

Phenol Injections for Tight Muscles

What is phenol?

Phenol is a drug that temporarily blocks the nerve to stop it from sending signals to the muscles. Rehabilitation doctors use phenol to relax tight (spastic or dystonic) muscles. It has been used safely in children since the 1970s.

When might phenol help my child?

There are many ways to decrease muscle tightness in a child. The different options depend on how many muscles are affected, how tight they are and the goals we are trying to reach with relaxing the muscles. Phenol has been shown in research studies to relax the tight muscles in children and adolescents with cerebral palsy. It is also used in children with diagnoses such as brain injury, spinal cord injury, and stroke. You and your doctor will discuss the reasons that phenol might help your child.

Tight muscles can sometimes make dressing, diapering and sitting in a wheelchair/stroller difficult. It can also lead to limited range of motion in your child's joints causing contracture or shortening of the muscle over time. Phenol can help to relax muscles making these things easier. In children who are more mobile, it can make it easier for your child to move their legs and may make it easier to walk.

How does phenol work?

Phenol is injected under the skin near the nerve with a small needle. The medicine temporarily blocks the nerve to stop the signal between the nerve and the muscle. Blocking this nerve signal tells the muscle that it can relax. This decreases the tightness of the muscle. The medicine usually starts working right away.

Some nerves carry signals for sensation and muscle function to the arms and legs. We do not use phenol for these nerves. Phenol can only be used to treat tightness in certain muscles, not all of them.

How long does phenol last?

The effect of phenol is temporary and usually lasts around 6-12 months. The nerve grows new connections to the muscle so the muscles can get tight again. The shots may need to be given again. Your doctor will re-evaluate your child and decide with you if the phenol injections should be repeated.

To Learn More

- Rehabilitation Clinic
206-987-2114
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

What are the possible side effects?

Side effects are very uncommon. They are usually mild and do not last very long. They can include local pain, redness or bruising, infection, swelling, or weakness of the muscle that got the medicine. There is a small risk of abnormal heart rhythm with phenol, but usually only with a higher dose (amount) than your child is getting.

Very rarely phenol can cause pain in the areas injected. This pain feels like tingling or burning and can be hard for children to describe. If this happens your child may be very upset and hard to console. This type of pain lasts longer than one or two days after the injection. If this happens to your child, we can use a medication to make their pain better. Please contact the Rehabilitation Medicine clinic if you have concerns about your child's pain.

What are other ways to manage my child's tight muscles?

There are many ways to decrease a child's muscle tightness. Different methods your doctor may use include:

- Oral medicines such as baclofen, diazepam (Valium), trihexyphenidyl (Artane) or levodopa/carbidopa (Sinemet)
- Stretching
- Positioning
- Orthopedic surgery to lengthen tendons or muscles
- Neurosurgery for placement of an intrathecal baclofen pump or a selective dorsal rhizotomy

What will happen during the Phenol injection procedure?

Your doctor will do a brief physical examination to assess the tight muscles and get a brief history to make sure your child is healthy enough to have the injections. Your doctor will review the reasons for doing the injections and the possible side effects. You will also meet your child's nurse and the anesthesia doctor.

Your child will then be taken back to the procedure room. Often times, a parent goes with the child to make them feel comfortable. Once your child is asleep under anesthesia, you will be escorted out of the procedure room. Then the team will give the injections. During the procedure, your child's doctor will find the nerve using a nerve stimulator that is attached to the needle. This allows your doctor to make sure that they are on the correct nerve. They will then inject the medicine near the nerve.

When the procedure is done, your child's doctor will check in and let you know how it went. You can ask any questions at this time. Once your child is awake, you can see them and once cleared, can take your child home.

What do I need to know for after care?

Your child may have a small bandage placed on the injection site. Your doctor will discuss possible restrictions in activity after the injections. However, in general your child will not have any restrictions after the phenol injections.

Your child can typically resume therapy, use of orthotics or splints, and a home stretching program. It is OK to take a bath or go in the pool. It is safe for your child to return to school.

Your doctor will see your child back in clinic in approximately 6 to 8 weeks to evaluate their response to the phenol injections. The decision to do more injections depends on your child's response to the medicine. You will discuss this with your doctor at the follow-up visit.