

# Hand Surgery: Anesthesia

There are several options for anesthesia for patients undergoing hand surgery. These would include local anesthesia, general anesthesia, and regional anesthesia. The type of anesthesia used depends on the nature and duration of the surgery, patient's health and any medical conditions, and preferences of the patient, surgeon, and anesthesiologist.

## Local anesthesia

"Local anesthesia" typically means anesthesia for a small area, and may include injecting numbing medicine in the finger, or just at the site of surgery, such as for a trigger finger or removing a small lump. Sedative medications may be given to you, usually through an intravenous line (IV), to help you relax during your surgery, too.

## General anesthesia

General anesthesia is when you are put to sleep for your surgery. Newer medications and techniques make side effects such as nausea, dizziness, and drowsiness less likely, though they can still occur.

## Regional Anesthesia ("Nerve Blocks or "Arm Blocks")

### What is Regional Anesthesia?

Regional anesthesia puts part of your body to sleep by injecting numbing medicine through a needle along the path of nerves. This may be around the collarbone, under the arm, or through an intravenous (IV) line in your arm. There are several different types of regional anesthesia.

**Axillary Block:** The numbing medicine is injected under the armpit (the axilla) to numb the brachial plexus, the network of nerves below the neck and collarbone that ultimately branch out into the nerves that supply the arm, forearm, and hand. This generally provides good anesthesia for hand, wrist, forearm, and elbow surgery.

**Interscalene Block:** The numbing medicine is injected towards the brachial plexus between the scalene muscles, which are at the base of the neck above the collarbone (clavicle). This type of regional anesthesia provides good anesthesia for hand, wrist, forearm, and often shoulder surgery.

**Infraclavicular Block:** The numbing medication is injected towards the brachial plexus below the collarbone (clavicle). This generally provides good anesthesia for hand, wrist, forearm, and elbow surgery.

**Bier Block:** The numbing medicine is injected through an IV line in the arm being operated on, with a tourniquet around the upper part of your arm to hold the medicine in the arm, preventing it from leaking out to the rest of your body. This type of block is useful for short procedures such as carpal tunnel surgery.

**Wrist Block:** The numbing medicine is injected near the nerves at the wrist (median, ulnar) to numb the hand and fingers.

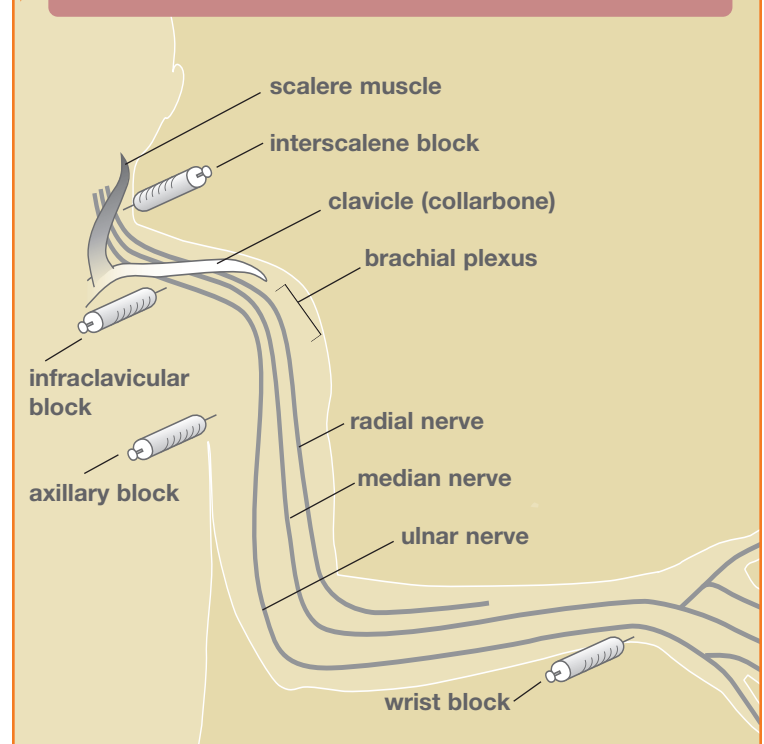
## Why Choose Regional Anesthesia?

Some of the proven advantages of choosing regional anesthesia as part of your anesthetic include better postoperative pain relief, less narcotic use (drugs related to morphine such as Fentanyl and Vicodin), faster recovery, less nausea, and, for some surgeries, less blood loss and less risk of blood clots.

## Is Placing the Block Painful?

The injection of numbing medicine with a needle can be slightly uncomfortable or painful, but you will have IV medication to help you relax and feel comfortable during block placement. Often times a small amount of local anesthetic is injected around the site where the block needle is placed. The anesthesiologist may use a stimulating needle to precisely locate the nerve. This causes the arm or hand muscles to twitch and move, which is not painful, although it can feel strange.

**Figure 1:** Diagram of the regional blocks used to numb the nerves in the arm.



## How Long Will It Last?

Placing the block usually takes around 5 to 15 minutes and numbness comes on over 10 or 20 minutes. The numbing medications used in regional anesthesia can provide from 1 to 24 hours of pain relief, depending on the specific medication used. The muscles controlled by the nerves that are blocked may also be weak until the block wears off. You will be given back-up pain medicine by mouth or by IV, in addition to the numbing medicine in the block.

## Will I be Awake During Surgery?

Having surgery under regional anesthesia means that the part of your body that will be operated upon will be numb during the surgery. Some patients prefer to be awake during surgery. Others prefer to be asleep. During your surgery you can be as awake or as asleep as you and the surgical team (surgeon and anesthesiologist) decide. Sometimes general anesthesia is recommended as well as the regional block. Your anesthesiologist will discuss this with you before the surgery. You will not be able to see the surgery itself because a large sterile drape is placed between you and the surgeon. This is to protect the "sterile field, the important area of your surgery, from any contamination.

## Are there any Complications?

As with any anesthetic, there are risks associated with the benefits of regional anesthesia. These include incomplete pain relief, soreness or bruising at the needle site, or tingling that lasts for several days. Serious complications can occur but these are very rare: significant bleeding, infection, or nerve injury.

## Do I have to have a Regional Block?

No, you can decline regional anesthesia. Anesthesiologists offer this option because it has advantages for your comfort and recovery. Occasionally there are medical reasons for strongly advising you to choose regional anesthesia, which has fewer side effects on major organs. Patients with significant heart or lung disease, for example, who need surgery, may be advised to have regional anesthesia. Your anesthesiologist will discuss this with you.