

STELLATE GANGLION BLOCKS

What is a stellate ganglion block?

A stellate ganglion block is an injection of local anesthetic around a set of particular nerves in the neck. It is typically used for pain in the arm(s) and/or shoulder(s).

What is the purpose of a stellate ganglion block?

Stellate ganglion blocks are used to treat pain caused by overactive nerves called sympathetic nerves. These nerves can become hyperactive for a number of reasons. Sometimes, hyperactivity of these nerves is a normal and healthy response of the body to help itself heal from injury. At times, however, these nerves remain hyperactive longer than they should, and this can lead to a chronic pain syndrome. One example of such a pain syndrome is RSD. Stellate ganglion blocks are used in these conditions to decrease the hyperactivity of these nerves which can then lead to a substantial reduction in pain. This injection often needs to be performed in a series (typically once weekly for an average of 6 weeks), in order to “retrain” those nerves to fire normally. This retraining process is called neuromodulation.

How is the procedure performed?

You will be placed on the procedure table. The injection site is sterilized with either iodine or chlorhexadine. The site to be injected is numbed with a local anesthetic, and a needle is directed to the target area. X-ray guidance is used to ensure proper placement and positioning of the needle. Contrast (x-ray dye) may be injected to be sure the needle is in the proper position. Once proper needle placement is confirmed, the local anesthetic solution is slowly injected.

Will the procedure be painful?

The injection can be painful and we therefore provide the option of receiving IV sedation. IV sedation, combined with local anesthetic, can make the injection nearly pain free. It allows you to remain very still during the procedure, which can also make the injection easier, faster, and more successful. If you decide to have IV sedation, you must have a driver to get you home safely afterwards. In addition, you cannot have anything to eat or drink within 6 hours of your appointment (clear liquids are allowed until 2 hours before the procedure). If you take medications for diabetes, these medications may need to be adjusted the morning of the procedure. Your primary care physician can help you with this adjustment.



What are the discharge instructions?

If you received IV sedation do not drive or operate machinery for at least 24 hours after the procedure. You may return to work the next day following your procedure. You may resume your normal diet immediately. Do not engage in any strenuous activity for 24 hours. Do not take a bath, swim, or use a hot tub for 24 hours (you may take a shower). Call the office if you have any of the following: severe pain afterwards (different than your usual symptoms), redness/swelling/discharge at the injection site(s), fevers/chills, difficulty with bowel or bladder functions.

What are the risks and side effects?

The complication rate for this procedure is very low. Whenever a needle enters the skin, bleeding or infection can occur. Some other serious but extremely rare risks include paralysis and death.

You may have an allergic reaction to any of the medications used. If you have a known allergy to any medications, especially local anesthetics, notify our staff before the procedure takes place.

You may experience any of the following side effects up to 4 hours after the procedure:

- Arm muscle weakness or numbness may occur due to the local anesthetic affecting the nerves that control your arms (this is a temporary affect and it is not paralysis). Your arm strength will return slowly and completely.
- Dizziness may occur due to a decrease in your blood pressure. If this occurs, remain in a seated or lying position. Gradually sit up, and then stand after at least 10 minutes of sitting.
- Mild headaches may occur. Drink fluids and take pain medications if needed. If the headaches persist or become severe, call the office.
- Moderate to severe discomfort at the injection site can occur. This can last for a couple weeks or longer, and is due to inflammation of ablated nerve(s). If this occurs, take anti-inflammatories or pain medications, apply ice to the area the day of the procedure. If it persists, apply moist heat in the day(s) following. The nerve(s) will heal slowly and the inflammation will resolve, leading to resolution of this pain caused by the procedure.

The side effects listed above can be normal. They are not dangerous and will resolve on their own. If, however, you experience any of the following, a complication may have occurred and you should either contact your doctor. If he is not readily available, then you should proceed to the closest urgent care center for evaluation:



- Severe or progressive pain at the injection site(s)
- Arm or leg weakness that progressively worsens or persists for longer than 8 hours
- Severe or progressive redness, swelling, or discharge from the injections site(s)
- Fevers, chills, nausea, or vomiting
- Bowel or bladder dysfunction (i.e. inability to urinate or pass stool or difficulty controlling either)

How long does it take for the procedure to work?

As this treatment is first initiated, the level and duration of relief may not be substantial. With the first several injections pain relief may only be noted for several hours to several days. During this time, you may experience partial relief or full relief. Typically, the pain will return to normal. As the series of injections is continued, the relief will become much more significant and longer-lasting. As the series is completed, the average relief noted is between 50% and 80% and this can last for 6-12 months. If this pain syndrome is diagnosed and treated early, the treatment described above can lead to a “cure” and permanent relief of the symptoms.