

Prolotherapy

What is Prolotherapy:

Prolotherapy is the original regenerative medicine treatment. George Hackett, MD wrote the First Edition of *Ligament and Tendon Relaxation Treated by Prolotherapy* in 1956. Dr Hackett defined prolotherapy as the rehabilitation of an incompetent structure by the generation of new cellular tissue. He described prolotherapy as strengthening "the weld of disabled ligaments and tendons to bone by stimulating the production of new bone and fibrous tissue cells...".

Prolotherapy promotes healing of damaged tissues by initiating an inflammatory response at the injection sites. Prolotherapy starts the healing cascade. It is used to stimulate proliferation of tissues necessary for repair. Ligaments and tendons gradually contract eventually tightening the joints. The result is better mobility, less joint and muscle irritation, and ultimately less pain.

Compounds used for Prolotherapy:

Over the years, prolotherapy been done with many different solutions. The goal is to create a mild inflammatory reaction to jump start the bodies healing cascade. Dr Garcia has used several different solutions. For the past 10 years, he has been using a hypertonic glucose solution of varying concentrations. This has the benefit of being readily available, inexpensive, and relatively safe compared to other prolotherapy solutions. Hypertonic glucose, of varying concentrations, has become the standard solution used by most prolotherapy physicians.

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What areas can be treated:

Prolotherapy can be used to treat tendons, ligaments, muscles, and joints. Tendons are the tissues that connect muscle to bones. Ligaments are the tissues that connect one bone to another bone. Like cartilage in a joint, ligaments have limited blood supply. When injured, they can take a long time to heal due to this limited blood supply. Unfortunately, daily activities continue to stress these injured areas and they may eventually break down. Medical treatment is usually necessary to reverse this process. Treatments include physical therapy, surgery, and regenerative medicine (which includes Prolotherapy). You may get pain relief with steroid injections and pain medications; however, this does not heal the injury.

Before Prolotherapy:

The following medications are to be avoided for one-week prior to you getting Prolotherapy. NSAIDs: Naproxen (Aleve), Ibuprofen (Advil, Motrin), Celebrex, and Nutraceuticals, etc. *If you are unsure about any current medications that you are taking, please notify the medical staff.*

After Prolotherapy:

Once the local anesthetic wears off, you may have throbbing and aching at the injection sites. Usually this resolves over the next 48 hours; however, it may last for one week. You may use Tylenol or a prescribed pain medication. You should continue to avoid NSAIDs (anti-inflammatory medication) for 2 weeks after the procedure. Prolotherapy creates an inflammatory response that starts the repair process. We do not want to alter this repair process.

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The Procedure:

During the procedure, the area of treatment is identified, then numbed with a local anesthesia. Prolotherapy is then injected into the fibrous tissue such as tendons and ligaments, at their insertion on bone. Injections can be done in joints as well. Most procedures are done under ultrasound guidance to confirm exact placement.

Prolotherapy usually involves multiple sets of injections, done in a series. The injections are spaced 4 weeks apart. Anywhere from 3-10 sets of injections may be necessary depending on the complexity and chronicity of the problem. Prolotherapy has a cumulative effect; each treatment builds on the previous one to increase tissue strength and improve joint stability. If you decide to try prolotherapy, you should commit to at least 3-4 treatments. Your condition may not take that many treatments to respond. Treatment should continue if progress is being demonstrated and stopped once the condition is stable. Prolotherapy can be a permanent solution. However, some individuals may need a "tune up" treatment each year for more severe and chronic conditions.

Post-injection:

After the injection there may be localized soreness and discomfort. You may take Tylenol or pain medication, but you should avoid NSAIDs (anti-inflammatory medications) for 2 weeks. You may use ice. Your activities will initially be limited. Prolotherapy beings an inflammatory process that should not be over stimulated.

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Activity Guidelines

0-3 days: You should rest the area of injection for 3 days. That means minimal activity, such as bathing and eating.

Week 1 (4-7days): You can return to your normal work and daily household activities.

Week 2 (7-14days): You may pick up a few items at the grocery store. You should start range of motion activities.

Week 3 (14-28days): You may do grocery shopping. You may walk ½ mile up to twice a day. You can perform gentle stretching exercises. You may resume chiropractic activity, physical therapy and massage. You may ride a bicycle and swim.

Week 4 (28-42days): Return to clinic for reevaluation with anticipation of further injections that day, if warranted. However, if treatment is finished or on hold: You may do resistance exercises (bands, weights, Pilates, Yoga) You may walk unlimited. You may hit tennis and golf balls with return to sports at 6 weeks.

Congratulations on your decision to **treat** your condition rather than mask your problem with steroids or pain medication.

Dr. Barry Garcia and the **Regenerative Medicine Team** at Vero Orthopaedics.

Website: <https://www.drbarrygarcia.com/regenerative-medicine>

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