

Interscalene Block

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What is an Interscalene Block?

An Interscalene block is a form of regional anesthesia used in conjunction with general anesthesia for surgeries of the shoulder and upper arm. Simply stated, an Interscalene block will numb your shoulder and arm before surgery so that your brain will not receive any pain signals during and immediately after surgery. The block involves injecting numbing medication near the nerves that regulate sensation in the shoulder and arm. It is not uncommon for patients to have many questions regarding the use of an Interscalene block. Answers to some of the most frequently asked questions are included below. This is certainly not an exhaustive list. Your anesthesiologist will be happy to answer any questions that you may have when you meet her/him prior to your surgery.

Who should have an Interscalene block?

Typically, people who are having surgery on their shoulder or upper arm are excellent candidates for this block. Because it is performed before surgery occurs, it is very effective in decreasing the pain you experience during and after your procedure. Not all patients are candidates for this type of anesthesia, and your anesthesiologist and surgeon will help you decide if it is an option for you.

Why should I have an Interscalene block?

There are many distinct benefits to using an interscalene block for shoulder and arm surgery. An Interscalene block will numb your shoulder and arm before surgery. Since your shoulder and arm are numb, your brain will not "register" the effects of surgery until the block has worn off hours after the procedure has ended. At that point, your pain level will be significantly lower than levels normally present during and immediately after surgery. The amount of medication needed to keep you asleep under general anesthesia during the surgery is also reduced because of the beneficial effects of the nerve block. By reducing the overall amount of anesthesia, the incidence of post operative nausea is reduced as well. In addition, many studies have shown that overall pain levels in people who have blocks are significantly decreased for several days after surgery.

Will I be awake for the block?

You will be awake, but under light sedation. An Interscalene block requires your cooperation in order to

be performed safely and effectively. For this reason, your anesthesiologist wants you to be awake enough to keep your body positioned correctly. She/he will most likely give you an intravenous sedative and pain medication before you undergo the block. Supplemental oxygen delivered through a nasal cannula may be used as well. Most people who have the block administered will not remember the procedure at all. Those patients who do remember the block have found it to be less uncomfortable than the IV (intravenous) catheter placement. If you are especially nervous about the block, please share this information with your anesthesiologist so that she/he may adjust your sedation as needed. His/her goal is to keep you comfortable and calm during the placement of the block.

When is an Interscalene block performed?

The Interscalene block is performed in the Surgical Care Center after you are admitted and just prior to your procedure.

How is an Interscalene block performed?

Before the Interscalene block is performed you will be admitted to the Surgical Care Center and a nurse will complete the pre-surgical evaluation and place an IV (intravenous) catheter for fluid and medication administration. Your anesthesiologist will then introduce herself/himself and review your medical history. The options for anesthesia will be discussed and you will need to sign a consent form for anesthesia. If you are going to have an Interscalene block, you will be given sedation and positioned flat on your back with your neck turned away from the surgical side. Your anesthesiologist will use a felt-tip skin marker to outline the anatomy along the side of your neck (for example: the clavicle, the trachea, and the sternocleidomastoid and scalene muscles. The bundle of nerves that will be anesthetized (the brachial plexus) lies in between two of the scalene muscles, hence the name "Inter-"scalene block.

The anesthesiologist will then attach a small needle to a nerve stimulator and to the tubing used to deliver the numbing medication. After cleaning the skin, the needle will be placed through the skin and advanced between the scalene muscles. When the tip of the needle approaches the brachial plexus, the nerve stimulator will cause an involuntary muscle "twitch" or contraction in the biceps and/or shoulder muscles. The twitch occurs once every second and does not cause any pain or discomfort. Once the needle is in the proper position, the numbing medication will be delivered slowly and the twitching will stop. The needle will then be removed and the block is complete.

What is a nerve stimulator?

A nerve stimulator is a battery powered hand-held device that generates an electrical impulse that can be passed through a small needle. It is used to help guide the needle to the brachial plexus nerves, thus allowing more accurate delivery of the numbing medicine and greater success in completing the block.

What should I expect after an Interscalene block is finished?

As the numbing medication takes effect, you will notice a gradual numbing sensation in the shoulder and arm. Typically, people are still able to move their fingers (which may feel "tingly"), but temporarily lose the ability to lift or move the arm or shoulder itself. It is important that you don't try to move your arm without direction from the medical staff as you might unintentionally injure yourself. After surgery, a sling will be used to safely support your arm. After you are discharged from the hospital you should avoid exposing your arm to extremes in temperature until full sensation in your shoulder has returned.

How long will it take for the block to start working?

The onset of the Interscalene block varies depending on the type of numbing medication that is used. Usually, a combination of lidocaine and bupivacaine is used. Lidocaine usually starts to work in 5-15 minutes, while bupivacaine starts to work in 20-30 minutes. Lidocaine is used to get the block working sooner, while bupivacaine keeps the block working longer.

How long does the block last?

The duration of action of the Interscalene block depends on the mixture of the numbing medications used by your anesthesiologist. Usually, a combination of lidocaine and bupivacaine is utilized resulting in approximately 8-12 hours of pain relief. However, patients metabolize (eliminate) the medications at varying rates, and the actual duration of the block can vary greatly from person to person. Typically, you can expect the block to be maximally effective for at least 6 hours after it is placed.

Are there any side-effects associated with the Interscalene block?

There are a number of expected side-effects with the use of the Interscalene block because the brachial plexus also contains other types of nerves that will be affected by the injected medication. Each of these temporary side-effects is expected to resolve completely once the block has worn off.

Numbing of the sympathetic nerves that supply your face may cause temporary drooping of your eyelid, a smaller pupil size and a decrease in sweating along the same side of your face as the operative arm.

Numbing of the recurrent laryngeal nerve may cause your voice to sound hoarse or "raspy". Your throat will not hurt, but the sound of your voice may temporarily change.

Numbing of the phrenic nerve will cause dysfunction of the diaphragm muscle on the same side of the

block. This means that one of your lungs will not expand as effectively as usual for the duration of the block. If you have normal lung function, you should not notice any change in your ability to breathe normally. You may, however, experience slight difficulty when attempting to take a full, deep breath. Certain lung conditions, such as COPD or emphysema, or a history of heavy smoking, may pose other risks in association with use of this block. Please alert the medical staff if you have a history of lung disease, heavy smoking or breathing problems.

What are the risks of an Interscalene block?

An Interscalene block is considered a safe procedure with clearly identified risks. The Department of Anesthesia at Thompson Hospital has performed more than 1000 Interscalene blocks in the last five years. Safety increases with the use of a nerve stimulator and when an experienced anesthesiologist performs the procedure. The most common complaint is discomfort at the injection site. Overall, estimated risks occur in less than 1% of the blocks performed and some studies show the risks closer to 0.1%. The risks, while truly rare, include the following: bleeding, infection, injection into the blood stream, injection into the epidural space or spinal column, pneumothorax (collapsed lung), hematoma (blood collection under the skin), nerve injury and seizure activity due to injection into the blood or spinal column (which is a one-time event and does not produce a seizure disorder). Your anesthesiologist is prepared to take care of you should an adverse effect occur. You should discuss the risks with your anesthesiologist before you consent to an Interscalene block.

Is there an age limit for an Interscalene block?

The decision to use an Interscalene block depends mainly on your medical history and your ability to cooperate. While these blocks are routinely performed on young adults and teenagers, people in this category must possess a desire for pain control, a normal level of anxiety and the ability to cooperate with the procedure. Children under 18 years of age will need the consent of a parent or guardian. Despite this consent, if the child is very anxious and uncooperative it may be impossible to perform the block with the same low risk profile. For elderly patients, the decision will be primarily based on the medical history and physical exam. In either case, a candid discussion with your anesthesiologist is recommended.

Who should NOT have an Interscalene block?

Not all people are candidates for an Interscalene block. People with allergies to any of the numbing medications, people with active infections, people who are using blood thinners, and women who are pregnant would not be considered candidates for this block. People who have chronic lung conditions, breathing difficulties, COPD or emphysema should discuss the block with their anesthesiologist to determine whether it is a safe option for them.

Final Note -

An Interscalene block is an excellent adjunct to general anesthesia for patients having surgery on their shoulder or upper arm. Considering the low risk profile, the significant reduction in pain both during and after surgery, and the reduced incidence of post-operative nausea, this form of regional anesthesia is highly recommended by anesthesiologists and surgeons alike. Therefore, patients should strongly consider the potential benefits of using an Interscalene block. If you have any questions, please feel free to contact the Anesthesia Department at FF Thompson Hospital at (585) 396-6565.