for a short time. Therefore, you will not become addicted to it.

We can give you pain medicine in different ways. The methods we use are listed below. We will talk more about this at your pre-admission visit.

Pain management options
There are several ways to manage your pain. These include:

<table>
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<tr>
<th>Pain method</th>
<th>How this method works</th>
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<tr>
<td>Epidural Pain Control</td>
<td>With an epidural, one of your doctors will put a small tube in your back. The tube is the same as the one used by women during childbirth. This is usually done right before your surgery. To put it in, you need to lie on your side in a curled up position or sit up. The doctor will clean and freeze an area of your back. A needle is placed into your back. A small tube is placed through the needle. The needle is removed and the tube is taped to your back. Medicine is given through the tube to provide pain relief. The epidural is left in place to give you pain medicine after your surgery. The medicine given is an opiate (pain killer) and local anesthetic (freezing). The medicine may make your legs feel numb, heavy or difficult to move. Your nurse will check to see if this is a problem. This tube will be attached to a pump. The pump gives you the medicine. You can give yourself more medicine if you need it. To do this you press a button on the pump. We will show you how to use your epidural pump during your pre-admission visit.</td>
</tr>
<tr>
<td>Pain method</td>
<td>How this method works</td>
</tr>
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<td>-------------------------------</td>
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</tr>
<tr>
<td><strong>Extrapleural Catheter</strong></td>
<td>You may receive pain medicine through a small tube placed under your skin where your incision is located. The medicine is put in using a machine. You may get your pain medicine this way for several days after your surgery.</td>
</tr>
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</table>
| **Intravenous (IV) Patient Controlled Analgesic or PCA** | A PCA pump is connected to your IV. The pump gives you pain medicine through your IV when you push the button. You should press the button:  
  • when you start to feel pain  
  • before you do something that brings on pain  
  • before you do deep breathing and coughing exercises, and  
  • before you start to move or turn.  
  You should feel the effects of pushing the button within 2-3 minutes.  
  If you do not feel any pain relief, let your nurse know.  
  There is a limit to how much pain medicine you can have in any 4 hours.  
  To control how much medicine you get, the PCA pump has a safety timer called a lock out.  
  The lock out time is 5–10 minutes after you have pressed the button.  
  If you press the button during the lockout time, you will not receive more medicine. **Only you should press the button.**  
  Do not use the PCA for gas pain. |
| **Intravenous (IV) Medicine** | Your pain medicine is given through an IV. It is important to let your nurse know when you have pain. She or he can give you the pain medicine. If you do not feel any pain relief, let your nurse know. |
| **J-tube (Jejunostomy feeding tube)** | You may be given your pain medicine in liquid form through your J-tube. This usually starts 5-7 days after your surgery. Let your nurse know when you have pain. She or he can give you the pain medicine. |
| **Medicine by mouth**         | You may be given your pain medicine in tablet form. This will happen once you are drinking fluids and your pain is well controlled. This usually starts 7-10 days after your surgery. Let your nurse know when you have pain. She or he can give you the pain medicine. |

- Once you move out of the SDU, you must ask for your pain medicine. Your nurse will not be in the room with you at all times. Therefore, you must monitor your pain and ask for medicine as you need it. Once on the ward, expect to continue to need the pain medicine every 3-4 hours for the first few days. As you heal, the pain will get less and you will not need the pain medicine as often.
Are there any side effects of pain medicine?
Some patients may have some side effects. These can include:
- Constipation
- Nausea and vomiting
- Headaches
- Sleepiness
- Itching
Tell your nurse if you have any of these side effects.

Are there any other ways to control my pain?
There are other ways of managing pain. These include:

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<tr>
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<tbody>
<tr>
<td><strong>Relaxation Breathing</strong></td>
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<tr>
<td>This involves redirecting your attention away from your pain and onto your breathing. You begin by focusing on your breathing. Take slow deep breaths in through your nose. Blow the breaths out through your mouth.</td>
</tr>
<tr>
<td><strong>Visualization</strong></td>
</tr>
<tr>
<td>Visualization involves imagining yourself without pain. You begin by closing your eyes. Imagine yourself in a place or specific time that brought you happiness. It may be on a beach, at the cottage or on a mountain top. Try to remember the sounds, the smells, and every detail of the experience.</td>
</tr>
<tr>
<td><strong>Massage</strong></td>
</tr>
<tr>
<td>Gently rubbing your back, shoulders or arms can relieve tension. This can help to decrease your pain. A family member can help you with this.</td>
</tr>
<tr>
<td><strong>Therapeutic Touch</strong></td>
</tr>
<tr>
<td>The nurse uses his or her hands to help with healing. This treatment can be used to decrease your pain. The Nurse Practitioner with the Pain Service can help arrange these treatments for you.</td>
</tr>
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</table>

How can my family be involved in my care?
We encourage your family to be involved in your care. Things they can do include:
- sharing information
- decision making
- being present for tests
- helping with your care.
It is really important that your family take care of themselves. Your relatives may become very tired while you are in hospital. The nurse may ask your family to take a break. This may mean going home for a rest.
We have a visitor’s lounge for your family to sit. We also have specific visiting hours. They are 11:00am to 9:00pm. There is a rest period in the Step Down Unit from 1:00 - 2:30pm daily.

Only two people may visit at one time.

Please check with your nurse or dietician before anyone brings food in for you. You will have special diet needs after your surgery. This will restrict the food that you can eat right after surgery.

Notes
________________________________________________________________________
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________________________________________________________________________

Going Home

During your hospital stay, we will help you to prepare for going home.

What symptoms may I feel as I recover?
Your healing and recovery will not happen overnight. Each person recovers at his or her own pace. Recovery time depends on a number of things such as age, general health and mental attitude. Your family doctor can help you to manage your symptoms as needed. These may include the following:

Feeling tired and trouble sleeping
Plan at least one nap daily. Keep regular sleep habits. Go to bed and get up at the same time each day. Increase your activity as you recover. Go for at least one walk each day. Two or three walks per day are best. Have a relative or friend walk with you if possible.

Appetite
Your appetite should return to normal within a few weeks. Your appetite will increase as your level of physical activity increases. It is common to lose weight after this surgery. You may never gain this weight back. However, it is important that you are eating
enough. A large meal will not settle well in your stomach. Follow the special diet you were given by the dietician. Have smaller, more frequent meals. Remember to separate fluids and solids as discussed with the dietician. Ensure you drink fluids (minimum of 6 cups per day unless specified by your doctor or dietician).

Try to eat high protein and high calorie foods. Soups, plain foods and light meals are easier to digest. You may still require some liquid food through your J-tube. This will be monitored by a dietician in the community. If you continue to have problems with your appetite, call your surgeon.

**Bowel upset**
Diarrhea is common after this surgery. This is called dumping syndrome. The dietician will discuss this with you. Continue to separate liquids and solids.

You may have constipation from your pain medications. Drink plenty of fluids unless otherwise told by your doctor or dietician. Add bran, high fibre and prunes to your diet. You may be prescribed a mild laxative. If you have further problems see your family doctor.

You will be prescribed a stool softener while you are on the pain medicine. You may also use a mild laxative if you need one. If you have further problems see your family doctor.

**Pain**
As you become more active you may have more discomfort. We will order pain medicine for you when you are discharged. It is important to take pain medicine as needed. This will help you to recover. Your family doctor can help you to manage side effects of the pain medicine if you have them.

**Emotions**
You may feel tired and discouraged for several days or weeks after surgery. A period of depression is also common after this surgery. As you recover and regain your strength, this should improve. If you continue to have feelings of depression, please see your family doctor.

**What help will I have at home after the surgery?**
A coordinator from the Community Care Access Centre (CCAC) will meet with you before you leave the hospital. CCAC will arrange a visiting nurse and may also arrange for a visiting dietician to see you at home. The nurse will help you to improve and monitor your recovery. The nurse will monitor your J-tube site, help with the J-tube feeds and care for any other dressings you may have. The dietician will monitor your eating. You may ask the CCAC coordinator any specific questions you may have about the services CCAC will provide.
What instructions do I follow once I am home after surgery?

Activity
You may gradually increase your activity. Walk at least once every day as you can tolerate it. More frequent walks are better. It is best not to walk alone for the first week or so once you are home. Follow the exercise program listed in the Appendix on page 20. You will be able to do all self care activities. You will be able to prepare simple meals. You will be able to climb a flight of stairs. You may go up and down more slowly than usual.

Incisions
The incisions will not need to be covered unless your clothes are rubbing on them. The J-tube will have a small dry dressing around it. Do not put lotions or creams on the incisions until they are completely healed. Most of the pain should be gone by 6-8 weeks after your surgery. There may be a "bump" along the incisions. It will decrease in size over 4-6 weeks. The area around your incisions may feel numb. This numbness is normal. It may last for several months, or forever. The numbness may be worse on cold, damp days. It usually improves with time.

Showering / Bathing
You can shower once you get home. Use a mild soap. Let the water run over the incisions. Pat the incisions dry with a towel. You can shower with the J-tube in. Just dry around the tube and put a dry dressing / bandage on the site after your shower.

Returning to work
You will be off work for at least 4-6 weeks. Depending on your job, you may need to be off for 8-12 weeks. Check with your surgeon when it is safe for you to return to work.

Driving
You should not drive until you are off the pain medicine. The pain medicine you are taking may make you drowsy. You must have full movement of your arm and shoulder before you drive. This is usually at least 2-3 weeks after surgery.

Lifting
No heavy lifting, carrying, pushing or pulling for 4-6 weeks. This includes no vacuuming, carrying heavy groceries, shoveling snow, etc. You may lift up to 22kg (10 pounds). Lifting more than this may stress your incision. Your surgeon will tell you when you can begin regular activities.

Sexual Activity
You may resume sexual activity as before surgery. Avoid positions that cause strain on your incisions.
Sports
You should not swim after an esophagectomy because of the risk of reflux / vomiting and aspiration.

You can golf after 3-4 weeks. Jogging, tennis, aerobics, and racquetball should not be done for 4-6 weeks.

Sky diving and scuba diving should not be done after an esophagectomy because of the risk of reflux / vomiting and aspiration.

Travel
Please check with your surgeon about traveling. We usually recommend that you do not travel by air for 2-3 weeks.

Medicines
During your hospital stay, your medicines may change. You can review these with your nurse, surgeon or pharmacist. Prescriptions will be given to you before you leave the hospital. See your family doctor if you have further questions.

Problems after surgery
Your surgeon will send a letter to your family doctor about your operation. Your family doctor will provide ongoing medical care once you leave the hospital. You should see your family doctor for any problems or questions about your medicines, prescriptions, pain management, sleeping problems, appetite or constipation.

Follow up appointment
You will be told when to see your surgeon. This is usually in 3-6 weeks after surgery. If you do not have an appointment for follow-up before leaving the hospital, call your surgeon’s office. You should call within a week of going home to arrange a follow-up visit.

On the day of your follow-up appointment, go to the x-ray department first. You will have a chest x-ray done.

Please bring your blue hospital card and your health card to your follow-up visit.
Eating After Surgery

What special dietary instructions must I follow after surgery?
You must follow a special diet for at least 6 - 8 weeks. Follow the instructions below. Discuss your diet with your surgeon at your follow up visit. If you continue to lose weight, call your surgeon.
- Eat slowly and chew your food well. Take only small bites of food.
- Sit upright when eating. Stay sitting up for at least 1 hour after eating.
- Avoid swallowing air. Do not drink using a straw. Do not drink carbonated drinks (i.e. pop and beer).
- Eat 6 small meals a day. You will not be able to eat a large meal.
- You will have to separate fluids and solids. Eat solid food first. Wait 30-45 minutes before drinking liquids.
- Wait at least one hour after eating before lying down. This prevents food from coming back up (reflex). Reflux can cause you to aspirate. This means food and fluid going into your lungs. This will make you cough and can cause pneumonia.

What foods should I choose?
- ground beef, chicken or fish with sauce or gravy to moisten it
- sandwich meat, canned tuna or salmon with mayonnaise
- soft bananas, canned or cooked fruit and vegetables
- oatmeal, cream of wheat, cereal with milk
- toasted bread, crackers or melba toast
- soft poached, soft boiled or scrambled eggs; omelet
- soups, stews or casseroles
- meatloaf and gravy, salmon loaf
- spaghetti and sauce, macaroni and cheese, lasagna.

What foods should I avoid?
- dry chunks of meat, fish and poultry
- raw fruit and vegetables
- fruit with seeds and skins
- fresh bread and granola
- hard cooked eggs
- nuts and seeds; popcorn.
When should I call the surgeon?

Contact your surgeon for any of the following:

- new redness or swelling around your incision(s)
- any drainage or pus from your incision(s)
- increase in pain at your incision(s)
- fever
- diarrhea
- nausea or vomiting
- weight loss or continuing poor appetite
- shortness of breath
- coughing out mucous that is yellow or green in colour, or has a bad smell
- coughing up fresh red blood
- anything else that concerns you about your recovery.

If you have more questions after you leave the hospital, please call your surgeon’s office:

- Dr. G. Darling  416 - 340 - 3121
- Dr. M. De Perrot  416 - 340 - 5549
- Dr. S. Keshavjee  416 - 340 - 4010
- Dr. A. Pierre  416 - 340 - 5354
- Dr. T. Waddell  416 - 340 – 3432
- Dr. K. Yasufuku  416 - 340 - 4290

Who do I call for more information?

While you are in the hospital, you or your family can talk to your nurse or other team members. The number is:  416 - 340 - 3166.

Before or after your surgery, you may call the Advanced Practice Nurse for Thoracic Surgery. Her name is Susan Walker. Her number is: 416 - 340 - 4038.

If you have an emergency, call 911 or go to your nearest Emergency Department.

If you need information about the time of your surgery, tests or appointments with your surgeon, call your surgeon’s office. The number is listed above.
Appendix

To help with your recovery at home, you will work on 4 exercises:

1. deep breathing and coughing
2. walking
3. arm exercises
4. posture

If you have any questions about these exercises, call 10ES and ask for the physiotherapist, Anne Kuus. The number is: 416 - 340 - 3166.

Deep breathing and coughing exercises

1. Take a deep breath in through your nose.
2. Hold for a second or two.
3. Blow the air out through your mouth. Do not force the air out.
4. Repeat slowly several times, then…
5. Cough deeply. Not a shallow throat cough. Support your incision with a pillow or your arms.
6. Rest briefly, then…
7. Repeat steps 1–6.

Repeat these exercises 10 times every hour while awake.
Do these exercises until you are up and moving around.

Walking

Walking is the best exercise you can do after esophageal surgery. When, where and how long you should walk will depend on your condition when you leave the hospital. We will give you information about walking before you are discharged. This chart will help you with your walking routine.
<table>
<thead>
<tr>
<th>Week #</th>
<th>Minutes to walk</th>
<th>Number of times per day</th>
<th>Number of blocks to walk</th>
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<tbody>
<tr>
<td>1</td>
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<td>6</td>
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</tbody>
</table>

**Places to walk:**
1. Up and down the hallways of your apartment or condominium.
2. Outside in a park or along a sidewalk. Make sure there are benches along the way. You may need to sit down and rest.
3. In shopping malls, early in the morning. Many malls now cater to people who need to exercise indoors. Many malls open their doors as early as 7:30 am. This way you can exercise before all the crowds arrive.

**Shoulder exercises**
The shoulder on the side of your operation may become stiff. This is because of the location of your incision. Continue these exercises until your joint stiffness is gone. Do these exercises 2-3 times a day in front of a mirror. Watching yourself in the mirror helps you to keep good posture. Make sure that your shoulders are level.
What to do:
1. Clasp your hands together. Lift your arms up over your head. Lower to the starting position. Repeat 5 times.
2. Clasp your hands together. Lift your arms up over your head. continue until you touch the back of your neck. Lower to the starting position. Repeat 5 times.
3. Place one hand behind your back. With the tip of your thumb, try to touch your shoulder blade. Lower your hand to the starting position. Repeat 5 times.

**Posture**
After you have surgery with a chest incision, it is easy to develop bad posture. It is important that you keep good posture after your
surgery. When you are sitting, standing or walking, make sure your shoulders are level and your back is straight.

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**Definitions**

“Your Information Guide for Surgery” booklet lists many general medical terms. The definitions below are other terms that are related to thoracic surgery. You may hear these terms used by the health care team members who are looking after you.

**Barium Swallow:** You will be given a liquid to drink. Pictures will be taken as you swallow. We are looking for blockages or leaks along your esophagus and into the stomach. This test takes 15-30 minutes.

**Bone Scan:** A special x-ray is taken of your bones. A dye will be injected into your vein. You must drink a lot of fluid once the dye is injected. You must wait about 90 minutes after you have had the injection before the test can be started. There is no pain with this test other than the needle prick to inject the dye.

**Bronchoscopy:** A procedure when the doctor looks down your windpipe and into your lungs. It is done with a special telescope. You will be drowsy or asleep for this procedure.

**Cancer:** Normal body cells change and become abnormal as they multiply. If these cells clump together, it forms a tumour.

**CT Scan:** A CT or CAT scan is a special x-ray that takes pictures of your body in thin slices. You may have a scan of your chest and / or abdomen. For a chest scan, a dye will be injected into your vein. The scan will take about 30 minutes to complete. If you are having an abdominal scan, you will need to drink a contrast / dye which will be given to you at the hospital before your scan. The scan will take about 30 minutes to complete. There is no pain with a CT scan other than the needle prick to inject the dye for the chest scan.

**Chest X-ray (CXR):** A special picture of your lungs and other structures in your chest. Sometimes they will bring the machine to your room and take the x-ray there. When you are well enough, you will be taken downstairs to the x-ray department.

**Dressing:** A bandage on your incision.
**Endo Suite or Endoscopy:** The unit where you may have an endoscopy or bronchoscopy done.

The location is:
2nd floor
North Building
Toronto General Hospital

**Exercise Oximetry:** A test done by the physiotherapist (PT) to measure the level of oxygen in your blood. A small probe (like a clothes pin) is clipped onto your finger. There is no pain with this test. If you are able to, you will walk with the PT for 6 minutes. You may also go up some stairs. This test takes 15-20 minutes to do.

**Motility Study:** This test studies the muscle strength and activity in your esophagus. It is done by putting a small soft tube in your nose and down to your stomach. This test takes about 10 minutes.

**MRI (Magnetic Resonance Imaging) Brain:** You will be placed in a special machine which will move around your head. The space inside the machine is quite small. It is important that you tell your surgeon if you are claustrophobic (scared of small places). Your surgeon will order a mild sedative for you to take before the scan is done. This test takes 15-30 minutes to do.

**Pulmonary Function Test (PFT):** A special breathing test to assess your lungs. You may have this done before surgery. This test takes about 1 hour.

**Thoracic:** A term that we use when we talk about anything to do with the chest.

**Key Points**
The following are key points that you must remember:

- You must attend your preadmission visit.
- Do not eat anything after midnight, the night before surgery. You may have clear fluids to drink up to 5 hours before surgery.
- On the morning of surgery, take your medicines with a small sip of water as instructed by the anesthetist.
- On the morning of surgery, arrive at the Surgical Admission Unit at the designated time.
- Arrange for someone to help you after surgery once you return home.
- Arrange a drive home.
- You must not drive until you are off all pain medicine. This is usually at least 2-3 weeks after surgery.

If you have any ideas to improve this booklet, please let us know.
Websites

Cancer Care Ontario
http://www.cancercareontario.com/

Canadian Cancer Society
http://www.cancer.ca/ccs/internet/frontdoor/0,,3543___langId-en.00.html

The Society of Thoracic Surgeons (STS)
http://www.sts.org/sections/patientinformation/

Merck Manual, Digestive Disorders
http://www.mercksource.com/pp/us/cns/cns_merckmanual_frameset.jspzQzpgzEzhttppzCzSzzSzwwwwzPzmerckzPzcomzSzmrmsharedzSzmmanualsec09zSzsec09zSzh131zSzch131czPzjsp - ind09-ch131-ch131c-8352

Up-To-Date Patient Information

Questions and notes

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