

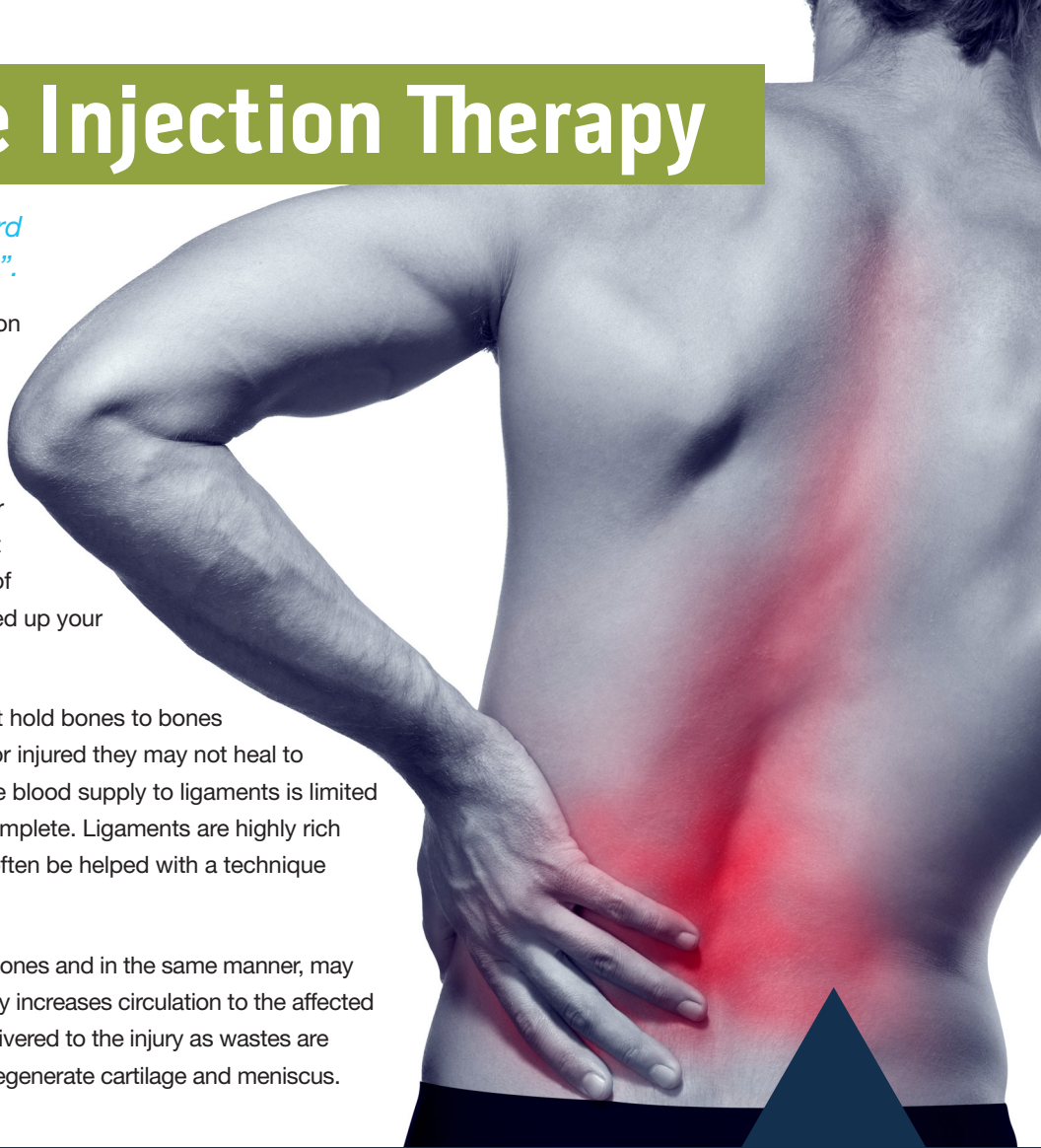
# Regenerative Injection Therapy

*“Prolo” derived from the Greek root word proliferate, which means “to regenerate”.*

Prolotherapy, also known as regenerative injection therapy (RIJ), is a minimally invasive injection that stimulates the body’s natural healing process to repair and strengthen chronically impaired ligaments and tendons that have been damaged from overuse or injury. The ligament or tendon is, in most cases, injected with an irritant such as dextrose (a sugar) and a small amount of anesthetic (numbing agent), which will help speed up your body’s natural healing process.

Ligaments are the structural “rubber bands” that hold bones to bones within the joint. When ligaments become weak or injured they may not heal to their original strength. This is largely because the blood supply to ligaments is limited and therefore, healing is slow and not always complete. Ligaments are highly rich in nerves and can be a source of pain that can often be helped with a technique called neural prolotherapy.

Tendons are the tissue that connect muscles to bones and in the same manner, may also become injured and cause pain. Prolotherapy increases circulation to the affected area and thus regenerative growth factors are delivered to the injury as wastes are removed. Prolotherapy has also been shown to regenerate cartilage and meniscus.



## CONDITIONS TREATED WITH PROLOTHERAPY

- Arthritis
- Back Pain
- Carpal Tunnel Syndrome
- Chronic Tendonitis
- Degenerated discs
- Herniated discs
- Fibromyalgia
- Neck Pain
- Partially torn tendons, ligaments, and cartilage
- Scars
- Sciatic Pain
- Sports Injuries
- Trigger/Tender Points
- Unresolved whiplash injuries

Prolotherapy often requires more than one visit; however, this is usually much better and less invasive than surgery. After treatment, you can expect some soreness in the area. Each person is different and some people leave feeling great and never need another treatment, however most patients have improvement with continued treatment over time. Prolotherapy solutions are customized to optimize growth factors and provide necessary cofactors to help your body’s natural healing process.

LEARN MORE ABOUT PROLOTHERAPY AT [RIORDANCLINIC.ORG/THERAPIES/PROLOZONE-THERAPY](http://RIORDANCLINIC.ORG/THERAPIES/PROLOZONE-THERAPY).

For more information about any of the services offered by the Riordan Clinic, give us a call at 1-800-447-7276 or visit our website at [riordanclinic.org](http://riordanclinic.org).



# Regenerative Injection Therapy

	Prolozone	Prolotherapy (Hackett-Hemwall)	PRP
Stimulates healing	YES	YES	YES
Rounds of treatment	3-10	3-12	1-3
Number of injections per session	1-6	Multiple	1-2
Injection contents	Ozone and anesthetic	Dextrose, vitamins, and anesthetic	Platelets and anesthetic
Acute injury	no	depends	yes
Chronic injury	yes	yes	depends
Need to avoid anti-inflammatories before and after injection	no	yes	yes

## HOW PROLOTHERAPY, PROLOZONE, & PRP THERAPIES ARE DIFFERENT

**PROLOZONE THERAPY:** Injection of ozonated oxygen into painful areas to stimulate the body's natural healing response. This treatment is like prolotherapy, but is less painful and less comprehensive.

A prolozone injection contains ozone and nutrients, which are believed to bypass the inflammatory response and directly stimulate a healing response without triggering inflammation. Anti-inflammatory medications are permitted as necessary following injection.

**PROLOTHERAPY:** Prolotherapy, also known as regenerative therapy, has been used for more than 40 years as an injection technique to stimulate the body's natural healing response. Proliferant (growth promoting) and irritant solutions are injected in multiple areas in and around the injured joint or body part to stimulate the body to respond through inflammation, which brings new blood cells, nutrients, and the body's natural healing response. Injections can be painful and might cause swelling. This pain and swelling must not be treated with anti-inflammatory medicine, as this may interfere with the body's response to the injection.

**PLATELET RICH PLASMA (PRP):** PRP is a technique where a solution derived from the patient's own blood sample, injecting it into an injured area to stimulate healing and repair. Platelet rich plasma is derived from a normal blood sample that is spun in a centrifuge.

This concentrated plasma contains powerful healing properties and is rich in growth factors. These naturally-occurring growth factors in the PRP are very similar to undifferentiated cells, also known as stem cells. Injection of PRP is thought to improve and quicken the recovery and healing from acute injuries

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