

Surgical Movement Disorders Program at Tri-State Neurosurgery

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ANSWERS TO YOUR QUESTIONS ABOUT SURGERY FOR PARKINSON'S DISEASE, ESSENTIAL TREMOR, OR DYSTONIA

This is an information sheet to help prepare you for your upcoming surgeries. As you read it, underline it or mark where questions come to mind. Then write your questions down so that should you need to call us, important aspects are not overlooked. If you have questions or concerns, please feel free to call the Surgical Movement Disorders Clinic at Tri-State Neurosurgery.

Before Admission to Hospital

Before your surgery, please notify us with ANY changes in your health. Examples of what to report: infections of any kind, toothaches, chest pain, shortness of breath, and/or cold/flu/viral symptoms. You may need to obtain medical, and possibly cardiac, clearance from your primary and/or heart doctor prior to surgery. This means that you may be asked to provide us with a note from your primary and/or heart doctor that states you are healthy enough to undergo surgery.

Stop taking aspirin, vitamin E, herbal supplements, and non-steroidal anti-inflammatory drugs (such as motrin, advil, ibuprofen, naproxen, indomethacin, etodolac, diclofenac, celecoxib) **10 days** before each surgery. Tylenol or acetaminophen products are safe to take up until your surgery.

Stop the Parkinson's medications Azilect (rasagiline) and Eldepryl (selegiline) **10 days** before each surgery.

If you are taking Coumadin (warfarin), Pradaxa (dabigatran), Plavix (clopidogrel), or Effient (prasugrel), please discuss with your cardiologist if it is safe to stop these medications 1 week before surgery and 1 week after surgery. If you are unable to stop Coumadin or another blood thinner medication, you will be unable to have open surgery.

You may take your routine medicine (e.g. blood pressure, thyroid, mood), including your Parkinson's or tremor medications, with a sip of water on the morning of surgery. If you are a diabetic, please discuss during the Pre-op Visit with Anesthesia Team (see below) or with your primary care doctor regarding how to manage your diabetic medications

around surgery. Do not take the diabetes medication metformin for 24 hours before surgery.

Before each surgery, scrub the anticipated incisional sites with the hibiclens soap e.g. scalp, behind ears, and upper chest. Avoid getting this soap in the eyes or ears. Make sure to take a shower or a bath on the evenings before both surgeries.

You may not eat or drink anything after midnight before the first or the second surgery. This includes no gum, hard candy, or mints.

Please prepare and bring a list of your usual medications and copies of any new medical records/tests to your Pre-op Appointment with the Anesthesia Team (see below) and on the morning of surgery. It is best to also bring one week worth of medications with you when you come for surgery. If there are unexpected events during travel, having your own medications will avoid potential problems.

Preoperative Work-up and Hospital Admission

During your Pre-op Appointment with the Anesthesia Team, you will have the usual testing, such as EKG's, chest x-rays, and lab work and an Anesthesiologist or Anesthesia Nurse will evaluate your risk for anesthesia. The week before your first surgery you will also meet with your surgeon to ask any questions and go over what to expect during and after surgery; you will also sign surgical consent at this visit.

You will need to arrive at _____ AM at Willis-Knighton North Day Surgery area on _____ for your first surgery.

You will need to arrive at _____ AM at Willis-Knighton North Day Surgery area on _____ for your second surgery.

Day of First Surgery

You will meet the surgery and the anesthesia team between 6 and 7 AM on the morning of the procedure in the Day Surgery area. A nurse will typically start an IV for medications and fluids. The surgeon will ensure that all of your last minute questions are answered and that all of your paperwork is complete. You may receive light sedation and have an arterial line placed into your wrist to help monitor your blood pressure.

You will be taken down to our sterile MRI suite where you will be put under general anesthesia. More sedation will be given and a breathing tube will be inserted so you can sleep through the entire procedure from the beginning until the end. You will be moved onto a special MRI table that is padded to protect the bony areas of your body. You will then be moved into the MRI machine where your surgery will take place under the surgeon's guidance. Continuous live images will be taken of your head that allows us to place your brain pacemaker leads accurately and safely into the deep areas of the

brain. Once surgery is complete, the skin will be sutured and your head will be wrapped in a clean bandage. A final MRI scan will be done to ensure that the pacemaker leads are in the correct position and that no strokes or other complications have occurred. You are then taken out of the MRI machine and will have your breathing tube removed before being taken to the recovery room.

Nurses will monitor your neurological exam and your vitals carefully in the recovery room for an hour or so. When you are awake and adequately recovered from anesthesia, you will be moved to a private hospital room on 2 West where you can receive family members and friends at your leisure. Surgery usually takes **4 to 6 hours** depending on the type of surgery and your disease process. Your family will be updated over the phone by our nursing staff throughout the procedure and will meet with the surgeon after the surgery is complete for an update.

Postoperative Care

Initially, your nurse will frequently check your neurological status and your vital signs. Your IV will remain in place until you are eating well and after three doses of IV antibiotics. Medication will be available if you are nauseated or have pain. You will need to let the nurses know if you need medication for pain or sleep.

The first morning after surgery your bladder catheter will be removed, and you should feel well enough to get out of bed and walk around your room. You will have a bandage on your head that should be left in place for **five days** after your first surgery and should be kept DRY, although you may sponge bathe the rest of your body.

Wound Care after First Surgery

Your head incisions will be closed with stitches that are under the skin and blue sutures that are on top of the skin. The neurosurgeon/PA/NP will remove your blue sutures approximately 1 to 2 weeks after your first surgery when you come back for your second surgery, or at your first clinic visit.

You should monitor the incisions for redness, drainage or liquid coming from any incision, or signs of infection. If you have a fever over 101.5 degrees, or concerns about your incision, please call us at (318)-212-8176. It is fine to wear a hat or scarf until your hair grows back, however, keep your head uncovered at night and avoid excessive sweating or moisture over your incisions.

Discharge From the Hospital

You should be ready to leave the hospital 1 to 3 days after the first surgery. Most patients do not need pain medication by 2 to 5 days after the procedure. Someone else should drive you home from the hospital.

We recommend that you **do not drive for a full month after brain surgery**. Though you feel it may be fine to do so, on rare occasions, some people have unexpected, delayed

side effects that can seriously interfere with driving. We also recommend that someone stay with you at your home, particularly during the night, for the first week after your brain surgery. This precaution helps prevent falls and injuries, which can occur when patients feel slightly unsteady for a few days after brain surgery.

Day of Second Surgery

Your second surgery will be 1 to 2 weeks after your first surgery. During this second surgery, the neurosurgeon will implant the extension wire and the battery into your neck and chest so that the brain lead can receive power. For this procedure, you are given a general anesthetic. You will **not be admitted** for this second surgery. Instead you will be allowed to go home afterwards on the same day because this surgery is very short, only about **1 to 2 hours**. Someone else will need to drive you home.

Wound Care after Second Surgery

All of your incisions will again be covered with bandages that should be kept in place for **five days**. All of your incisions should be kept DRY during this time period, though you may sponge bathe the rest of your body. In addition to the old head incision, you will have one new ~1 inch incision behind your ear with blue sutures over the skin and one new ~3 inch incision below your collarbone on your upper chest covered with a purplish mesh/glue called Dermabond. You may remove your outer bandages after one week and wash and gently pat your incisions dry using your usual shampoo and/or soap. You may then leave your incisions uncovered. You should wear loose fitting clothing, and avoid tight straps on your chest incision(s) while it is healing.

The sutures behind your ear will be removed at your next clinic visit by the neurosurgeon/PA/NP. The Dermabond on your chest will slowly degrade and peel off over 4-6 weeks. Do NOT forcibly peel the Dermabond mesh off the chest because this can lead to infection.

Do not undertake physical activity that causes a lot of movement of your upper arms to avoid moving the newly implanted battery pack. Allow a *full month* to let the new battery heal and 'scar into place.' Unfortunately some patients have returned home and played golf, planted a new garden, etc and caused movement in their upper chest region and then developed an infection at this site.

Follow – Up

You will follow-up with us about 2-4 weeks after your second surgery to have your DBS device turned on by our neurosurgeon, neurologist and/or our Movement Disorders PA/NP. You will then follow-up with our neurosurgeon and our neurologist 4 weeks after that for another post-surgery check-up and possibly more DBS programming. Below is a chart explaining when each event happens, in general:



SMDC Movement Disorders
Instructions for Chlorhexidine Hibiclens
Wash before Surgery

1. If have liquid, use ¼ cup liquid Chlorhexidine and apply to wash cloth
2. If have scrub brush, open package and use the brush
3. Wash body parts (expected surgical incisional sites): Scalp, neck, and chest
4. Use back and forth gentle motion
5. Avoid contact with eyes, ears, nose, and mouth
6. Rinse thoroughly with water
7. Wash once per day (either morning or evening)
8. Use for 1 day before surgery

Patient: _____

Start: _____

Tri-State Neurosurgery SMDC-PREOP CHECKLIST

Things to do before your surgery

- Stop, or cut down, on tobacco use (smoking) as much as you can
- Stop any recreational drugs (marijuana)
- Stop taking Azilect and Eldepryl **10 days before surgery**
- Stop taking NSAIDS **10 days before surgery**
 - Advil (Ibuprofen)
 - Aleve (Naproxen)
 - Midol (Ibuprofen)
 - Motrin (Ibuprofen)
 - Naprosyn (Naproxen)
 - Voltaren (Diclofenac)
- Stop taking Aspirin/Aspirin-containing drugs **10 days before surgery**
 - Aspirin
 - Alka-Seltzer
 - Bayer
 - Excedrin
 - Fiorinal
 - Pepto-Bismol
 - Talwin
- Stop taking herbal supplements **10 days before surgery**
 - Omega-3 Fatty Acids (Fish Oil)
 - Licorice
 - Ginseng
 - Glucosamine-Chondrotin
 - St. John's wort
 - Creatine
 - Vitamin E
- Stop taking blood thinners **7 days before surgery**
 - Aggrenox
 - Plavix
 - Pradaxa
- Stop taking Coumadin (Warfarin) **7 days before surgery**

- You may need to substitute Lovenox injections for Coumadin during these days depending on what your cardiologist or other specialist recommends. *Stop ALL Lovenox injections at least 12 hours before your surgery time.*
 - Take the following medications until the day before surgery but **NOT on the day of the surgery**
 - Ace Inhibitors (Blood pressure medication)
 - Benazepril (Lotensin)
 - Ramipril (Altace)
 - Enalapril (Vasotec, Renitec)
 - Lisinopril (Zestril)
 - Angiotensin Receptor Blockers (Blood pressure medication)
 - Olmesartan (Benicar)
 - Valsartan (Diovan)
 - Losartan (Cozaar)
 - Diuretics (Water pill)
 - Acetazolamide (Diamox)
 - Chlorthalidone (Thalitone)
 - Hydrochlorothiazide (HCTZ)
 - Furosemide (Lasix)
 - Stop taking the diabetes medication Metformin **24 hours before surgery**
 - Follow your primary care doctor's instructions for all other diabetes medications before and after surgery
 - You MAY take your Parkinson's, dystonia, or tremor medications up until the morning of surgery itself
 - Do not eat or drink anything, except small sips of water with medications, **after midnight before your surgery**
 - Scrub the anticipated surgical sites with hibiclens soap during a shower or bath the evening before surgery
 - Bring a complete list of your medications with you on the morning of surgery
 - Go to Willis-Knighton North Day Surgery on the day of your preoperative appointment, register with the nurse, and obtain bloodwork, chest xray, and EKG as indicated
 - Obtain **medical clearance** from your primary care doctor and bring doctor's note to your preoperative appointment, or with you on the day of surgery
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