Questions Frequently Asked by Patients Undergoing Brain Tumor Surgery at the University of North Carolina

Pre-operative Procedures

1. What does the pre-operative visit involve?

Patients are frequently seen either the day before surgery or the week prior to surgery for their pre-operative visit. Occasionally, this visit occurs the morning of their surgery. During this visit, a number of things are accomplished. First, the patient is seen in the neurosurgery clinic, and a history and physical is obtained. The informed consent for surgery is obtained at this time (usually by Dr. Ewend). Following the neurosurgery visit, the patient is then seen in PreCare (Pre-anesthesia area of hospital). This is located in the main hospital building, just up the escalator from the main hospital entrance. This is also the site where the patient will come on the day of surgery. In the pre-anesthesia visit, blood tests, routine X-rays, such as chest X-rays, and EKGs are performed as indicated. Frequently, the patient meets with a member of the anesthesia team who can answer particular questions about anesthesia. Following this visit, the patient is often free to go and is given instructions for when and where to return for surgery.

2. When do I sign consent?

The process of giving informed consent to undergo surgery is much more than simply signing the consent form. The doctors involved in your care (primarily Dr. Ewend) will explain the surgery and answer any questions you have about the indications for surgery, the risks of surgery, alternatives to surgery, and the expected outcomes. Following this, when all your questions have been answered, you are asked to sign the consent form. It is legally required that a consent form be obtained prior to proceeding with surgery, but the form is not intended to take the place of open and frank discussions about the surgery and its risks. During the discussion of surgery, no guarantees can be given or pre-implied about the outcomes of surgery.

3. Why can the wait be so long in clinic?

We make every effort to schedule a reasonable number of patients for brain tumor clinic so that waits are short and patients are seen on time. Occasionally, one of three factors impairs our ability to see patients at their scheduled time: 1) Patients will often be seen on an emergent or semi-emergent basis and cannot wait for the next available clinic slot. Efforts are made to fit these patients in either at the beginning or at the end of clinic; 2) Patients who are scheduled for short visits will occasionally have unexpected new findings. As a result, a relatively routine 15-minute visit can turn into an hour or more, as new treatment decisions are made; 3) Very rarely do emergency surgeries or procedures keep Dr. Ewend from being in clinic at the scheduled time.

The overriding principle in our clinic is that once we are in a room with you, we don’t end your visit until all your questions have been answered. This means that even if the 15 minutes or 30 minutes that was scheduled for your visit is up, your visit will continue until the best possible resolution is made for all ongoing issues. As a result, the clinic can fall
behind. The alternative to this would be to simply tell patients that their time is up and that further questions cannot be entertained. This sort of approach, while much more time-efficient, is contrary to our philosophy about care of patients with brain tumors. We make the following promise to you: we will work as quickly and efficiently as we can in order to keep our appointments as close to the schedule as possible. Once we are in the clinic room with you, we will stay with you until all of your questions have been answered.

4. What is the Stealth system, frameless stereotactic, or image-guided neurosurgery?

All three of these terms refer in general to the same use of technology within Neurosurgery. We have available in the operating room two state-of-the-art navigating computer systems which allow guidance of your neurosurgical procedure using data from preoperative MRI scans and from interoperative X-rays and ultrasounds. Frequently, patients who will have image-guided neurosurgery will undergo a CT or MRI scan in the day or two prior to their surgery. Small foam sticky “lifesavers” will be applied on your head in various locations and, once you are asleep in surgery, these points (which are visible on the MRI) will be entered into a computer and allow the computer to reconstruct the entire brain. We will then have a probe that we touch anywhere on the skull or inside the brain and see immediately where we are on the imaging studies. An analogy for this is that the surgical navigation tool is very much like a GPS (Global Positioning System) which is used to guide vehicles, airplanes, boats, etc., giving immediate feedback on an exact location. Once you have had your CT scan or MRI for the Stealth system, it is very important that the small stickies (fiducials) remain on your head. A small circle is drawn around them so that they could be replaced, but part of the accuracy comes from having exact correlation between the location of the fiducials on the MRI and in the operating room. One or two fiducials may fall off on occasion and if this does happen, please let us know on the morning of surgery. If a large number were to fall off, the accuracy of this system could be lost.

Uses for the system include:

1) Locating small or deep lesions.
2) Aiding in obtaining complete tumor removal.
3) Planning smaller incisions and bone openings.

5. On the night before surgery, can I eat and drink? What about on the day of surgery? What should I do about my normal medication that I take?

Detailed instructions are usually given on the pre-anesthesia visit, but as a general rule a patient should have nothing to eat or drink after midnight. Patients are encouraged to have a light snack in the late evening before they go to bed so that they will be less hungry on the morning of surgery. The only exception to this rule is that we frequently instruct patients to take their routine medications on the morning of surgery with a small sip of water. The anesthesia team will give you more detailed instructions about this.

6. When and where do I go on the day of surgery?

You will check-in at the PreCare area, the same location where your pre-anesthesia workup was done. Come through the Main Hospital entrance, ride the escalator up one floor, and look to your left. Patients are called by PreCare personnel the day before surgery between 2:00 pm and 5:00 pm and are given the exact time to arrive. If your surgery is on Monday, you will be called on the Friday before surgery. In general, it is several hours before the
operative time. Patients who are scheduled as first case of the morning are usually instructed to arrive between 6:00 am and 6:15 am. More detailed instructions are given in the pre-anesthesia unit. Children will register in the lobby of the Children’s Hospital and will be directed to the PreCare area designated for children.

7. Will I stay overnight in the hospital on the night prior to my surgery?

Today it is very rare for patients to be admitted prior to surgery. Over 90% of patients who undergo craniotomy for a brain tumor are admitted the morning of surgery. Many patients who live a long distance away choose to stay in town on the night before surgery. The Neurosurgery team can provide you with a list of hotels as well as details about the hospital motel facilities (SECU Family House) in order to make those arrangements go as smoothly as possible. Attached to the back of this is a list of hotels in the Chapel Hill area that have been used by our patients.

On the day of surgery:

1. Where do I go on the day of surgery?

You will come back to the anesthesia PreCare area located at the top of the escalators on the first floor of the Main Hospital. You will check in and the pre-surgical process will occur. Children will check in on the ground floor of the Children’s Hospital.

2. What happens the morning of surgery?

After you arrive at the PreCare area and check in, your jewelry, dentures, hearing aids, and contact lenses are removed. You should not wear valuable jewelry or bring any valuables. If you do, the valuables will be given either to relatives or hospital security. You will then be taken to the holding area outside the operating room. Once you are upstairs in the PreCare area, an IV will be started. The anesthesiologist who will be involved in your case may be in the PreCare area as well. Family members are allowed to stay with you until it is time to go to the operating room.

3. What happens when it is time for me to go into surgery?

The patient is escorted by the anesthesia and operating team back into the surgical room. Family members are not allowed to accompany the patient back to the operating room (except when the patient is a child). Once you are in the operating room, the nursing team will introduce themselves to you. You will already have met the anesthesiologist who is involved in your care. Frequently, a number of monitors including EKG monitors and a finger probe to measure your blood oxygen are attached. Medication is usually administered through your IV and you will go off to sleep. A majority of the invasive monitors such as additional IVs and blood pressure measuring IVs (called arterial lines) are placed once you are asleep.

4. What happens during surgery?

Dr. Ewend and the surgical team (which can involve as many as eight doctors and nurses) will perform the positioning and the surgery as discussed with you prior to your giving consent.
5. What should my family do during surgery?

The period during surgery is often most difficult for the families. The patients are asleep as the surgical team is working, and are often not aware of the time, but for families this time usually passes very slowly. **It is very important** for families not to speculate as to how the surgery is going based upon how long it is taking. As a rule, surgical procedures take much longer than families anticipate that they will. From the time that the family leaves the patient's side to sit in the waiting area until the time that the surgery actually starts can be as long as two hours. Brain surgeries require careful positioning and registration of intra-operative computer navigation system. For this reason, it may seem that a great deal of time has passed, yet the surgery has not started. Whenever possible, nurses in the operating room will call out to notify the family of how the surgery is proceeding and to give them an estimate of when the surgery may be completed. However, at times, the surgical team will be busy with the procedure and may not be available to make calls out. Do not worry if the surgery is taking longer than you had expected.

Families usually wait in the surgical waiting rooms just outside the operating room (one is labeled “A” and one “B”). Down the hall is the surgical ICU waiting area; families occasionally wait there too. Families should check in with one of the volunteers (in pink jackets) at the waiting areas. This will allow the surgical team to know where your family is and will make it easier for Dr. Ewend to come and speak with them as soon as your surgery is over. If the family has to leave the waiting area, please ask the volunteer for a pager so that your family can be reached if needed.

6. How long after surgery will it be before I am awake?

The number one monitor for patients undergoing brain surgery is their neurologic function, this includes talking with the patient and asking the patient to answer questions and follow simple commands, such as holding up two fingers, wiggling toes and smiling. For this reason, it is our goal that you be awake as quickly as possible after surgery. We anticipate that by the time you are in the recovery room you will be awake, talking, and able to follow commands.

7. Can my family see me in the recovery room?

The recovery room cares for a large number of patients who are coming out of anesthesia and moving on to their hospital beds. For this reason, family visits in the recovery room are rare. The usual time between when Dr. Ewend speaks with the family about the surgery and when the family can visit with the patient can be as much as two hours. This first visit usually occurs in the ICU or in the patient's hospital room. For this reason, families should anticipate several hours after the completion of surgery before they will be able to visit with the patient.

**Questions in the immediate postoperative period:**

1. What is the usual length of stay in the hospital?

Usual length of stay for patients undergoing craniotomy for a brain tumor is three hospital days. For example, patients who have their surgery on Monday usually go home on Thursday morning. Some patients go home a day sooner or stay a day longer, but the
three-day rule applies to a majority of the patients. Obviously, patients who have postoperative difficulties may be required to stay longer.

2. How long will I be in intensive care?

Traditionally, patients stay one night in intensive care and, if doing well, can be transferred out to a regular hospital room the next day. A majority of the IVs and monitors, such as the bladder catheter, are usually removed on the morning following surgery. You will be allowed to eat a regular breakfast. It is also anticipated that a majority of patients will be up and walking on the first postoperative day. A number of the complications that can occur after surgery such as blood clots and pneumonia can be minimized if patients are up and moving in the immediate postoperative period.

3. Will I have physical therapy after surgery?

This determination is made following the surgery and is based primarily on how quickly the patient is up and walking and how steady the patient is on their feet as well as any other sorts of neurologic problems which may be related to the underlying disease process.

4. Will I have an MRI scan after surgery?

Almost all patients who undergo a craniotomy will have an MRI scan in the 24 to 48 hours after surgery. The reason for this is that there is a small window of time immediately following surgery when this scan can give us an idea of the success of the tumor resection. Following this two- to three-day period, there is a several-months' window where the MRI is “blurred” by the postsurgical change and an accurate assessment of tumor resection is difficult. For this reason, we attempt to get an immediate post-operative baseline scan on all patients. This usually happens on the first post-operative day.

5. Will I be allowed to shower?

Exact instructions about wound care will be given to you prior to your discharge. In general, patients are allowed to shower 48 to 72 hours after their surgery using a quick rinse of the hair and a small amount of baby shampoo.

6. When will my sutures be removed?

The staples or sutures are usually removed somewhere between the 7th and 14th postoperative days.

7. When is my first postoperative visit?

Patients are usually seen to have their sutures removed somewhere between one to two weeks after surgery.

8. When will I find out the exact results of the pathology report?

Frequently, a frozen section diagnosis is available immediately following the surgery. Like the early election returns as reported on TV, these reports contain useful information but are always subject to revision upon further evaluation of the formally prepared tissue specimen. The methods which can be used to give intra-operative data are imperfect and for this
reason no further determinations of treatment are made based solely on the frozen section
diagnosis.

Having said this, we share information from the frozen section with the patient and their
family unless other instructions are given pre-operatively. We do not feel that it is our role to
keep information from you but remember that the diagnosis can change (sometimes quite
significantly) between the frozen and the permanent section diagnosis. Frequently, a
permanent section diagnosis (the final answer) comes between three days and two weeks
following the surgery.

If you are discharged home before this, we will review the final pathology with you at your
next visit. We strongly discourage the use of the telephone as a means of conveying this as
the final diagnosis requires a fair bit of discussion and we have found from experience that
this is difficult to do over the telephone. Unless specific arrangements are made, we will not
call you with pathology results, but will review them with you at your first post-operative visit.

9. How will I feel after surgery?

A majority of patients feel surprisingly good after their brain surgery. Pain is usually not a
large part of the post-operative recovery as there are only a small number of moving
muscles on the head and muscle movement is the main cause of post-surgical pain.
Nevertheless, patients do have headaches and other tenderness in the surgical area and
this is treated with a mixture of non-narcotic (Tylenol, Motrin, etc.) and when necessary
narcotic (Percocet, Morphine, etc.) medications. We walk a fine line between keeping
patients alert and awake so that we can follow their neurologic status and make sure that
their pain needs are well met. We have a great deal of experience in this area and in an
overwhelming majority of cases are able to achieve both goals with careful neurological
monitoring and excellent post-operative pain relief in our patients. When patients go home,
they usually report for a period of two to four weeks that they are more tired than normal.
Patients may find that they take naps in the afternoon when they did not do so before
surgery and, at first, relatively routine activities of daily living may be quite tiring. A majority
of patients have a relatively rapid return of their stamina but this is usually the last thing to
get better following surgery.

10. What restrictions will be placed on my activities?

Patients are encouraged to resume their normal activities of daily living including walking
and doing their own personal care. Nevertheless, more strenuous activities such as working
out, heavy lifting, and strong exertion are discouraged for four to six weeks after surgery
until wounds have had a good chance to heal. Exact instructions about when to return to
more strenuous activity are given on a case-by-case basis.

11. When can I return to work?

This depends a great deal on the exact nature of your work. People who perform more
strenuous work may be kept from work longer until their physical stamina has returned and
their wound is well healed. Patients who perform less strenuous jobs may be allowed to
make their own determination about when to return to work. In general, patients usually
return to work somewhere between two and six weeks after surgery.
12. Following the suture-removal visit, when will my next follow-up appointment be?

This question depends greatly on the type of pathology that patients have. Patients who have tumors for which no further treatment is needed (i.e. chemotherapy, radiosurgery, radiation therapy, or other types of surgery) are usually seen somewhere between three and six months after surgery for their next imaging study and visit. Patients for whom further treatment is recommended are frequently seen in the multidisciplinary clinic and arrangements are made to have them evaluated by the medical oncology, radiation oncology, or other appropriate teams.

13. Who should I call if I have questions in the postoperative period?

Questions which are of a routine nature or could wait until the next day should be directed to Dr. Ewend in the Neurosurgery Office at (919) 966-1374. Sharon Cush, the nurse coordinator for the neuro-oncology program frequently returns patient’s calls and answers a large majority of the questions. Ms. Cush works closely with Dr. Ewend and the other physicians involved in your care and seeks their input as needed. In the evenings or on weekends, patients with pressing questions are instructed to call the hospital operator at (919) 966-4131 and ask for the On-call Neurosurgery Resident. This resident will answer questions when appropriate or make contact with Dr. Ewend or the appropriate covering neurosurgical faculty member to get answers to your questions.

We never want our patients to feel as if they cannot get ahold of us if they are in need of help and never want to face an upset family in the morning who said they could not get ahold of us. There are times when patients will call on nights and weekends where the On-call Neurosurgery Resident is involved with emergency care and cannot return the page. For this reason, if a pressing issue exists and you are unable to reach the on-call physician, you are encouraged to call Dr. Ewend at home at (919) 967-5071. It is Dr. Ewend's strong preference that patients contact him if they have pressing issues rather than having an uncomfortable wait until someone could be reached on the next business day.