

CORTICOSTEROID INJECTIONS

Why Are Steroid Injections Used: Steroid injections are used to reduce inflammation in a joint, tendon and/or muscle. By reducing the inflammation, pain is often decreased as well, though corticosteroids are not pain relieving medications. The injections are often used to give a higher concentration of corticosteroids in a more localized space while minimizing the potential complications and side effects of oral corticosteroids.

Description: A group of hormones produced by the body and/or synthesized in a laboratory which have many different effects on protein, carbohydrate and fat metabolism as well as the body's response to both mental and physical stress and illness. The body releases corticosteroids when your body is under stress. Injectable corticosteroids is synthetically produced and is close to the hormone that the body produces. It is designed to act more potently and for a longer period of time than the naturally occurring hormone that is released into the blood stream by the body naturally. Thus, its action may be for days or weeks, instead of minutes.

Adverse Effects:

- Cortisone got a bad reputation in the 1970's due to the frequent use in professional athletes that resulted in premature arthritis in those athletes. This was likely due to the numbing medicine given, as well as the frequent use of these injections, often weekly, to allow an athlete to participate on an injured extremity.
- Joint infection
- Nerve damage (in injected into the nerve)
- Skin thinning around the injection site (thin, depressed, shiny skin)
- Skin depigmentation (whitening or lightening of the skin) around the injection site
- Fatty atrophy – shrinking of the tissue at the injection site
- Weakening or rupture of tendons
- Death of nearby bone (osteonecrosis)
- Thinning of nearby bone (osteoporosis)
- Temporary flare of pain and inflammation of the joint
- May affect High blood pressure (uncommon)
- May affect blood sugars (an issue if a patient has diabetes mellitus – uncommon)
- Bleeding may be a risk in patients with bleeding / clotting disorders or on blood thinners
- Repeated injections may result in deterioration of articular cartilage, resulting in arthritis
- Repeated injections may result in weakening or rupture of tendons.
- Rarely, an allergic reaction may occur – not to the steroid, but the preparations that carry the corticosteroid
- People with weak immune systems or underlying health conditions are more susceptible to becoming ill

Pharmacology:

Corticosteroids have multiple effects on inflammatory cells; including stabilizing their membranes so they cannot discharge anti-inflammatory enzymes, decreasing reproduction and movement of some anti-inflammatory cells, and reducing the ability of anti-inflammatory cells to leave blood vessels. They also reduce the absolute number of anti-inflammatory cells in the blood. These effects can reduce inflammation within hours of the time they are given. However, the *clinical effect (the effect you feel) may not be noticed for 36 – 48 hours after the injection, to sometimes even a week after the injection.*

Cortisone injections are often given along with a local anesthetic (numbing medicine) that lasts for a few hours.

Preventive Measures: Athletes should not take corticosteroids unless it is absolutely necessary. They have many unintended side effects, even when used at the appropriate time and in appropriate doses. Repeated injections, more than 3 injections in a 1 year period of time in the same location, should be avoided to prevent joint degeneration, or muscle or tendon weakening / rupture.

After the injection

After the injection, you may have some mild pain and/or stiffness of the area. This may be minimized with the addition of the local anesthetic. Protect the injection area for a day or two...that is take it easy. If the shot is for the upper extremity (shoulder, elbow wrist), avoid heavy lifting. If the shot is for the lower extremity (hip, knee or ankle), avoid running activities. Apply ice to the injection site as needed to relieve pain. Watch for signs of infection, which include increasing pain, redness, and swelling that lasts more than 48 hours.