



PROLOTHERAPY
Injection Treatment for Ligamentous Laxity
Arthritis and Tendon Injuries

WHAT ARE LIGAMENTS/TENDONS?

Ligaments and tendons are spring-like structures, which hold your bones together and allow you to walk and move without falling apart. Ligaments are flexible, but they do not stretch very far. Injuries, such as when you sprain a ligament, twist a knee, take a bad fall, suffer a whiplash, or lift an object which is too heavy, can tear or fray these cable-like structures. These injuries set up a healing process called inflammation to repair the injured ligament. You know this process is happening when you feel the pain, heat, note swelling and prefer not to move the injured joint. If the healing process is completely successful, ligaments will be returned to their normal strength and length and you can return to your normal activities. If this healing process does not completely work, the ligaments may not heal entirely. This "stretched out" ligament will lead to a situation which can cause pain and discomfort with movement.

When a ligament is "sprained" or injured, some of the strands or threads, which make up the cable, become over stretched and broken. The torn or sprained ligament is really millions of tears of these strands, which are molecules of collagen.

Loose ligaments allow the joint to move beyond its normal range of motion. The sprained ligament will produce painful sensations both locally and distally and make you aware of the problem. These sensations also include feelings of "numbness and tingling". The unstable joint also creates many protective actions by adjacent tissues. Muscles will contract in an attempt to pull the joint back to the correct location or stabilize it to protect it from further damage. We then feel the muscle spasms, which are related to the ligamentous laxity. There is a tendency to treat the muscle spasms as the primary cause of the problem and many medical treatments may be directed toward the muscular spasms, and not to the primary cause: the ligamentous strain. If the joint is slightly out of place because of the ligamentous laxity, it may respond to manual therapy, (as may the muscle). Such manipulative techniques will often give good relief and sometimes permanent relief.

If lax ligaments and tendons can lead to muscle spasm, loss of movement, and all sorts of painful sensations and feelings, what can be done? The only non-surgical treatment for this ligamentous strain or laxity problem is called **PROLOTHERAPY**. In order to understand prolotherapy, one must understand how the body heals ligament and tendon damage normally. This healing process is called inflammation.

INFLAMMATION-HEALING THE BODY