

# **Patient Surgical Packet**

## **Cranial Surgery**



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## General Overview

### Common Terms You May Hear

- **Brain** – The organ that controls your body, thoughts, and movement
- **Skull** – The bone that protects your brain
- **Craniotomy** – A surgery where a small part of the skull is temporarily removed to reach the brain
- **Lesion** – An abnormal area in the brain (can be a tumor, bleeding, or damaged tissue)
- **Tumor** – An abnormal growth of cells
- **Hemorrhage** – Bleeding in or around the brain
- **Aneurysm** – A weak or bulging area in a blood vessel
- **Edema** – Swelling
- **Biopsy** – Taking a small piece of tissue to study it
- **Incision** – A cut made during surgery
- **Sutures/Staples** – Used to close the skin after surgery

### Why Is a Craniotomy Done?

A craniotomy may be needed to treat or diagnose conditions affecting the brain, such as:

- Brain tumors
- Bleeding in the brain (hemorrhage or hematoma)
- Brain injury (trauma)
- Blood vessel problems (like aneurysms or AVMs)
- Brain infections
- Swelling / pressure that needs to be relieved
- Seizure disorders (in some cases)

### What Happens During a Craniotomy?

- You will be asleep under anesthesia
- The surgeon makes an incision in the scalp
- A small section of the skull is carefully removed
- The surgeon treats the problem (removes tumor, stops bleeding, repairs vessels, etc.)
- The bone is often placed back and secured
- The skin is closed with stitches or staples

Surgery length depends on the condition being treated.

# Pre-operative Instructions

## Medications considerations

- **NSAIDs**
  - Ibuprofen, Aleve, Naprosyn, Advil, Celebrex, meloxicam, etc.
  - Can inhibit bone fusion
  - **STOP taking 5 days prior to surgery.**
- **Antiplatelet medications**
  - Aspirin, Plavix, and others
  - Can increase your bleeding risk
  - Please discuss with your prescribing doctor whether it is safe to stop this medication.
  - **STOP 5-7 days before surgery.**
- **Anticoagulation medications**
  - Traditional anticoagulation (Coumadin, Lovenox, Heparin)
  - Novel oral anticoagulants (apixaban, dabigatran, rivaroxaban, and edoxaban)
  - Please discuss with your prescribing doctor whether it is safe to stop this medication.
  - **STOP 5 days before surgery.**
- **Injectable medications**
  - Such as Ozempic, Mounjaro and Trulicity
  - **STOP 7 days prior to surgery**

## Medical history considerations

- **Clearances:** We require a surgical clearance from every specialist you see (example - cardiology, pulmonology, etc.)
  - Our office will fax a clearance form
  - If needed, please make pre-operative surgical clearance appointments
  - Complete all clearances **5 days before surgery**
- **Preop testing**
  - Mercy South surgery
    - You will need a separate appointment with pre-anesthesia department
    - **Call 314-525-4302 option 1**
    - Appt scheduled 1-2 weeks before surgery.
    - You will get lab draws and EKG there if needed (no fasting)
  - Surgery center surgery
    - Get labs at outpatient lab as convenient (no fasting)
    - Surgery center nurses review your care before surgery
  - Complete all preop testing **5 days before surgery**

## Scheduling and work release

- **Surgical location**
  - Dr. Sylvester operates at 3 locations:
    - **Mercy South Hospital:** 10010 Kennerly Rd, St. Louis, MO 63128

- *John K. Pruellage heart and Vascular Center Entrance*
  - **Ambulatory Surgical Center of Sunset Hills:** 4594 S Lindbergh Blvd, St. Louis, MO 63127
  - **St. Lukes Hospital in Chesterfield:** 232 S Woods Mill Rd, Chesterfield, MO 63017
    - *Main entrance, 2nd floor same day surgery*
  - The location of your surgery will be discussed on scheduling
- **Surgical scheduling**
  - **Most insurance authorization takes about 15 days to complete**
  - We can schedule your surgery now, but cannot guarantee insurance approval, which may result in rescheduling.
- **FMLA and short term disability**
  - Our office will complete FMLA and short-term disability paperwork for you and your family assisting you with recovery.
    - **Please allow 7-10 days to complete**
    - Forms date from Date of Surgery
  - See post-op instructions for post-op work and activity recommendations specific to your surgery

# **Day of surgery instructions**

## **Fasting**

- No food or drink past MIDNIGHT, the night PRIOR to your surgery (including gum, candy, or mints).
- Exceptions: Sip water only to take approved morning medications, see below.

## **Medications:**

- Take these with a small sip of water:
  - Blood pressure/heart medications.
  - Anti-seizure medications.
  - See pre-operative instructions for medication to hold

## **Hygiene:**

- Shower with chlorhexidine soap (if provided) the night before and morning of surgery.
- Do not apply lotions, perfumes, or makeup.

## **What to Bring:**

- Family / friend if planning outpatient surgery—you will need a driver (No ride shares, ubers, Lyfts, or Taxis)
- Photo ID, insurance card
- Comfortable, loose-fitting clothing (e.g., sweatpants, slip-on shoes).
- List of medications/allergies.
- If you have a bipap/cpap machine bring that as well

## **Meet the OR team**

- Anesthesia
  - They will explain the anesthesia plan
  - They may give you a relaxing medication to make you more comfortable
- Nurses from the OR
  - They will ensure you are well cared for before, during, and after your surgery
- Dr. Sylvester
  - Will see you the morning of surgery
  - Please make sure all of your questions are answered prior to rolling to the OR

## Risks of surgery

All surgeries have at least some degree of risk. Dr. Sylvester believes that the benefits of your surgery outweigh the potential risks. Some of the possible complications specific to the performance of a cranial surgery include:

### General risks

- **Anesthesia / endotracheal intubation:** Low risk, but increased if you are elderly, frail, or have serious comorbid medical conditions. Cardiac, pulmonary, respiratory complications are rare.
- **Infection:** Low risk, but increased if you are overweight, immunosuppressed, on chronic steroids, diabetic, or have had prior infections. The brain does not tolerate infection well, can be difficult to treat, and may require revision surgery.
- **Bleeding:** Low risk. Postoperative bleeding: Low risk, but can cause mass effect on the normal brain tissue, which may require surgical evacuation
- **Urinary retention:** Moderate risk, may require intermittent catheterization or temporary foley placement. Increased risk in males > 50 years old, prostate cancer, enlarged prostate, prior urinary retention.

### Risks related to anatomy

- **Neurologic deficit:** Motor weakness, sensory loss, speech/language problems, visual changes. Risk increases with surgery near **eloquent cortex** (motor strip, Broca's/Wernicke's area, optic pathways), cranial nerves, or large blood vessels (stroke).
- **Seizures:** Surgery can irritate cortex, especially with cortical entry or surgery near epileptogenic areas
- **CSF Leak / Hydrocephalus:** Dural tears can lead to **CSF rhinorrhea or pseudomeningocele**. Some tumors (e.g., near ventricles or posterior fossa) may lead to **obstructive hydrocephalus**
- **Cognitive or Behavioral Changes:** Especially with frontal or temporal lobe surgeries. May be temporary or permanent
- **Vascular injury:** Injury to arteries or veins (e.g., MCA, venous sinuses) can cause stroke or fatal bleeding.
- **Brain swelling / edema:** Postoperative cerebral edema can lead to herniation or delayed deficits. May require return to OR.
- **Death:** An uncommon complication, very low in elective brain surgery.. Higher risk in complex or emergent cases.

### Techniques to mitigate risk

- **Intraoperative neuronavigation:** Also called Stealth. "GPS" system for the brain
- **Awake craniotomy:** could be used for tumors near speech or motor areas
- **Intraoperative neuromonitoring:** SSEPs, MEPs, cranial nerve monitoring, language mapping.

# Post-operative instructions

## Inpatient care

- ICU care
  - Nurses will check a neurologic exam every hour for 6 hours, then every 2 hours overnight, then every 4 hours.
  - Neurologic changes = head CT, the principal concern is bleeding.
  - Typically, transferred to the floor on post-op day 1
- Hospital floor
  - You will see physical and occupation therapy to assess your inpatient / outpatient needs
  - A brain MRI with and without contrast may be obtained to assess surgical result
- Discharge
  - Most patients will spend 2-3 days in the hospital
  - If rehab or skilled nursing are recommended, hospital stays may longer

## Discharge medication

- **Steroids (e.g., dexamethasone):** Used to reduce brain swelling; taper per instructions, take with PPI. Can have side effects including dizziness, appetite changes, emotional changes, heartburn, constipation, insomnia, and fluid retention.
- **Anti-seizure medications:** Often prescribed temporarily or long-term, depending on tumor type and location.
- **Pain medication:** Narcotics often not needed on discharge. Avoid NSAIDs for 1 week. Avoid aspirin for 4 weeks
- **Stool softeners:** Constipation common due to anesthesia, inactivity and prescription pain medication. Take an over the counter stool softener initially to reduce the risk of constipation. If constipation occurs, there are several options for management including Milk of Magnesia, rectal suppositories, Magnesium citrate, enemas, etc.

## Activity restrictions

- No heavy lifting (>10 lbs) or strenuous activity for 6 weeks
- Avoid bending, straining, or sudden head movements to prevent increased intracranial pressure.
- Walking is encouraged to prevent blood clots and promote recovery.
- Avoid alcohol or sedatives unless cleared by your provider.
- Driving: Can drive at 1 week post-op if off narcotics, never had a seizure, and have no neurological impairment. If you have had a seizure, you may not drive for 90 days and then only if your seizures are controlled on medication.
- Exercise
  - 2 weeks: Stationary bike / elliptical / ambulate
  - 6 weeks: Light weight training, ok to start outpatient physical therapy
  - 12 weeks: Full activity

**Return to work**

- Discuss with Dr. Sylvester, highly dependent on neurologic status and recovery.
- Can start a desk job in as little as 2 weeks, but timing is variable. Plan to be out of work for 4 - 6 weeks.

**Wound healing**

- Wound may be closed with staples or non-absorbable sutures (removed at first followup appointment) or absorbable sutures that will fall out on their own in about 4-6 weeks
- Keep the incision clean and dry. Avoid touching as much as possible, keep uncovered.
- Do not put medication or skin products on the wound unless instructed to do so for 4 weeks.
- Do not submerge your head in water (e.g., bathtub, pool, hot tub) for at least 4 weeks.
- You may shower after 48 hours with mild (baby) shampoo. Wash your hair daily after discharge.

## Post-operative expectations and follow-up plan

### What to Expect After Surgery

- You will stay in the ICU for close monitoring for at least one night typically, depending on surgery
- Head swelling and discomfort are common at first
- You may feel tired for several weeks
- Recovery time varies depending on your condition and surgery

### Follow-up

- Neurosurgery
  - 1-2 week: In person visit (MD), review pathology, suture / staple removal, medication adjustment
  - 4 weeks: In person visit (NP), wound check prior to starting radiation and / or chemo
- Medical and radiation oncology
  - Establish care either in the hospital or soon after discharge for tumor cases
  - Discuss with Dr. Sylvester when it is ok to start radiation and chemotherapy treatment, typically 3 - 4 weeks after the wound has healed.
- Primary care physician
  - Make an appointment after discharge from the hospital
  - Your primary doctor will be updated with all relevant medical issues.

### When to call the office

- Call the office the day after surgery to schedule your first postoperative appointment
- The total duration of followup will depend on your surgery and progress
  - Call your surgeon **AND** go to the ER if you experience these potentially neurologic symptoms:
    - New or worsening weakness, numbness, or imbalance
    - New speech difficulties
    - Vision changes, especially double vision or loss of vision
    - Severe headache not relieved by medication
    - Persistent vomiting
    - Confusion, lethargy, or behavioral changes
    - Seizures
    - Fluid leakage from the incision or nose/ears (possible CSF leak)
  - Call your surgeon if you are having the following symptoms
    - A temperature over 101 deg F
    - Chills with shivering
    - Increased redness, swelling, and / or drainage from the incision
  - **For life threatening symptoms, CALL 911 immediately!**