

LIVER RESECTION SURGERY

Enhanced Recovery After Surgery (ERAS)

Your Guide to Healing

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UVA Health



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Patient Name

Surgery Date/Time to Arrive

Surgeon

We want to thank you for choosing UVA Health 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.

For other helpful information regarding liver surgery, you may visit the following site:

<https://www.cancer.gov/types/liver>

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 Hepatobiliary Team will care for you. This team is led by your surgeon, and includes a chief resident along with residents and 1-2 medical students. There will always be a physician in the hospital 24 hours a day to tend to your needs.



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Contact Information

The main hospital address:

UVA Health System
1215 Lee Street
Charlottesville VA 22908

Contact	Phone Number
Hepatobiliary and Pancreatic Surgery Clinic	434.924.9333
Clinic Fax	434.244.7526
If no call received with a surgery time by 4:30pm the day before surgery	434.982.0160
Anesthesia Perioperative Medicine Clinic	434.924.5035
Hospital Inpatient Unit: 5W	434.924.2338
UVA Main Hospital	434.924.0000 (ask for the Green Surgery resident on call)
UVA Main Hospital (toll free)	800.251.3627
Medical Imaging	434.243.0321
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
Physician Billing Questions	800.868.6600
Medical Record Requests	434.924.5136

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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 Liver Surgery

What is Liver Surgery?

It is a surgery to remove various types of liver tumors. Liver tumors can be cancer, but they can also be non-cancerous (benign). The goal of the liver resection is to completely remove the tumor and the area around the tumor without leaving any tumor behind.

A large part of your liver can be removed if the rest of your liver is healthy.

The surgery can last from 2-5 hours.

When a portion of the liver is removed, the remaining liver can grow back (regenerate) if your liver is healthy. This growth occurs over 4-6 weeks. This regeneration does not occur in a liver that is cirrhotic or otherwise unhealthy. Good nutrition with a high-protein diet is important for liver regeneration.

Why Do I Need This Surgery?

This surgery is indicated for different reasons:

- Cancer of the liver (hepatocellular cancer)
- Cancer of the colon that has spread to the liver
- Liver cysts
- Liver adenomas
- Liver hemangiomas

What Does Liver Surgery Look Like?

This is a normal liver:

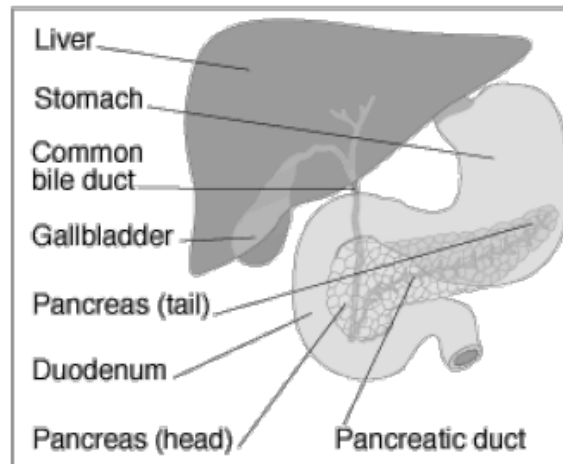


Image source: www.cancerhelp.org.uk

This shows a liver divided into sections:

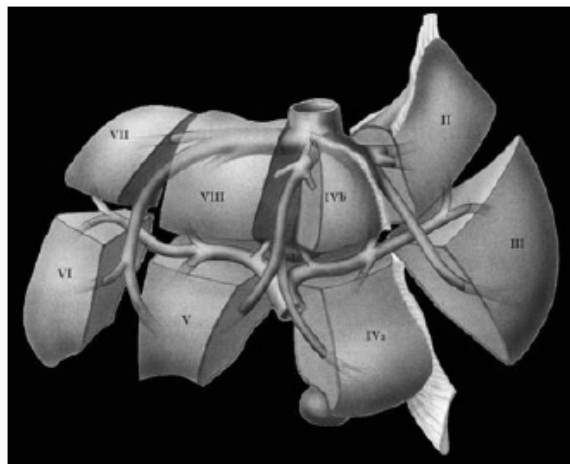


Image source: www.cclg.org.uk



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 *will* 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 have any questions on the instructions you received, call your surgeon's office right away.

Your nurse may give you specific instructions as to when to stop taking blood thinner medications 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 you After Visit Summary (AVS) for specific instructions about this medication.
- Please follow up with _____

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:

- The surgeons, who may have fellows, residents, or medical students working with them
- Nurse practitioner (NP)
- 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, if you are on any blood thinners
- Instructions on quitting smoking if you currently smoke. Please see the next page for more information.

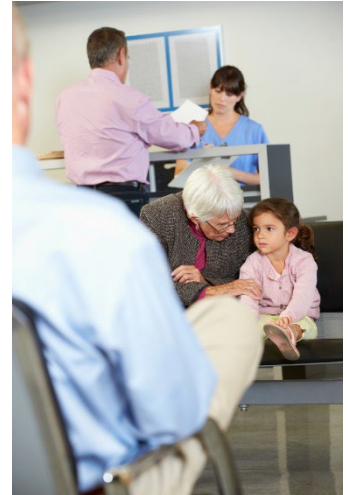
Write any special instructions here:

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.

- 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 **434-924-5035**. 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.

Remember: If you are taking any blood thinning medications be sure to tell your doctor and nurse as it may need to be stopped before surgery. It is very important to follow the instructions given to you to prevent your surgery from being postponed or cancelled!

If you have any questions on the instructions you received, call your surgeon's office right away.

Quitting Smoking Before Surgery

We encourage you to stop smoking at least 2 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 2 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!

Your surgeon can give you a consult for a smoking cessation counselor.

☎ **1.800.QUITNOW**  <https://smokefree.gov/>

Preparing for Surgery

You should expect to be in the hospital for about 4 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.



leave
or
to

You can do a few simple things before you come into the hospital to make things easier for you when you get home:

- Clean and put away laundry.
- Put clean sheets on the bed.
- Cut the grass, tend to the garden and do all house work.
- Arrange for someone to get your mail and take care of pets and loved-ones, if necessary.
- 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.
- We recommend you have the following non-prescription medications at home before your surgery:
 - Tylenol (acetaminophen) 325mg tablets (for pain)
 - Advil/Motrin (ibuprofen) 200mg tablets (for pain)
 - Colace (docusate sodium) 100mg tablets (stool softener)
 - MiraLAX powder (for constipation)
- We recommend that you buy or borrow a scale to weigh yourself regularly after surgery.
- STOP taking any herbal supplements or drinks 2 weeks before your surgery. A standard daily multivitamin can be continued.**
- STOP taking ibuprofen (Motrin® or Advil®) and naproxen (Aleve®) 1 week before surgery. You may take acetaminophen (Tylenol®).**

*If you are taking additional medications for chronic pain,
please continue those up until your surgery.*

Pre-Surgery Checklist

What you SHOULD bring to the hospital:

- This handbook.
- A **list** of your current medications. Please leave your medications at home. They will be provided for you once you are in the hospital.
- 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**



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 go to “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.

Hospital Services

Care Partners are people you designate to be active members of your healthcare team. They are given a special security code to call in and ask questions about your recovery. They can help keep family and friends informed about your condition. You are asked about Care Partners during the admission process but can change a Care Partner at any time during your hospital stay. You can have up to 2 Care Partners if you wish.



Visitors must stop by the Information Desk to get a visitor pass and should wear it at all times while in the hospital. Please remember that the hospital is a place for healing and rest. Try to keep conversations quiet and, if sharing a room, please be respectful of other patients' need for rest or private time with their families. Also make sure that nurses and doctors can move freely around the bedside to provide care. Our Family Lounges on each floor have information about hospital and local resources including local accommodations.

Close-by Lodging options are available. Please refer to the insert at the front of the handbook for more details.

REMEMBER: Good nutritional intake before surgery can help you recover after surgery. If you are having trouble eating or are losing weight, try to increase your calories and protein. An easy way to accomplish this is drinking nutritional supplement drinks (such as Ensure Plus®, Boost Plus®, Equate Plus®, or Carnation Instant Breakfast®) in addition to your meals to help increase your nutritional intake prior to surgery.

Days Before Surgery

Scheduled Surgery Time

A nurse will call you the **day before your surgery** to tell you what time to arrive 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 what time the nurse tells you to arrive on page 1 of this handbook in the space provided.

Food and Drink the Night Before Surgery

- Stop eating solid foods after midnight before your surgery.
- You **CAN** have water or Gatorade™ until you arrive at the hospital.
- Be sure to have a 20-ounce Gatorade™ **ready and available for the morning of surgery**. If you are diabetic, you may drink Gatorade™ G2. Drink this on your way into the hospital in the morning.



Write any special instructions here:

Instructions for Bathing

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

The body wash is a skin cleanser that contains chlorhexidine gluconate (an antiseptic). This key ingredient helps to kill and remove germs that may cause an infection. Repeated use of the body wash creates a greater protection against germs and helps to lower your risk of infection after surgery.

Before using HIBICLENS, you will need:

- A clean washcloth
- A clean towel
- Clean clothes



IMPORTANT:

- The body wash is simple and easy to use. If you feel any burning or irritation on your skin, rinse the area right away, and do NOT put any more body wash on.
- Keep the body wash away from your face (including your eyes, ears, and mouth).
- DO NOT use in the genital area. (It is ok if the soapy water runs over but do not scrub the area.)
- DO NOT shave your surgery site. This can increase the risk of infection. Your healthcare team will remove any hair, if needed.

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 the body wash 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 the body wash.
8. Dry your skin with a clean towel.
9. DO NOT apply lotion, deodorant, powder, or perfume after using the body wash.
10. Put on clean clothes after each shower.

Day of Surgery

Before You Leave Home



- ☑ Remove nail polish, makeup, jewelry and all piercings.
- ☑ Continue drinking water or Gatorade™ on the morning of your surgery. If you are diabetic, you may drink Gatorade™ G2. Do NOT drink any other liquids. If you do, we may have to cancel surgery.
- ☑ Remember to drink your 20-ounce Gatorade™ on the way to the hospital.

Hospital 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™ as you arrive. **You cannot drink after this.**
- ☑ Check in at your scheduled time in the Family Waiting Lounge.
- ☑ Your family will get a surgery guide to explain the process. They 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 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.



In the Operating Room

From SAS, you will then be taken to the operating room (OR) for surgery and your family will be taken to the family waiting lounge.

Many patients do not recall being in the OR because of the medication we give you to relax and manage your pain.



Once you arrive in the OR:

- ☑ 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 hooked up to monitors.
- ☑ Boots will be placed on your legs to prevent the development of blood clots during surgery. You may also be given a blood thinner shot to prevent blood clots (usually after you are asleep).
- ☑ 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 a small catheter (“epidural”) or a small injection (“spinal”) into your back just before surgery. Both of these options provide excellent pain relief with fewer side effects than other forms of pain medicine. These options also help us to decrease the amount of oral pain medicine you need after surgery which could delay your recovery.

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 one 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 OR nurse will call or send a text approximately every 2 hours to update your family, when possible.



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 2-4 hours and are then usually assigned an inpatient room on the Acute Care Unit (5West).

Once you are awake:

- ☑ You will 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.

Hospital Inpatient Unit: 5West

Once to your room, you:

- ☑ Will be able to have sips of water and ice chips.
- ☑ Will have a small tube in your bladder called a Foley catheter. We measure how much urine you are making and how well your kidneys are working.
- ☑ Will be given an incentive spirometer (breathing exerciser). We will ask you to use it 10 times an hour to keep your lungs open and help prevent pneumonia.
- ☑ Will receive a blood thinner injection every day to help prevent blood clots.
- ☑ Will get up and out of bed on the day of your surgery, with help from the nurse.
- ☑ May have one small tube coming from your stomach to drain any fluids inside. Your nurse will empty the drain a few times per day.



Pain Control Following Surgery

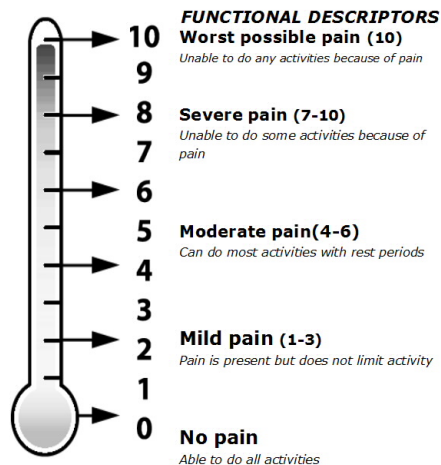
Managing your pain is an important part of your recovery. We will use the UVA Pain Rating Scale and will ask you regularly about your level of comfort. It is important that you are able to take deep breaths, cough, and move.

We will encourage you to use the “Splinting Technique” to minimize pain at your surgical site. To do this, press a pillow or your hand against your incision area and support it when you take a deep breath, cough, sneeze, laugh, move, etc.



Preventing and treating your pain early is easier than trying to treat pain after it starts so we have created a specific plan to stay ahead of your pain.

UVA ADULT PAIN SCALE TO HELP YOU CONTROL YOUR PAIN



- You will get several other pain medicines around-the-clock to keep you comfortable.
- You will have narcotic pain pills (oxycodone) as needed for additional pain.
- Some patients will have an epidural catheter in place to manage pain.

This pain plan will decrease the amount of narcotics we give you after surgery. Narcotics can significantly slow your recovery and cause constipation.

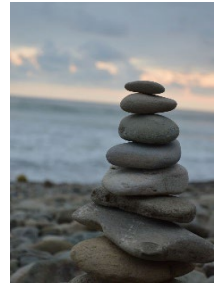
Laparoscopic Gas Pain

You may have discomfort in your stomach, neck or shoulders for a few days after your surgery. This pain is because gas is used to inflate your abdomen during surgery. The pain will go away as the gas is reabsorbed in your body. Some ways to help with this pain are walking around, using a hot compress (heating pad), and avoiding carbonated drinks.

If you are on long standing pain medications 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 controlling your pain 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 let your care team know if you would like to try any of these options to help address your pain and improve your comfort.



- ❑ **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.



First Day After Surgery



You will:

- Most likely 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

You most likely:

- May be able to eat soft foods. We will slowly advance your diet to solid foods.
- Will have your IV turned off but not removed.
- Will be asked to be out bed for the majority of the day



Fourth and Fifth Day After Surgery

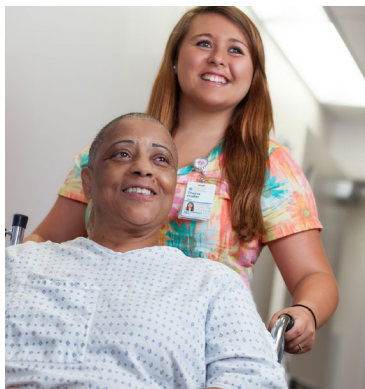
You may be able to go home if you are:

- Off all IV fluids and drinking enough to stay hydrated.
- Comfortable and your pain is well controlled.
- Not nauseated or belching (burping).
- Passing gas.
- Not running a fever.
- 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.

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 in clinic (usually in 3-4 weeks), depending on your surgery. We may see you sooner if you have a surgical wound or drain.
- You may see therapy services during your hospitalization. Depending on their visits with you, you may be set up with home healthcare after discharge.

We would also like you to see your local doctor after discharge from the hospital.

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 were 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:

Complications Delaying Discharge

Sometimes there are things that may happen after surgery which may keep you in the hospital longer. We do our best to prevent these from happening. These may include:

Wound infection (abscess) – the surgery site might open up, become red, or drain fluid. You may need some antibiotics if your wound becomes infected.

Bile leak – a leak might develop at the “anastomotic site.” This is where your new connections are sewn together inside. Sometimes this may require another surgery to fix the leak.

Blood clots – we encourage you to get up and walk around as much as possible to prevent blood clots from forming. We will also have you on blood thinner medicine while you are in the hospital in order to help prevent this.

Bleeding – there is always a risk of bleeding after surgery. We monitor you closely to watch for any signs of bleeding.

Pneumonia – we encourage you to do deep breathing exercises to prevent pneumonia. Walking is the best exercise, but using the incentive spirometer (lung exerciser) will also help to prevent pneumonia after surgery.

Liver failure – there is a risk of liver failure following liver surgery. While we expect your liver to grow back, there is a risk that your remaining liver will not be able to fully function. We monitor you closely to watch for signs of liver failure.



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 worsening or new pain unrelieved by pain medication
- Have a fever greater than 100.5° F or shaking chills.
- Are vomiting, nauseated, have frequent stools/diarrhea or stools that look lighter, or abnormal in color
- Are unable to have a bowel movement for more than 3 days
- Are not tolerating food, fluids or nutritional supplements



Related to your surgical site, please call us if:

- It becomes bright red and painful, or redness starts spreading
- It starts to drain infected material that is not clear yellow or light red/pink
- It starts to drain more than a small amount
- It releases cloudy or foul smelling fluid
- You notice increased drainage from your surgical site
- Your drain falls out or the drainage becomes bloody

Contact Numbers

If you have trouble or questions between 8:00am and 4:30pm, call your surgeon's office at 434.924.9333.



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

Pain Management

You may alternate NSAIDS (like ibuprofen) and acetaminophen (Tylenol) for improved pain control. Take these over-the-counter medications as prescribed.

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

Narcotic pain medications often cause nausea. To help reduce the risk of nausea, take your pain 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 narcotic pain medicines is a serious public health concern. If you take more of your narcotic pain medication than 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. This is important because prescriptions for narcotic pain medications cannot be called in to your pharmacy. The prescription has to be picked up in person at your doctor's office with a valid ID.

Virginia has a Prescription Monitoring Program for these types of medications to help keep patient safe.

Ask your health care team if you have specific questions.



Pain Medication Weaning

You may find that your pain is well controlled by over-the-counter medicines such as NSAIDs (ibuprofen) and acetaminophen (Tylenol).

However, if you are taking narcotic pain medication, you will need to wean off these medications as your pain improves. Weaning means slowly decreasing the amount you take until you are not taking it anymore. Weaning to lower doses of narcotic pain

medication can help you feel better and improve your quality of life.

It's important to remember that taking narcotic pain medication may not provide good pain relief over a long period of time and sometimes they can actually cause your pain to get worse. Narcotic pain medications can also have many different side effects including constipation, nausea, tiredness and even dependency (addiction). The side effects of narcotic pain medications increase with higher doses which means the more you take, the worse the symptoms may be.

To wean from your narcotic pain medication, we recommend slowly reducing the dose you are taking. *You can 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 fewer pills:

- Take 1 pill each time. Do this for 1 or 2 days.
- Then, increase the amount of time between doses, as explained above.

If you are not sure how to wean off of your narcotic pain medication, please contact your family doctor.

Once your pain has improved and/or you have weaned off your narcotic pain medication, you may have pills 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.

Blood Clot Prevention

You may be sent home on a blood thinner medication to prevent blood clots. Instructions on how to give yourself this medication will be provided while you are still in the hospital.

Wound Care Instructions

If your incision has been closed with a type of skin glue called **Dermabond**, allow the skin glue to wear off on its own in the next 10-14 days. Do not peel it off.

If your incision has **steri-strips** or white paper bandages. You may shower and pat your incision dry with a towel. No tub baths, hot tubs or swimming.

When your steri-strips begin to curl, you may trim with scissors. You may remove the strips at 1- 2 weeks if you prefer. If they fall off that is OK.

If the wound is mildly pink and has a thick firm ridge underneath it, this is normal, and is referred to as a healing ridge. This will resolve over the next 4-6 weeks.



Avoid direct sunlight on your surgery site. It will take a few months for your scar to become less red. You will need to wear sunscreen on your scar line for the first year.

If you had abdominal drain(s) removed, the site will close up over the next 3 days. They may continue to drain clear drainage during this time frame and can be managed with gauze dressing changes or pouch bag(s). Your nurse will show you before you leave the hospital. The drainage amount will decrease each day. If the drainage amount is increasing, please call your physician. Once the drain site is no longer draining, remove the dressing or pouch bag(s) and leave open to air to complete healing.

Going Home with a Drain

You may have had a drain stitched into your abdomen during surgery. This drain is called a Jackson-Pratt or “JP” drain. The drain gently suctions and collects fluid, promoting healing and reducing swelling and risk of infection.

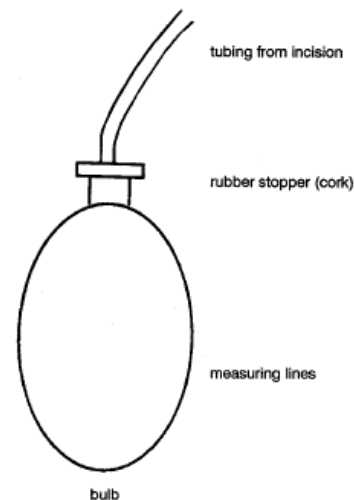
If you go home with a “JP” drain, you will need to empty and record your drain output 2-3 times per day. If there is barely any drainage, it is okay to empty the drain once a day or every other day.

Record the color of the output, record the amount of output (you will be given a measuring cup) and your date and time of emptying. Your nurse will show you how to do this before you go home.

If your drain starts to leak around the site where the drain meets the skin, please call your doctor to see if you need to come into the hospital for a drain check.

Change your bandage at the drain site once a day. Your nurse will talk with you about this.

Depending on the type of drain you have, you may or may not shower. Your nurse can give you instructions on the best way to clean your drain. You can NOT have tub baths while the drain is in place.



Constipation

You may be given a prescription for pain medicine (narcotic) when you are discharged from the hospital. 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.

We recommend taking a stool softener such as Docusate Sodium or Colace while taking narcotic pain medication. If the stool softener is not enough, you may try a mild laxative such as MiraLax as directed until your bowel habits are regular. Speak with your pharmacist if you have any questions about what to take.



It is also important that you drink 6-8 cups of non-caffeinated fluids per day to prevent constipation. Walking and regular activity will also help to prevent constipation.

Diarrhea may occur after surgery. These frequent, loose stools can result from a variety of reasons including certain medications and certain infections. It puts you at risk for dehydration or significant fluid loss. Drinking fluids and staying hydrated is important during times of diarrhea or frequent loose stools. For ongoing or worsening diarrhea, please contact your surgical team to check-in about possible stool testing.

Eating Changes After Surgery

You can eat any food you can tolerate after surgery. It is normal for you not to be as hungry after your surgery. It may take several weeks for your desire to eat to return. You may have a metallic taste in your mouth, have taste changes, or get full very quickly. It may be easier at first to try to eat 5-6 small meals during the day. You may need to drink nutrition supplements like Ensure, Boost Plus, Carnation Instant Breakfast, or Glucerna (sugar-free) until you are able to eat more at one time and maintain your weight. Any alternative brand works the same, as well as homemade smoothies.

Additionally, you *may* need some other medications when you go home from the hospital to help with nausea and blood sugar or diabetes management. If you had diabetes *before* surgery, you will have to take extra care in your blood sugar management *after* surgery. If you are on medications for you blood sugar, please keep a log of your blood sugars and plan to see your local doctor or endocrinologist 1-2 weeks after discharge.

It is common to lose some weight after the surgery. Some of this will be the extra fluids that you received through your veins while you were in the hospital. If you are puffy in your hands or ankles when you go home, expect this to go away during the first week you are home. If you have swelling in your feet or ankles, prop them up when you are sitting.

Your weight should eventually even out then you should start slowly to gain back some of your weight but this may take several weeks.

Deep Breathing Exercises

You will be sent home with an incentive spirometer (lung exerciser). Please continue to use 10 times per hour while awake. Walking is the best exercise, but deep breathing will help to prevent pneumonia after surgery.

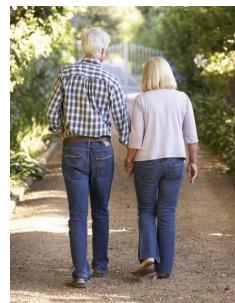


You can continue using your incentive spirometer at home for 2 weeks after surgery.

Hugging a pillow against your abdomen while coughing and deep breathing can help with comfort.

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 6 weeks.
(no more than a gallon of milk = 10 lbs.).
- Heavy exercise or return to your exercise routine may be started 6 weeks following your surgery, but go slowly.

You SHOULD:

- Be able to climb stairs and go outside from the time you are discharged.
- Return to hobbies and activities soon after your surgery. This will help you recover. You may return to your exercise routine after 6 weeks but go slowly.

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 6-8 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 434.244.7526.

Driving

You may drive when you are off narcotics for 24 hours and feel secure and pain-free enough to react quickly with your braking foot. For most patients this occurs at 3 weeks following surgery.



Write any notes here:

HPB 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.	
Actions	We recommend you have the following non-prescription medications at home before your surgery: <ul style="list-style-type: none"> ○ Tylenol (acetaminophen) 325mg tablets ○ Advil/Motrin (ibuprofen) 200mg tablets ○ Colace (docusate sodium) 100mg tablets ○ Miralax powder 	
Actions	We recommend you buy or borrow a scale to weigh yourself regularly after surgery.	
Day prior to Surgery	Action	Check when complete
Medications	Follow orders given to you for blood thinners and diabetes medications.	
Diet	Eat regularly until midnight (the night before your surgery). Continue drinking clear liquids throughout evening. Be sure you have a Gatorade™ ready for the morning of your procedure. If you are diabetic, you may drink Gatorade™ G2.	

Actions	On the evening before your surgery, take a shower with the soap provided to you. Use half of the bottle as instructed.	
Actions	Call 434.982.0160 if you don't receive a call from OR 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. If you are diabetic, you may drink Gatorade™ G2.	
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 <u>list</u> 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.		
Diet	You will be able to have sips of water and ice chips.		
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.		
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 clear liquids as part of your 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.		
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 soft foods as part of a transitional 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 soft foods as part of a transitional 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		
Action	You will receive prescriptions for medications you will need to have available after surgery. You may have the prescriptions filled at the UVA Pharmacy or your pharmacy of choice.		