



## GLUCOSE PROLOTHERAPY

When the connective tissue of ligaments and joints is injured, it is prone to being painful because of incomplete healing. Prolotherapy is an injection treatment that can be highly effective at achieving lasting improvements for chronic ligament and joint pain. It stimulates the body's own natural healing processes and can help defer or avoid the need for joint surgery.

Prolotherapy was originally developed in the USA during the 1930's. The "prolo" part of the name is short for PROLIFERATIVE. The technique involves injecting small amounts of a concentrated glucose (sugar) and local anaesthetic solution into damaged ligaments and joints. The injections stimulate local inflammation and the local release of the body's own growth factors. This stimulates the proliferation of the fibrous tissues of damaged tendons and ligaments, as well as possibly the cartilage of joints. In addition to improving the quality of these soft tissues, prolotherapy is also thought to help reduce local nerve sensitization.

The technique of prolotherapy involves a series of injections, applied every 2-4 weeks, aimed at tender areas on joints and ligaments. In the first instance, the patient should feel almost instant (temporary) relief of their pain after the injection, due to the numbing effect of the local anaesthetic. This is a good sign and helps confirm that the injection is targeting the source of the pain. The patient may then experience 3-5 days of a moderate increase in local tenderness, due to the healing inflammation that the injections are designed to stimulate. Once any local flare settles, the beneficial effect of the treatment can become obvious with decreased pain and

tenderness. Ice packs and ant-inflammatory medications are best avoided from 3 days before a treatment to 7 days afterwards. Paracetamol +/- codeine can be used for any post-treatment pain.

It is generally clear within 3 treatments as to whether prolotherapy is going to be effective. Improvement is typically cumulative, with steady improvement with successive treatments. Treatments continue every 2-4 weeks until either the pain completely settles; the improvement stops; or the patient otherwise wishes to cease treatment. The total number of treatments that can be required does vary significantly, although 6 treatments over 3-4 months would be the commonest experience. The effect of prolotherapy tends to be long lasting, (months and years), with occasional top-up treatments sometimes required.

Prolotherapy can be helpful in a large range of conditions, including:

- TMJ (jaw joint) pain
- Neck pain and headache
- Shoulder pain (including rotator cuff and A-C joint problems)
- Thoracic back pain
- Low back pain
- Tennis elbow (lateral epicondylitis)
- Wrist pain
- Lateral hip pain (trochanteric bursitis)
- Knee pain
- Ankle pain and recurrent ankle sprains
- Achilles tendon
- Foot and foot arch pain

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