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How to Prepare for Hand & Upper Extremity Surgery:

Planning for your Surgery . . .

After General Anesthesia

1. If you are choosing to have your surgery done under general anesthesia or sedation, there are some items, you should take into account.
 1. Please plan on having someone arrive with you and stay with you at the surgery center/hospital to drive you home after your surgery. We also recommend that someone stay with you the night of surgery. Some patients can have a delayed reaction from their anesthetic and it is important to have someone there to assist you if you should need it.
 2. You must have a responsible adult with you to whom postoperative instructions can be given.

Pain Control

2. Pain control can be difficult to fully achieve after surgery. Your surgeon will provide you with narcotic pain medication if needed. You may also alternate this with over the counter NSAIDS (Motrin, Aleve, etc.) There are some non-medicinal measures you can take in order to decrease swelling and the pain associated with swelling.

- a. Please plan on icing the operative area with an ice bag regularly in the days following surgery as this will decrease swelling and associated pain.
- b. Please make an effort to keep your operative extremity elevated above your heart (fingers pointed toward the ceiling, with hand elevated above elbow) as much as possible in the days following surgery, as this too will decrease swelling and pain, minimizing the need for medications.

Smoking

Does the use of nicotine affect surgery?

Nicotine and other chemicals are contained in traditional and electronic cigarettes, cigars and chewing tobacco. Nicotine from the use of any of these products can increase the risk of having problems after hand and upper extremity surgery. Nicotine slows down the flow of blood to and from the surgical fingertips. This effect of nicotine can increase the risk of developing bone, soft tissue and wound healing problems and/or infections after surgery. Patients are strongly encouraged to decrease if not completely stop using nicotine-containing products well before surgery. Patients may need to discuss quitting with their surgeon and/or primary doctor.

The Day of Surgery

What should patients wear on the day of surgery?

On the day of surgery, patients should wear loose, comfortable clothing. You will be asked to remove clothing and change into a hospital gown before surgery. Please plan appropriately with regard to undergarments. Patients will have a bulky dressing and/or plaster splint (often called a half cast) on their operated arm/hand after surgery, so their clothes must fit around their dressing and/or splint. Examples of such clothes include T-shirts and stretchable sweatshirts.

Who will patients meet with on the day of surgery?

Once patients are dressed in their gown, they will meet with a pre-surgical nurse or physician's assistant (PA). They may review notes and tests, shave and cleanse the part of the body to receive surgery, and perform a physical exam on the patient. Depending on the form of anesthesia planned for the surgery, the preoperative team may place an IV in one of the patient's arms. This IV allows patients to receive fluids and/or medicines without eating or drinking.

After the IV is placed, patients will meet with the surgical team. This team includes the surgeon, surgical nurses, PAs and possibly assisting surgeons in training. Such assisting surgeons are common at university or academic hospitals and are known as orthopaedic surgical residents and fellows. While patients will meet with many people that are important parts of the surgical team, it is crucial to recognize that the Hand and Upper Extremity Surgeon is the leader of the team that will be performing the actual surgery. Nurses, PAs and assisting surgeons **help** the surgeon during surgery.

As the leader of the team, the Hand and Upper Extremity Surgeon will speak again with the patient about details of surgery. Many surgeons will have already discussed what to expect from surgery with the patient, but this lets patients ask any last-minute questions or relate concerns they may have to the surgeon. At this time, the surgeon will mark the patient's surgical area with his/her initials via pen or marker. This interaction between the surgeon and patient is a valuable reminder to both people as to what specific surgery will be performed in the operating room. To ensure the entire team is aware of the plan, other members of the surgical team will check that the correct area on the patient has been marked for surgery.

After the patient has met with the surgical team, he or she may meet with the anesthesia team just before having surgery. If the patient is receiving general or sedation anesthesia this team includes the anesthesiologist who will make sure that the patient feels neither pain nor discomfort during surgery, nurse anesthetists (CRNAs) and possibly assisting anesthesiologists in training. Such assisting doctors are common at university or academic hospitals and are known as resident anesthesiologists. While patients will meet with many people that are a part of the anesthesia team, it is important to recognize that the anesthesiologist is the leader of the team that will be performing the actual anesthesia. Nurses and residents provide whatever help the anesthesiologist may need during anesthesia and are an important part of the team providing patient care.

What are the options for anesthesia during surgery?

“Anesthesia” is the term used to describe the medicine or delivery of medicine prior to and during surgery in order for patients to experience minimal to no pain (and sometimes limited memory) surrounding their surgery. Some form of anesthesia is needed for patients to safely receive any kind of Hand and Upper Extremity Surgery.

A significant portion of patients can have their surgery under what is called local anesthesia only. In this case, the surgeon will inject a numbing agent under the skin, around the planned area for surgery in the preoperative holding area. This will help to make the surgical site “numb” prior to going back to the operating room. In this case, the patient will remain awake in the operating room, relaxing and laying on their back, while the surgeon operates on their hand or arm. After the surgery, once the wound is closed and covered, the patient will return to the recovery room, remaining awake and can often drive themselves home from the Surgery Center.

Other patients will receive some sedation in combination with local anesthetic. In this case, the anesthesiology team will give a medicine through the patient’s IV. This medicine will make the patient sleepy, relaxed, and forgetful during the surgery. During the surgery the patient will continue to breath on their own and will not usually need the anesthesia team to put a tube in their mouth or windpipe to help the patient breath.

Still other patients will receive general anesthesia. With general anesthesia, patients are completely asleep during surgery. Patients receive medicine through their IV to make them fall asleep. Once asleep, patients are paralyzed and receive a tube in their mouth (laryngeal mask airway or LMA) or their windpipe (endotracheal tube or ETT) to keep them breathing during surgery.

On occasion, at the discretion of the anesthesiologist, patients may undergo regional anesthesia. In this case, a needle is placed into the shoulder region, near the armpit to numb up the entire operative arm. A single shot of a numbing agent may be placed. This numbing medicine can last anywhere from 6 to 18 hours. Alternatively, the anesthesia team may discuss a nerve block with you. This involves the anesthesiologist using an ultrasound device to place a small catheter using a needle next to the bundle of nerves near your armpit. This is done in the preoperative area prior to your surgery. The catheter will need to be removed by you or a family member, 2 to 3 days after surgery. The anesthesiology team will discuss this with you in detail the day of the surgery. The nerve block has the advantage of providing significant pain relief for the first several days after surgery, requiring less or minimal use of the narcotic during the time the nerve block is working. However, in some patients regional anesthesia can cause some numbness and tingling that persists for several months after the surgery

BLOOD THINNERS AND ANESTHESIA

If you are currently taking a *blood thinner* such as **aspirin, coumadin, warfarin, eliquis, plavis, xarelto, or pradaxa** and are scheduled to have your procedure done under local anesthesia only, we ask that you continue to take your anticoagulant medication as normally prescribed and to not stop these medications. **If, however, you are having sedation, regional anesthesia, or general anesthesia we ask that you contact the prescribing physician for instructions on when to stop the medication.**

Symptoms after Surgery

What kinds of symptoms are expected after surgery?

Surgery can be a big stress to the body, so it is normal for patients to experience after surgery:

- Pain. This is worst in the first 5-7 days after surgery. The pain may increase for the first day or two after surgery as numbing medications wear off. As time passes and the body starts to heal, post-surgical pain lessens.
- Some patients may be given nerve blocks with “pain balls” to continue the delivery of a numbing medicine at home. The rate of which medication is delivered through the pain balls are set by the anesthesiologist after your surgery. You may adjust this rate if your pain is not well controlled. When the pain balls run out there is often a sudden increase in your pain level for which your oral pain medications can be used
- Swelling of the surgical extremity. The more the arm is allowed to sit below the heart the greater the swelling will be.
- Bruising and discoloration of the surgical extremity. Normal skin colors after surgery includes blue, red, pink, purple and brown. Skin colors that may be a sign of problems with circulation are pale white and dark black, which the surgeon must know about immediately.
- Blood or fluid leakage from the surgical incisions. This tends to occur with swelling and leakage of the numbing medicine after surgery. Surgeries which require a fair amount of bone work may have some bloody drainage on the dressing
- Low-grade fevers (less than or equal to 100.5 degrees) during the first week after surgery. Low- grade fevers that last after one week or those that are above 100.5 degrees at any time after surgery may not be normal. The surgeon should know about this immediately.

At Home

What modifications or accommodations are needed at home after surgery?

ICE

When resting, keep the surgical site iced because this helps to decrease pain after surgery. The ice should be placed in a thin, but tight, bag and over a thin sheet which itself will be placed over the patient’s surgical dressing and/or splint. This is done to prevent the patient’s dressing and/or splint from getting soaked from the melting ice. In a pinch, frozen foods can be used to provide cooling of the patient’s surgical site instead of ice.

ELEVATION

When resting, **KEEP THE SURGICAL SITE ELEVATED ABOVE THE HEART.** This helps to decrease pain after surgery. For Forearm, Wrist, and Hand surgery, this can be easily and economically achieved by safety pinning two pillows together around the operative forearm.

ACTIVITY

After upper extremity surgery, many patients will have restrictions placed on their operated arm and overall activity level. YOUR SURGEON WILL GIVE YOU CLEAR ACTIVITY RESTRICTIONS AND A WEIGHT LIMIT FOR LIFTING WITH THE OPERATIVE ARM/HAND.

Due to this change in their activity level, many patients will have to make adjustments to their daily routine at home and at work. While every patient has a different living situation, some things can be done at home to make the post-surgical recovery time easier.

For patients that live alone, it can help for a close friend or relative to stay with them during the first several days after surgery. This friend or relative can help patients get their home organized for doing things around the house after surgery. Whether patients live alone or not, some things that can help knowing after surgery include:

For the entire house, it is best to keep things clean and organized to avoid injury. This includes decreasing clutter, removing loose wires and cords, securing rugs to the floors, and cleaning up spills immediately.

At night, patients should have the lights on as they move through the house. A night-light can be very helpful in certain rooms like the bathroom and bedroom.

For the bathroom, organize common toiletries to be used so that they are in easy reach and not in cabinets or shelves that are either too high or too low.

BATHING

When bathing, the patient's surgical dressings must remain completely dry and in place until the patient is instructed to remove them. When showering, patients must keep their post-surgical dressing and/or splint clean and dry. Covering the surgical arm with a large, snug plastic bag or commercial cast cover can do this.

FOOD

For the kitchen, organize common foods to be eaten so that they are in easy reach. The best types of foods to eat after surgery that help with healing include fruits, vegetables, nuts, lean meats and dairy items like milk and yogurt. It also helps to drink plenty of water and electrolytes (like in Gatorade) to stay hydrated after surgery. It can also help to prepare meals before surgery and store them in the freezer to be thawed out and eaten after surgery.