

Esophageal Surgery Postoperative Care

Preparing for an upcoming operation can be stressful. We have put this information together to help ease your mind. To us, going to the operating room is obviously quite routine, since we spend a majority of our time there. For most of you, it is a strange place where everyone wears blue and covers their faces with masks. Not only that, but you also have to put on the notoriously unfashionable gown and get wheeled around in a bed when you are perfectly capable of walking. Yes, it is a bit strange. Hopefully this will take some of the unknown out of it for you.

BEFORE SURGERY: You will receive instructions regarding where to go and what time to be there for your surgery. You may be called the night before by the anesthesiologist. Do not take blood thinning medication for one week prior to surgery (aspirin, coumadin, etc.).

DAY OF SURGERY: Please arrive on time according to your preoperative instructions, but realize that surgery start times are estimations. Some operations take longer than planned, and we appreciate your patience. Leave all non-essential valuables at home, but be sure to bring a good book or something else to read or do. Before surgery you will likely meet one of the “residents” who will be assisting during the operation (see below). Your surgeon will meet with your family or friend(s) after surgery when you are in the recovery room. It usually takes another 1 – 2 hours from that time until the surgeon can see family. Many family members wish to leave the hospital during the operation, which is perfectly acceptable. Your surgeon is happy to call the designated family member after the surgery. Just be sure to designate someone to call, and leave a working number.

WHAT IS A RESIDENT?: Residents are general surgeons in training who have been carefully selected to spend 5+ years mastering all aspects of general surgery. They are essential to our team, and you will see them regularly, probably more than your surgeon.

Although they are excellently trained, residents are under the constant supervision of your surgeons.

What to expect after your surgery

IMMEDIATELY AFTER SURGERY: Most of you will go to the post-anesthesia recovery room for 1 – 2 hours for close observation before being moved to your hospital room. Many of you won't remember much of the recovery room, which is normal. When you get to your room, you will feel groggy, but we want you to walk in the halls as soon as you feel up to it. The nurses will help you out of bed for the first few times, until you are steady on your feet. We also want you to work on deep breathing to expand your lungs and prevent pneumonia. The nurses will give you an incentive spirometer to help with this. It is important to tell the nurses if you are having too much pain or nausea to perform these activities, so that they can give you some medicine.

EATING IN THE HOSPITAL: You will not be given anything by mouth for at least 6 hours after surgery, this will prevent nausea and retching from anesthesia. Many of you will need to wait to try anything by mouth until the next day, and after your X-ray. When you are given the go ahead to start drinking, you will be given a clear liquid diet (this includes jello). Your diet will be advanced at least to full liquids (anything you can pour) before you go home.

POST-OP X-RAY: Those with large hiatal hernia repairs, myotomy, pyloroplasty etc. will have an X-ray before advancing your diet. You will go to the radiology department, and they will have you stand up and drink some liquid (Gastrografin®) that shows up on the X-ray. This routine test lets us look at the surgical repair and make sure all looks good.

DRAINS: Many of you will have a tiny plastic tube (drain) connected to a suction bulb after surgery. This collects extra/unwanted fluid from the surgical site and allows us to test the fluid for salivary amylase (spit). This is a routine way to make sure all is healing properly.

NASOGASTRIC (NG) TUBE: A few of you will have a nasogastric tube to decompress your stomach to relieve extreme nausea, prevent vomiting and to decrease strain on stomach stitches. If needed, these tubes usually need to stay in place for the entire day after surgery.

Going home after your surgery

HOSPITAL DISCHARGE CRITERIA: You may go home when your health care provider is comfortable with you tolerating foods and liquids and when your pain and nausea are reasonably controlled with oral medications. This is typically 1-3 days after surgery (3-5 days for pyloroplasty). You may stop taking your heartburn medication unless otherwise instructed. Patients with gastroparesis/pyloroplasty are asked to continue taking their antacid medication.

POSTOPERATIVE PAIN: Pain from the incisions is normal. It will vary from day to day and with activity level, but should gradually decrease over time. Mild esophageal pain is also common and can feel like heartburn. It has many causes, but most commonly is from surgical swelling/healing, spasm and distention from overeating or rapid eating.

If you had a laparoscopic surgery, you may also have aches in your shoulders and neck, particularly on the left side. This is due to the carbon dioxide that was placed inside your abdomen during the surgery. This is harmless, and the air will disappear within a few days. You may also notice some small air bubbles under the skin of your abdomen or chest that crackle when pushed. This is also normal and will resolve itself in a few days. The shoulder pain itself can last a few weeks in some patients and responds best to non-narcotic pain medication (liquid/crushed/chewable acetaminophen or ibuprofen) and heating pads.

Pain Medication

You may be given a prescription for pain medication (usually a narcotic such as Oxycodone, Percocet, Vicodin or Dilaudid) upon leaving the hospital. Usually this is in liquid form for your convenience but due to various and occasional regional pharmacy shortages, pills may be required. As with all pills, please crush before taking them until you diet is sufficiently advanced (often 2-4 weeks). Types of pain medication include:

- Narcotics. These are good pain relievers, but often cause constipation. Use bulk fiber products,

prune juice or milk of magnesia as necessary for constipation. Narcotic pain medications affect your ability to drive and operate machinery safely. Do not take with alcohol.

- Nonsteroidal Anti-Inflammatory Drugs (NSAIDs). Ibuprofen (Advil, Motrin) and naproxen (Aleve) are some examples of NSAIDs. These cause no effect on mental capabilities, but can cause stomach upset or bleeding if taken continuously.
- Acetaminophen (Tylenol). This has no effect on mental capabilities, but can cause liver damage if taken more frequently than every 4 hours. A reasonable strategy is to use acetaminophen or NSAIDs for minor pains and use narcotics for only major pain.

Note: It is our policy not to refill non-urgent prescriptions outside of business hours. This includes pain medication. Please plan accordingly, and call 303-398-1355 to request refills. In some situations, the prescription will need to be picked up or mailed. Narcotic pain medication refills may not be granted if the request is made more than 4 weeks after surgery unless a follow-up appointment is planned.

EATING AFTER YOUR ESOPHAGEAL SURGERY:

After your esophageal surgery, you can expect some difficulty swallowing. If food sticks when you eat, it is called “dysphagia.” This is due to swelling around your surgery site and will most likely resolve in a few weeks. It is normal to feel “tight” for up to 10-12 week, but you should be able to advance your diet slowly. If your diet is not progressing by the time of your post-operative clinic visit, your doctor may suggest an outpatient procedure to help things along (outpatient endoscopy with esophageal dilation).

To help you through this temporary phase, we start you out on a pureed diet. Full liquid diet means essentially anything that you can pour and pureed is usually a little bit thicker. You should have been given at least a full liquid diet by the time you left the hospital. We ask patients to stay on pureed diet for the first two weeks to avoid anything getting “stuck” near your recent surgery. At the end of this packet are some suggestions for your diet in the first few weeks after your surgery (level 1-4). Don't be alarmed if your ability to swallow doesn't progress according to this plan. Everyone is different and some take longer or shorter to heal after surgery. Use common sense, if you are having trouble swallowing a particular food then avoid it. If food is sticking when you advance your diet, go back to the previous diet for a day or two.

In general, some simple rules to follow are:

- Maintain an upright position (as near 90 degrees as possible) whenever eating or drinking.
- Take small bites, only ½ to 1 teaspoon at a time at first.
- Eat slowly. It may also help to eat only one food at a time.
- Avoid talking while eating.
- Do not mix solid foods and liquids in the same mouthful and do not “wash foods down” with liquids, unless you have been instructed to do so by your surgeon. If you do feel that your meal is a bit “sticky,” a small amount of warm liquid may help, but avoid drinking too much, or you may feel uncomfortable.
- Eat in a relaxed atmosphere, with no distractions.
- Following each meal, sit in an upright position (90-degree angle) for 30 to 45 minutes.
- Avoid carbonated (bubbly) drinks — they will make you feel bloated.
- If food does stick, don't panic. Try to relax and let the food pass on its own. Sipping strong, hot black tea or warm broth can also help.

STAYING HYDRATED: It is important to avoid dehydration, so drink lots of fluids, at least 64 oz. of liquids daily. Cold beverages may cause painful esophageal spasms; room temperature or warmer

liquids are often easier to drink. A daily multivitamin is also recommended. Most people will lose 5 – 10 pounds after surgery, depending on what they choose to eat.

SMOOTHIES: or nutrition shakes are always a good choice throughout your recovery but especially in the first few weeks. There are multiple store bought options such as Ensure®, Carnation® instant breakfast, Boost® and even Gatorade® nutrition shakes. These choices are often expensive, but they are convenient. Many people prefer to make their own nutritious drinks with their favorite fruits, protein powder, yogurt, and vitamin supplements. Feel free to experiment. You can hide a lot of healthy vegetables in a fruit smoothie without ruining the taste (examples are avocado, sweet potatoes, even leafy vegetables such as spinach or kale). Try to supplement with at least 50 grams of protein each day for the first few weeks (about 2-3 scoops of most powdered brands). If you need ideas, there are recipes on the internet- for example <http://smoothiesrecipe.com/>

CRUSH ALL MEDICATIONS: or TAKE IN LIQUID/CHEWABLE FORM FOR THE FIRST 2-4 WEEKS. Various pill crushers are available at your local pharmacy. Many people find it helpful to take crushed medications with applesauce or juice to dampen the taste. Ask your doctor or pharmacist if you have questions regarding the “crushability” of your medications. It is always helpful to have reviewed your medication list with your primary doctor or pharmacist before surgery as some medications cannot be crushed and will need to be stopped or changed temporarily.

ACTIVITY: Unless otherwise instructed, it is appropriate to walk, climb stairs, ride as a passenger in a car and perform tasks of daily living. Listen to your body, and don’t overdo it early on. Avoid heavy lifting (15 lbs. or more) for 6 weeks to allow most of the wound healing to occur.

Major surgery and being in the hospital can disrupt sleep patterns. It is normal to feel fatigued after surgery and need more sleep than usual. This may last for several weeks and can be minimized by making sure you stay well hydrated. We do not routinely recommend sleep medication for home use.

You may need to avoid driving for up to 2 weeks. Pain and use of the narcotic pain medication will impair your ability to drive safely. **DO NOT DRIVE WITHIN 24 HOURS OF TAKING NARCOTIC PAIN MEDICATION.**

Unless otherwise instructed, sexual activity may be resumed as tolerated.

WOUND CARE: Most of you will have 4 – 6 small incisions. Most incisions are closed with absorbable sutures that do not need to be removed. Dressings vary. If you have a clear dressing over your incision(s), you may remove this 5 days after your surgery. If there is tape (steri-strips) over your incisions, leave the tape in place until it starts to come off on its own (usually 7 – 14 days). If you have skin adhesive over your incisions, leave it alone for 2 weeks. It is OK if it flakes off, but don’t pick or pull it off. In all situations (clear dressing, steri-strips, adhesive), it is OK to shower, but no baths until after your postoperative office visit. Do not scrub incisions; the soap and water can run over them to clean them, but do not scrub. Make sure to rinse your body well. Pat dry with a clean towel or gauze. You do not need to put additional dressings on the incision after showering, but occasionally you may want to place dry gauze or a bandage for comfort or to protect clothing if the incision has drainage. Do not put ointment, creams or lotions on incisions. If surgical staples or non-absorbable sutures are used, they will be removed at your follow-up visit.

Minor drainage of clear yellow or red-yellow fluid from the incision is normal. Thick, opaque, dark yellow fluid or redness spreading beyond the incision site on skin can be associated with infection. Please call if this occurs.

Bruising around the incision sites is normal, and it will resolve on its own with time.

Most healing takes place within 6 weeks after surgery, but the scar will still soften over time. After 6 weeks, it is ok to massage firm scars with lotions or vitamin E oil to help them soften. The final appearance of the scar may not be apparent until one year following surgery. Protect your incisions from sunburn with sunscreen for the first year to avoid darkening of the color.

WORK: Depending on the type of surgery, most patients take off between 10-14 days before returning to work. Please remember that upon returning to work, you should not lift more than 15 lbs. until 6 weeks after surgery. Please ask the surgeon or medical assistant about any forms needing to be filled out related to work, insurance or disability issues.

If you are being seen at National Jewish Health:

FOLLOW-UP OFFICE VISIT: Please call the office when you return home from the hospital to schedule your follow-up appointment. Unless otherwise instructed, a follow-up appointment typically takes place about 3 – 4 weeks after discharge from the hospital. The National Jewish Health number is 303-398-1355.

TELEPHONE ADVICE: Our surgeons are committed to providing you with the highest quality of care during your surgery and recovery. You can be assured that your surgeon will not be interrupted during your operation unless a matter is urgent. Therefore, our office staff has been extensively trained to answer many common questions you may have before or after your surgery. Your surgeon will review your call and make sure the information provided to you by the team is accurate and appropriate for your individual needs. In general, expect non-urgent phone calls to be returned within 2 business days. If the acuity of your problem/question requires more than approximately 10 minutes' phone time, you may be redirected to appointment scheduling. This will allow you and your surgeon a face-to-face conversation to discuss concerns in a private setting. Above all, please do not hesitate to call if you are concerned or worried.

SPECIAL CIRCUMSTANCES:

- **GAS BLOAT:** Feeling full sooner than you are used to and feeling bloated or gassy is common. This almost always settles down with time as the swelling decreases in your esophagus. Chewing slowly and taking smaller bites will help by decreasing the amount of air you swallow. Gas-X® with meals is also helpful. Certainly, avoid carbonation and foods that typically cause gas (beans, broccoli, sauerkraut, etc.) if you are feeling uncomfortable.
- **DIARRHEA:** You may experience loose stools during the first weeks after your surgery as your body adjusts. This typically gets better with time as you continue to recover. Increasing fresh fruits and vegetables and decreasing the amount of sugar you consume will help a lot. (By sugar, we mean sugar, sucrose, fructose, lactose, sorbitol). If you are experiencing very watery stools for more than a few days or having loose stools several times each day, call your doctor. It may be sign of an imbalance of bacteria in the intestine, which can be easily treated with an antibiotic. Please call the office if this occurs. Otherwise, feel free to try over-the-counter Imodium® and Citrucel® supplements.
- **NAUSEA:** Many people experience nausea after stomach/esophageal surgery. Sometimes it is related to the anesthesia, is a side effect of the pain medication, or is related to gas bloat, but often it is simply a part of healing. Nausea related to any of these causes almost always improves with time. Please call if you are experiencing troublesome nausea, and we will be happy to give you a prescription for anti-nausea medication, if you didn't get one at the time of hospital discharge.

- **GASTROPARESIS:** Some of you have been diagnosed with gastroparesis, sometimes called “lazy stomach.” Since liquids empty from the stomach most easily, you may feel pretty good during the first few weeks after surgery. If so, take notice of what you are eating/drinking so that you will have an “emergency backup diet plan” to go back to during flare-ups of nausea/vomiting in the future. Remember that your stomach feels best when you limit the amount of heavy fats and raw fiber. However, as discussed above, eating too many carbohydrates and sugars will likely worsen diarrhea. It can be difficult at first to find the right balance. Some tips:
 - Cooked vegetables are easier to digest than raw.
 - Most things that are liquid are OK, even fats and fiber.
 - Avoid beans, whole grains, nuts/seeds, berries, peas and corn.
- **TROUBLE WITH URINATION:** If you had a catheter (Foley) placed into your bladder at the time of surgery, it is not unusual to experience minor discomfort or frequency of urination for several days after the catheter is removed. This is usually a temporary problem that resolves with time. If you are urinating small amounts frequently (every hour or so), or if the discomfort persists or worsens, please call the office. Occasionally it is necessary to replace the catheter for a few days or take a short course of antibiotics.
- **If you experience retching, worsening abdominal pain/bloating/nausea or if you are unable to swallow or pass gas, please call 303-398-1355 or go to the emergency room.**

ADVANCING YOUR DIET: THE POST FUNDOPLICATION LEVELS

LEVEL 1

PUREED FOODS: First 2 WEEKS AFTER SURGERY

Foods in this group are pureed or blended. A safe rule is “anything you can pour” but you can try foods that are a smooth, mashed potato-like consistency. If necessary, the pureed foods can keep their shape with the addition of a thickening agent. Meat should be pureed to a smooth pasty consistency. Hot broth or hot gravy may be added to the pureed meat, approximately 1 oz. of liquid per 3 oz. serving of meat. Most people just skip meats during this time.

CAUTION: If any foods do not puree into a smooth consistency, it may make eating or swallowing more difficult. Avoid lumpy foods such as oatmeal and foods with seeds or tough skins (peas, corn, zucchini seeds) as they sometimes do not blend well.

SAMPLE MENU: LEVEL 1-PUREED FOODS

BREAKFAST	LUNCH	DINNER
Orange juice ½ cup	Pineapple juice ½ cup	Pureed turkey barley soup ¾ cup
Cream of Wheat or cottage cheese ½ cup	Pureed chicken noodle soup ¾ cup	
Pureed Scrambled eggs with cheese ½ cup Tea or coffee Fruit and yogurt smoothie	Mashed potatoes ½ cup Pureed and cooled broccoli ½ cup Apple sauce ½ cup Milkshake	Mashed potatoes ½ cup Pureed spinach ½ cup Frozen yogurt ½ cup Coffee or tea

LEVEL 2

SOFT FOODS

After your first 2 weeks, you can advance to a soft diet. In general this diet is Level 1 plus “anything you can squish through your fingers” but you can also start trying slippery noodles, white fish, minced chicken and soft, cooked vegetables that are chewed well. Take it slowly. Eat small bites, chew well! Don't be fooled- avoid rice. Stay on this diet until everything goes down easily. PLEASE ADVANCE TO LEVEL 2 FOR AT LEAST 2 DAYS PRIOR TO YOUR OFFICE VISIT.

SAMPLE MENU: LEVEL 2- SOFT FOODS

BREAKFAST	LUNCH	DINNER
Favorite smoothie 1 cup Oatmeal ½ cup Scrambled eggs ½ cup Tea or coffee	Pineapple juice ½ cup Flat buttery noodles 1 cup Mashed potatoes ½ cup Minced broccoli ½ cup Applesauce ½ cup	Soup ¾ cup Minced chicken 3 oz. Cooked spinach ½ cup Frozen yogurt ½ cup

LEVEL 3

After all of the foods in level 2 (soft foods) are passing through well advance up to the next level. This level includes French toast, pancakes, all pasta, ground red meat and steamed vegetables. It is still important to cut these foods into small pieces and eat slowly.

SAMPLE MENU: LEVEL 3

HOT FOODS	COLD FOODS
Poultry	Cottage Cheese
Ground or flaked meat	Milk
Eggs	Milkshakes
French toast or pancakes	Juices
Noodles or pasta	Canned fruit
Cooked vegetables, no frozen corn, peas, or mixed vegetables	Pudding, mousse, or custard
Soup	Green salad

LEVEL 4: REGULAR FOODS

Foods in this group are soft, moist, regularly textured foods. This level includes red meat and breads, which tend to be the hardest things to swallow. Eat very slowly, chew well, and continue to avoid carbonated drinks.

SAMPLE MENU: LEVEL 4-REGULAR FOODS

HOT FOODS	COLD FOODS
Fish	Cheeses
Poultry	Fruits

Red Meat	Vegetables
Eggs	Dairy products
Bread and pasta	

Visit our website for more information about support groups, clinical trials and lifestyle information.

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NOTE: This information is provided to you as an educational service of National Jewish Health. It is not meant to be a substitute for consulting with your own physician.

National Jewish Health is the leading respiratory hospital in the nation. Founded 119 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit njhealth.org.