ENHANCED RECOVERY AFTER MINIMALLY INVASIVE ESOPHAGECTOMY

ERAS

ROSSELL PARK CANCER INSTITUTE
Contact Information for Questions and Emergencies

GI Surgery Center: **716-845-4010**  
**Hours:** 8:00am – 5:00pm, Mon - Fri

If you are having symptoms and need assistance, call the GI Surgery Center at the number above. After hours and on weekends and holidays, call Roswell Park’s Central Access Center at **716-845-2300** and they will connect you to The Roswell Park Assessment and Treatment Center (ATC). The ATC supports patients with immediate but non-life threatening symptoms during the day and when the clinics are closed. If you call **716-845-2300** when the GI Surgery Center and the ATC have closed, there is always a physician on call to help you.

**Emergencies**

- Roswell Park does not have an emergency room. If you are experiencing a life-threatening medical emergency, call 911 or go directly to your nearest hospital emergency room.

- Bring your Roswell Park “green card” (ID card) with you and let the ER staff know the last time you were treated at Roswell Park.

- If you go to the ER or are admitted to the hospital, have someone notify your Roswell physician.
Introduction

This booklet explains the Roswell Park Cancer Institute’s *Enhanced Recovery After Surgery* (ERAS) program for people having esophageal surgery. The overall goal of this program is to shorten your recovery after surgery by:

1. reducing the length of your hospital stay
2. avoiding the use of medications (such as opioids) which may delay your recovery
3. lowering your risk of complications after surgery

Successful ERAS starts **before** the operation with medications and other therapies aimed at giving you a head-start on your recovery.

Minimally Invasive Esophagectomy

During this surgery, part of your esophagus (your “food pipe”) is removed and the portion below, usually the stomach, is pulled up into the chest cavity and reattached to the upper portion of your esophagus. This attachment is called an **anastomosis**.

Four small incisions are made in your chest wall. Approximately five (5) small incisions are made in your upper abdomen. Often, a small incision is also made in the lower neck. The use of a specialized scope and other instruments allows the surgeon to perform this procedure through small incisions. Sometimes, the larger incision is necessary to complete the surgery. Larger incisions can require hospital stays of 10 days or more.

The final pathology report will take up to 5-7 working days. We will review it with you in the hospital or when you return for a postoperative visit.
About ERAS

- **Preparation:** You are about to have a major operation. Good nutrition and physical fitness are important to a smooth and shortened recovery after surgery. Eating a healthy diet of fruits, vegetables, and proteins can help maintain a healthy weight. If you smoke, stop as soon as possible. Roswell Park has programs to help you quit. Daily exercise is a great way to improve your conditioning before an operation. Even a 30 minute walk every other day is valuable.

- **Night before surgery:** Do not eat or drink after midnight.

- **Day of surgery:** Several long-acting pain pills are given before surgery to help control pain after surgery. These are not opioid (narcotic) medications. You will need to drink an 8 ounce bottle of apple juice 2 hours before your surgery.

- **After surgery**
  - You may have had some or all of the following inserted during your surgery:
    - A chest tube, which reinflates the lung
    - A nasogastric or NG tube, which removes excess secretions during the first few days after surgery to allow the anastomosis to heal
    - A feeding tube, called a jejunostomy or J tube, which allows you to receive supplemental nutrition while you are healing
    - A Jackson Pratt or JJP drain, which drains fluid from the site of your surgery.
  - You may be in the intensive care unit (ICU) for the first 24-48 hours. You will then be transferred to a general surgical floor.
  - Pain control: It is normal to be sore after surgery, and to have a pain score of 1-3. Our goal is to control your pain using as little opioid medication as possible. Other medications that are used include anti-inflammatory medications, neuropathic medications, and acetaminophen (Tylenol ®). Pills you can take by mouth are preferred over intravenous (IV) medications. Spinal or epidural medications may be used in some cases.
  - Nausea: Your team will give you medication to help prevent nausea.
  - Early ambulation: Sitting up in a chair and walking are important to a quick recovery after surgery and help avoid complications such as pneumonia, blood clots, etc.
## Minimally Invasive Esophagectomy - ERAS Care Plan

<table>
<thead>
<tr>
<th></th>
<th>Before Surgery</th>
<th>Day 1-2 After Surgery</th>
<th>Day 3-4 After Surgery</th>
<th>Day 5 After Surgery Until Discharge</th>
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</thead>
</table>
| **Food and Drink**   | **Day before Surgery**: Eat a light, regular breakfast. For the rest of the day, eat a clear liquid diet. At 11 pm, drink 6 ounces of heavy cream. **Nothing to eat or drink after midnight**  
**Day of Surgery**: Two (2) hours before surgery, drink the (8 ounce) apple juice in your ERAS bag | • You will have a NG tube  
• Tube feeds through your J Tube will start on Day 2  
• If healing is not a problem you will start clear liquids* on Day 4  
• Your tube feeds will slowly be increased | • A dietician will give you instructions on how to modify your diet after surgery  
• Your tube feeds will provide half your required daily calories  
• When ready, you will advance to a full liquid** diet and stay on it for 2-3 weeks while your anastomosis heals |                                                                                                                                                                                                 |
| **Comfort**          | **Your pain goal:** [Blank]  
• Scheduled pain medication given in your IV to prevent and reduce pain  
• If needed, additional medication can be given in your IV | • Pain medication given through your J tube lasts longer than IV medications  
• If needed, Additional medication can be given through the J tube |                                                                                                                                                                                                 |                                                                                                                                                                                                 |
|                      |                                                                                                                                 |                                                                                      | • Continue pain medication through your J Tube                                                                                                                                                                                                 |                                                                                                                                                                                                 |
|                      | Tell your nurse if your pain is increasing or the medicine is not working                                                                                                                                                       |                                                                                      |                                                                                                                                                                                                 |                                                                                                                                                                                                 |
| **Breathing**        | • Use incentive spirometer to practice your breathing exercises at home  
• Stop smoking                                                                 | • Take deep breaths and cough often - splinting may make more comfortable. To splint, hold a pillow over your incision  
• Coughing and deep breathing prevent breathing/lung problems  
• You will have breathing nebulizer treatments until Day 5  
• Use your spirometer every hour when you are awake  
• The night of your surgery, we may give you extra oxygen by placing a lightweight tube under your nose (nasal cannula). We will check the monitor and when the oxygen level in your blood is OK, we will remove the cannula |                                                                                                                                                                                                 |                                                                                                                                                                                                 |
<table>
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<tr>
<th>Activity</th>
<th>Before Surgery</th>
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<th>Day 3-4 After Surgery</th>
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| **Stay active by walking 30 minutes every other day, if you can** | • Your nurse will help you stand up and sit in a chair  
• The sooner you are up and moving, the faster your recovery  
• On the first day after surgery, Your nurse will help you to walk in the halls at least 3 times  
  Walk 1 __  
  Walk 2 __  
  Walk 3 __  
• You may meet with a physical therapist to help regain your strength | • Your nurse will help you to walk in the halls at least 4 times  
  Walk 1 __  
  Walk 2 __  
  Walk 3 __  
  Walk 4 __  
  27 laps = 1 mile!  
• Walking will increase each day. We will assist you, if needed  
  Walk 1 __  
  Walk 2 __  
  Walk 3 __  
  Walk 4 __  
  Walk 5 __ | • Walking will increase each day. We will assist you, if needed  
  Walk 1 __  
  Walk 2 __  
  Walk 3 __  
  Walk 4 __  
  Walk 5 __  
  27 laps = 1 mile!  
• You may take a shower  
• You may meet with a physical therapist to help regain you strength |
| **Bladder/Bowel** | • During surgery, a catheter (a small flexible tube) is placed in your bladder to drain your urine | • The catheter is typically removed on Day 2 after surgery  
• Your nurses will help you to the bathroom if you need to have a bowel movement | • Let your nurse or doctor know if you are passing gas  
• Let your nurse or doctor know if you are passing gas  
• Let your nurse or doctor know if you are passing gas or have loose stools |
<table>
<thead>
<tr>
<th>Tubes and Drains</th>
<th>Before Surgery</th>
<th>Day 1-2 After Surgery</th>
<th>Day 3-4 After Surgery</th>
<th>Day 5 After Surgery Until Discharge</th>
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<tbody>
<tr>
<td>• NG tube typically removed on Day 3</td>
<td>• Chest tube typically removed on Day 5</td>
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<tr>
<td>• While in bed, you will wear sequential compression devices (SCDs). These sleeves wrap around and gently squeeze your legs to help prevent blood clots</td>
<td>• We will give you an injection of a mild blood thinner to help prevent blood clots</td>
<td>• You may need blood tests to check on your status</td>
<td>• You will receive fluids and medications through your IV</td>
<td></td>
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<tr>
<td>• Continue breathing and leg exercises</td>
<td>• Safety and fall prevention</td>
<td>• Good nutrition is important to recovery. A registered dietitian (RD) will give you instructions on how to modify your diet after surgery</td>
<td>• We will teach you and/or your caregiver how to care for your J tube at home</td>
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<td>• You and your nurse should start talking about discharge plans</td>
<td>• Tell your nurse who will be your caregiver/support person when you get home</td>
<td>• If no caregiver is available, your nurse may call a case management nurse or a social worker on staff to help make arrangements after discharge</td>
<td>• A discharge planner will discuss discharge plans – transportation, nursing or physical therapy services in the home, presence of a caregiver, etc.</td>
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<td>• A discharge planner will discuss discharge plans – transportation, nursing or physical therapy services in the home, presence of a caregiver, etc.</td>
<td>• Your nurse or pharmacist will discuss your at home medications</td>
<td>• Are you ready for discharge?</td>
<td>• Pain is under control with oral medication only</td>
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<tr>
<td>• Are you ready for discharge?</td>
<td>• Pain is under control with oral medication only</td>
<td>• You are eating soft foods</td>
<td>• You are walking (with or without help)</td>
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<td>✔ Pain is under control with oral medication only</td>
<td>✔ You are eating soft foods</td>
<td>✔ You are walking (with or without help)</td>
<td>✔ You understand how to take care of yourself at home</td>
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<td>✔ You understand how to take care of yourself at home</td>
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Clear Liquid Diet includes...

- Liquids you can see through at room temperature

Full Liquid Diet includes...

- Includes clear liquids plus...

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<th><strong>Clear Liquid Diet includes...</strong></th>
<th><strong>Full Liquid Diet includes...</strong></th>
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<tr>
<td><strong>Sports drinks like Gatorade®</strong></td>
<td>Soft drinks such as ginger ale (in moderation/as tolerated)</td>
<td><strong>Water</strong></td>
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<tr>
<td><strong>Strained fruit juice (no pulp)</strong></td>
<td>Vegetable juice (no pulp or seeds)</td>
<td><strong>Tea or coffee (sugar is OK but NO milk or creamer)</strong></td>
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<tr>
<td><strong>Clear soup/broth (no added meats, noodles, or vegetables)</strong></td>
<td>Strained/blanderized cream soups</td>
<td><strong>Hard candy</strong></td>
</tr>
<tr>
<td><strong>Jell-O®/gelatin (no pieces of fruit or toppings)</strong></td>
<td>Nutritional supplements such as Carnation Instant Breakfast®, Ensure®, and Boost®</td>
<td><strong>Popsicles or lemon ice (no sherbets, sorbets, or fruit bars)</strong></td>
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</tbody>
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What to Expect at Home

- You will be sent home with pain medications. Pain medication can be constipating and you may need a stool softener while you are on the pain medications. Let your doctor know if this is a problem.
- You must stay on the “Full Liquid” diet. At your first office follow-up visit, your diet will be switched to solid food. A dietician will give you instructions on how to modify your diet after the surgery.
- You will be sent home on supplemental tube feeds through your J tube. You will be on these feeds until at least your first office visit, in order to ensure you get enough calories while you are healing. You will be instructed on how to use the feeding tube.
- You may develop diarrhea due to your diet and/or tube feedings. Let your doctor know if this is a problem.
- You may have sutures (stitches). We will remove them when you return for a postoperative visit.
- Keep your incisions clean and dry. You may shower, unless otherwise directed.
- The chest tube site may drain bloody or straw-colored (yellow) fluid. This is normal. Your clothing can be protected by covering the incision with gauze.
Notes