



Troubleshooting Nerve Catheters and Blocks

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Important Safety Information for Patients

- Do not operate a vehicle or machinery with a pain catheter in place
- If you received a lower extremity nerve block / catheter please get assistance with walking, showering or going to the bathroom.
- Protect the numb extremity from injury by using a sling; crutches, padding, knee immobilizer or any other device while the pain catheter(s) is in place.
- Be careful with your numb extremity because you may not feel it as well as you normally do so objects that are very hot, cold, sharp, etc may not hurt as much.
- Avoid significant pressure on the extremity by padding the extremity that has the pain pump in place.
- If a patient has symptoms of perioral numbness, tinnitus, blurry vision, a metallic taste, or lightheadedness please tell the patient to clamp the pump tubing and go to the nearest emergency room.

Troubleshooting Common Questions by Patients over the Phone

My extremity is too numb

Please inform the patient his or her extremity may be “too numb” for a number of reasons. If the nerve block placement was less than 24 hours ago, the numbness might be due to the higher dose of local anesthetic used during initial nerve blockade. Such a surgical block usually subsides after 12-16 hours but can be greater depending on the type of block, location of local anesthetic relative to nerve tissue, and dose. If a catheter is in place, the infusion rate may be decreased to 2 mL/hr. Completely turning off the catheter at this point may increase the risk of catheter patency failure. The infusion rate may be increased once the patient feels their numbness is decreasing.

My pain is not controlled well

First, verify that the nerve block is still providing analgesia. This may be done by asking the patient if they still feel their appendage is numb to some degree (exact description depends upon type of block provided). Next, also ask the patient what the distribution of said numbness is, and assess whether it is indeed covering the surgical site.

Second, if a nerve catheter is being used, ensure proper pump function. If an electronic pump is being used, is it powered on? Any alarms going off? If an elastomeric pump is being used, ensure the dial is pointing to a number. Ensure the clamp is released and the tubing is not kinked, as this will impede any flow of medication.

Is the catheter dressing still intact? Any significant leakage around dressing? A significantly disturbed dressing or leakage of local anesthetic may suggest a catheter that has migrated from the target tissue and thus not be providing adequate analgesia.

If functionality of the catheter is questionable and the patient can return to the surgical center, it may be beneficial to assess nerve catheter function in person. The position of the catheter can be checked with ultrasound by injecting saline or dilute local anesthetic to determine if the local anesthetic is being deposited near the desired nerve. If the catheter position is correct, the patient may need a bolus to provide a stronger block or to provide more spread of local anesthetic. If the catheter has migrated, it can be pulled back under ultrasound guidance into the proper position and then checked with saline or local anesthetic. If the catheter remains in the wrong position, the catheter should be removed and then replaced. Before replacing, have a discussion with the patient to make sure they understand what happened and if they want another nerve block for pain control; sometimes patients will decide to forgo a repeat procedure.

Lastly, it may be beneficial to assess the patient's risk factors for difficult to control pain, such as:

Current chronic pain (for more than 90 days)
Current opioid use > 100 mg ME per day
Current anxiety/depression requiring medication
History of substance abuse
History of fibromyalgia
History of difficult-to-treat pain or readmission for pain control

Patients with these risk factors may be predisposed to requiring more aggressive management with either a repeat nerve block (if patient received a single-shot block), local anesthetic bolus (if patient has a nerve catheter), or increase in non-opioid and opioid systemic analgesia.

My catheter is leaking

It is very common for the catheter to leak around the insertion site. If pain is well controlled, the patient can reinforce the dressing with tape and gauze. They should not attempt to remove the dressing as this may lead to the catheter being displaced.

If pain is not well controlled, this may suggest a malfunctioning catheter or insufficient local or systemic analgesia.

My face is droopy, I am having some difficulty with breathing, my voice is hoarse or my eye is dilated?

All of the above may be side effects of an interscalene block. Ipsilateral phrenic nerve blockade occurs in virtually 100% of patients receiving an interscalene block, which may lead to diaphragmatic paresis and a subjective feeling of not being able to breathe at baseline level. Most of the time this has little clinical consequence and reassurance is all that is needed. However, if the patient has altered mental status, objective dyspnea, or use of accessory muscles immediate medical attention is warranted. Voice hoarseness, ipsilateral ptosis, miosis, and nasal congestion, as well as facial weakness can be a side effect of an interscalene block. These effects involve blockade of the sympathetic chain or recurrent laryngeal nerve. Again, reassurance is usually sufficient assuming no other signs or symptoms are present that may suggest a cerebrovascular event.

The catheter won't come out

If resistance is encountered upon an attempt to remove the catheter, then the patient should be evaluated in person. Any pain associated with attempt at catheter removal should raise concern for involvement of the adjacent nerve and warrants in-person evaluation.

There is some redness around the site

Redness is often normal. If the site is warm, tender, significantly swollen, or the patient develops fever or chills the catheter should be removed and the patient evaluated for a potential infection. If the patient has no signs or symptoms, the catheter may be kept in place.

I had foot surgery. Why does the inner ankle and foot feel increased pain?

There are two major nerves that provide sensation to the foot, the sciatic and saphenous nerve. The majority of the pain is covered by the sciatic nerve. If only the sciatic nerve is anesthetized it is normal to experience pain in this distribution. A single shot or even a saphenous nerve catheter may be warranted if oral pain medications are not satisfactory. In addition, ensure the dressing is not too tight, which can also cause pain.

I had knee surgery. Why is the pain behind my knee not controlled?

There are two major nerves that provide sensation to the knee, the femoral and sciatic nerve. The majority of the pain is covered by the femoral nerve, which covers the anterior knee and thigh. The posterior knee and thigh is covered by the sciatic nerve. A single shot or even a sciatic nerve catheter may be warranted if oral pain medications are not satisfactory. In addition, ensure the dressing is not too tight, which can also cause pain.

Can I take my blood thinners?

Use of potent blood thinners such as clopidogrel and rivaroxaban should be ok in the presence of a peripheral nerve catheter at a compressible site (interscalene, femoral, adductor, popliteal). However, the patient should be vigilant regarding any sign of bleeding at the catheter site. Ideally, the use of blood thinners postoperatively is an issue that would have been addressed during the preoperative evaluation and planning process.

Regarding appropriateness after surgery and risk of surgical bleeding, the patient should ask the surgeon regarding his/her preference. Aspirin, ibuprofen, and naproxen may all be taken in the presence of a peripheral nerve catheter.

My catheter dressing is coming off, what do I do?

If the edge of the dressing starts to lift, the patient may reinforce it with tape. If the dressing is completely off and the catheter is exposed it should likely be removed to decrease risk of infection.

Helpful Clinical Pearls

- If the patient is given an elastomeric pump, after 24 hours the pump should be decreasing in size. If not, the pump might not be functioning properly or have a downstream occlusion
- Patients should ask for assistance and have a clear walking path in their home when trying to ambulate with a lower extremity catheter.
- Patients with an upper extremity block should be provided with a sling/brace to protect the arm prior to discharge home
- Patients with a lower extremity block should be provided with crutches prior to discharge home
- Instruct patients to keep the pump in the carrying case in order to protect it
- Make sure the tubing is free of any obstructions as it could get caught and cause the catheter to be dislodged
- Patients should not place or submerge the pump in water or any other liquid
- Make sure any postoperative brace or bandage is not too tight. One should be able to pass a finger between the device and skin. If they are too tight this may cause pain or discomfort.
- Elevating the extremity may help decrease swelling and pain
- Provide patients with a phone number where an anesthesiologist may answer any questions or address any issues 24 hours a day / 7 days a week