

How to Relieve Pain After Hip or Knee Surgery



If you have had hip or knee replacement surgery, you are probably concerned about discomfort in the days following your surgery. It is important to understand that at some point after surgery, you will experience some level of pain - particularly with activity and physical therapy. Pain may also prevent you from sleeping comfortably at night. **There are a variety of ways to help reduce pain after surgery that are simple to do and that don't involve the use of narcotics – otherwise known as opioids.**

RICE

Research has shown that there are effective methods to reduce pain and swelling that don't involve medication at all. Your doctor may have told you to remember "RICE" after surgery. RICE stands for:

- Rest
- Ice
- Compression
- Elevation

Rest

It may sound obvious, but rest! Try simple relaxation techniques such as journaling, listening to music, practicing controlled breathing or mindful meditation. Research has shown these methods help reduce pain and decrease the need for pain medications.

Ice

Reducing swelling after surgery is key and can be achieved using ice whether in the form of ice packs or cold therapy machines. You can overdo it with ice and damage your skin, so it is recommended to apply ice for 20-30 minutes and then take it off for 30 minutes prior to reapplication if needed. The ice or cold pack should not directly touch your skin. You can place a towel or flexible wrap on the skin to prevent frostbite.

Compression

Use compression dressing. This can be a knee sleeve or a compression wrap. You may have been given compression stockings after surgery that can also be helpful. Compression decreases swelling. It needs to be applied gently. If your foot goes numb or gets cool to the touch, you are wrapping it too tightly.

Elevation

Lie down and prop the leg where you had your surgery on a pillow or other soft material. Make sure your foot is above your heart level for appropriate elevation.

Your attitude towards pain control can also affect how well you manage your pain after surgery. If you believe that the pain will be uncontrollable or unmanageable, your pain and distress will worsen. If you believe that your pain can be managed and controlled, then it will. Research has shown a positive attitude can actually improve the effectiveness of pain medication. But which ones are safe?



Non-Opioid Medications

There are a number of non-opioid medications that are an important part of pain management after joint replacement. Typically, **multiple types of medications** are used to treat pain via a multimodal regimen, which is shown to be most effective in treating pain while also minimizing the risk of dangerous side effects. Common medications used after joint replacement surgery include non-steroidal anti-inflammatories (NSAIDs), acetaminophen, muscle relaxers, and neuroactive agents that target nerve-type pain.

NSAIDs

There are a number of prescription and over-the-counter non-steroidal anti-inflammatory drugs (NSAID). Prescription NSAIDs include meloxicam (Mobic), voltaren (Diclofenac), indomethacin (Indocin), and celecoxib (Celebrex). Over-the-counter NSAIDs commonly recommended are ibuprofen (Advil, Motrin) and naproxen (Aleve). While not used for pain control after surgery, aspirin is another type of NSAID used at low doses to decrease the risk of developing a blood clot. **The NSAID you decide to use for pain control should be taken as instructed by your surgeon.**

Despite some NSAIDs having less side effects, they are not typically recommended if you have kidney disease, have had certain weight-loss related surgery, are at high-risk for or have a history of stomach bleeding or ulcers, or have had recent heart bypass surgery or heart attack.

Acetaminophen

Acetaminophen (Tylenol, Paracetamol) is another effective over-the-counter pain medicine and fever-reducer that can be used in combination with NSAIDs and other pain medicines. When acetaminophen is taken with NSAIDs, the combination of medicines provides more effective pain control than either medicine alone. It is often recommended or prescribed to be taken three or four times per day, **which can reduce the need for stronger pain medicines or opioids** with potentially more harmful side effects.

It is important to note that many prescription opioid medicines contain acetaminophen, and the maximum daily dose of acetaminophen from all sources should not exceed three to four grams (3,000 to 4,000 milligrams). Higher daily doses are associated with increased risk of liver-related side effects. Acetaminophen is typically not recommended for patients with severe liver impairment or disease. Alcohol use while taking acetaminophen is not recommended. Please discuss the risks with your physician.

Muscle Relaxers

Muscle relaxers may be prescribed after joint replacement surgery in order to decrease pain related to muscle spasm. Two common muscle relaxers are methocarbamol (Robaxin) and cyclobenzaprine (Flexeril). These medicines are generally safe, and the most common side effect is described by patients as drowsiness or dizziness. Dry mouth is another common side effect. Because these medicines are broken down by the liver, decreased doses are used in patients who have liver problems. Also, cyclobenzaprine (Flexeril) is not recommended for patients taking certain types of anti-depressants due to an interaction between the medicines. This class of medication can also



make you sleepy, so it is best to **take muscle relaxers before you go to bed or prior to a daytime nap.**

Neuroactive Medications

Another type of medicine used as part of a multimodal pain regimen after joint replacement are medicines that target nerve pain - namely gabapentin (Neurontin) or pregabalin (Lyrica). Using these medications **decreases the amount of opioids required after joint replacement.** Some patients report that these medicines cause drowsiness, but they are considered safer than opioids. Because these medicines are excreted by the kidneys, the dose if you have chronic kidney disease or reduced kidney function may be altered by your physician.

Opioid Medications

If you still have severe pain that is not relieved by any of the above methods, then your surgeon might consider prescribing an opioid or narcotic medicine. **Opioid medications are often necessary for the first few weeks after a joint replacement surgery.** They are most commonly used before or after physical therapy and when trying to calm the pain during sleep.

The various opioid medications differ in strength, meaning that a certain amount of one opioid is not equivalent to the same amount of another. Here are some of the oral opiates that might be prescribed after joint replacement: tramadol (Ultram), hydrocodone (Vicodin or Norco¹), oxycodone (Roxicodone; Percocet²). **Percocet and Vicodin contain acetaminophen, so if you are also taking acetaminophen be sure to adjust the dose.** Side effects common to all opiates include nausea, vomiting, constipation, urinary retention, itching, sleepiness, hypotension, decreased respirations. If one opiate causes you to experience a certain side effect, a different opiate may or may not cause that same side effect. Tramadol may be less likely to cause some of the common side effects; however, it should not be used in conjunction with certain anti-depressants or if you have seizure disorders.

When taking opioids, it's important to note that they are addictive due to their ability to activate "reward centers" within the brain, which can cause you to feel happy or relaxed. Sometimes this causes people to continue to seek out and use opioids long after the resolution of their surgical pain. This behavior is more likely if you have a history of drug or alcohol addiction or if you take more opioids than the minimum amount necessary to alleviate your pain.

Taking opioids on a regular basis will cause you to develop a tolerance to the pain-relieving effects, meaning that higher doses of the opioid medicine are required for pain relief. Although people can quickly become tolerant to an opioid medicine's ability to decrease pain, the dangerous side effects (such as respiratory depression) become more pronounced at higher doses.

Long-term use of opioids is not recommended whether before or after joint replacement surgery. The American Association of Hip and Knee Surgeons has a position statement on the prescribing of opioids for osteoarthritis pain at <http://www.aahks.org/position-statements/opioid-use-for-the-treatment-of-osteoarthritis-of-the-hip-and-knee/>. If you have been taking an opioid for joint pain prior to your surgery, see our article, "Opioid Use Before Hip or Knee Surgery Can Mean Trouble" at <https://hipknee.aahks.org/opioid-use-before-hip-or-knee-surgery-can-mean-trouble/>.



If you use multiple types of medicines in conjunction with short-term opioids for severe pain after surgery, then it is less likely to lead to abuse or addiction.

Once you no longer need opioids to control your pain, we recommend **disposing of all leftover pills** by dropping them off at an authorized disposal location. Proper disposal prevents misuse or accidental use by you or others in your household. Most pharmacies are registered as disposal locations, and a full list of locations in your area can be found on the Drug Enforcement Administration website at <https://apps2.deadiversion.usdoj.gov/pubdispsearch>.

Learning what to expect regarding pain management after surgery can improve your pain control. It is important to discuss your expectations with your doctor or surgical team in the time before your surgery is scheduled.

References:

1. Nilsson U, Unosson M, Rawal N. Stress reduction and analgesia in patients exposed to calming music postoperatively: a randomized controlled trial. *European journal of anaesthesiology*. 2005;22(2):96-102.
2. Darnall BD, Colloca L. Optimizing Placebo and Minimizing Nocebo to Reduce Pain, Catastrophizing, and Opioid Use: A Review of the Science and an Evidence-Informed Clinical Toolkit. *Int Rev Neurobiol*. 2018;139:129-57.
3. Chou R, Gordon DB, de Leon-Casasola OA, Rosenberg JM, Bickler S, Brennan T, Carter T, Cassidy CL, Chittenden EH, Degenhardt E. Management of Postoperative Pain: a clinical practice guideline from the American pain society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' committee on regional anesthesia, executive committee, and administrative council. *The Journal of Pain*. 2016;17(2):131-57.
4. Ong CK, Seymour RA, Lirk P, Merry AF. Combining paracetamol (acetaminophen) with nonsteroidal antiinflammatory drugs: a qualitative systematic review of analgesic efficacy for acute postoperative pain. *Anesthesia & Analgesia*. 2010;110(4):1170-9.
5. Patient education: Opioids for short-term treatment of pain (The Basics) 2019 [May 16, 2019]. Available from: <https://www.uptodate.com/contents/opioids-for-short-term-treatment-of-pain-the-basics?search=opioid&topicRef=108806&source=see-link>.



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