**How Iontophoresis Is Used in Physical Therapy**

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Updated on October 16, 2023

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Iontophoresis is a type of [electrical stimulation treatment](https://www.verywellhealth.com/estim-use-in-physical-therapy-2696490) used to deliver medication through your skin to deeper tissues. Physical therapists occasionally use [iontophoresis](https://www.verywellhealth.com/iontophoresis-in-physical-therapy-2696534) to penetrate the layers of skin in order to deliver medications to injured body parts.1



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How It Works

Iontophoresis works by using electricity to deliver medication through your skin and into your injured tissues. It is often used to decrease sweating, especially in the hands and feet, but it can also be used in physical therapy to decrease inflammation and scar tissue, and to reduce pain.

This works by using basic principles of electrical polarity and that opposite polarity (one positive and one negative ion) attracts, while negative polarity (both positive or both negative ions) repels. The medication used in iontophoresis is in a solution with a specific type of polarity (either positive or negative).1

A therapist will place electrodes on your body. When electricity from the negative electrode of an electrical stimulation device, for example, is applied to the medication used, the negatively charged medication will be repelled by the electrical charge.2 This helps to drive the medication into your skin and underlying tissues.

Different Medications Used with Iontophoresis

A number of [medications](https://www.verywellhealth.com/medications-used-during-iontophoresis-in-pt-2696486) can be used to accomplish different results with iontophoresis. These may include:

* **Dexamethasone**: Controls inflammation1
* **Acetic acid:** Commonly used to treat [myositis ossificans](https://www.verywellhealth.com/muscle-bruise-soft-tissue-contusion-2549838) (when bone tissue forms within a muscle)3 and [adhesive capsulitis](https://www.verywellhealth.com/first-steps-to-treat-a-frozen-shoulder-2696482) (which limits shoulder movement),4 and to decrease calcium deposits
* **Sodium chloride:** Used to [break up and treat scar tissue](https://www.verywellhealth.com/scar-tissue-management-2696376)
* **Calcium chloride:**Used to decrease muscle spasm4
* **Tap water:** Helps decrease hyperhidrosis, a condition that causes sweaty palms and feet1
* **Magnesium sulfate:** Used to treat muscle pain and spasm4
* **Iodine:** Used to treat sclerotic conditions such as frozen shoulder, and may help to increase circulation to tissues
* **Hyaluronidase:** Commonly used to treat soft tissue swelling and edema (swelling caused by excess fluid)5

What It Feels Like

When your physical therapist decides to administer medication using iontophoresis, the therapist should explain to you the risks and benefits associated with the procedure. A therapist will then place two electrodes on your skin. One electrode will simply have saline on it, and the other will be the treatment electrode with the medication. The electrodes will be connected to an iontophoresis unit via a wire.4

Your physical therapist will then turn on the iontophoresis unit and slowly increase the intensity of the electricity that is passing through the electrodes. This electricity helps to drive the medication in through your skin and to your tissues. Once the electricity is turned up, you may feel a slight tingling or stinging sensation under the electrodes.6

Be sure to tell your physical therapist if you feel any discomfort or pain during the procedure. The therapist can make adjustments to the electricity to make it more comfortable for you.

Risks

Iontophoresis is a form of electrical stimulation, and not every person is a suitable candidate to receive such a treatment. If you have a permanent pacemaker in your heart, you should not use electrical stimulation.3 It may have an adverse reaction with your pacemaker and may place you at risk for death should a cardiac event occur while using the electrical stimulation.

Other times iontophoresis should not be used are when there is an open wound, a metal implant, or a person has a history of epilepsy. A pregnant person should not have this procedure in the first trimester and should get cleared by their healthcare provider before using it.

Risks of iontophoresis include:

* Adverse reaction to the medication
* Adverse reaction to the electrical current
* Burn lesion to the skin1

Summary

When dealing with various injuries, your physical therapist may use iontophoresis to help supplement your active rehab program. This method of delivering medication may help speed your recovery. By understanding iontophoresis and how it is used, you can make an informed decision about your care.