THYMECTOMY SURGERY

Enhanced Recovery After Surgery (ERAS)

Your Guide to Healing

UVA Health

Patient Name

Surgery Date/Time to Arrive

Surgeon

We want to thank you for choosing the University of Virginia Health System for your surgery. Your care and well-being are important to us. We are committed to providing you with the best possible care using the latest technology.

This handbook should be used as a guide to help you through your recovery and answer questions that you may have. Please give us any feedback that you think would make your experience even better.

Please bring this book with you to:

- ❒ Every office visit
- ❒ Your admission to the hospital
- ❒ Follow up visits

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Your Care Team

In addition to the nursing staff, the Thoracic team will care for you. This team is led by your surgeon, and includes a fellow or a chief resident along with residents, physician assistants (PAs), Nurse Practitioners (NPs), and 1-2 medical students. There will always be a physician in the hospital 24 hours a day to tend to your needs.

Dr. Linda Martin

Dr. Philip Carrott

Dr. Christopher Scott

Contact Information

The main hospital address:

UVA Health System
1215 Lee Street
Charlottesville VA 22908

Contact	Phone Number
Thoracic Surgery Clinic	434.924.9333
Thoracic Clinic Central Fax#	434.244.7526
If no call for surgery time by 4:30pm the day before surgery	434.982.0160
Anesthesia Perioperative Medicine Clinic (APMC)	434.924.5035
TCV Intensive Care Unit (TCVPO)	434.982.0301
Hospital Inpatient Unit: 4W & Thoracic Intermediate Care Unit (TIMU)	434.924.5338
UVA Main Hospital	434.924.0000 (ask for the thoracic resident on call)
Lodging Arrangements/ Hospitality House	434.924.1299/434.924.2091
Parking Assistance	434.924.1122
Interpreter Services	434.982.1794
Hospital Billing Questions	800.523.4398

For more information on ERAS, helpful links for getting ready for surgery, and to view this booklet online, visit:

uvaeras.weebly.com

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Enhanced Recovery After Surgery (ERAS)

What is Enhanced Recovery?

Enhanced recovery is a new way of improving the experience of patients who need major surgery. It helps patients recover sooner so life can return to normal as quickly as possible. The ERAS program focuses on making sure that patients are actively involved in their recovery.

There are four main stages:

1. Planning and preparing before surgery– giving you plenty of information so you feel ready.
2. Reducing the physical stress of the operation – allowing you to drink up to 2 hours before your surgery.
3. A pain relief plan that focuses on giving you the right medicine you need to keep you comfortable during and after surgery.
4. Early feeding and moving around after surgery – allowing you to eat, drink and walk around as soon as you can.

It is important that you know what to expect before, during and after your surgery. Your care team will work closely with you to plan your care and treatment. You are the most important part of the care team.

It is important for you to participate in your recovery and to follow our advice. By working together, we hope to keep your hospital stay as short as possible.

Introduction to Thymectomy

Your thymus is a gland located in the upper chest, just beneath the breastbone. Its purpose is to produce specialized white blood cells called T-cells. These T-cells help your body fight disease and infection. The thymus produces most of these T-cells before you are born and remains most active during childhood. By puberty, you have all of the T-cells that you need and as you become an adult, the thymus slows down in function.

Some disorders can negatively affect your thymus gland and your doctor may recommend that you have surgery to remove it. This surgical procedure is called a thymectomy.

The most common conditions requiring a thymectomy are:

Myasthenia Gravis: Myasthenia Gravis is an autoimmune disease. This disease causes production of abnormal cells that prevent normal communication between nerves and muscles. The most common symptom is muscle weakness. After thymectomy surgery, many patients have some or all of the muscle weakness go away or can at least reduce the amount of medication needed to treat the symptoms. The results will not be immediate. You will notice a gradual improvement over time.

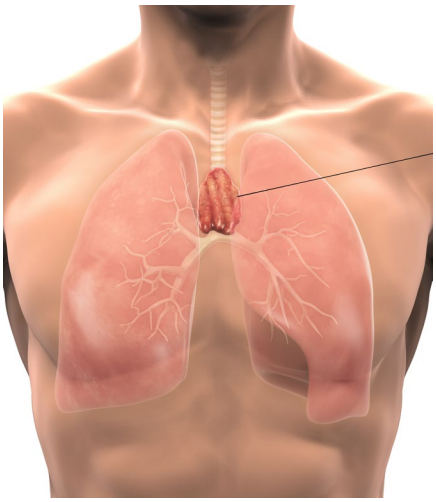
Thymoma: Thymoma is a slow growing form of cancer in the thymus gland. There are no known causes or risk factors for thymomas. These tumors are most often seen in middle aged adults and affect men and women equally. About 1/3 of patients with thymomas also have Myasthenia Gravis (but not all patients with myasthenia gravis have thymomas).

Thymic cysts: Thymic cysts are fluid filled sacs within the thymus. These may be present at birth or develop later in life. They usually do not cause any symptoms and are often found when testing is performed for other health reasons.

Methods of Surgery

Sternotomy: In this procedure, an incision will be made in the center of your chest. The breastbone (sternum) is opened and held in place with special instruments. These instruments might cause pressure on your nerves and muscles, which may lead to soreness and muscle spasms in your chest, back and shoulders after surgery. This approach is commonly used for heart surgery. The surgeon removes the thymus through this incision.

Video-assisted thoracoscopic thymectomy (VATS): The surgeon makes several tiny incisions in the chest, each usually 1-3 centimeters long. A thin camera is inserted through one of the incisions and specialized instruments are inserted through the other incisions. The surgeon is able to use the camera to see the inside of the chest on a TV monitor and to guide his/her tools. Once the thymus is removed, the incisions are closed with sutures and one or two chest tubes are put in place to drain excess fluid. With this type of surgery you may have less bleeding, a lower chance of infection, less pain, a shorter hospital stay, and a faster recovery.



Before Your Surgery

Clinic

During your clinic visit we will check to see if you need surgery and what type you will need. You will work with our entire team to prepare for surgery. Your team is made up of:

- The surgeons, who may have fellows, residents, or medical students working with them
- Nurse practitioner (NP)
- Nurse coordinators
- Clinic nurses
- Administrative assistants

During your clinic visit, we will:

- Ask questions about your medical history
- Perform a physical exam
- Ask you to sign the surgical consent forms

You will also receive:

- Instructions on preparing for surgery
- Special instructions for what to do before surgery (ex. if you are on any blood thinners)
- Special antibacterial soap to shower with on the night before and on the morning of your surgery
- Instructions on quitting smoking if you currently smoke. Please see the next page for more information.

Quitting Smoking Before Surgery

If you smoke, we encourage you to stop at least 4 weeks before surgery because it will:

- Improve wound healing after surgery
- Help avoid complications during and after surgery

If you are not able to be off cigarettes at least 4 weeks before surgery, we ask that you cut back on your smoking and encourage you to quit smoking as soon as possible after surgery. This is very important to your health.
Please let your surgeon's nurse know if you smoke. We will give you an education packet to help you quit smoking and refer you for smoking cessation counseling.

Some Long-Term Benefits of Quitting May Include:

- ❒ Improved Survival
- ❒ Fewer and less serious side effects from surgery
- ❒ Faster recovery from treatment
- ❒ More energy
- ❒ Better quality of life
- ❒ Decreased risk of secondary cancer

Some key things to think about before your surgery, as you begin to think about quitting

- All hospitals in the United States are smoke free. You will not be allowed to smoke during your hospital stay
- Your doctor may give you medicine to help you handle tobacco withdrawal while in the hospital and after you leave.

Here are some tips to help you throughout your journey:

- ❒ Speak with your provider about medications that can help you with transitioning from a smoker to a nonsmoker.
- ❒ Identify your triggers and develop a plan to manage those triggers.
- ❒ Plan what you can do instead of using tobacco. Make a survival kit to help you along your quit journey. In this kit have: nicotine replacement therapy, sugar-less gum or candy, coloring books, puzzles, or bubbles for blowing.

Keys to Quitting and Staying Smoke Free:

- Continue your quit plan after your hospital stay
- Make sure you leave the hospital with the right medications or prescriptions
- Identify friends and family to support your quitting
- Speak with your doctor about getting a referral to meet with our tobacco treatment specialist

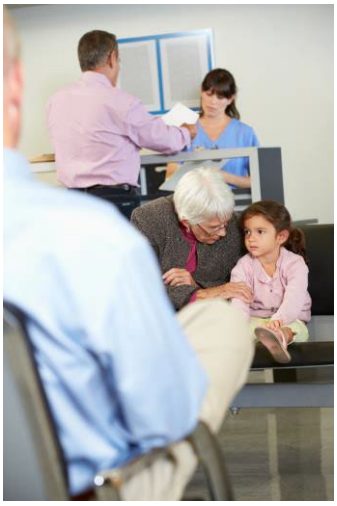
You Don't Have to Quit Alone!

1.800.QUITNOW **https://smokefree.gov/**

Anesthesia Perioperative Medicine Clinic

The Anesthesia Perioperative Medicine Clinic will review your medical and surgical history to determine if you will need an evaluation prior to surgery.

If an in person anesthesia evaluation is needed the Anesthesia Perioperative Medicine Clinic will notify you.



- If needed, an appointment will be scheduled for an office visit a few weeks prior to the surgical date.
- Your medications will be reviewed.
- You may have a blood test, test of the heart (EKG), and/or other tests the surgeon or anesthesiologist requests.
- For questions,or if unable to keep the appointment with Anesthesia Perioperative Medicine Clinic, please call 434-925.5035. **Failure to keep this visit with Anesthesia Perioperative Medicine Clinic before surgery may result in cancellation of surgery.**

- There may be times that you are instructed to go to the Anesthesia Perioperative Medicine Clinic after your appointment with your surgeon. If this is the case you are welcome to a same day appointment but please allow for up to 2 hours.

Please note: If you were told by your surgical team that you did not need any testing or evaluation prior to surgery but receive a call to schedule with the Anesthesia Perioperative Medicine Clinic, this is because the anesthesia team feels it is in your best interest when they review your history.

- Stop taking any vitamins, supplements, and herbs 2 weeks before your surgery.
- Stop taking ibuprofen (Motrin® or Advil®) and naproxen (Aleve®) 1 week before surgery.
- You may continue to take acetaminophen (Tylenol®).
- If you are taking additional medications for chronic pain, please continue those up until your surgery.

Do you take anticoagulant/antiplatelet (blood thinner) medication?

Some examples of blood thinner medications: Coumadin (warfarin), Plavix (clopidogrel), Pletal (cilostazol), Xarelto (rivaroxaban), Eliquis (apixaban), Lovenox (enoxaparin), or others.

If so, you will need to notify the doctor that prescribed it to you and let them know you *may* receive a spinal block for pain management. We require you to stop some of these medications 72 hours or more before we can give you a spinal block. It is the prescribing provider's responsibility to provide instructions for how long you can safely be off this medication.

It is very important to follow the instructions given to you to prevent your surgery from being postponed or cancelled!

If you are on any blood thinner medications, your nurse may give you specific instructions as to when to stop taking them before surgery. It is very important to follow these instructions.

We are giving you instructions on_____

☐ Your last dose of blood thinning medication before surgery should be on _____

☐ We are recommending a bridge of this medication. Please refer to your After Visit Summary (AVS) for specific instructions about this medication.

☐ Please follow up with _____

Preparing for Surgery

You should expect to be in the hospital for about_____days. When you leave the hospital after your surgery, you will need some help from family or friends. It will be important to have help with meals, taking medications, etc. Please talk with your family and make a plan for who you will help you at home after surgery.

A few simple things before you come into the hospital:

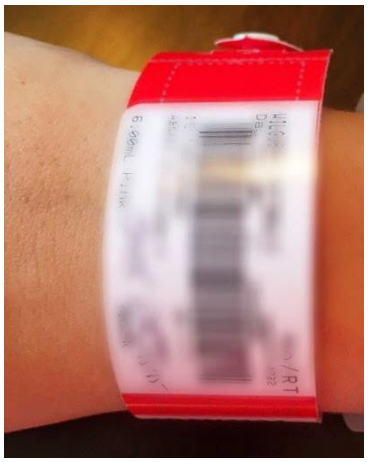
- Clean and put away laundry.
- Put clean sheets on the bed.
- Put the things you use often between waist and shoulder height to avoid having to bend down or stretch too much to reach them.
- Bring the things you are going to use often during the day downstairs. But remember that you WILL be able to climb stairs after surgery.
- Buy the foods you like and other things you will need since shopping may be hard when you first go home.
- Cut the grass, tend to the garden and do all housework.
- Arrange for someone to get your mail and take care of pets and loved-ones, if necessary.
- Stop taking any vitamins, supplements, and herbs 2 weeks before your surgery.
- Stop taking ibuprofen (Motrin® or Advil®) and naproxen (Aleve®) 1 week before surgery. You may continue to take acetaminophen (Tylenol®).
- If you are taking additional medications for chronic pain, please continue those up until your surgery.

To prepare your body for surgery:

- Stop taking any herbal supplements or drinks 2 weeks before your surgery. A standard daily multivitamin can be continued.
- Stop taking all non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Motrin® or Advil®) and naproxen (Aleve®) 1 week before surgery. You may take acetaminophen (Tylenol®).
- Follow the orders you were given regarding blood thinners and diabetes medications. Please call your surgeon's office if you were not provided with instructions for these medications.
- If you are taking additional medications for chronic pain, please continue those up until your surgery.
- Eat healthy food in the weeks leading up to surgery.
- Get some exercise to be in good shape before surgery

Pre-Surgery Checklist

What you SHOULD bring to the hospital:



- ❒ This ERAS Notebook
- ❒ A list of your current medications.
- ❒ Any paperwork given to you by your surgeon
- ❒ A copy of your Advance Directive form, if you completed one
- ❒ Your "blood" bracelet, if given one
- ❒ A book or something to do while you wait
- ❒ A change of comfortable clothes for discharge
- ❒ Any toiletries that you may need
- ❒ Your CPAP or BiPAP, if you have one
- ❒ If you use an oxygen tank, be sure you have enough oxygen and tank supplies for the ride home after surgery

What you SHOULD NOT bring to the hospital:

- ☒ Large sums of money
- ☒ Valuables such as jewelry or non-medical electronic equipment

*Please know that any belongings you bring will be locked away in "safe keeping."

For your safety, you should plan to:

- ❒ Identify a Care Partner for your stay in the hospital.
- ❒ Have a responsible adult with you to hear your discharge instructions and drive you home. If you plan to take public transportation, a responsible adult should travel with you.
- ❒ If possible, identify someone to stay with you the first week after discharge to help take care of you.

Days Before Surgery

Scheduled Surgery Time

A nurse will call you the day before your surgery to tell you what time to arrive and where to check in at the hospital for your surgery. If your surgery is on a Monday, you will be called the Friday before.

If you do not receive a call by 4:30 pm, please call 434.982.0160.

Please write the time and check in location that the nurse tells you on page 1 of this handbook in the space provided.

Miralax Bowel Preparation

In order to prepare your bowels for surgery, we ask that you take 1 dose (1 heaping capful) of Miralax daily on each of the 3 days before you come in for surgery. This will help to get your bowels regular.

We will also ask you to continue taking this after your surgery so please purchase a large bottle.

Food and Drink the night before surgery

- ❒ Stop eating solid foods after midnight before your surgery.
- ❒ Be sure to have a 20-ounce Gatorade™ ready and available for the morning of surgery. (no red Gatorade) If you are diabetic, you may drink Gatorade ™ G2. Drink this on your way into the hospital in the morning.

Instructions for Bathing

Please do not shave the surgical site. This increases the risk of infection. The surgical team will remove any hair if needed.

We will give you a bottle of HIBICLENS foam (body wash) to use the night before and the morning of your surgery.

HIBICLENS is a skin cleanser that contains chlorhexidine gluconate (an antiseptic). This key ingredient helps to kill and remove germs that may cause an infection. If you feel any burning or irritation on your skin rinse the area right away, do NOT put any more Hibiclens on.

Before using HIBICLENS, you will need:

- ❖ Clean clothes, clean towel, and clean washcloth

Directions for when you shower or take a bath:

1. If you plan to wash your hair, do so with your regular shampoo. Then rinse hair and body thoroughly with water to remove any shampoo residue.
2. Wash your face and genital area with water or your regular soap.
3. Thoroughly rinse your body with water from the neck down.
4. Move away from the shower stream.
5. Apply HIBICLENS directly on your skin or on a wet washcloth and wash the rest of your body gently from the neck down.
6. Rinse thoroughly.
7. Do NOT use your regular soap after applying and rinsing with HIBICLENS.
8. Dry your skin with a clean towel.
9. Do NOT apply any lotions, deodorants, powders, or perfumes after using HIBICLENS.
10. Put on clean clothes after each shower.

Before You Leave Home:

- ❒ Take a shower with the Hibiclens soap provided.
- ❒ Remove nail polish, makeup, jewelry, and all piercings.
- ❒ Continue drinking water and/or your 20 oz Gatorade™ on the morning of your surgery. Be sure to drink the Gatorade™ on your way to the hospital and be sure that it is finished before your arrival. Do NOT drink any other liquids. If you do, we may have to cancel surgery.

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Day of Surgery

Arrival

- ❒ Arrive at the hospital on the morning of surgery at the time you wrote on page 1. (this will be approximately 2 hours before surgery)
- ❒ Finish the Gatorade™ at the time specifically instructed by the phone call nurse. You cannot drink after this.
- ❒ Check in at the location as instructed by the phone call nurse
- ❒ Your care partners will be given a tracking number so they can monitor your progress.

Surgery

When it is time for your surgery, you will be brought to the Surgical Admissions Suite (SAS).

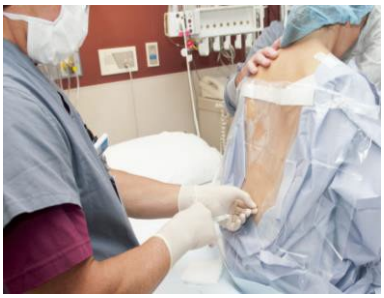
In Surgical Admission Suite (SAS), you will:

- ❒ Be identified for surgery and get an ID band for your wrist.
- ❒ Be checked in by a nurse and asked about your pain level.
- ❒ Be given an IV and weighed by the nurse.
- ❒ Be given several medicines that will help keep you comfortable during and after surgery.
- ❒ Meet the anesthesia and surgery team where your consent for surgery will be reviewed. Your family can be with you during this time.
- ❒ The anesthesia doctor will discuss pain relief options with you before surgery. A "multimodal approach" is used when treating and preventing surgical pain. This means different types of pain medications are used together to prevent and treat post-surgical pain. This approach allows you to take fewer, if any, narcotic pills after surgery and will speed up your recovery.

From SAS, you will then be taken to the operating room (OR) for surgery and your family will return to the family waiting lounge. The tracking number they received will allow them to track your process through the surgical procedure.

Once you arrive in the OR

- ❒ Many patients do not recall being in the OR because of the medication we give you to relax and manage your pain.
- ❒ We will do a "check-in" to confirm your identity and the location of your surgery.
- ❒ You will lie down on the operating room bed.
- ❒ You will be connected to monitors.
- ❒ Boots will be placed on your legs to help circulate your blood during surgery.
- ❒ You may also be given a blood thinner injection to prevent blood clots.
- ❒ We will give you antibiotics, if needed, to prevent infection.
- ❒ Then the anesthesiologist will put you to sleep with a medicine that works in 30 seconds.
- ❒ Just before starting your surgery, we will do a "time out" to check your identity and confirm the location of your surgery.
- ❒ After you are asleep, a foley catheter will be placed to keep your bladder empty.



Depending on the type of surgery you are having, the anesthesia doctor *may* also place an injection in your back. Through this, we can give you a small amount of morphine (an opioid medicine). This will improve your pain control for the first 24 hours. It will also reduce the amount of opioid pills you will need to take after surgery. It is important to remember the medication we give you will not cause leg weakness, so you will still be able to get out of bed and walk the day of surgery.

Your anesthesiologist will talk to you about your options before your surgery. It is much easier for you to have the spinal or epidural placed *before* your surgery when you are not having pain. Having either of these options does not mean that other pain-relieving treatments will not be used. After this, your surgical team will perform your operation.

During your surgery, the Operating Room nurse will call your family every 2 hours to update them.

After Surgery

Recovery Room (PACU)

After surgery, you may be taken to the recovery room (PACU). Patients can remain in the recovery room for about 4-6 hours and are then assigned an inpatient room in the Thoracic Intermediate Care Unit (TIMU) or Regular Acute Care Unit (4West).

Once you are awake you will:

- ❒ Be given clear fluids to drink.
- ❒ Get out of bed (with help) to start moving as soon as possible. This speeds up your recovery and decreases the chances you will get blood clots and pneumonia.

The surgeon will also call your family after surgery to give them an update or the surgeon might visit them in the Surgery Consult Room in the 1st floor Surgical Family Waiting Lounge.

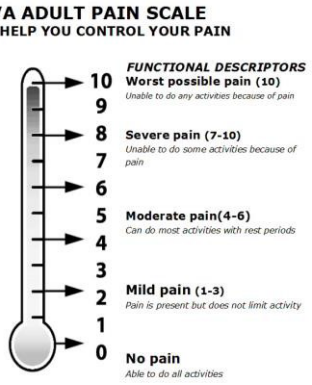
Hospital Inpatient Units: TIMU or 4West

Once in your room, you:

- ❒ May have a small tube in your bladder called a Foley catheter. We can measure how much urine you are making and how well your kidneys are working.
- ❒ Will have a chest tube in place. This may cause some discomfort but we will have you on a pain medicine schedule to help keep you comfortable.
- ❒ Will be given an incentive spirometer (a device to help see how deeply you are breathing). We will ask you to use it 10 times an hour to keep your lungs open and help prevent pneumonia.
- ❒ Will be given oxygen and have your temperature, pulse, and blood pressure checked after you arrive.
- ❒ Will have an IV in your arm to give you fluid.
- ❒ Will be allowed to drink fluids.
- ❒ Will receive a blood thinner injection every day to help prevent blood clots.
- ❒ Will be placed on your home medications (with the exception of some diabetes, blood pressure, and blood thinning medications).
- ❒ Will get up and out of bed on the day of your surgery, with help from the nurse.

Pain control following surgery

Managing your pain is an important part of your recovery. It is normal for you to have some pain for a few days after surgery. The goal is to lower the pain so that you can comfortably walk and take deep breaths effectively. We will ask you regularly about your level of comfort.



One way your care team will help you safely control your pain after surgery is by using *non-opioid* medications during your recovery. The goal is to use as few *opioid* medications as possible to control your pain. If you need stronger pain medication, it is OK. If your pain is worsening and it is not relieved with any medication, you should let your surgeon know.

- ❒ We will treat your pain during surgery with an injection at the surgery site.
  - ❒ EXPAREL® is part of your pain management plan.
  - ❒ It is administered by your surgeon during your surgery to help with post-operative pain.
  - ❒ EXPAREL® is long lasting and helps to reduce the need for opioids after surgery.
  - ❒ EXPAREL® will slowly wear off over 3 days.

- ❒ You will get several *non-opioid*, pain medications around-the-clock to keep you comfortable.
  - ❒ Tylenol (acetaminophen) – is a pain killer and reduces fevers.
  - ❒ Celebrex (celecoxib) *or* Advil, Motrin (ibuprofen) – are medications that decrease swelling and pain after surgery. These medications are known as NSAIDs and are safe for short-term use after surgery (unless you had a gastric bypass).
  - ❒ Gabapentin (Neurontin) – is a medication that reduces pain from sensitive nerves. Nerve pain is often sharp and stinging pain.

- ❒ You will have *opioid* pain medication as needed for additional pain.
  - ❒ Opioids are powerful pain medications, with many serious side effects. Opioids (usually oxycodone) may be used after surgery only when needed for severe pain, but they should not be used first to treat mild or moderate pain.
  - ❒ Side effects of opioids include nausea, constipation, dizziness, headache, drowsiness, vomiting, itching, and respiratory depression.
  - ❒ Prescription opioid drug use may lead to misuse, abuse, addiction, overdose and death. Your risk of opioid abuse gets higher the longer you take the medication.

If you are on long-standing pain medication prior to surgery, you will be provided with an individualized regimen for pain control with the assistance of our pain specialists.

Comfort Menu

Your comfort and pain relief are very important to us. As part of your recovery, we like to offer you different ways to address your pain. In addition to medication, we offer other options to help make you comfortable during your stay. We hope this comfort menu will help you and your healthcare team to better understand your pain and recovery goals. Please discuss your pain control goals and comfort options with your nurse.

- ☐ **Distraction**: focus your mind on an activity like creating art with our art supplies, doing puzzle books and reading magazines
- ☐ **Ice or Heat Therapy**: ice packs and dry heat packs are available, depending on your surgery
- ☐ **Noise or Light Cancellation**: an eye mask, earplugs and headphones are available for your comfort and convenience. We can also help you create a sleep plan.
- ☐ **Pet Therapy**: hospital volunteers visit the unit with therapy animals. Ask about their availability.
- ☐ **Positioning/Movement**: changing position in your bed/chair or getting up to walk (with help) can improve your comfort.
- ☐ **Prayer and Reflection**: connect with your spiritual or religious center of healing and hope through prayer, meditation, reflection and ritual. Also, ask about our chaplaincy services.
- ☐ **Controlled Breathing**: taking slow deep breaths can help distract you from pain you are feeling. This can also help if you are feeling nauseated (upset stomach).
  Using the 4-7-8 technique, you can focus on your breathing pattern:
  - Breathe in quietly through your nose for 4 seconds
  - Hold the breath for 7 seconds
  - Breathe out through your mouth for 8 seconds
- ☐ **Television Distraction**: we offer a relaxation channel through the UVA in-room television. Turn to channel 17.
- ☐ **Calm App**: for Android or ioS: if you have a smart device, download the free **Calm** app for meditation and guided imagery. You can find it by searching in the app store.

Bowel Management Plan

Constipation is very common with the use of anesthesia and narcotic pain medication. It is very important to avoid constipation and hard stools after surgery. We have designed a bowel management plan to help prevent constipation. You will be given a stool softener (Senna) and laxative (Miralax) when you are in the hospital. As long as you are taking narcotic pain medication, it is important you take these. If diarrhea occurs, please stop this medication.

First Day After Surgery

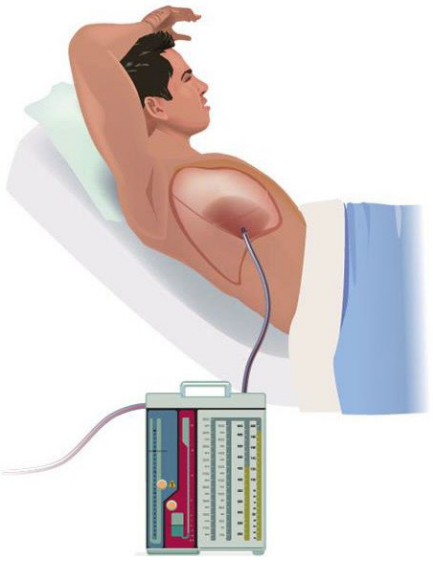
On the day after your surgery, you will:

- ❒ Be able to eat regular foods as soon as you are ready.
- ❒ Be encouraged to drink.
- ❒ Likely have your IV stopped (but not removed).
- ❒ Most like have the catheter removed from your bladder.
- ❒ Be asked to get out of bed with help, walk the hallways and sit in the chair for 6 hours.

Second and Third Day after Surgery

Two to three days after your surgery, you most likely will:

- ❒ Eat regular foods, if you haven't already been eating them. Choose small, frequent and easy-to-digest meals.
- ❒ Have the tubing disconnected from your IV.
- ❒ Be asked to be out bed for the majority of the day and walking 3 times a day with help.



You may be able to go home if you:

- ❒ Have had your chest tube removed.
- ❒ Are off all IV fluids and drinking enough to stay hydrated.
- ❒ Are comfortable and your pain is well controlled.
- ❒ Are not nauseated or belching (burping).
- ❒ Are passing gas.
- ❒ Do not have a fever.
- ❒ Are able to get around on your own.

Remember, we will not discharge you from the hospital until we are sure you are ready. For some patients this requires an additional day in the hospital.

Complications Delaying Discharge

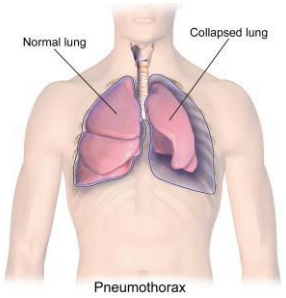
Atrial Fibrillation (Afib): An irregular (and sometimes rapid) heart rate that can cause poor blood flow to the body. This is a common complication after lung surgery. To treat Afib, you may be placed on a medicine to help control your heart rate and a blood thinning medicine to reduce the risk of stroke.

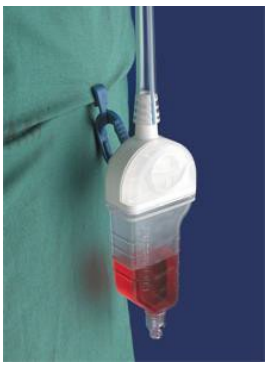
Prolonged Air leak: A constant or occasional leak of air from the lung after lung surgery that continues for more than 5 days after surgery. About 50% of patients will have at least a small air leak after lung surgery. Most of these leaks stop on their own within 3 days after surgery. Chest tubes are usually removed once the air leak has stopped. If the lung is taking longer to heal, these air leaks may continue for several days.

Mucus Plug: Sometimes lung surgery can cause a build-up of mucus and congestion in the airway. A mucus plug might form and prevent you from properly clearing your airway. Sometimes a bronchoscopy may be required to remove the mucus if you are unable to clear it by coughing. Active smokers are more likely to develop a mucus plug.

Urinary Retention: The inability to completely empty the bladder. After surgery, you will have a catheter in your bladder to help monitor urine output. The catheter will be removed the day after surgery. Sometimes after the catheter is taken out, the bladder is slow to start working on its own again and urinary retention (difficulty or inability to urinate) occurs. If this happens, we may have to put a temporary catheter back in or give you special medication to treat it. Urinary retention is more common in men.

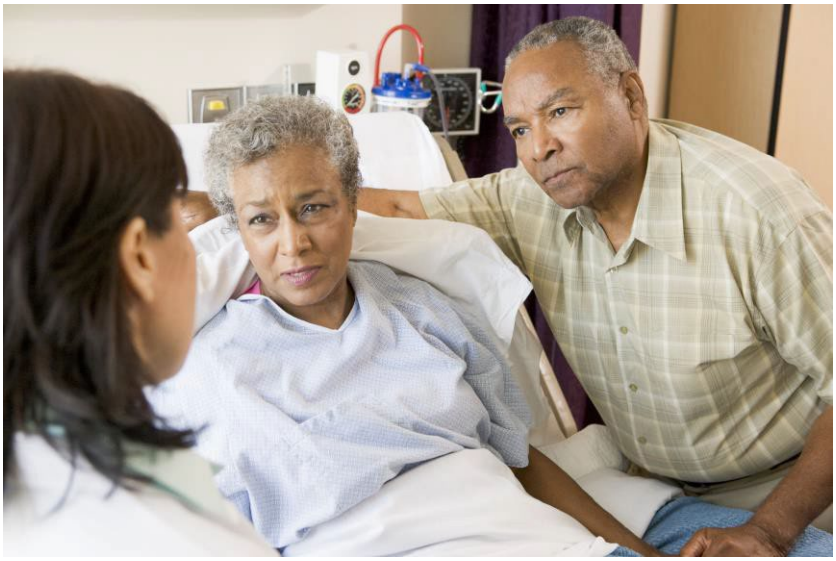
Pneumothorax: A build-up of air in the space around the lungs. This is also known as a "collapsed lung". This may occur as a result of a procedure or operation or it may occur for no reason at all (spontaneously). We often treat this by putting in a chest tube to help re-inflate the lung.





Chest tube removal: Discharge may be dependent on when your chest tube gets removed. Some patients have a prolonged air leak which can delay your discharge. Occasionally, patients may go home with a Pneumostat (portable chest tube collection chamber).

Post-operative nausea and vomiting: It is very common to feel sick after your surgery. We give you medication to reduce this. If you do feel sick, you should eat less food and switch to a liquid diet. Small frequent meals or drinks are best in this situation. As long as you can drink and keep yourself hydrated, the upset stomach will likely pass.



Discharge

Before you are discharged, you will be given:

- ❒ A copy of your discharge instructions.
- ❒ A list of any medications you may need.
- ❒ A prescription for pain medicine.
- ❒ Instructions on when to return to see your surgeon (usually 3 weeks), depending on your surgery.

Before you leave the hospital

- ❒ We will ask you to identify how you will get home and who will stay with you.
- ❒ If you use oxygen, we will want to make sure you have enough oxygen in the tank for the ride home.
- ❒ Be sure to collect any belongings that may have been stored in "safe keeping."

Our Case Managers help with discharge needs. Please let us know the names, locations, and phone numbers of:

- ❒ Your home pharmacy:

  _____

- ❒ Your home healthcare agency (if you have one):

  _____

- ❒ Any special needs after your hospital stay:

  _____

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After Discharge

When to Call

Complications do not happen very often, but it is important for you to know what to look for if you start to feel bad.

After you leave the hospital, you should call us at any time if you:

- ❒ Have a fever greater than 100.5°F or chills.
- ❒ Are vomiting, nauseated, or have diarrhea
- ❒ Have unrelieved pain
- ❒ Have problems with the incision or chest tube sites, including redness, drainage, bleeding or pus
- ❒ Have increased shortness of breath
- ❒ Have swelling of the chest, neck, or face, or sudden change in voice
- ❒ Have a heart beat that feels fast, too slow, or skips
- ❒ Are feeling faint
- ❒ Have a change in your mental status
- ❒ Are feeling weaker instead of stronger
- ❒ Are unable to pass urine for more than 6 hours
- ❒ Are unable to have a bowel movement for more than 3 days

Contact Numbers

If you have trouble between 8am and 4:30pm, call your surgeon's office.

Thoracic Surgery Clinic 434.924.9333

After 4:30pm and on weekends, call 434.924.0000. This is the main hospital number. Ask to speak to the General Thoracic Surgery Fellow on call. The fellow on call is often managing patients in the hospital so it may take a few minutes longer for your call to be returned.

Pain

You *will* alternate Tylenol and ibuprofen for improved pain control. Take these over the counter medications as prescribed.

Additionally, we may send you home with a prescription; an opioid pain medication to use for severe pain only. If you would like this filled at the hospital pharmacy, please tell your nurse so it will not cause delay in your discharge home.

Since opioid pain medications can often cause nausea, you should take this medication with a small amount of food.

Your health care team will work with you to create a treatment plan based on the medications you are prescribed. It's important to remember that misuse of opioid pain medicines is a serious public health concern. If you take more of your opioid pain medication then was prescribed or more often than what was prescribed, you will run out of your medication before your pharmacy will allow a new prescription to be filled. Virginia has a Prescription Monitoring Program for these types of medications to help keep patients safe.

Ask your health care team if you have specific questions.

Pain Medication Weaning

After surgery, you *may* be taking opioid medicine to help you with your pain. As your pain improves, you will need to wean off your opioid pain medication. Weaning means slowly reducing the amount you take until you are not taking it anymore. You may find that the pain is controlled by other medicines such as NSAIDS (ibuprofen) and acetaminophen (Tylenol).

Taking opioids may not provide good pain relief over a long period of time and sometimes opioids can actually cause your pain to get worse. Opioids can also have many different side effects including constipation, nausea, tiredness and even dependency. The side effects of opioids increase with higher doses. Gradually weaning to lower doses of opioid pain medication can help you feel better and improve your quality of life. If you are not sure how to wean off of your opioid medication, please contact your family doctor.

To wean from your opioid, we recommend slowly reducing the dose you are taking. For example, increase the amount of time between doses. If you are taking a dose every 4 hours, extend that time:

- Take a dose every 5 to 6 hours for 1 or 2 days
- Then, take a dose every 7 to 8 hours for 1 or 2 days.

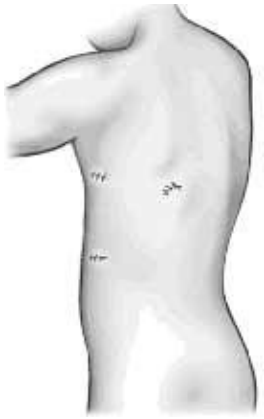
You can also reduce the dose.

- If you are taking 2 pills each time, start taking 1 pill each time. Do this for 1 or 2 days.
- Then, increase the amount of time between doses, as explained above.

Once your pain has improved and/or you have effectively weaned off opioids, you may have opioids remaining. The UVA Pharmacy is now a DEA registered drug take-back location. There is a Drop Box available in the main lobby of the pharmacy 24 hours 7 days per week for patients or visitors to safely dispose of unwanted or unused medications.

Incision Care

For the first 1–2 weeks following your surgery, your chest wounds may be slightly red and uncomfortable. If your wounds have increased redness, are painful, swollen or leaking milky fluid, please contact us.



- ❒ Clean your incision once daily with soap and water (on a clean wash cloth). Pat dry and leave open to air.
- ❒ If wound is draining, apply dry gauze dressing and change as needed.
- ❒ Once all dressings have been removed, you may shower.
- ❒ No tub baths or swimming until the incision areas have healed (approximately 2 weeks)
- ❒ If you have a thoracotomy (side incision), please continue to do thoracotomy exercises (*see thoracotomy exercise handout*)
- ❒ If your surgeon used DERMABOND (skin glue) on your incision, follow these guidelines;
  - Do no scratch, rub, or pick at the DERMABOND
  - You may take showers, but do not soak in the tub. Gently plot the incision dry.
  - Do not scrub the incision.
  - Do not swim and avoid activities that produce heavy sweat.
  - Do not place tape directly onto DERMABOND.
  - Do not apply any liquid or ointment on the incision with DERMABOND is in place.

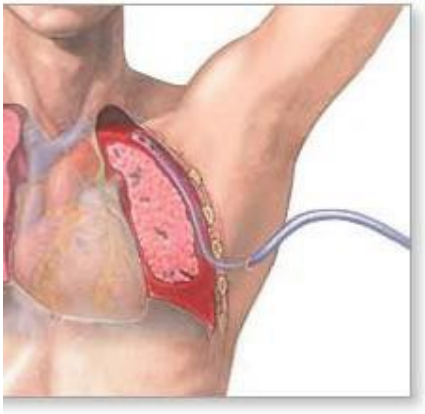
Sutures/Stitches

Except for the chest tube site, self-absorbable sutures are usually used to close your incisions. Typically, the only sutures that need to be removed are those visible on the skin at your chest tube site.

Chest Tube Sites

Leave the dressing on for 48 hours after your chest tube is removed. If draining, reinforce with dry gauze.

After 48 hours, you may remove the dressing and clean the site daily with soap and water. Leave the dressing open to air unless it is draining. If draining, apply new dry gauze and change daily or as needed.



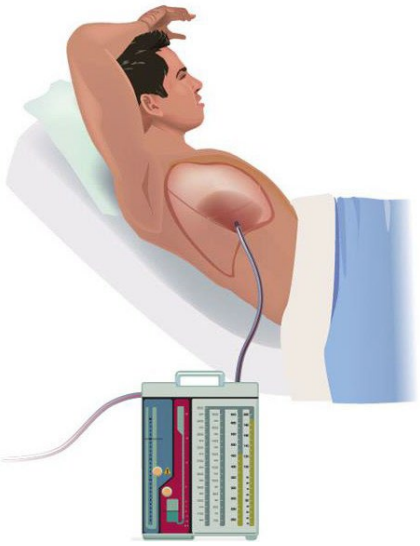
Seven to ten days after the chest tube was removed, you may need the chest tube suture to be removed by your Primary Care Physician (PCP) or our office.

- If your stitch is black, you will need to see your PCP or our office.
- If your stitch is white, it will dissolve on its own and you will not need to see a PCP or our office.

Occasionally, you may experience clear pink or clear golden colored fluid draining from your chest tube site. This is perfectly normal. Cover the area with absorbent dressing and tape it in place. Call your surgeon's office if you notice air moving in and out of the chest tube site.

You may also have a small neck incision site if a mediastinoscopy procedure was done. There will be skin glue over this site. It is safe to shower with the glue in place. The glue will eventually fall off by itself so it is important not to pick at the site.

Chest Tube Care



If you happen to go home with a chest tube, clean around your chest tube/drain tube with soap and water (on a clean washcloth) once a day. Pat dry. Apply a new dry gauze dressing and change as needed. Do not take a tub bath or swim when you have a chest tube.

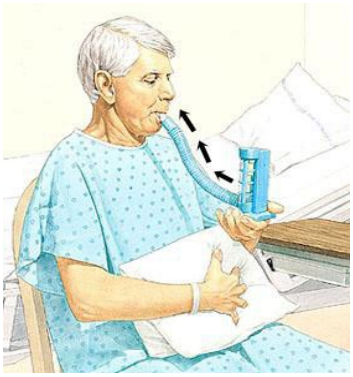
Monitoring:

- ❒ Follow instructions for monitoring an air leak and drainage. See patient care instruction sheet (depending on the type you have):
  - Heimlich valve
  - Pneumostat valve
- ❒ Record all drainage from your chest tube/drain in a daily log and bring this to your follow-up appointment with your attending physician.

Problems with the Chest Tube:

- ❒ Call your surgeon for problems or questions with your chest/drain tube.
- ❒ If your tube falls out, immediately cover the hole with a gauze dressing and secure with tape on 3 of the 4 sides to allow air to leak out. Then go to the nearest emergency department.
- ❒ If the tube becomes disconnected, put it back together immediately before going to the nearest emergency department.
- ❒ If you are short of breath or have any emergencies, call 911 or go to the nearest emergency department.

Low Grade Fever



If you develop a low fever, 99.0 – 99.5°, this may mean that you need to work on deep breathing.

You should use your incentive spirometer (lung exerciser) 10 times per hour while awake and walk at least 3 times per day to help prevent pneumonia after surgery.

Constipation

Constipation is very common with the use of narcotic pain medicine. We designed the ERAS program to decrease the risk of constipation by using pain medicine alternatives to help keep you comfortable.

It is very important to AVOID CONSTIPATION AND HARD STOOLS after surgery. Excessive straining will cause pain and possible harm to the surgery site.

If you are on a regular diet, include plenty of fiber. Good sources include fresh fruits, vegetables, dried beans and whole grains. You may use fiber supplements with water. It is important that you drink 6-8 cups of non-caffeinated fluids per day to prevent constipation.

We will also send you home with a prescription for a stool softener, Colace (docusate sodium), and a laxative, Miralax (polyethylene glycol), to help prevent constipation once you are home. Please continue to take this each night until you stop your narcotic pain medication. If diarrhea occurs, please stop this medication.

Walking and regular activity can also help prevent constipation.

Hobbies and Activities

Walking is encouraged from the day following your surgery. Plan to walk three or four times daily.

You should NOT:

☒ Do any heavy lifting for 4 weeks.
(no more than a gallon of milk = 10 lbs.).
☒ Play contact sports until 6 weeks following your surgery.

You SHOULD:

❒ Be able to climb stairs from the time you are discharged.
❒ Return to hobbies and activities soon after your surgery. This will help you recover.

Remember, it can take up to 2-3 months to fully recover. It is not unusual to be tired and need an afternoon nap 6-8 weeks following surgery. Your body is using its energy to heal your wounds in the inside and out.

Resuming Sexual Relationships

You should be able to resume a normal, loving relationship after you have recovered from your surgery and you are not feeling any discomfort.

Please talk to your doctor if you are having problems resuming sexual activity or if you have any questions concerning your activity level.

Work

You should be able to return to work 4–6 weeks after your surgery. This might be longer or shorter depending on your recovery rate and how you are feeling. If your job is a heavy manual job, you should not perform heavy work until 6 weeks after your operation. You should check with your employer on the rules and policies of your workplace, which may be important for returning to work.

If you need a "Return to Work" form for your employer or disability papers, ask your employer to fax them to our office at 434.244.9429.

Driving

You may drive when you are off narcotics for 24 hours and pain-free enough to react quickly with your braking foot. For most patients this occurs at 2 weeks following surgery. For our minimally-invasive surgery patients, this may occur earlier.

Write any questions you have here:

_____

_____

We pride ourselves in providing each of our patients with our absolute best. It is a pleasure to care for you and your family in your time of need. If you have any suggestions about how to improve your care or the care of others, please let us know.

Visit us at: uvaeras.weebly.com

Thoracic Surgery Pathway:

The Patient's Checklist

GOAL: Safe transition from hospital to home or next care setting through learning basic knowledge of postoperative care and monitoring.

Weeks prior to Surgery	Actions	Check when complete
Medications	If you are on any blood thinner medications, follow any specific instructions that your nurse gave you regarding if and when to stop taking them before your surgery. If you have any questions, call your surgeon's office.	
Medications	Stop taking any vitamins, supplements and herbs 2 weeks before your surgery. Stop taking ibuprofen (Motrin® or Advil®) and naproxen (Aleve®) 1 week before surgery.	
Medications	Begin taking 1 dose (1 heaping capful) of Miralax daily on each of the 3 days before surgery.	
Actions	Please follow the instructions on quitting smoking if you currently smoke. Please see the "Quitting Smoking Before Surgery" section of your handbook for more information.	
Day prior to Surgery	**Action**	**Check when complete**
Medications	Follow orders given to you for blood thinners and diabetes medications.	
Diet	You may eat regularly until midnight (the night before your surgery). Be sure you have a Gatorade™ ready for the morning of your procedure.	
Actions	On the evening before your surgery, take a shower with the soap provided to you. Use half of the bottle as instructed in	

	your ERAS handbook.	
Actions	Call 434.982.0160 if you don't receive a call by 4:30 PM with your arrival time.	

Morning of Surgery	Action	Check when complete
Medications	Take any medication you were instructed to take the morning of surgery.	
Actions	On the morning of your surgery, take a shower with the soap provided to you. Use the remaining half of the bottle.	
Diet	**Do not eat the morning of surgery.** Continue drinking clear liquids until you arrive at the hospital. Drink your Gatorade ™ before check in, then nothing more to drink.	
Actions	Bring your CPAP or Bi-PAP machine with you, if you use one.	
Actions	Bring your blood band with you, if you were given one.	
Actions	Bring an updated list of your medications.	
Actions	Bring this handbook and checklist in to the hospital with you when you check in for surgery. See the "Pre-Surgery Checklist" page in your handbook for some additional helpful items to bring with you on your day of surgery.	

After Surgery	Action	Check when complete	RN Initials
Mobilize	Walk outside of hospital room within 2 hours of arriving on the floor after surgery.		
Weight	Write down your weight that was taken in PACU. Identify importance of daily weights during hospitalization.		
Pain management	Discuss with nurse what medications will be used to manage post-operative pain. Demonstrate understanding of UVA's pain scale.		
Clear liquid diet	Take clear liquids as tolerated.		
Breathing	Use the incentive spirometer as instructed by your nurse.		
Post-operative Day 1	**Action**	**Check when complete**	**RN Initials**
Mobilize	Spend at least 6 hours out of bed. Walk twice in hallway. State one benefit of mobility to nurse.		
Urinary Catheter	Ask about catheter removal, if appropriate.		
Chest tubes	Ask about removal of chest tubes, if appropriate.		
Breathing	Use the incentive spirometer as instructed by your nurse.		
Dehydration prevention	List 2 signs and symptoms of dehydration. Name 2 ways to avoid dehydration.		
Fluid monitoring	Identify the importance of daily weights during hospitalization.		
Diet	Tolerate 2 meals of a transitional diet.		

Post-operative Day 2	Action	Check when complete	RN Initials
Mobilize	Spend at least 6 hours out of bed. Walk three times in the hallway.		
Urinary Catheter	Ask about urinary catheter removal, if not done so yesterday.		
Chest tube	Ask about removal of chest tubes, if still in place.		
Breathing	Use the incentive spirometer as instructed by your nurse.		
Infection Prevention	Identify signs and symptoms of wound infection. Demonstrate appropriate wound care.		
Diet	Tolerate 2 meals of a normal diet.		
Post-operative Day 3-5	Action	Check When Complete	RN Initials
Mobilize	Spend at least 6 hours out of bed. Walk three times in the hallway.		
Breathing	Use the incentive spirometer as instructed by your nurse.		
Pain Management	Pain well-controlled on oral pain medications. Verbalize pain management plan for discharge.		
Diet	Tolerate general diet.		
Discharge Instructions	Verbalize understanding of signs and symptoms of a potential complication and what actions to take in the event of a complication.		
Discharge	Action	Check When Complete	RN Initials
Discharge Instructions	Verbalize understanding of signs and symptoms of a potential complication and what actions to take in the event of a complication.		
Discharge Preparation	Ensure you have a ride home from the hospital, extra oxygen (if you need it), and all of your belongings that may have been stored in “safe keeping” during your hospital stay		