

Cryoneurolysis for spasticity and dystonia



What is cryoneurolysis?

Cryoneurolysis is a procedure that reduces the nerve's signal to the muscle by having it come into contact with extreme cold. The cold creates a lesion, or wound, on the nerve. Muscle tightness improves when the nerves cannot send messages.

Your child's care team uses an ultrasound and electrical stimulation to find the correct nerve. A probe is put through the skin. Gas comes out of a tube in the probe. The gas and surrounding body fluid cause an ice ball to form around the nerve. The ice ball creates a lesion on the nerve.

Cryoneurolysis is FDA approved for pain, but not for spasticity. It has shown good results in clinical trials. The nerve will regrow, but it grows back slower compared to other methods such as botulinum toxin, phenol or alcohol injections.

What happens before the procedure?

Before the procedure your child's team will do tests to assess if cryoneurolysis will work for your child. The test uses lidocaine or bupivacaine to temporarily block the nerve. This is like what happens with cryoneurolysis. Since it lasts longer than other methods, the doctors need to make sure that your child has the desired effect before the procedure.

What happens during the procedure?

- Your child will likely be put to sleep for the procedure.
- Stimulation and ultrasound are used to find the nerve.
- The gas from the probe lowers the temperature at the site. The extreme low temperature lasts for about 2 minutes. Based on the effect the doctor wants, it can be repeated up to 3 times on different parts of the nerve.

Is the procedure painful?

Most often children are asleep for the procedure so they will not feel pain during the procedure.

- There is pain when the needle and probe are put through the skin.
- There may be cramping when the nerve is stimulated and temperatures lower.
- Children often have mild soreness for the first 24 to 48 hours after the procedure.
- Rarely, there can be some nerve pain after the procedure. The pain depends on:
 - Type of nerve.
 - Location of the nerve.
 - How bad the spasms are.
- If there is nerve pain, it is usually well managed with a medicine called gabapentin.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

Cryoneurolysis for spasticity and dystonia, continued

Are there side effects or complications?

Side effects and complications may include:

- Pain during the procedure.
- Infection.
- Numbness around the area of treatment.
- Bruising and bleeding.
- Nerve pain and neuritis or complex regional pain syndrome.
- Increased pain, spasms or weakness.
- No improvement

Talk with your child's care team about how often they may happen.

When should I call the doctor?

Call your child's doctor if your child has pain or the side effects listed above. The team may ask you to bring your child in to be checked. Some children with burning nerve pain need a lidocaine injection or steroid. Other medicines like pregabalin, gabapentin or creams are helpful.

This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.