

Interscalene Block

What is an interscalene block?

An interscalene block is an approach to the brachial plexus (collection of nerves that control the shoulder and arm providing movement and sensory innervation). Nerve roots (C5-T1) lay between the anterior scalene and middle scalene muscles and form three trunks. Local anesthetics applied to these trunks can relieve compression of these nerves or numb the shoulder, arm or hand.

Indications

- Surgery to the shoulder or upper arm
- Reduction of a dislocated shoulder, or arm fractures

How long does the procedure take?

The block takes a few minutes and is precisely guided by a nerve stimulator. The nerve stimulator allows the doctor to stimulate the nerves and thereby put local anesthetic next to the nerves providing the optimal blockade of these nerves.

How is it actually performed?

You are laying on your back with your arms at your sides and your head turned away from the side to be blocked. The area of the neck is palpated by the doctor to feel the scalene muscles and other landmarks. The neck is prepped with a sterile antiseptic solution. The skin is anesthetized with local anesthetic and a stimulating needle is passed into the sleeve of connective tissue surrounding the trunks of nerves. The arm and shoulder is stimulated by the nerve stimulator and you will feel the muscles of your shoulder, arm, hand and sometimes chest, contract. When the exact stimulation is achieved the stimulator is turned off and the local anesthetic is applied to the nerves. You will be asked if you hear a ringing in your ears, taste a metallic taste in your mouth, or feel dizzy. If you experience any of these sensations you should tell the doctor because this could mean the local anesthetic is leaking into structures other than the nerve sleeve. Once the block is completed your arm and shoulder will begin to get numb and you will be given a sling to protect your arm.

Will the procedure hurt?

The procedure involves inserting a needle through skin and deeper tissues (like a "tetanus shot"). There is some discomfort involved. We use a very thin needle for injecting local anesthetic.

Will I be "put out" for this procedure?

No. This procedure is done under local anesthesia.

What should I expect after the procedure?

After the block your arm will be numb for many hours. You should take care not to come in contact with

extremely hot or cold items because you will not be able to protect yourself from injuries of extremes of temperature. You should wear a sling while your arm is numb to protect over extension of your shoulder or elbow. A nerve called the phrenic nerve controls the expansion of the diaphragm and is blocked by the local anesthetic, since there are two phrenic nerves blocking one will not cause a problem but you may notice a slight difference in your ability to take a deep breath following the block. You will be asked to fill out a pain log to see what your short-term and long-term effects of the block are. If you get some relief from the block it will probably be repeated 2-3 times to see if you can get long-term relief from your pain.

Can I go to work the next day?

Unless there are complications you should be able to return to work the next day.

What are the risks and side effects?

This procedure is safe. However, with any procedure there are risks, side effects and the possibility of complications. The most common side effect is pain at the site of injection, which is temporary.

Complications

- 100% incidence of ipsilateral hemidiaphragm paralysis leading to a 30% reduction in vital capacity.
- Intravascular injection
- Cervical epidural block
- Local anesthetic toxicity
- Hematoma/ecchymosis

Side-effects

- Horner's syndrome
- Hoarseness of the voice (recurrent laryngeal nerve block)

Other risks involve bleeding, infections, spinal block and injection into blood vessels and surrounding nerves. Fortunately, the serious side effects and complications are uncommon.

Very rare complications are epidural or subarachnoid injection, vertebral artery injections resulting in convulsions(seizures), and rarely pneumothorax (collapse of lung) these complications are lessened by placement of block under x-ray guidance and use of a stimulating needle.

Who should have this injection?

Patients who are having surgery to the shoulder or upper arm. Patients who are suffering from functional thoracic outlet syndrome (a condition where the nerves of the neck are squeezed by the muscles of the neck and shoulder from splinting or holding muscles in a constant tight position). If you are allergic to any of the medications to be injected, if you are on a blood thinner (e.g. Coumadin, Plavix, Heparin), if you have an active infection going on, or if you are or could be pregnant, you should not have the injection.