

# POST-OPERATIVE PAIN MANAGEMENT

## TOTAL KNEE REPLACEMENT



 **ORANGE  
REGIONAL**  
MEDICAL CENTER

[www.ormc.org](http://www.ormc.org)

A member of the Greater Hudson Valley Health System

# POST-OPERATIVE PAIN MANAGEMENT

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Post-operative pain management after total joint replacement surgery is extremely important when it comes to making your recuperation as safe and effective as possible.

A great deal of decision-making is carried out by you and your doctors to ensure you are making the right decision to have your joint replaced. Information is gathered from pre-operative testing and physical examination. After total joint replacement, the goal of managing your pain is to make sure adequate pain control is given in the safest way possible.

Studies have shown that adequate pain management helps in the post-operative healing process. Adequate pain management also helps you participate to the best of your ability in your physical therapy program so that you will have a total joint that functions well.

The rehabilitation phase of your surgery begins on your first post-operative day. If you are overly sedated or extremely nauseated you will not be able to sit up or walk. Therefore, a pain management plan is necessary to maximize your pain relief and minimize medication side effects. This plan is made together with you, as you know from your own experience how you react to pain medication, and your surgical team. Your anesthesiologist plays a very important role in this plan.

# Post-operative Pain Control After Total Knee Replacement

Pain control should be established quickly so that you can start moving your knee immediately after surgery. There are several choices you and your anesthesiologist can decide on:

## Continuous Femoral Block

The continuous femoral nerve block catheter is placed in the groin area before surgery using local anesthesia to numb the area, using sterile techniques to prevent infection. The continuous femoral nerve block catheter is positioned alongside the femoral nerve, which is located in the upper thigh about a half inch (1/2") below the skin surface. An ultrasound machine and computerized nerve stimulator device is used to guide the catheter safely into position next to the nerve. Medication (much like you are given in a dentist's office) is initially pushed through the catheter to put the nerve to sleep and then pumped through the catheter continuously for approximately 48 hours to keep it sleeping. The catheter is covered with a clear dressing so that your nurse and anesthesiologist can watch the area while it is in place.

This medication is very safe and will numb your knee area through the femoral nerve by blocking pain signals to your brain. The femoral nerve supplies about 80 percent of the sensation in your knee. The benefit of using a continuous femoral nerve block to control pain after total knee replacement surgery has been tested and proven to be effective. By using this method for pain control, you will need fewer narcotic medications to control your pain. By using fewer narcotics there will be fewer side effects.

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# Spinal Injection of Morphine-Duramorph

Spinal injection of Duramorph is administered using a very small needle. It is inserted into the spinal sac in the lumbar (lower) region of the spine after numbing the skin and administering medication to keep you very relaxed and most often sleeping (sedation). Delivery of this pain medication is given in the operating room immediately prior to your surgical procedure. The spinal Duramorph will last for approximately 18 to 24 hours after surgery with 85 to 90 percent pain relief.

Spinal Duramorph has been used safely and effectively for over 25 years and is most commonly used for women having cesarean sections. The pain relief attributed to spinal Duramorph for patients having total knee replacement is extremely effective, as well. Once again, possible side effects include nausea, itching, sedation, constipation and possible urinary retention (inability to urinate). The dose is determined based on the age and gender of the patient as women are more prone to the side effects of nausea and itching. There are medications available to counter the side effects and are readily available upon request.

There are instances in which smaller doses of Duramorph injected into the spine are administered simultaneously with the femoral nerve block method to maximize your pain management.

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## **Patient Controlled Analgesia (PCA)**

An additional consideration for managing pain is Patient Controlled Analgesia (PCA). This method provides an intravenous pump attached to the intravenous site allowing you to administer your own pain medication after surgery. The machine has been used for over 20 years and has a safe record of use.

The pump is computer-controlled and the settings are decided by the anesthesiologist. The machine has a control button that can be pushed 8 to 10 times per hour when pain is experienced. If you try to press the control button more times than the computer is programmed to accept, the pump is locked out. This prevents accidental overdosing of pain medication. The PCA pump remains locked and can only be opened with a key by nursing staff whenever the medication cartridge needs to be changed. Tampering of the device is impossible.

The PCA has several advantages as well as disadvantages due to the nature of the medication being administered. Since the medicine is administered directly into the intravenous line, the medication works very quickly. If you are in pain, you do not need to call the nurse to be given pain medication. All you have to do is press the control button and within minutes the medication will be in your bloodstream and pain relief will begin quickly.

The main disadvantage of PCA is that the medication used can be quite sedating for some patients, making it difficult to participate in post-operative physical therapy. Other disadvantages are the side effects associated with narcotics including nausea, vomiting, itching and urinary retention (inability to urinate).

At Orange Regional Medical Center, there are two types of medications used in PCA: Morphine or Oxymorphone. The PCA cannot be used if you have an allergy or sensitivity to these medications. Contrary to popular belief, you cannot become addicted to morphine by using a PCA in a controlled environment and for a limited period of time. The use of PCA is limited to 72 hours or less to prevent or decrease side effects. The effectiveness of analgesia attributed to the PCA pump is about 75 percent so breakthrough pain medications are readily available for all patients on PCA.

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In summary, choices for pain management for total knee replacement surgery are:

- Continuous femoral nerve block catheter combined with oral medications;
- Spinal injection of narcotics;
- Patient Controlled Analgesia, also known as PCA pump.

Your anesthesiologist and surgeon will help you determine which pain management option is best for you. Recuperation and rehabilitation after total joint replacement are necessary for you to have an excellent outcome. A great deal of time and planning have gone into your decision to have your knee surgery. We want to make sure your outcome meets your expectations.

No matter what type of post-operative analgesic techniques you and your doctor choose, it is important to know there are several other medications available that may be prescribed to help manage any breakthrough pain. These include intravenously non-steroidal, non-narcotic medications that are structurally similar to aspirin and are very effective in reducing pain. Your doctor may also order acetaminophen around the clock to help reduce the need for the use of rescue narcotics. In addition, pain management programs recommend the use of low-dose Neurontin, as well as oral medications like Celebrex, to accentuate the effectiveness of narcotic medications that your doctor may also prescribe. The goal is to manage your post-operative pain so that you can participate in your rehabilitation program to maximize your outcome.

Discuss with your physician the pain management plan that's right for you. Additionally, members of the Bone & Joint Center at Orange Regional Medical Center are available to answer any questions.

Orange Anesthesia Services has been providing services to Orange Regional Medical Center for over 50 years. If you have questions, Orange Anesthesia Services can be reached by calling 845-343-6216.

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