

WHAT IS PROLOTHERAPY ?

Written by Admin
Thursday, 21 July 2011 10:57



Prolotherapy is a **medical procedure** that many acute and chronic patients, as well as athletes with sports injuries, are turning to because it is used as an alternative to surgery, arthroscopy, cortisone shots, Non-steroidal anti-inflammatories, and/ or chronic use of narcotic pain medications. Prolotherapy stimulates the body to repair the painful injured area(s) when the body's natural healing process is not able to do the job on its own. In most cases, commonly prescribed anti-inflammatory medications and more drastic measures like surgery, joint replacements, cortisone shots, and other therapies may not help, and often hinder or even prevent the healing process.

The basic mechanism of prolotherapy is simple. What most people are surprised to find out is **the body heals by inflammation**

! . In other words, we need inflammation to heal our bodies. Prolotherapy works because it actually stimulates an inflammatory reaction in the body. We inject prolotherapy solution into the affected ligaments, tendons, and or joints, which leads to local inflammation in the injected area.

Many people who find themselves in pain want to get rid of the pain as soon as possible – whether their painful condition is from a back injury due to improper lifting, a work-related injury such as Carpal tunnel syndrome from Computer use, or Plantar fasciitis from a sports injury such as long distance running. Prolotherapy becomes a very safe, affordable option that allows the patient to keep working and/ or training during the recovery process. Prolotherapy is one of the few treatments that encourages movement after the treatment and actually movement aids in the healing process.

How does prolotherapy work?

Prolotherapy involves **localized injection of proliferants** solution into the area where the ligament or tendon is damaged. The solution, a proliferants /mixture of dextrose

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PROLOTHERAPY : WHAT'S THE SOLUTION?

There are a number of different types of injections which have proven to be successful in Prolotherapy. Although they work in different ways, motivating the body to heal itself through a variety of natural responses, the end result is the same: to cure pain by building new tissue and stabilizing the joints.

All of the solutions used in Prolotherapy are designed to have a double-edged effect: a combination of anesthetic and proliferant qualities. The anesthetic agent alleviates the "pain trigger" while at the same time the proliferant agent begins to strengthen the ligament and tendons at the trigger or tender point.

Some Prolotherapy doctors use **mild chemical irritants**, such as phenol, guaiacol or tannic acid, to trigger the healing process. These substances attach themselves to the walls of the cells wherever they are injected, causing irritation that stimulates the body's reactive healing process. Others prefer to use **chemotactic agents**

, primarily morrhuate sodium, a fatty acid derived from cod liver oil. Most closely aligned to the compound Synasol used by Dr. Hackett in his pioneering efforts, these proliferants attract immune cells directly to the injected area.

The dramatic sounding "**osmotic shock agents**" are actually simple compounds like dextrose and glycerine. These are the most commonly used ingredients in the arsenal of Prolotherapy.

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Extremely safe and water-soluble, they are easily excreted from the body after having their initial desired effect. They work by causing cells to lose water, which leads to Inflammation and the subsequent stimulation of the healing response.

Particulates such as pumice flour are **microscopic particles that attract macrophages**, tiny organisms which gobble them up, in turn secreting polypeptide growth factors that result in collagen production.

Some practitioners add **co-factors**, such as the anti-oxidant mineral manganese, or a combination of glucosamine sulfate and chondroitin sulfate which is believed to aid in the repair of arthritic joints, or other co-factors believed to increase the efficacy of the compounds they are used with.

PLATELET RICH PLASMA (PRP) PROLOTHERAPY



PRP or **Platelet Rich Plasma Prolotherapy** is very useful and effective in cases of severe labral and meniscal (knee) tears, chronic osteoarthritis of the knee and avascular necrosis of the hip. PRP or Platelet Rich Plasma is a fairly new technique that involves drawing some of the patient's own blood and then processing it and using the growth factors to do the Prolotherapy. We have also used it when a patient is not responding quite as well as we had hoped and has a more severe injury.

We occasionally use **Human Growth Hormone (HGH)** along with regular Prolotherapy solution, in knee joints and hip joint, but also in other joints to help with cartilage regeneration.

Bone Marrow /STEM CELL Prolotherapy□

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Another aspect of comprehensive Prolotherapy uses your own stem cells. When we administer this kind of Prolotherapy, we are typically trying to resolve cartilage concerns or severe osteoarthritis and degeneration. Like PRP, it is administered into the joint along with comprehensive Prolotherapy to address all concerns.

Bone marrow is extracted either from the iliac crest (hip bone) or the tibia (shin bone) and directly injected into the patient in the area of concern. The benefits of bone marrow Prolotherapy are that it is taken from the patient and immediately injected back into the patient. No additions, no growing, no processing in a petri dish, just your cells back into your body in order to increase cartilage repair and cell growth. We also administer standard Prolotherapy to strengthen the joint further and treat the surrounding ligaments and tendons.

WhAT kind of structures can be treated with prolotherapy?

Prolotherapy involves the treatment of two specific kinds of tissue: tendons and ligaments. A tendon attaches a muscle to the bone and involves movement of the joint. A ligament connects two bones and is involved in the stability of the joint. A strain is defined as a stretched or injured tendon; a sprain, a stretched or injured ligament.

What happens to ligaments and tendons after injury?

During an injury, the collagen fibers that make up the ligaments and tendons are torn. The body heals these tears through the process of inflammation which is characterized by redness, swelling, tenderness, and stiffness in the joint. During the first days after injury, white blood cells flood the area to clean up the tear. Over the next few weeks, additional white blood cells migrate to the junction of the ligament and bone to begin building new collagen fibers. If the inflammation process is successful the new collagen fibers wind about each other becoming shorter and tighter. This healing process can take several months.

Why don't injured tendons and ligaments always heal properly?

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Healing can be disrupted if the injury is too severe or painful, or if the inflammatory process is interrupted with medications or abnormal activity. In addition, a lack of blood supply to tendons and ligaments deprives them of nutrients needed to heal properly. Due to these interferences, the tendons/ligaments heal in an elongated and disorganized fashion leaving the ligament lax and the nerves irritated. This causes restricted movement, excessive pain, and leaves the area prone to re-injury. This incomplete healing results in these normally taut, strong bands of fibrous or connective tissue becoming relaxed and weak. The relaxed and inefficient ligament or tendon then becomes the source of chronic pain and weakness.

How can ligaments and tendons be strengthened?

They do not respond to exercise in the same way muscles do. Medications and manipulations can help reduce the pain only temporarily. In some cases, surgery can repair some injuries but is invasive and leaves scar tissue. Prolotherapy stimulates the body's natural healing mechanisms to repair tendons and ligaments to their original strength without scar tissue.

How painful is prolotherapy?

In order to create the inflammatory response desired, there must be a certain amount of disruption of the ligament. This is done by inserting a needle at the point where the ligament comes into contact with the bones. There is pain involved with introduction of the needle and the contact of the needle and bone.

How many treatments are needed?

Every person has a different healing time. That is, until pain and function have normalized and the signs of joint instability and dysfunction are no longer detected. For some people only one injection is needed and other people need several. Repeated injections are performed between 1 and 6 weeks depending on the healing process.

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What are the risks associated with prolotherapy?

As with any injection, there are certain risks. However the true risks are relatively minor. Some of the risks are pain at the injection site, infection, temporary bruising of the nerve, dizziness, numbness, and pneumothorax (air on the outside of the lung). Most of the side effects will effects will subside over the 2 to 10 days following treatment.