



## Safety in surgery

We want you to understand the ways that we work to provide a safe environment for you. You are part of the health care team. Safe and effective health care requires your participation; by involving you, we work together to ensure your safety.

**Patient identification:** You may think, “Don’t they know why I am here?” Yes we do, we are making certain that our information matches yours. Be prepared for hospital staff in many areas to ask you some of the same questions; we are double checking the information we have for you.

***PATIENT POINT* – Do not let anyone give you medications or perform tests without first checking your ID band.**

### Illness

If you develop new symptoms of fever with body aches, sore throat, or cough (flu-like symptoms) before you are scheduled to come to the hospital, please notify your surgeon.

**Preventing infections:** Let your surgeon know as soon as possible if you have breaks in the skin (insect bite, rash, cut, etc.). An opening on your skin could put you at risk for infection.



**Hand hygiene:** All hospital personnel should cleanse their hands before and after entering your room or providing care.

***\*See Hand Hygiene handout in Reference section (F – 3-4)***

- Cleaning hands can be done using hand sanitizer or soap and water.
- A friendly reminder, by you, to anyone if they forget to cleanse their hands is always appropriate.
- All visitors should be encouraged to cleanse their hands. Hand sanitizer is located in the hallways and rooms.

***PATIENT POINT*** – Listen carefully to questions you are asked, and speak up immediately if something is not right or if you have a question.

**Pre-op antibiotic:** An antibiotic will be given through your IV shortly before your procedure to help prevent infection.

**Marking the surgery site:** The surgeon or their assistant will verify the location of your surgery with you. Prior to taking you to the operating room the site will be marked by your surgeon or their assistant. You will also be asked questions during this time.

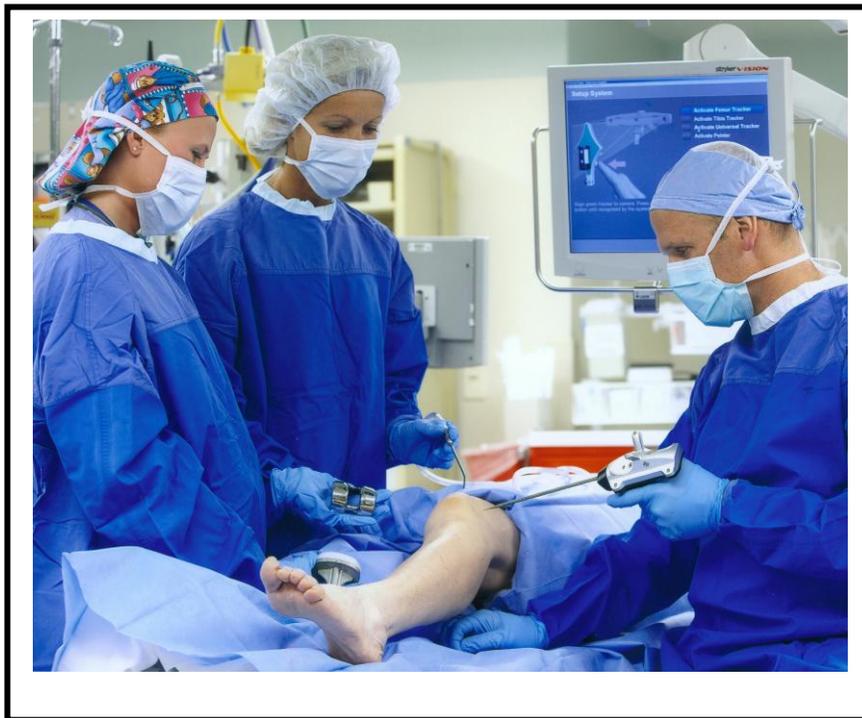


**Time outs:** Before your surgery or procedure the staff will perform a “time out” using a checklist. This can be compared to a pilot completing a pre-flight checklist. Staff will verify that important tasks, such as your antibiotic being given, are completed.

# Surgery

## Operating Room

- The area may be cool – ask the nurse for a warm blanket for your comfort.
- You may notice a lot of activity in the operating room. This is normal.
- The operating room has bright surgical lights overhead and lots of technical equipment.
- You will be asked to verify your name, the surgical procedure and the site.
- Sticky patches will be applied to your chest to monitor your heart rate and rhythm.
- A soft finger probe will monitor the oxygen content of your blood.
- An automatic blood pressure cuff will squeeze your arm as it takes your blood pressure.
- When your surgery is over, the doctor usually meets with your family to let them know how you are doing and to answer their questions.
- Your family should be reassured that you are not in surgery the entire time you are away from them. Some of the time is spent in preparation for the procedure and in transporting you to different areas.





# Anesthesia

Anesthesiologists are doctors who have completed specialty training in anesthesia. The anesthesiologists work with certified registered nurse anesthetists as an anesthesia care team. The anesthesia care team will care for you the entire time you are in the operating room to ensure you have a smooth and safe anesthetic.



## Spinal

This is the most common and suggested form of anesthesia. Spinal anesthesia is placed in the low back (lumbar region) to numb the lower body. Once the needle is placed, medicines, including local anesthetics and sometimes narcotics are given through the needle. The needle is removed after the medications are injected. You will be sedated with IV medications during the surgery and before your spinal procedure. Minor side effects can occur from the narcotics: itching, nausea, vomiting and/or diminished respiratory rate.

## General Anesthesia

This is the most uncommon type of anesthesia used for total joint replacement surgery. You will be given medicines through your IV that make you unconscious throughout the surgery. These medications, called anesthetics, keep you from having pain during your surgery. A small breathing tube will be placed into your airway (trachea) after you are asleep. When your surgery is finished, the medications will be stopped to allow you to awaken. Side effects can include nausea, sore throat, headache or a generalized "hang-over" feeling.

***PATIENT POINT*** – The type of anesthesia you receive depends on the evaluation by an anesthesiologist, your surgeon and your state of health.



## After surgery and pain expectations

### **PACU- Post Anesthesia Care Unit (recovery room)**

- After your surgery you will be taken to the PACU. Your recovery time will depend upon the type of procedure you have had and the type of anesthesia you have had.
- A nurse will closely monitor your vital signs. You will have a blood pressure cuff on your arm, a finger probe to monitor oxygen levels and possibly oxygen in your nose or by mask.
- An x-ray will be taken of your new joint.
- Because we want to ensure that each patient's privacy is protected, family and friends are not allowed to visit you in the PACU. We will keep your family updated.

### **On the Bone & Joint Center**

- You will be cared for by a Registered Nurse (RN) and may also have a Licensed Practical Nurse (LPN) and a Patient Care Assistant (PCA).
- Your vital signs will be frequently checked immediately after surgery for at least 2 hours and then every 4 hours (awakened as needed) along with checking pulses and feeling in your leg.
- Antibiotics and anticoagulants (blood thinners) will be given during your stay.
- Ask your caregivers if you are permitted to walk and change positions. Performing your post-operative exercises and walking will increase your circulation and help prevent blood clots and pneumonia.
- Perform the breathing exercises, such as the Incentive Spirometer you were taught, hourly while awake

## Visitor Guidelines

Before your surgery, educate your family and friends about those things that will be helpful to your recovery. Some issues to consider are:

- Not visiting if cold and flu symptoms or other illness is present.
- Washing hands (or using hand sanitizer) before and after visiting.
- Not sitting or lying on your bed.
- Not using your private restroom.
- Discouraging visits from babies and small children.
- Observing visiting hours.
- Not providing any medications to you.
- Not bringing food to you, if you are on a special diet.



## Staff Rounding

- Staff make rounds hourly during the day and every two hours at night in an effort to increase your safety and satisfaction. They will not wake you during the night if you are sleeping during their rounds.
- Staff will ask if you need to be repositioned, go to the bathroom, are having pain and if everything you need is within reach, such as your call light, water, phone, bedside table, etc.

***PATIENT POINT*** – Pain medication is more effective if taken before pain is severe. When you feel pain, tell your nurse.

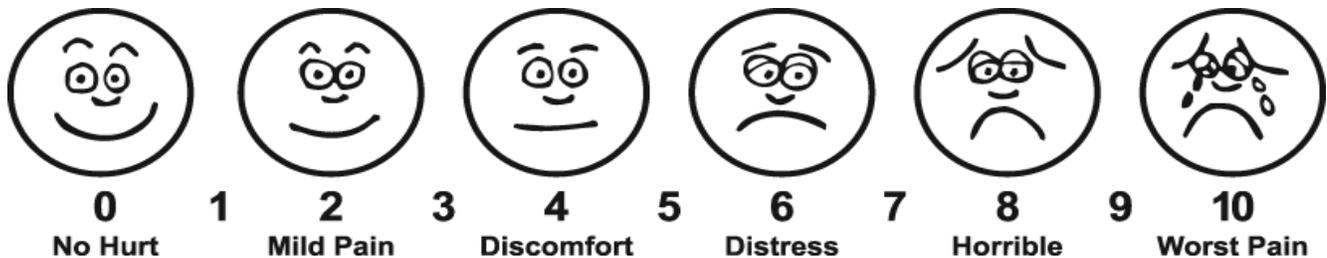
## Pain management

***\*See Pain Management handout in Reference section (F – 5-6)***

- Managing your pain is crucial to your recovery. Our goal is for you to be able to participate in all the activities of your recovery such as deep breathing, coughing, walking, sitting in a chair and resting. Good pain management will help you feel more comfortable, which will help you heal and regain your strength more quickly.
- Everyone feels pain differently and responds differently to treatment. Both drug and non-drug treatments can be successful in helping to prevent and control pain. Don't worry about getting "hooked" on pain medicines. Studies show that this occurs in less than one percent of people (unless a history of drug abuse is present).

- You may be surprised at where you experience pain after surgery. Often times the incision is not the area of greatest discomfort. You may feel:
  - Muscle aches and pain in the back, shoulders or chest from lying on the operating table
  - Pain at the incision site when you move about, such as sitting up and walking.
- Work to keep your pain under control. The nurse will help you set an appropriate comfort goal and explain the rating scale. Reporting your pain as a number helps the health care team treat your pain. Use the pain scale below to rate your pain between 1 and 10. One is minimal pain and "10" is the worst pain you can imagine.
- Take your pain medication 30-45 minutes prior to therapy.

## Pain Rating Scale



- It is not realistic to set a comfort goal of zero (no pain) after surgery, because there is some discomfort even after minor procedures. Your doctors and nurses want and need to know when your pain is not under control. We will assist you in managing your pain. Request pain medicine when you begin to feel discomfort; pain medication is more effective if taken *before* pain is severe.

### Oral pain medications

- Depending upon the type of anesthesia that you have and what your surgeon orders for pain control, you may receive oral pain medications once you are awake and able to take liquids. Oral medications can be supplemented with IV pain medicine as ordered by your surgeon. Some oral pain medications may be given routinely around the clock or you may need to ask for them as you need them. Your nurses will explain about your pain medication to you and will write this information on the plan of care dry erase board in your room.

## Other pain control options and relaxation techniques

1. **Ice** – Cold therapy helps reduce swelling and pain and is an important treatment in your recovery. An ice cooling machine will be used which circulates ice water through a sleeve applied to your operative joint. Ice will be applied to your operative site as your surgeon has ordered.



2. **Relaxation breathing**– Focus on your breathing. Breathe in slowly and deeply. As you breathe out slowly, feel yourself begin to relax and let the tension leave your body.



3. **Mental imaging** – Close your eyes and imagine a peaceful and comfortable place. Breathe deeply and think peaceful and relaxing thoughts.
4. **Positioning** – Ask staff to help you change your position when you become uncomfortable.
5. **Music** – Listen to your favorite music (iPod, TV, etc.).
6. **Surroundings** – Keep the lights and noise in your room as low as possible.
7. **Massage therapy** – Massage to your neck, back, shoulders, hands or feet can be satisfying and comforting. Benefits include a reduction of pain, stress, muscle spasms, as well as relaxation. All of these benefits aid in the healing process.

### **Bowel function**

Your bowel activity may be slow to return to normal due to anesthesia, pain medication and inactivity. You may be given a daily stool softener to prevent constipation which is a common side effect of pain medication. A laxative may also be ordered if you need it. Please let your nurse know if you have not had a bowel movement after 48 hours.

***PATIENT POINT*** – Constipation is a common side effect of pain medications; stool softeners are given routinely.

### **Bladder function**

Nursing will assist you with going to the bathroom. Patients are highly encouraged to walk to the bathroom. A bladder scan may be used to view the amount of urine in your bladder. A catheter tube may be inserted to drain the urine from your bladder and then removed.

## **Diet**

Your diet is slowly increased as the stomach awakens from surgery to prevent nausea and vomiting; starting with ice chips, then clear liquids until home diet is reached. Meals are delivered at approximately 7:45 a.m., 11:45 a.m., and 5:00 p.m. You will be expected to be in your chair for all meals. Gradually increase your fiber intake to prevent gas and bloating. A healthy diet includes 3-5 servings of vegetables, 2-4 servings of fruits, 6-11 servings of breads/cereals/rice/pasta (3 must be whole grain) and 2-3 servings of beans/peas per day.

## **Post-Operative Activity**

***\*See Pathway Home in Reference section (F-7)***

Post-operative exercises are extremely important; activity stimulates circulation and deep breathing which speeds recovery. Remember that you are part of the health care team and can ask for help if you need to move around. You will be walking with nursing staff as well as therapy staff. You may have difficulty sleeping, which is normal. Avoid napping too much during the day. Your energy level will be decreased for at least the first month.

***PATIENT POINT – Do not get up without staff assistance.  
Your leg will be numb, it won't support you and you may fall.***

**Antiembolic stockings (TEDS):** Wear the stockings during the day and have someone assist you to put them on and take them off. Check skin and heels daily for redness or sores. You may wash the stockings with mild soap and let them air dry. Continue to wear the stockings for 3 weeks or follow up appt. at clinic.

***\*See Safe Skin handout in Reference section (F-9)***



## Preventing blood clots

- **Mobility:** Decreased mobility following surgery and normal post-operative swelling put you at risk for blood clot formation in your legs. This is why activity is emphasized after surgery. Many steps will be taken to prevent blood clots.
- **Foot/leg pumps:** You will have special wraps placed on your feet/legs. These wraps gently squeeze your feet/legs to promote circulation. Pumps should be worn at all times while you are in bed. If they are taken off and not reapplied, let nursing staff know so they can put them back on.
- **Leg exercises:** Perform these gentle exercises after surgery to promote circulation in your legs.
- **Early ambulation (walking):** Every effort will be made to get you up and moving as soon as possible. Your physical therapist and nurse will assist you with this.



### Anticoagulant therapy:

- Anticoagulation is the process of slowing down the clotting of your blood after surgery, to reduce the risk of getting a blood clot. If the clot moves from the legs to the lungs, it can become life threatening. It is important to take your blood thinner daily at approximately the same time. Unless instructed by your surgeon, you must finish the entire prescription of blood thinning medication.
- You will be receiving medication (by mouth or injection) to prevent your blood from clotting as easily. This may require that you have daily blood tests done to monitor your dose.

- Your surgeon will evaluate your risk for developing a blood clot and prescribe the best option for you. If you are currently taking a blood thinner you will be instructed after surgery when to start taking the medication. There are several measures to reduce the risk of getting a blood clot, and you may be prescribed one or more of the following:

**Lovenox ®:** Is an injection (shot) that is given into the belly, once or twice daily. Prior to discharge you and your family member will be given instructions on how to administer a shot. You will be given an instruction CD and home Lovenox kit. (You may need blood drawn to check your platelet level if your surgeon feels it is necessary.)

**Aspirin:** Is a pill that you take once a day. It does not have to be monitored with lab work.

**Xarelto ®:** Is also a pill that you take once a day and does not have to be monitored by lab work. It is suggested that you check with your insurance company for coverage of this medication.

**Warfarin (Coumadin ®):** Is a pill you take once a day. This medication will typically be taken for 3-4 weeks after surgery.

- Take daily, in the evening
- Avoid using non-steroidal anti-inflammatory medications; Ibuprofen, Advil®, Motrin®, Aleve®, Naprosyn, etc. You may take Tylenol®.
- You should limit your intake of the following foods which are high in Vitamin K: Spinach, asparagus, cabbage, brussel sprouts, broccoli, and other dark green leafy vegetables. If you have any questions about foods, please ask to speak with a Registered Dietician.
- Coumadin® has to be monitored with a blood test, called INR (International Normalizing Ratio). The amount of Coumadin® you take may change depending on the INR level.

### **For your circulation**

The risk of forming a blood clot increases whenever the movement of blood is sluggish or if the blood vessel is diseased or damaged. To help prevent this from occurring you should do the following exercises every one to two hours.

- Turning to either side is encouraged. Changing positions every one to two hours helps your lungs and circulation.
- Staff will help you get out of bed several times during the day.
- Ankle pumps – push your toes toward the foot of the bed. Relax both feet. Pull your toes toward your chin. Relax both feet. Repeat 10 times every hour while awake.

## Coughing effectively

Deep breathing and coughing helps prevent pneumonia after surgery. Take a slow deep breath and hold it for a second or two then push the air out of your lungs with a deep strong cough. You may also be given an incentive spirometer. This is a small plastic device that encourages you to breathe more effectively. You will be shown how to use the spirometer if indicated. This is an exercise that you can do on your own.

***PATIENT POINT*** – Breathing deep and coughing helps keep the air moving in and out of the small air sacs in your lungs.

## How to Use an Incentive Spirometer

1. Sit on the edge of your bed, if possible, or sit up as far as you can in bed.
2. Hold the spirometer in an upright position. Exhale normally.
3. Place the mouthpiece in your mouth and seal your lips tightly around it.
4. Breathe in slowly and as deeply as possible, raising the piston in the chamber.
5. When inhaling, maintain top of the yellow flow cup in the "Best" flow range.
6. Continue inhaling and try to raise piston to prescribed volume level (top of piston indicates inspired volume). When inhalation complete, remove mouthpiece, hold your breath as long as possible (at least 5 seconds). Exhale and allow the piston to fall to the bottom of the chamber.
7. Rest for a few seconds and repeat steps one through five at least 10 times every hour while you are awake.
8. Position the indicator on the spirometer to show your best effort. Use the indicator as a goal to work toward during each repetition.
9. After each set of 10 deep breaths practice coughing to be sure your lungs are clear.





## Rehabilitation

### **My Discharge Planning Team – Case Management Department**

Planning your care both in the hospital and after discharge is an important step in your recovery. The case management staff, consisting of a Case Manager and a Social Worker, work to ensure continuity in your care. They will discuss your discharge plan with you and your family, order equipment, and make arrangements for home health care or transfer to the transitional care unit, (skilled nursing) or rehab, if needed.

***PATIENT POINT*** – Preparation for going home starts well before your surgery! Your case management team will continue to work with you for discharge.

- **RN Case Manager:**
  - Assists in managing the health care team to meet your needs both during and after your hospital stay
  - Arranges for home health care or any outpatient services you may need
  
- **Social Worker:**
  - Assists in the transition to other levels of care when you are unable to return home immediately after discharge from the hospital
  - Assists with health care directives
  - Assists with financial concerns as a result of the hospitalization

Your progress and readiness for discharge will be assessed daily by your bedside RN. If needed, the case manager and/or social worker will discuss your discharge plan with you and your family and order any equipment you may need at home.

A nurse will review your discharge instructions with you. Follow the instructions carefully to ensure that your joint will function smoothly. You will also be instructed when to follow up with your surgeon's office. If you have any questions after you are discharged, please contact the surgeon's office directly at St. Cloud Orthopedics.

## **Total Joint Program goals**

It is anticipated that you will be discharged from the hospital one to two days after surgery. In all cases, it is dependent upon your physical and clinical status. Our goal is for you to go directly home, and the majority of patients do. However, there are occasions when a patient is not able to go directly home.

## **Options after leaving the hospital**

- After leaving the hospital, you will need to continue your therapies to make a full recovery. This can be accomplished in several ways depending on your progress and needs. Through discussion with your surgeon you may find that one of the following options would be beneficial to you;
  - **Home with outpatient physical therapy services (total knee patient only)**  
Upon returning home, you will need to be driven to an outpatient clinic or facility of your choice where you will receive physical therapy as ordered by your surgeon. Blood may be drawn in an outpatient lab.
  - **Home with home health nursing and Therapy**  
The company you choose will come into your home for nursing care and physical therapy treatments as ordered by your surgeon. Lab can be drawn to monitor your blood thinning medication if necessary.
  - **Skilled nursing facility for continued therapy**  
If you are not ready to return home on your own, you will be transferred to a skilled nursing facility of your choice where you will continue to receive physical and occupational therapy once or twice a day.

***PATIENT POINT* – You are the driving force in your recovery.**

## **Therapy goals for going home**

- Follow all precautions as determined by your therapist and/or surgeon.
- Get in and out of bed safely and properly.
- Walk safely with a walker or crutches.
- Dress yourself and bathe with assistance.
- Go up and down the stairs with assistance from another person.
- Independent with home exercise program.
- Straighten your knee completely to walk normally (knee replacement only).
- Bend your knee to 90 degrees or greater for better mobility (knee replacement only).

## **Physical therapy and occupational therapy**

Physical therapy and occupational therapy are an important part of your post-operative care. Our rehabilitation team will work with you to improve function, decrease pain and return you to the activities you enjoy. Your therapy will:

- Begin the day of surgery as ordered by your surgeon
- Consist of 2-3 sessions per day
- Combine group and individual sessions that teach you:
  - Range of motion and strengthening exercises
  - Getting out of bed
  - Walking
  - Stair climbing
  - Transfers (car, bed, tub and toilet)
  - Self-care activities
  - Use of adaptive equipment like sock aids and reachers
  - Other assistive equipment

## **Special instructions for therapy**

- Your motivation and participation in therapy is important to aid in the speed and success of your recovery, as well as getting you ready to go home. This means you are the driving force toward a successful recovery. Be encouraged, as rehabilitation progresses you will experience less pain and stiffness.
- Do not bring your walker with you to the hospital. Every patient will have a loaner walker to use while you are in the hospital. If you have a specialty or borrowed walker and want to know if it will work for you, bring it in on the day of discharge so it can be sized.
- Please remember to bring comfortable clothing for your therapy sessions. We recommend shorts with baggy legs and T-shirts or other loose shirts or blouses.

## Precautions after total knee and hip replacement

Follow precautions for two to three months or until instructed by your physician:

- Continue using a walking device until instructed otherwise by your therapist or surgeon
- Do not sit in one position for an extended period of time. Change positions frequently to avoid getting stiff
- Avoid walking on steep slopes or uneven surfaces
- Do not pivot on your operated leg while you are walking
- Do not cross your legs to put on your shoes or socks
- Do not kneel on your operative knee

## Things to consider after total hip replacement



### **Anterior Approach/ Dual Incision Hip Replacement**

Your therapists will teach you which precautions to follow.

- Avoid movements that cause discomfort to your hip



### **Posterior Approach Hip Replacement**

Your therapists will teach you which precautions to follow.

Follow precautions until instructed by your surgeon.

- Do not bend your hip more than 90 degrees:
  - Do not sit in low, overstuffed furniture. Sit in firm chairs keeping your leg straight in front of you with your knee slightly bent.
  - Do not allow your knee to be higher than your hip when sitting. Put extra cushions in seats if necessary.
  - Lean back and allow operated leg to slide forward as you sit.
  - Do not attempt to sit in a bathtub.
  - Use an elevated toilet seat.
  - Avoid sports cars with bucket seats because of low seat height.
  - Do not lean forward while sitting (to reach items, to get into a car, or to dress yourself).
- Do not allow your leg to roll inward.
- Do not cross your legs at the ankles or the knees.