

# Pituitary Surgery

Your Guide to Healing





Name:  
Date of surgery:  
Check-in location:

Thank you for choosing UVA Health.

We look forward to taking care of you in our Multi-Disciplinary Pituitary Clinic.

The following surgery has been recommended for you:

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We have designed this handbook to help guide you through your entire experience including before surgery, at the time of surgery, and the follow up care after your surgery. If you have any questions or would like to provide us with feedback, please do not hesitate to reach out.

We would like you to bring this handbook with you:

- To all future office visits
- During your hospital stay

# Department of Neurosurgery – Pituitary Center

We have an entire team dedicated to taking care of you including:

## Neurosurgeon (Brain Surgeon)



Michael P. Catalino, M.D.



Melike Mut Askun, M.D.

## Otolaryngologist (Head and Neck Surgeons)



Jose Mattos, M.D. MPH

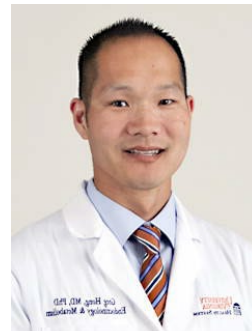


Spencer Payne, M.D.

## Neuroendocrinologists (Physicians that monitor your hormones)



Mary Lee Vance, M.D.



Gregory K. Hong, M.D.

**Nurse Practitioners**



Cassandra Freed-Pastor, ACNP  
Neurosurgery



Karen Clark, AG-ACNP  
Neurosurgery



Meredith Kelley, DNP, FNP  
Otolaryngology

**Pituitary Nurse Coordinator**



Dawn Shaver, MSN, CNRN  
Neurosurgery

**Access Associates:** These team members that help to coordinate your appointments.



Shinika Lewis  
Senior Access Associate  
Neurosurgery



Lori Jones  
Senior Access Associate  
Neurosurgery

# Contact Information

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The main hospital address:

UVA Health  
 1215 Lee Street  
 Charlottesville VA 22908

Contact	Phone Number
Department of Neurosurgery	800.362.2203 Fax 434.924.2994
<b>Pituitary Office</b>	<b>800.650.2650</b> <b>434.982.3591</b>
If you don't receive a call by 4:30pm the day before surgery (or by Friday at 4:30pm if your surgery is scheduled for Monday) please call:	434.982.0160
Anesthesia Perioperative Medicine Clinic	434.924.5035
Hospital Inpatient Unit: 6W	434.924.2488
UVA Main Hospital	434.924.0000 (after 4:30pm, on weekends, and holidays ask for Neurosurgery resident on call, pager 1576 or Endocrine Fellow on call, pager 1263)
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
Neuroendocrine Fax Number	434.924.5894

# Important Appointments

## Before Surgery

Appointment	Date & Time
Imaging	
Labs	
Meet with Neurosurgery NP	
Meet with ENT (occasionally day of surgery)	
PETC Visit (Anesthesia)	

Write any special instructions here:

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## After Surgery

Appointment	Date & Time
<p><b>7-10 days: Lab draw (Any local lab)</b>            Blood draw for sodium level and sometimes cortisol. A lab order will be given to you at discharge. If you do not receive an order when you leave the hospital, please call Dawn at 434.982.3591 and she will fax an order to the lab of your choice. You will be notified of any abnormal lab values.</p>	
<p><b>2-3 weeks: ENT doctor</b>            After surgery you <i>may</i> need to see the ENT doctor.            You will be notified by the ENT team if you need to see them at 2-3 weeks after surgery. This will be arranged before you leave the hospital.</p>	
<p><b>5-7 weeks: Ophthalmology</b>            Visual field exam            This is only for patients with visual deficits before surgery.</p>	
<p><b>8 weeks: ENT doctor</b></p>	
<p><b>8 weeks: Imaging- MRI</b></p>	
<p><b>8 weeks: Endocrinology and Neurosurgery</b></p>	
<p><b>8 weeks: Lab work</b></p>	
<p><b>8 weeks: Glucose tolerance test</b>            *Only if you have acromegaly</p>	

Write any special instructions here:

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It is very important to remember, after this surgery, you should **NOT** have any nasal swabs done for testing. You should have oral testing, if needed, after this surgery.



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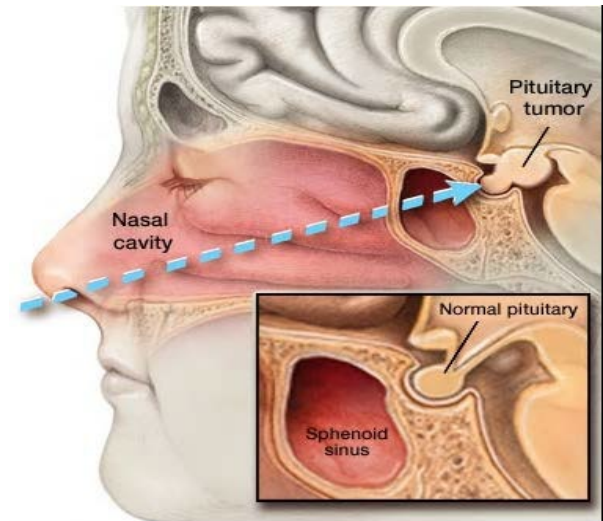
Patient's Checklist

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# Introduction to Pituitary Surgery

## The Pituitary Basics

The pituitary gland is about the size of a pea. It is located behind your nose, in your brain. This gland produces hormones in your body. Some of these hormones are: thyroid hormone, testosterone (men), growth hormone, estrogen and/or progesterone (women), hydrocortisone or prednisone, desmopressin/DDAVP (anti-diuretic).



## Hormones and your pituitary operation:

If you are not already taking replacement hormones prior to surgery, you *may* require hormone replacement after surgery. We will discuss this with you.

## Why do I need surgery?

You need surgery when you have a pituitary tumor that is producing hormones or you have a tumor that is growing and may cause or be causing problems such as vision loss.

## Removing the Pituitary Tumor

We will remove your pituitary tumor from inside your nose. We will go through an air-filled chamber called the sphenoid sinus. This is referred to as an endoscopic endonasal approach or transsphenoidal approach.

## How long is the surgery?

Expect about 3 to 5 hours in the operating room (OR). You will then spend time in the post-anesthesia care unit (PACU) until you are ready to go to your room on 6 West.

## How long will I stay in the hospital?

Expect to stay about 2-3 days. If you have Cushing's disease, expect to stay about 3-5 days. If you have a spinal fluid leak during surgery, you may stay an extra day or two.

# Before Your Surgery

## Clinic

During your clinic visit we will check your pituitary function and review your MRI. You will work with our entire team to prepare for surgery. This team may include:

- The surgeons who may have fellows, residents, or medical students working with them
- Endocrinologists
- Nurse Practitioners (NPs)
- Clinical nurse coordinators
- Access associates



During your clinic visit, we will:

- Ask questions about your medical history
- Perform a physical exam
- Do lab work and check your pituitary function
- Ask you to sign the surgical consent forms

We will review:

- Preparing for surgery and for making a discharge plan.
- What to do before surgery if you are on blood thinners.
- Obtaining pre-operative surgical clearances if needed.
- Quitting smoking if you currently smoke.

Write any special instructions here:

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## Pre-anesthesia Evaluation & Testing Center (PETC)

After your pre-operative/workup clinic visit, you will be instructed to go to the Pre-Anesthesia Evaluation & Testing Center (PETC) located in the lobby of the Main Hospital on the 1<sup>st</sup> floor.

The Main UVA Hospital PETC is open Monday-Friday 08:00am–5:30pm (on Wednesday, PETC opens at 09:00am). This visit should last approximately 2 hours.

At your PETC visit, you may:

- Turn in your consent packet
- Meet with a nurse who will review your medical history and medications you are currently taking. The nurse *may advise* if there are medications you shouldn't take prior to surgery
- Have blood work drawn for blood type
- Get an EKG (a test of your heart), if necessary
- Talk about the type of anesthesia you will need for surgery
- Talk about the pain relief medicine you will get during surgery
- Be screened for snoring and sleep problems like obstructive sleep apnea (OSA). If at risk, you may be asked to do a sleep study before surgery.



Based on your examination and your test results, we may ask that you see a specialist. For example, a cardiologist (heart doctor) may need to evaluate you further before your surgery.

## Medic Alert Bracelet



If you are on hydrocortisone, prednisone or dexamethasone replacement, you should wear a medic alert bracelet at all times with the label **“Adrenal Insufficiency”** or list the name of what steroid you are taking. You can get a medic alert bracelet at <https://www.medicalert.org/>

## Medications to Stop Prior to Surgery

### 14 Days Prior

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**Stop birth control pills and all vitamin, herb, and joint supplements, such as:**

CoQ10	Glucosamine	Juice Plus®	Ogen	Omega 3, 6, 9
Chondroitin	Flaxseed oil	St. John's Wort	Ginkgo	Ginseng
Echinacea	Fish oil	Saw palmetto	Garlic	Multivitamins
Emcy	Kava	Valerian	Ephedra	MSM

### 7 Days Prior

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**STOP all aspirin containing products, such as:**

Alka-Seltzer®	Excedrin®	BC Powder®	Goody's Powder®	Percodan®
Aspirin (81mg to 325mg)	Fasprin® (81mg)	Bufferin®	Norgesic®	Ecotrin®
Disalcid® (Salsalate)	Pepto-Bismol®	Dolobid® (Diflunisal)		

**Stop all non-steroidal anti-inflammatory medications (NSAIDs), such as:**

Advil® (ibuprofen)	Aleve® (naproxen)	Arthrotec® (volatren/cytotec)
Ansaid® (flubiprofen)	Anaprox® (naproxen)	Cataflam® (diclofenac)
Celebrex® (celecoxib)	Clinoril® (sulindac)	Daypro® (oxaprozin)
Feldene® (piroxicam)	Indocin® (indomethacin)	Meclomen® (meclofenamate)
Mediprin® (ibuprofen)	Mobic® (meloxicam)	Motrin® (ibuprofen)
Naprelan® (naproxen)	Naprosyn® (naproxen)	Nuprin® (ibuprofen)
Orudis® (ketoprofen)	Oruvail® (ketoprofen)	Relafen® (nabumetone)
Tolectin® (tolmetin)	Voltaren® (diclofenac)	

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**Talk to your Primary Care or Cardiologist about when to stop taking antiplatelets or anticoagulants, such as:**

Coumadin® (warfarin)	Plavix® (clopidogrel)	Pletal® (cilostazol)
Xarelto® (rivaroxaban)	Eliquis® (apixaban)	Lovenox® (enoxaparin)
Aggrenox	Antithrombotics	Effient (prasugrel)
Ticlid (ticlopidine)	Trental (pentoxifylline)	

**IF you have heart stents and take Plavix® and Aspirin, check with your cardiologist about stopping prior to 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

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 stop using tobacco products 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.**

### **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

#### **You Don't Have to Quit Alone!**

Please call your Primary Care Provider to discuss Tobacco Cessation

 1.800.QUITNOW

 <https://smokefree.gov/>

# Preparing for Surgery

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When you leave the hospital after your surgery, you will need some help from family or friends. You should arrange for support at home prior to coming for surgery. It will be important to have help with meals, taking medications, etc.

A few things you can do before you come into the hospital:

- Clean and put away laundry
- Clean your bed linens, especially if you have a pet who shares your bed.
- Put the things you use often at waist height to avoid having to bend down or stretch up too much to reach them.
- Buy the foods you like and other things you will need since shopping may be hard when you first go home. Prepare meals that you can freeze and easily reheat.
- 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.
- Be sure you have a working digital thermometer. We will ask you to monitor your temperature once you are discharged from the hospital.
- Arrange transportation to and from the hospital and all appointments.
- We recommend you have the following non-prescription medications at home before your surgery:
  - NeilMed® Sinus Rinse – please purchase and practice prior to surgery. For more information visit [www.neilmed.com](http://www.neilmed.com).
  - Saline Spray
  - Tylenol (acetaminophen) 325mg tablets (for pain)
  - Advil/Motrin (ibuprofen) 200mg tablets (for pain)
  - Colace (docusate sodium) 100mg tablets (stool softener)
  - Miralax powder or Senna (for constipation)
  - Biotene Mouth Rinse



Remember to review the page in section 1 for medications you may be taking and when to stop taking them before your surgery. ***This is very important 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.



## Pre-Surgery Checklist

### What you SHOULD bring to the hospital:

- This handbook
- A **list** of your current medications. Please leave your medications at home. **You do not need to bring the actual bottles.** 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 you were given one
- A book or something to do while you wait
- A change of comfortable clothes for discharge
- Any toiletries that you may need
- If you use an oxygen tank, be sure you have enough oxygen and tank supplies for the ride home after surgery
- NeilMed® Sinus Rinse



### 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 home with your care partner or 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. You cannot drive for 2 weeks after your surgery. You will need someone to drive you to the lab 7-10 days after surgery.

## 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 you 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' needs 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.

# Day Before Surgery

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## 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 at midnight before your surgery.

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# Day of Surgery

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## Before you leave home

- Remove nail polish, makeup, jewelry and all piercings.

## 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)**.
- Check in to the location as instructed by the call nurse.
- Your family 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 surgery team where your consent for surgery will be reviewed. Your family member can be with you during this time.
- Meet the anesthesia team who will review your medical history and will discuss your anesthesia plan.

## In the Operating Room



From SAS, you will then be taken to the operating room (OR) for surgery and your family will return 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 move to the operating room table and be connected to monitors.
- ☑ Boots will be placed on your legs to reduce the risk of developing blood clots during surgery.
- ☑ You will be given antibiotics through your IV prior to surgery to reduce your risk for infection.
- ☑ Then the anesthesiologist will put you to sleep with a medicine that works in 30 seconds.

### **Once you are asleep:**

- ☑ We might insert a catheter (tube) into your bladder. This will allow the doctors to carefully monitor your fluids and urine output.
- ☑ Just before starting your surgery, we will do a “time-out” to check your identity and confirm the location of your surgery.
- ☑ After this, your surgical team will perform your operation.

During your surgery, the Operating Room nurse will call or send a text message to your family approximately every 2 hours to update them, when possible.



# After Surgery

## Recovery Room (PACU)

After surgery, you may be taken to the recovery room (PACU). Patients can remain in the PACU for about 4-6 hours and then may be assigned a room on an acute care unit (6 West). Your family will be updated by PACU upon your arrival, then 2 hours after (if still in PACU), and when you are leaving for your room on 6 West. If your family does not receive a call, they can call the operator at 434.924.0000 and ask for the PACU.

Once you are awake:

- You will be given clear fluids to drink.
- Post-operative nausea and vomiting is very common after your surgery. We give you medication to reduce this.



The surgeon will also call your family to give them an update, or the surgeon might visit them in the Surgery Consult Room in the second floor OR and Procedure Check-In area.

## Acute Care Unit on 6<sup>th</sup> floor: 6 West

The phone number for 6 West:  
434.924.2488

Once to your room, you:

- May be in a semi-private room with a roommate, with a privacy curtain drawn around your bed.
- Will be encouraged to take deep breaths to exercise your lungs and help prevent pneumonia
- Will have your temperature, pulse, and blood pressure checked after you arrive.
- Will have an IV in your arm to give you fluid and you will be allowed to drink fluids.
- Will have inflatable sleeves or boots placed on your legs to help prevent blood clots. These should be worn whenever you are in the hospital bed after surgery.
- May also receive a blood thinner shot in the abdomen to help prevent blood clots.
- Will resume your home medications (with the exception of some diabetes, blood pressure, and blood thinning medications).
- Will get up and out of bed to the chair on the next morning after your surgery, with help from the nurse.
- May still have a catheter in your bladder. The catheter will be removed once you are allowed to get out of bed. This is usually either the day of surgery or the day after your surgery.
- Will use your nasal spray every hour you are awake for 2 weeks.** (See following page for more information).
- Will use your Afrin nasal spray 2 times a day (every 12 hours) for 3 days or 6 doses.** After the 6<sup>th</sup> dose, you will throw this away as it can cause rebound congestion.

## Nasal Sprays and Rinses

### Nasal Sprays



- Your nasal sprays are very important. They keep the crusty build up out of your head which can lead to worsening headaches, congestion and/or infection.
- Please use them as directed for the entire time they are prescribed.
- You will begin using sterile saline nasal spray the day of surgery.  
You will use it every hour you are awake for 2 weeks.

### NeilMed® Sinus Rinse

- This may start the day after surgery or several days after surgery.
- The doctors will let you know when to start the Neil Med sinus rinse.
- You will use the rinse 3 times a day for 2 weeks and then 2 times a day for 3 months.
- Directions for use are listed in Section 3.



### Afrin Nasal Spray

- This will start the day of surgery.
- You will use this 2 times a day (every 12 hours) for 3 days or 6 doses.
- After the 6<sup>th</sup> dose, you will throw this away as it can cause rebound congestion.

Notes: \_\_\_\_\_

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## 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 little opioid medication as possible to control your pain. If you need stronger pain medication, it is OK. You should let your surgeon know if your pain is worsening and it is not relieved with any medication.

You will get several *non-opioid*, pain medications around-the-clock to keep you comfortable. These will include:

- ☑ **Tylenol (acetaminophen)** – to relieve pain and reduce fevers.
- ☑ **Advil or Motrin (ibuprofen)** - to 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).
- ☑ **Ketoralac**- to relieve pain. This will be given by mouth and by IV after your surgery (you will not take this if you have any renal (kidney) problems).

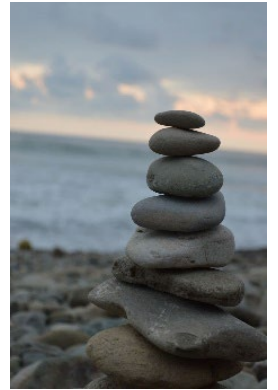
You may also have *opioid* pain medication as needed for additional pain.

- 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 (slow breathing).
- 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 have sleep apnea, no opioids will be prescribed due to the risk of respiratory depression (slow breathing).

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

Keeping you comfortable 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. If you need additional items or have any questions, please ask.



- Distraction:** focus your mind on an activity like creating art with our art supplies, doing puzzle books and reading magazines
- Ice Therapy:** ice packs are available.
- 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.



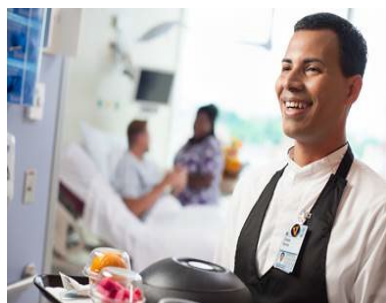
## **Bowel Management Plan:**

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 established a bowel management plan to prevent constipation. **We do not want you to strain for any reason after surgery.**

- You will be given a stool softener (**Colace and Senna**) and a laxative (**Miralax**) when you are in the hospital. As long as you are taking narcotics or are having any signs of constipation, you should continue the stool softeners.
- You can use Miralax or suppositories if you are constipated after discharge.
- If the stool softeners or Miralax do not help with your constipation after discharge, please call the pituitary office.

## **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, if your sodium level is normal.
- ☑ Most likely have your IV stopped.
- ☑ Be asked to get out of bed, get dressed, sit in chair, and walk the hallways, with help from nursing staff.
- ☑ Use Afrin nasal spray every 12 hours. (Remember this is only used for 3 days or 6 doses).
- ☑ Use sterile saline nasal spray every hour you are awake. This helps to decrease nasal crusting.
- ☑ Use NeilMed® Sinus Rinse (If your doctor tells you to use). Use the rinse 3 times a day for 2 weeks and then 2 times a day for 3 months. (Directions found in Section 3).
- ☑ Prepare for discharge.

You will be able to go home when you:

- ☑ Are comfortable and your pain is controlled.
- ☑ Are off all IV fluids and drinking enough to stay hydrated.
- ☑ Are not nauseated and able to tolerate medications by mouth.
- ☑ Do not have a fever.
- ☑ Have stable or normal hormone and sodium levels.



**REMEMBER: You will NOT be allowed to blow your nose for 6 weeks. You CAN wipe your nose, if needed. If you cough or sneeze, you MUST open your mouth.**

# Complications after surgery

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Due to the way we perform the surgery, the sensitivity of the pituitary gland, and the potential for opening of the membrane containing cerebrospinal fluid (CSF), sometimes there are things that may happen after surgery. These may include:

**Spinal Fluid leak:** This can occur during surgery and, if it does, will be repaired while you are still in the operating room.

- Spinal fluid looks like water.
- A lumbar drain is occasionally placed to help manage a cerebrospinal fluid (CSF) leak. An extra day or two may be required in the hospital if you experience a spinal fluid leak during the operation.
- Even though the CSF leak was repaired during surgery, you are still at risk of developing a CSF leak after surgery.
- Most often, the CSF leak is apparent within the first 48 hours after surgery and is fixed before you go home.
- Diagnosing and treating a CSF leak after surgery will prevent you from developing **meningitis**. This is a **serious** infection. Patients with meningitis often will have a stiff neck, fever, clear drainage from the nose, nausea or vomiting, changing or worsening headache, or worsening vision. If you are experiencing any of these symptoms, you should call the pituitary clinic during the week and the resident on call during nights, weekends, and holidays.

**Nosebleed:** If you have a nosebleed that is a trickle and lasts less than 5 minutes, this is normal. In very rare cases, patients can have a heavy, constant, bright red nose bleed. If this happens, go to your nearest Emergency Department and call us on the way, if possible.

**Sleep Apnea/ CPAP:** If you have sleep apnea and are on home CPAP, we will ask you **NOT** to use the CPAP for two weeks after surgery. We will also not send you home with any narcotics because they can decrease your ability to breathe. After two weeks you can resume using your CPAP.

**Sinus Infection:** If you are having **thick, green drainage** with facial pain and a fever, please call the nurse coordinator (during the week) or the neurosurgery resident on-call (on nights, weekends and holidays).

**Adrenal insufficiency:** This occurs when the pituitary gland cannot stimulate the adrenal glands to make cortisol (the body's natural steroid).



If your blood cortisol **level is too low** after your surgery, you will be sent home with hydrocortisone.

- You should take this 2x daily until the Monday evening before your Wednesday follow-up appointment at 2 months after surgery. You should take the hydrocortisone Monday morning but none after that until after your post-op visit on Wednesday. You should bring the hydrocortisone with you to the appointment so that if you are feeling bad, you can take it as soon as the labs are drawn (after the appointment).
- If you have a 'sick day' (nausea/ vomiting, fevers, etc.), you will need to double your regular dose of hydrocortisone.

If your cortisol **level is normal** after surgery:

- You will NOT need to take hydrocortisone.

If you become adrenally insufficient after you leave the hospital:

- You will need hydrocortisone replacement
- Symptoms of adrenal insufficiency include fatigue, headache, and nausea.
- If you are experiencing any of these symptoms, you should call the pituitary clinic during the week and the resident on call during nights, weekends, and holidays.

If you are a **Cushing's patient**:

- You will be on 40mg of hydrocortisone in the morning (first thing in the morning) and 20mg in the evening (between 5:00pm and 6:00 pm) for 3 weeks.
- After 3 weeks, you will be on 20mg in the morning and 10mg in the evening until 2 days before your post-op follow up appointment at which time you should hold the hydrocortisone. You should bring the bottle of hydrocortisone with you so that after the labs are drawn, you can take the hydrocortisone if you are feeling bad.



**If you have headaches; are lightheaded when standing; have nausea, stomach pains, severe fatigue, and/or are vomiting (flu-like symptoms) please call. This is a medical emergency. During the week, call the pituitary nurse coordinator at 434.982.3591. For nights, weekends and holidays, call 434.924.0000 and ask for the neurosurgery resident on-call.**

**Diabetes Insipidus:** this happens when the pituitary gland does not make enough anti-diuretic hormone. This hormone helps control your urination. Without enough of this hormone, you will urinate excessively, including at nights and have a great thirst.

- This is treated by giving you an anti-diuretic hormone replacement medicine called desmopressin or DDAVP.
- This does not usually delay hospital discharge.
- Please note – after your surgery, you will breathe through your mouth because of nasal congestion. This leads to a dry mouth, and as you drink more, you will urinate more as well. This does not mean that you have diabetes insipidus.



**Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH):** this happens when the pituitary gland releases too much anti-diuretic hormone which causes the sodium level in your blood to drop. This condition is serious and symptoms include feeling ill, headaches, feelings nauseated, and/or decreased appetite. **If you have any symptom of SIADH, please call Dawn, Cassie, or Karen during the day or the neurosurgery resident on call at 434.924.0000 for nights, holidays or weekends. This needs to be diagnosed and treated quickly.**

- This is treated with strict fluid restrictions.
- This can delay hospital discharge.
- SIADH usually happens 7-10 days after surgery but it can happen sooner.
- The post-op lab orders will be given at discharge. If you do not have the orders, please call Dawn at 434.982.3591 and she will fax the orders to the lab of your choice. The results will be faxed to Dawn, who will call you with any abnormal values.
- All patients should get a sodium level checked 7-10 days after surgery with results sent to the Pituitary Clinic. This can be checked at any local lab. Hospital outpatient labs are preferred.

## Discharge

Before you are discharged, you will be given:



- A copy of your discharge instructions.
- A list of any medications you may need.
- Prescriptions for any medications prescribed while you were admitted and for pain medication.
- Instructions on when to return to the pituitary clinic.  
Please write these in the boxes on page 6.
- The post-op lab orders

## Before you leave the hospital

- We will ask you to identify how you will get home.
- We will ask who will stay with you.
- 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:

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

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- Any special needs after your hospital stay:

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# After Discharge

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## When to Call

Complications do not happen very often, but it is important for you to know what to look for and who to call in case you start to feel bad.



**Red Zone:** Medical Emergency– **Call 911 or get to the nearest Emergency Department**

- Bright Red Blood gushing from your nose
- Unresponsive

**Yellow Zone:** Worsening Symptoms – during the week, call the pituitary nurse coordinator at 434.982.3591. For nights, weekends and holidays, call 434.924.0000 and ask for the neurosurgery resident on-call

- Temperature over 100.4 °F
- Clear dripping from your nose (constant like a faucet)
- Green or cloudy drainage from your nose
- Odor or bad taste
- No bowel movement in 3 days
- You are vomiting, nauseated or have diarrhea
- Decreased appetite
- You are feeling faint
- Severe fatigue
- You have a change in your mental status
- You are feeling weaker instead of stronger
- You have a changing or worsening headache
- You have visual changes such as double vision, blurred vision or loss of vision
- You have a stiff neck (unable to touch your chin to your chest without pain)



**Green Zone:** Symptoms are under control

- Mild constipation
- Blood tinged or yellowish drainage from your nose



If you any have trouble between 8am and 4:30pm, **please call the Pituitary Clinic at 434.982.3591**. After hours, please call the UVA Main Hospital at 434.924.0000 and ask for the neurosurgery resident on call.

## Fluid Measurement

Please take your plastic cup you used to measure fluid intake while in the hospital home with you to use for measuring your fluids at home.



If you **DID NOT** develop diabetes insipidus while you were in the hospital:

- You will go home on a fluid restriction.
- For 7 days after discharge, you should restrict your daily fluid intake to 1 liter (or 34 ounces) per 24 hour day. This includes all fluids (i.e. jello, ice, soup, etc.)

If you develop signs of diabetes insipidus (frequently urinating large amounts):

- Stop the fluid restriction
- Call the pituitary office or the Endocrine Fellow on call.

If you **DID** develop diabetes insipidus while you were in the hospital:

- Often times, this will resolve while you are in the hospital.
- If not, you will go home on desmopressin.
- You should NOT follow the 1 Liter/day fluid restriction.

**DO NOT TAKE DESMOPRESSIN UNLESS INSTRUCTED BY THE PITUITARY CLINIC.**

## Infection

- Signs of infection are listed in the **Yellow Zone** on page 28.
- If you have a fever over 100.4°F you need to call the Pituitary Clinic at 434.982.3591. They will assess you and give you instructions.

## Dry Mouth

- Biotène® Dry Mouth Oral Rinse helps to manage dry mouth symptoms.
- You can use Biotène® Dry Mouth Oral Rinse up to 5 times a day.

### **Directions:**

1. Use one tablespoon of Biotène® Dry Mouth Oral Rinse
  2. Rinse for 30 seconds
  3. Spit out
- Sour candy or gum also helps to stimulate saliva production.



## Pain

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

If you have no renal (kidney) problems, you may be given ketorolac for pain. **You CANNOT take ibuprofen, Advil, or other NSAIDS with ketorolac.**

Additionally, we may send you home with a prescription for 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 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. 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 an opioid medication 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 well controlled by other medications like NSAIDs (ex: ibuprofen and Tylenol).



Taking opioids may not provide good pain relief over a long time and sometimes opioids can cause your pain to get worse. Opioids can 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.

## Remember to Use Your Nasal Saline Rinses (Irrigations)

### Nasal Sprays

- ☑ Your nasal sprays are very important.
- ☑ They keep the crusty build up out of your head, which can lead to worsening headaches, congestion and/or infection.
- ☑ Please use them as directed for the entire time they are prescribed.
- ☑ You will begin using sterile saline nasal spray the day of surgery.
- ☑ You will use it every hour you are awake for 2 weeks.



### Afrin nasal spray



- ☑ This will start the day of surgery.
- ☑ You will use this 2 times a day (every 12 hours) for 3 days or 6 doses.
- ☑ After the 6<sup>th</sup> dose, you will throw this away as it can cause rebound congestion.

### NeilMed® Sinus Rinse

- ☑ This may start the day after surgery or several days after surgery.
- ☑ The doctors will let you know when to start the Neil Med sinus rinse.
- ☑ You will use the rinse 3 times a day for 2 weeks and then 2 times a day for 3 months.



Notes: \_\_\_\_\_

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## Directions for NeilMed® Sinus Rinse

1. Please wash your hands before handling the bottle.
2. Fill your NeilMed® rinse bottle with 8oz of warm water.  
**KEY: The water you use is important.** Please use sterile or distilled water. You can also boil your home water for 5 minutes and then let it cool to body temperature. Cooling the water to room temperature is critical. Please do not use tap or faucet water when using NeilMed® nasal wash devices unless it has been boiled and cooled down to room temperature. See below for further instructions.
3. Add NeilMed® packet to rinse. If you prefer to make your own salt solution, the recipe should be:  $\frac{1}{4}$  tsp of kosher or sea salt,  $\frac{1}{4}$  tsp baking soda and 8oz of water.
4. Tighten the cap on the bottle securely. Place one finger over the tip of the cap and shake the bottle gently to dissolve the mixture.
5. Standing in front of a sink, bend forward and tilt your head down. Keeping your mouth open without holding your breath, put the cap against your nasal passage. Squeeze the bottle gently until  $\frac{1}{2}$  (120mL) of the bottle is used. Expect that solution will drain from the opposite nasal passage or from your mouth. Try not to swallow the salt solution. Some people find it easier to do this while in the shower.
6. Repeat for other nasal cavity (120mL).
7. Following your rinse, tilt your head to the side and forward. Remember that your cheek sinuses are like bowls, so by tilting to the side and forward, residual solution may flow out of that sinus. Repeat for other side. If any solution has reached the back of your throat, it is safe to spit this out. Sometimes, it's helpful to wait 15-20 minutes to do this a second time to clear everything out.
8. Use the NeilMed® Sinus Rinse 3 times per day for 2 weeks and then 2 times per day for 3 months. This is in addition to your saline nasal spray.
9. If you have been prescribed a nasal steroid, use it 30 minutes after your saline sinus rinse is completed.



\*If you develop pain in your ears from rinsing, this usually means that you are rinsing too forcefully and should squeeze the bottle more gently, or apply a lighter, pulsating force.

\*Do not be alarmed if excess rinse drains from your nose later on after rinsing (from 15 minutes to 2 or more hours).

## **Cleaning Directions (recommended after each use of the product):**

1. Rinse the cap, tube and bottle using running water. Fill the bottle with previously boiled, distilled or drinkable water.
2. Add a few drops of dishwashing liquid or baby shampoo.
3. Attach the cap and tube to the bottle; hold your finger over the opening in the cap and shake the bottle vigorously.
4. Then squeeze the bottle hard to allow the soapy solution to clean the interior of the tube and the cap and empty out the bottle completely.
5. Using a bottle and nipple brush, scrub the bottle, cap and tube thoroughly. (Available at general merchandise or baby supply stores.)
6. Rinse the soap from the bottle, cap and tube thoroughly, and place the items on a clean paper towel to dry.



## **How to take care of your nasal bottle:**

It is important to **STERILIZE** your rinse bottle at least 3 times per week. Sterilizing your bottle helps to prevent bacteria from growing inside of it which can cause an infection or congestion.

- To **STERILIZE** your bottle, either microwave your bottle for 2 minutes or wash it in the dishwasher on the top shelf.
- Look at the bottle and tube regularly for any cracks or changes in color.
- If there are any signs of deterioration or permanent color changes, please clean thoroughly.
- If the color changes remain after cleaning, discard the items and purchase new ones.



You only need to replace your rinse bottle if it gets damaged or if you develop a sinus infection. New rinse bottles and boxes of additional salt packets are available over-the-counter in the sinus and allergy section at most local grocery stores and pharmacies. Supplies can also be purchased online.

## Hobbies and Activities

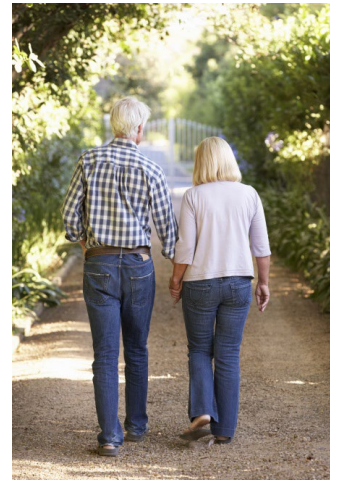
Walking is encouraged from the day following your surgery. Start slowly and give your muscles time to warm up before starting any activity. Remember to use caution as you resume your previous activities for 6 weeks.

You CAN:

- Walk three or four times daily
- Take a shower and put your head under the stream of water.
- Use the saline nasal spray and Neil Med sinus rinse as directed.

You CANNOT:

- Run, ride bikes, lift weights or anything that will put pressure on your head while you are recovering from surgery.
- Blow your nose for 6 weeks. Wiping is ok. *If you need to cough or sneeze, open your mouth so that the pressure goes out.*
- Lift more than 10 pounds for 2 weeks after surgery and nothing more than 25 pounds for 4 additional weeks.
- Submerge your head for 8 weeks (i.e. swimming, bath).



## Work

You should be able to return to work 4–6 weeks after your surgery. You will have lifting and bending restrictions for 6 weeks. If you need a “Return to Work” form for your employer or disability papers, ask your employer to fax them to our office at 434.924.5894.

## Driving

You should not drive for at least 2 weeks after surgery and not until you are off pain medications. You can ride in a car after surgery. If you had vision problems before surgery, make sure your vision is checked before you drive. Follow up with your optometrist or ophthalmologist.



## Follow-up appointments

Please refer to the appointment page located in section 1 of this handbook and your checklist.

## Nasopharyngeal Swabs

- Please be aware that we ask that following your transsphenoidal surgery that you **DO NOT** obtain NASOPHARYNGEAL (through the nose) testing for COVID 19.
- Always reach out to us if you are being asked to have any testing through your nose as we can let you know if this is safe. This is important because there is a risk of injuring your surgery site.
- You may obtain oral testing (swab of the throat) for COVID 19 instead.
- Please reach out to our office if you have any questions or concerns or if you ever require documentation for this request.



It is very important to remember, after this surgery, you should **NOT** have any nasal swabs done for testing. You should have oral testing, if needed, after this surgery.

Write any questions you have here:

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## Pituitary 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.

	Actions	Check when complete
Actions	<p>Plan for your care after hospital discharge.</p> <p>If possible, identify someone to stay with you the first week after discharge to help take care of you. You cannot drive for 2 weeks after your surgery. You will need someone to drive you to the lab 7-10 days after surgery.</p>	
Medications	<p>Make an updated list of your medications. Include all prescriptions, over the counter medications and supplements including herbals.</p>	
2 weeks prior to surgery	Actions	Check when complete
Actions	<p>You will go to the Pre-Anesthesia Evaluation and Testing Center (PETC) in the main hospital. Further testing and any lab work may be done at this time.</p>	
Medications	<p><b>Stop</b> taking any vitamins, supplements, and herbs 2 weeks before your surgery including Vitamin E, fish oil, flaxseed, and OTC supplements. See list in <b>section 1</b> of your handbook.</p>	
Medications	<p>If you are on any blood thinner medications, follow any specific instructions that your nurse gave you regarding <b>if</b> and <b>when</b> to stop taking them before your surgery. If you have any questions, call your surgeon's office.</p>	

Week prior to surgery	Actions	Check when complete
Actions	Pack your hospital bag.	
Actions	Prepare your home: place things in easy to reach places, clean bed linens, and buy foods that you can prepare after surgery, etc.	
Medications	<b>Stop</b> taking ibuprofen (Motrin® or Advil®), naproxen (Aleve®) and aspirin-containing medications 1 week before surgery. Tylenol is safe to use.	
Medications	Starting <b>three days before surgery</b> , take a dose of <b>Miralax</b> to help regulate your bowels. This is easiest taken in the late afternoon or early evening.	<input type="checkbox"/> Day 3 before <input type="checkbox"/> Day 2 before <input type="checkbox"/> Day 1 before
Actions	Purchase the following items to have at home. <ul style="list-style-type: none"> <li><input type="checkbox"/> Tylenol (acetaminophen) 325mg tablets (for pain)</li> <li><input type="checkbox"/> Advil/ Motrin (Ibuprofen) 200 mg tablets (for pain)</li> <li><input type="checkbox"/> Miralax (polyethylene glycol) powder (for constipation)</li> <li><input type="checkbox"/> Colace (docusate sodium) 100mg tablets (stool softener)</li> <li><input type="checkbox"/> NeilMed Sinus Rinse (bring this with you to the hospital)</li> <li><input type="checkbox"/> Biotene Mouth Rinse (for after surgery)</li> </ul>	

Morning of Surgery	Action	Check when complete
Medications	Take any medication you were instructed to take the morning of surgery.	
Diet	<p>Do not eat the morning of surgery. Continue drinking clear liquids such as water, apple juice and Gatorade™ as directed by the phone call nurse.</p> <p>Drink your Gatorade™ before check in, then nothing more to drink. If you are diabetic, you may drink Gatorade™ G2 or Gatorade™ ZERO.</p>	
Actions	Bring your NeilMed® Sinus Rinse	
Actions	Bring your blood band with you, if you were given one.	
Actions	Bring an updated <u>list</u> of your medications. Do not bring your medications.	
Actions	Bring this ERAS handbook and this checklist in to the hospital with you when you check in for surgery.	

After Surgery	Action	Check when complete
Mobilize	<p>You will get out of bed with assistance from nursing staff usually the day after surgery.</p> <p>You will also get out of bed and sit in the chair for meals.</p>	
Pain management	<p>Discuss with nurse what will be used to manage post-operative pain.</p>	
Diet	<p>You may have a regular diet as tolerated.</p>	
Nasal Management	<p><b>Nasal Sprays</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Your nasal sprays are very important. They keep the crusty build up out of your head which can lead to worsening headaches, congestion and/or infection.</li> <li><input checked="" type="checkbox"/> Please use them as directed for the entire time they are prescribed.</li> <li><input checked="" type="checkbox"/> <u>You will begin using saline nasal spray the day of surgery.</u></li> <li><input checked="" type="checkbox"/> <b>You will use it every hour you are awake for 2 weeks.</b></li> </ul> <p><b>NeilMed® Sinus Rinse</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> This may start the day after surgery or several days after surgery. <u>The doctors will let you know when to start the NeilMed® sinus rinse.</u></li> <li><input checked="" type="checkbox"/> <b>You will use the rinse 3 times a day for 2 weeks and then 2 times a day for 3 months.</b></li> </ul> <p><b>Afrin® Nasal Spray</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <u>This will start the day of surgery.</u></li> <li><input checked="" type="checkbox"/> <b>You will use this 2 times a day (every 12 hours) for 3 days or 6 doses.</b></li> <li><input checked="" type="checkbox"/> After the 6<sup>th</sup> dose, you will throw this away as it can cause rebound congestion.</li> </ul>	

Post-operative Day 1	Action	Check when complete
Mobilize	You will get out of bed with assistance and walk to the bathroom or in the hallway with nursing staff.	
Infection/ complication prevention	Identify signs and symptoms of infection and complications. Demonstrate knowledge of appropriate actions to take.	
Pain Management	Pain well-controlled on oral pain medications. Describe pain management plan for discharge.	
Nasal Management	<input checked="" type="checkbox"/> Use Afrin® nasal spray every 12 hours. (Remember only use for <b>3 days</b> ). <input checked="" type="checkbox"/> Use saline nasal spray every hour you are awake. This helps to decrease nasal crusting. <input checked="" type="checkbox"/> Understand how and when to use Neilmed® rinse (See section 5 in the handbook)	
Diet	Continue regular diet as tolerated. Will be encouraged to drink, if your sodium level is normal.	
Bowel Management	We do not want you to strain for any reason after surgery. You will be given a stool softener ( <b>Colace and Senna</b> ) and a laxative ( <b>Miralax</b> ) when you are in the hospital. As long as you are taking narcotics or are having any signs of constipation, you should continue the stool softeners.	

Discharge	Action	Check When Complete
Actions	Your care partner and responsible ride home will need to be at the hospital by 9AM the morning of your discharge. It is important that they are here to listen to discharge instructions and learn how to safely care for you at home. We aim to discharge by noon.	
Discharge Instructions	Verbalize understanding of signs and symptoms of a potential complication and what actions to take in the event of a complication.	
Discharge Instructions	Remember, you will NOT be allowed to blow your nose for 6 weeks. You CAN wipe your nose, if needed.  You MUST sneeze or cough with your mouth open.	
Discharge Instructions	Instructions on when to return to the pituitary clinic. Please refer to the appointment pages in the first section of you handbook.	
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.	
Nasal management	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>Nasal Sprays- You will use it every hour you are awake for 2 weeks.</b></li> <li><input checked="" type="checkbox"/> Use <b>Afrin®</b> nasal spray every 12 hours. (Remember only use for <b>3 days</b>).</li> <li><input checked="" type="checkbox"/> Understand when and how to use <b>NeilMed®</b>.<u>This may start the day after surgery or several days after surgery.</u> The doctors will let you know when to start the Neil Med sinus rinse.</li> <li><input checked="" type="checkbox"/> <b>You will use the rinse 3 times a day for 2 weeks and then 2 times a day for 3 months.</b></li> <li><input checked="" type="checkbox"/> See Section 5 for directions</li> </ul>	

Follow-up appointments	Action	Check When Complete
Actions	We will set up a follow-up appointment for you where we will do a new MRI test, full blood work, and a visit with both the endocrinologist and the neurosurgeon all on the same day.	
Results	The results of your post-operative <b>MRI</b> will be discussed with you. Your endocrinologist will follow-up with you to discuss the results of your blood work and any changes in medications if needed.	
ENT	You may need to see the ENT <b>before your 8 week</b> follow up appointments and will be given that appointment at discharge.	
Hydrocortisone	<input checked="" type="checkbox"/> <b>If you were started on hydrocortisone during your hospital stay, DO NOT take any for 48 hours before your follow-up appointment and none the morning of the appointment.</b> <input checked="" type="checkbox"/> Bring the medication with you to the appointment and we will check your cortisol without the hydrocortisone in your system to see if you can stop taking this medicine. <input checked="" type="checkbox"/> Please call your endocrinologist with any questions.	
Hydrocortisone	If you were <b>taking hydrocortisone before surgery</b> , you may not need to stop taking your hydrocortisone before your follow up appointment. We will discuss this with you after your surgery.	
Vision	<input checked="" type="checkbox"/> <b>If you had visual problems</b> before surgery, please see your ophthalmologist <b>1 to 2 weeks</b> before your return to our clinic to have formal visual field testing completed. <input checked="" type="checkbox"/> Bring these results with you to your appointment or have them faxed to our office at 434.924.5894.	