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SURGERY GUIDE

Preparing for Your Surgery/Pre-Op Checklist/Risks & Possible Complications

Preparation for your surgery begins several weeks before the date of the surgery itself. To begin with, you will be asked to keep the following appointments:

- **Pre-Admission Testing**: This is a physical examination and a series of tests (x-rays, blood work, etc.) that will be performed in preparation for your surgery. During Pre-Admission Testing you will also meet with an anesthesiology staff member to discuss the type of anesthesia you will undergo. **Preadmission testing must be performed at the hospital where you are undergoing surgery.**

- **Medical Clearance for Surgery**: Approval for you to undergo surgery is required from your primary doctor or pediatrician – or we can arrange for you to be examined by one of our doctors. This examination, in combination with Pre-Admission Testing, is necessary to review your overall health and identify any medical conditions that could interfere with your surgery or recovery. **If you are undergoing major surgery (usually any surgery that requires more than a one night stay in the hospital) and you have other medical problems such as heart disease, COPD, diabetes, lung conditions, kidney problems or failure, etc. it is preferred that you undergo preoperative medical clearance by a medical doctor who is affiliated with the hospital that you are undergoing surgery.** This will give a medical doctor on staff a chance to evaluate you and become familiar with you and your medical problems prior to surgery. This doctor will be available to guide your medical care while you are in the hospital after surgery. Please discuss with Dr. Wittig, his nurse, physician assistant or his staff about having your medical clearance performed by a physician on staff at the hospital where your surgery will be performed.

In the weeks before your surgery you will be asked to:

- **Begin exercising under a physician's supervision**: It is important to be in the best possible physical condition for your surgery. If you are undergoing lower extremity surgery, special exercises to increase your upper body strength will help you use a walker or crutches in the early days after surgery, and exercises that strengthen your extremities can reduce recovery time.

- **Consider pre-donating blood for transfusion: If you are undergoing surgery for a tumor or an infection, you can not donate your own blood but you can request that a family member or friend donates blood for you if you are the same blood type.** If you are undergoing a joint replacement surgery for arthritis, you can choose to donate your blood ahead of time. (Please note – you can **NOT** donate your own blood if you have a tumor, infection or a cancer history.)
- **Have a dental examination:** Although infections in surgery are not common, they can occur if bacteria enter the blood stream somewhere else in the body. Therefore, if possible, you should arrange to have dental procedures such as extractions and periodontal work completed before your surgery or beginning chemotherapy (dental problems can be a source of sepsis during the chemotherapy treatment.)
- **Stop taking certain medications:** Your medical doctor can advise you which medications to stop taking before your surgery. In general, the morning of surgery you should take all your normal medications with sips of water except anticoagulants & diabetes medication. Be certain to tell your physician ALL the medications that you are taking, INCLUDING over-the-counter medications (because some of these may increase your bleeding during surgery). If you are diabetic, please contact your medical doctor regarding the amount of insulin or other medication that you should take on the morning of surgery. In general, if you are diabetic you should not take your diabetes medication on the morning of surgery.
- **Be sure your postoperative medication will be available:** Ask your surgeon ahead of time whether you will require anticoagulation medication (to prevent blood clots) after your surgery. If you do, call your pharmacy to ensure that they have it in stock.
- **Bring a list (with proper dosages) of all your medications to surgery:** Bring, as well, the actual medications, in case they are not on formulary at the hospital. While in the hospital if your meds are not formulary you may continue to take your own meds from home.
- **Blood thinners:** You will need to STOP all blood thinners around five days before surgery. These include: Coumadin (warfarin), Lovenox, Fragmin, Arixtra, Plavix, Aspirin, Motrin, Ibuprofen, etc. Please contact and discuss with your medical doctor how and when to stop and restart Coumadin (warfarin), Lovenox, Heparin or any other blood thinners that he has prescribed to you.
- **Stop smoking:** This is a good idea at any time, but particularly before major surgery in order to help reduce the risk of postoperative lung problems and improve healing.
- **Evaluate your needs for at-home care after discharge from the hospital**: Many patients will need help at home for the first few weeks, including assistance with preparing meals and transportation.
- **Tell your surgeon about your current support services/devices:** If you are now using a home service, bring the name and phone number of the service to the hospital. If you have medical equipment such as a wheelchair, crutches, or walker at home, ask your surgeon if you should make arrangements to have the equipment brought to the hospital for the physical therapist to make adjustments.

- **Review your insurance:** Contact your insurance company well ahead to familiarize yourself with the benefits available to you. For example, different insurance providers have different rules for determining the medical necessity of rehabilitation, and most do not provide a benefit for your transportation home. Also be aware that you will be billed separately by the hospital, your surgeon, your anesthesiologist, the pathologists and radiologists and that different insurance plans have different formulas for determining payments for these services.

PLEASE NOTE: Keeping track of all this information can be overwhelming. Please feel free to ask questions or share concerns with any of your caregivers at any time. You can contact your surgeon or your surgeon's office manager at any time.

ABOUT BLOOD TRANSFUSIONS

Patients undergoing surgery may require a blood transfusion. This is an issue that you should discuss with your surgeon. **If you have a tumor or an infection, you are NOT a candidate for donation however you may have a family member or friend donate blood**. If you are a candidate for transfusion, you have several options:

1. **Autologous transfusion –** An autologous transfusion is one in which you donate your own blood ahead of time. Your surgeon's office will instruct you how to make an appointment to pre-donate blood. The process is extremely reliable, and your blood can be refrigerated safely for at least a month. The obvious advantage of this option is that when your own blood is used there is no risk of contracting a transmissible disease from someone else's. (**Please note:** it is possible for your surgical team to contract a transmissible disease from you. If you have such a condition, please share this information with your caregivers.) You can not donate your own blood if you have a tumor, infection or cancer history.

2. **Homologous transfusion –** A homologous transfusion is blood that comes from a donor. While this often is blood from an anonymous donor, a family member or friend who has your blood type can donate a *directed donor unit* reserved specifically for you. All homologous units of blood, whatever the source, are tested by the blood bank for transmissible disease. (**Please note:** This testing requires a two-week preparation period for the blood to be ready for use.)

3. **Erythropoietin:** In some special circumstances, your surgeon may recommend that you receive erythropoietin, a hormone that is naturally produced by the kidney and also commercially produced in a laboratory for treating certain patients with a low red blood cell count (anemia). Erythropoietin given to a patient preoperatively may reduce the need for homologous transfusions (from the blood bank). Although costly, this medication is usually covered by insurance.

READYING YOUR HOME

There are several things that you (or a family member or friend) can do before entering the hospital to make your home safer and more comfortable upon return:

- To avoid using stairs, consider temporarily changing rooms – for example, by making the living room your bedroom.
- Rearrange furniture to give yourself enough room to maneuver with a wheelchair, walker or crutches.
- In the kitchen and elsewhere, place items that you use regularly at arm level so you do not need to reach up or bend down.
- Remove loose carpets and rearrange electrical cords in the areas where you will be walking.
- A footstool will be useful for keeping your operating extremity straight when you sit.
- Plan to wear a big-pocket shirt or soft shoulder bag for carrying things around.
- Set up a "recovery center" in your home, with the phone, television remote control, radio, facial tissues, wastebasket, pitcher and glass, reading materials and medication within reach.

Planning ahead for your discharge

Whether or not you require "rehab" following your surgery depends on several factors, including your general state of health. Many patients can be safely discharged directly home. If Dr. Wittig determines otherwise, a member of the Social Service Department will visit you a day or two after your surgery to give advice and help prepare the necessary paperwork for entry into a rehabilitation facility.

Every patient is visited by a case manager who works with you, your surgeon, and his office and your insurance provider to make your discharge from the hospital as smooth as possible. Patients who are admitted to acute (in-house) rehabilitation will additionally be helped by a discharge planner. If you have any concerns about your ability to manage your personal care, mobility, medications, or other recovery needs once you return home, bring them up with your case manager and/or discharge planner: they are trained to help you in these manners.

Please note that discharge time is 11:00 AM at most hospitals

Once you are home, depending on your needs, a member of our Social Service Department can arrange for a visiting nurse, a home therapist, or in some cases a home health aide to check on your several times during the week for the first few weeks after your surgery.

The day before your surgery

You will receive a telephone call from the hospital after 5:00 PM on the weekday before your surgery telling you when to come to the hospital and exactly where to go. For example, if your surgery is on Tuesday, the hospital will call you on Monday night; if your surgery is on Monday, the call will be on Friday night.

Diet: You may eat normally on the day before your surgery, but do **NOT** drink alcohol. **DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT.** This is very important so that it will not interfere with your anesthesia. The only exception is if your doctor specifically instructed you to take medication with a sip of water. Shower and shampoo either the night before or the morning of your surgery.

ANESTHESIA

Anesthesia is the process of inducing a pain-free, tranquil, sleep-like state for your surgery. Your anesthesiologist has several techniques to carry you through surgery comfortably and without pain. Some medical conditions may make one technique preferable. You should discuss this with both your surgeon and your anesthesiologist. Whichever technique is chosen, be assured that your operating room experience will be a painless and tranquil one.

General Anesthesia: First you are given medication to induce a sleep-like state, followed by a gas anesthetic agent administered via a mask into your lungs. Throughout the operation you will be attached to monitors that display information on your heart rhythm and rate, oxygen level in your bloodstream, body temperature, and blood pressure. Your anesthesiologist continually checks these monitors.

Regional Anesthesia: Some patients do not want regional anesthesia because they think they will be awake during the procedure. This is not true. In regional anesthesia, you will receive medications that allow you to sleep peacefully throughout the operation. Unlike general anesthesia, when regional anesthesia is discontinued you will awaken almost immediately and without pain (because the anesthesia is still working). Two types of regional anesthesia are commonly used: spinal and epidural. They may also be used in combination. When this type of anesthesia is used, you are monitored exactly as described for general anesthesia. If an epidural is utilized, it may be possible to leave the epidural in place for up to 3-5 days after surgery for pain control. This is an optimal method for pain control after surgery.

WHAT AND *WHAT NOT* TO BRING TO THE HOSPITAL

Bring to the hospital

- Toiletries (toothbrush etc.)
- Your cane or crutches, if needed
- Eyeglasses – not contact lenses
- Dentures/hearing aid. A container will be provided for these, which you should **keep by your bedside table or in a drawer** – not on the bed or a food tray.
- A list of your medications, including the ones you have recently stopped taking at your surgeon's request along with the actual medications.
- Important telephone numbers
- Small amount of cash – for newspapers, etc.
- Credit card or 2-3 checks – for TV and telephone services
- A book, magazine, or hobby item for relaxation
- THIS SURGERY GUIDE

DO NOT bring to the hospital

- Valuables – jewelry, large amounts of cash, credit cards (other than for TV etc.,) wallet, watch

All hospital staff members respect your property rights, but we cannot guarantee security for your personal property.

THE DAY OF YOUR SURGERY

On the day of your surgery:

- You may brush your teeth and rinse your mouth – DO NOT swallow any water.
- Wear comfortable, loose-fitting clothing and flat, non-slop, walking or athletic shoes.
- Leave valuable possessions at home or give them to a family member for safekeeping (See section: "what and what not to bring to the hospital")

Once you arrive at the hospital:

- You will be provided with a gown and disposable undergarments for your comfort. Your own clothing and personal belongings will be safely stored.
- You will be asked to fill out and review an operative consent form. You, your surgeon and a third-party witness will also sign it. (If this was done previously, your surgeon will review the form with you again.) Your surgeon will also place his/her initials over the operative site (on your body) as an extra precaution.
- Your anesthesiologist will go over with you with the type of anesthesia to be used for your surgery. After that explanation, you will be asked to complete, review, and sign a consent form specifically for the anesthesia. When the operating room is ready, a nurse will escort you there.

During your surgery, your family and friends may wait in any of several comfortable hospital locations. At HUMC the waiting room is located on the (2nd floor down the hall from the Operating Room), the Valley Hospital's waiting room (1st floor next to the piano). With your permission, your surgeon will call and speak with them after your surgery.

SURGERY PREPARATION CHECKLIST

The night before your surgery

- Shower (may be done day of surgery if time permits)
- Do NOT eat or drink after midnight
- Review this Guide
- Get a good night's rest

The day of the surgery

- Take routine medications with only a sip of water – *as instructed by your doctor*
- Brush your teeth and rinse – do NOT swallow
- Wear comfortable clothing
- Leave valuable at home or with a family member

GETTING THE MOST OUT OF YOUR SURGERY

When your surgery is complete you will be taken to a recovery room, where you will spend two to three hours before being moved to your regular hospital room. Family and friends may visit you briefly in the recovery room. Depending on your anesthesia, your medical history, and other factors, you may first be taken to a monitored bed environment (either the Intensive Care Unit or the Post-Op Unit). Your surgeon or anesthesiologist will discuss this with you before or after your surgery.

Your care team will monitor your progress throughout your hospital stay to ensure your safe and efficient recovery. Among other things, they will periodically check your vital signs – temperature, blood pressure, etc. – and change the dressings that cover your incision as well as the tubes that drain fluid from the site of your surgery. Your surgeon may also decide that you can benefit from a blood transfusion, a blood-thinning medication or automatic foot pump device to prevent clot formation, and/or an incentive spirometer that helps keep your lungs clear: all these things will be attended to by your care team.

EXERCISE AND PHYSICAL THERAPY

After your operation, your nurses, physical therapists, and other caregivers will start you on a course of treatment. Patients who have undergone large surgeries that can be associated with extreme swelling may require strict elevation of the extremity for several days.
Dr. Wittig will give instructions to the therapists and nurses. Following most surgeries the patient is permitted to place all their weight on the operated extremity. This is called full weight bearing or weight bearing as tolerated. In certain instances your weight bearing may be restricted. You may be in a brace that immobilizes the extremity for a period of time after the surgery, at least until the wound heals.

PAIN MANAGEMENT

Many patients are understandably concerned about postoperative pain. Pain control has become very sophisticated. Usually the level of discomfort is easily manageable with oral or injected pain medication.

Most patients receive IV-PCA (*intravenous patient-controlled analgesia)* for a day or two following surgery: this allows the patient to self-administer a safe and effective amount of pain medication through an IV tube by pressing a button. Similarly, in some cases an epidural catheter that automatically delivers pain medication may be left in place for 24 hours following surgery and in some instances up to 5 days after surgery. An epidural provides excellent pain control. With an epidural in place, there is usually no need for additional pain medication such as intravenous morphine. An epidural can be adjusted so that pain is well controlled while the patient maintains sensation and feeling in the leg as well as movement.

YOUR CARE TEAM

- **Your surgeon**
- **Nurses**
- **Nurse practitioners/Physician Assistants**
- **Physical therapist or occupational therapist**
- **Fellows and residents:** licensed physicians undergoing specialized postgraduate training in orthopaedic surgery
- **Internist:** a specialized physician selected by your surgeon to assist in the medical management of your postoperative care
- **Pain specialists:** a physician and nurse practitioner who specialize in pain management
- **Rehabilitation specialist:** a physician trained to determine the level of care you will require once you leave the hospital

RESUMING YOUR NORMAL ACTIVITIES

Be aware, recovery takes time. Expect to feel a bit more tired than usual for a few weeks. Your surgery is a major event. Give yourself time to regain your strength and self-confidence. Stay active – just don't overdo it! You will notice a gradual improvement over time in your strength and endurance.

Once you are at home, you will want to keep track of the state of your surgical site and general health for several weeks. In particular:

1. Take your temperature twice daily and notify Dr. Wittig if it exceeds 101° F
2. Take all medications as directed
3. Notify Dr. Wittig immediately about new tenderness, redness or pain in the extremity, chest pain, and/or shortness of breath. These are all signs of a blood clot.
4. Notify Dr. Wittig if you experience foul, smelly drainage from your wound. This is a sign of infection.

If you have an artificial joint or prosthesis it is especially important to prevent bacteria from entering your bloodstream that could settle in your implant. You should take antibiotics whenever there is the possibility of a bacterial infection, such as when you have dental work. Be sure to notify your dentist that you have an implant; they are trained to prescribe antibiotics for you to take by mouth prior to teeth cleaning, extractions, periodontal work, dental implant or root canal work.

Diet – By the time you come home from the hospital, you should be eating a normal diet. Dr. Wittig may recommend that you take iron and vitamin supplements. Continue to drink plenty of fluids and avoid excessive intake of vitamin K if you are taking the blood-thinning medication Coumadin (warfarin). Foods rich in vitamin K include broccoli, cauliflower, brussel sprouts, liver, green beans, garbanzo beans, lentils, soybeans, soybean oil, spinach, kale, lettuce, turnip greens, cabbage and onions. Try to limit your coffee intake and avoid alcohol altogether. Your nutrition plays a key role in proper healing. Consider supplementing your diet with nutritional shakes such as Ensure, especially if you are having difficulty eating.

Basic activities – Generally, the following guidelines will apply:

- **Weight bearing:** Be sure to discuss weight bearing restrictions with Dr. Wittig or his assistants and physical therapist. Their recommendations will depend on the type of surgery and/or implant and other issues specific to your situation.
- **Driving:** You can usually begin driving an automatic shift car in four to eight weeks, provided you are no longer taking narcotic pain medication. If you have a stick shift care, this may take longer. The physical therapist will show you how to slide in and out of the car safely. Place a plastic bag on the car seat can help.
- **Sexual relations** can be safely resumed four to six weeks after most surgeries.
- **Sitting, sleeping positions:** There are no restrictions on sitting or sleeping position unless you require strict elevation; just find a comfortable position.
- **Return to work:** Dr. Wittig will determine when you are medically fit to return to work. It depends on your type pf job and what type of surgery was performed.
- **Other activities:** Walk as much as you like once your doctor gives you the go-ahead, but remember that walking is no substitute for your prescribed activities. Swimming is also recommended: you can begin swimming as soon as your surgeon has determined that your surgical wound is well healed. Dr. Wittig discourages high-impact aerobic activities like jogging and basketball if a metal prosthesis or joint replacement has been placed. Do not do any heavy lifting (more than 40 pounds) or perform weightlifting exercises. Discuss your activities with your surgeon to be sure.
- **Showering:** Keep your wound dry until you return to the office for your first follow up visit. You may sponge bath. If you take a shower, the incision must be kept dry (cover the arm or leg with a garbage bag and tape or use a special cast cover.) If your have undergone an operation on your lower extremity, you should sit in a shower chair while taking a shower. Special accommodations may be needed if you are wearing a special brace or cast. In these instances, it is probably best to sponge bath.

POSTOPERATIVE FOLLOW-UP –

You will be seen in the office about 10 -21 days after your discharge from the hospital or from rehabilitation depending on the type of operation. If you are in a rehab facility for more than 2 weeks Dr Wittig will want the facility to transport you to the office for a follow up appointment. Please call the office to discuss with Dr. Wittig's administrative staff about the timing of your appointment. During your first follow up appointment, your wound will be examined and an X-ray may be taken. You will be prescribed physical therapy and be given instructions on how to care for the operated extremity. If your wound is healing well, you will be permitted to get the wound wet (take a shower) as long as you do not have a port for chemotherapy. Any pain medications that you require will be refilled.

Taking care of your surgical incision
Your surgical incision will be closed using sutures or staples that will be removed about two weeks after your surgery. (In some cases resorbable sutures are used that do not need to be removed.) The following apply to taking care of your wound:

1. Keep the area clean and dry. A dressing will be applied to the site in the hospital and should be changed as necessary. Ask for instructions on how to change the dressing if you are not sure.
2. Notify your doctor if the wound appears red or begins to drain.
3. Some swelling is normal for the three to six months after surgery.

GETTING AROUND AFTER YOUR SURGERY

Walking with walker or crutches: Stand comfortably and erect, with your weight evenly balanced on your walker or crutches. Move your walker or crutches forward a short distance. Then move forward, lifting your operated leg so that the heel of your foot touches the floor first. As you move forward, your knee and ankle will bend and your entire foot will rest evenly on the floor. As you complete the stop, allow your toe to lift off the floor. Move your walker or crutches again, and reach forward with your hip and knee for your next step. Remember, touch your heel first, then flatten your foot, and then lift your toes off the floor. Walk as rhythmically and smoothly as you can, but don't hurry. Adjust the length of your step and speed as necessary to walk with an even pattern. As your muscle strength and endurance improve, you may spend more time walking. Gradually, you will put more and more weight on your leg.

Walking with a cane or a sign crutch: A walker is often used for the first several weeks following a leg operation to help your balance and to avoid falls. A cane or a single crutch is then used for several more weeks until your full strength and balance have returned. Use the cane or crutch in the hand *opposite* the operated knee. You are ready to use a cane or single crutch when you can stand or walk for more than 10 minutes.

Climbing and descending stairs: Going up and down stairs requires both flexibility and strength and so should be avoided if possible until healing is complete. If you must use stairs, you may want to have someone help you until you have regained most of your strength and mobility. Always use a handrail for support **on the side of your unaffected leg** and move up and down the stairs one step at a time:

Going up stairs
1. Step up on your unaffected leg.
2. Next step up on your operated leg.
3. Finally bring up your crutch(es) or cane(s).

Going down stairs, reverse the process:
1. Put your crutch(es) or cane(s) on the lower step.
2. Next step down on the operated leg.
3. Finally, step down on the unaffected leg.

Remember to always lead **UP** the stairs with your **Un**affected leg,
and **DOWN** the stairs with your operated leg

RISK FACTORS AND COMPLICATIONS

There are risks in any type of surgery. The *general* risks of any replacement surgery – such as a bad reaction to anesthesia or heart attack – are no greater than in most other types of surgery. To help prevent your developing a blood clot, your surgeon may prescribe you a blood-thinning drug (such as Coumadin or Lovenox). There are many surgeries however that do not warrant the use of an anticoagulant because the risks associated with the drugs do not outweigh the risks of a blood clot or embolus. Limb sparing surgeries are at a high risk for bleeding into the wound and hematoma formation (a collection of blood). An anticoagulant like Coumadin or Lovenox dramatically increases this risk. A hematoma causes stiffness and swelling. It can also lead to an infection that could result in the need for an amputation. In these instances, it is NOT advisable to take an anticoagulant. Additionally, an anticoagulant can not be used if an epidural has been placed. Alternatively, or in addition, pump-driven compression devices may be applied to your extremities following surgery to reduce the chances of clot formation.

Please refer to the **Informed Consent** for possible complications following a surgery. While this list is not complete, it includes complications you should be aware of. The Form can be found at www.sarcoma.ws under Patient Information – Having Surgery.