TREATMENT

Anesthesia for Hip and Knee Surgery

Before your joint replacement surgery, your doctor will discuss anesthesia with you. The selection of anesthesia is a major decision that could have a significant impact on your recovery. It deserves careful consideration and discussion with your surgeon and your anesthesiologist.

Several factors must be considered when selecting anesthesia, including:

- **Your past experiences and preferences.** Have you ever had anesthesia before? Did you have a reaction to the anesthesia? How do other members of your family react to anesthesia?
- **Your current health and physical condition.** Do you smoke? Are you overweight? Are you being treated for any condition other than your joint replacement?
- **Your reactions to medications.** Do you have any allergies? Have you ever experienced bad side effects from a drug? What medications, nutritional supplements, vitamins, or herbal remedies are you currently taking?
- **The risks involved.** Risks vary, depending on your health and selection of anesthesia, but may include breathing difficulties, allergic reactions and nerve injury. Your surgeon and anesthesiologist will discuss specific risks with you.
- **Your healthcare team.** The skills and preferences of your surgical and anesthesia team play an important role in the selection of anesthesia.

Types of Anesthesia

There are three broad categories of anesthesia: local, regional and general.

Local Anesthesia

Local anesthesia numbs only the specific area being treated. The area is numbed with an injection, spray or ointment that only lasts for a short period of time. Patients remain conscious during this type of anesthesia. This technique is reserved for minor procedures. For major surgery, such as hip or knee replacement, local anesthesia may be used to complement the main type of anesthesia that is used.

Regional Anesthesia

Regional anesthesia involves blocking the nerves to a specific area of the body, without affecting your brain or breathing. Because you remain conscious, you will be given sedatives to relax you and put you in a light sleep.

The three types of regional anesthesia used most frequently in joint replacement surgery are spinal blocks, epidural blocks and peripheral nerve blocks.

- **Spinal Block.** In a spinal block, the anesthesic drug is injected into the fluid surrounding the spinal cord in the lower part of your back. This produces a rapid numbing effect that wears off after several hours.
- **Epidural Block.** An epidural block uses a catheter inserted in your lower back to deliver local anesthetics over a variable period of time. The epidural block and the spinal block are administered in a very similar location; however, the epidural catheter is placed in a slightly different area around the spine as compared to a spinal block.

- **Peripheral Nerve Block.** A peripheral nerve block places local anesthetic directly around the major nerves in your thigh, such as the femoral nerve or the sciatic nerve. These blocks numb only the leg that is injected, and do not affect the other leg. One option for a peripheral block is to perform a one-time injection around the nerves in order to numb the leg just long enough for the surgery. Another option for this type of block is to keep a catheter in place, which can deliver continuous local anesthesia around the nerves for up to several days after surgery.

Advantages to regional anesthesia may include less blood loss, less nausea, less drowsiness, improved pain control after surgery, and reduced risk of serious medical complications, such as heart attack or stroke that — although rare — may occur with general anesthesia.

Side effects from regional anesthesia may include headaches, trouble urinating, allergic reactions, and rarely nerve injury.

General Anesthesia

General anesthesia is often used for major surgery, such as a joint replacement. General anesthesia may be selected based on patient, surgeon, or anesthesiologist preference, or if you are unable to receive regional or local anesthesia. Unlike regional and local anesthesia, general anesthesia affects your entire body. It acts on the brain and nervous system and renders you temporarily unconscious.

- **Administration.** With general anesthesia, the anesthesiologist administers medication through injection or inhalation. The anesthesiologist will also place a breathing tube down your throat and administer oxygen to assist your breathing.
- **Risks.** As with any anesthesia, there are risks, which may be increased if you already have heart disease, chronic lung conditions, or other serious medical problems.

General anesthesia affects both your heart and breathing rates, and there is a small risk of a serious medical complication, such as heart attack or stroke.

The tube inserted down your throat may give you a sore throat and hoarse voice for a few days.

Headache, nausea, and drowsiness are also common.

Pain Relief After Surgery

The goals of postoperative pain management are to minimize discomfort and allow you to move with less pain in order to participate in physical therapy after surgery. The first few days after hip and knee surgery are usually painful. Your doctor will use a combination of oral medications or intravenous medications to help control your pain and keep you comfortable.

Oral Pain Medications

Oral pain medications may include a combination of non-narcotic pain relievers such as acetaminophen (Tylenol), nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen or naproxen, or muscle relaxants such as methocarbamol, and opioid-based medications such as hydrocodone, oxycodone, or tramadol. You should use opioids only as directed by your doctor. Although opioids can help relieve pain after surgery, they are a narcotic and can be addictive. As soon as your pain begins to improve, stop taking opioids. Talk to your doctor if your pain has not begun to improve within a few days of your surgery.

Intravenous Pain Medications

Intravenous (IV) pain medications such as morphine and hydromorphone (Dilaudid) are generally used to supplement oral pain medication during severe episodes of pain. The advantage of IV pain medications is that they take effect quickly. It is important to use IV pain medications sparingly in order to avoid serious side effects.

Another method of pain control is called "patient-controlled anesthesia" or "PCA." With PCA, you will be able to control the flow of intravenous medication, within preset limits, as you feel the need for additional relief.

If an epidural or peripheral nerve block was used for your surgery, the epidural or peripheral catheter can be left in place and anesthesia can be continued in the postoperative period to help control pain. You may also have control over the amount of pain medication you receive in these catheters, within preset limits. You will be closely monitored to avoid complications, such as excessive sedation or falls.

The proper use of pain relievers before, during and after your surgery is an extremely important aspect of your treatment. Proper use of pain medication can encourage healing and make your joint replacement a more satisfying experience. Take time to discuss the options with your doctor, and be sure to ask questions about things you do not understand.

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