

WHAT DOES IT TAKE TO HEAL CONNECTIVE TISSUE?

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Healing is a complex process. Many chemical reactions occur after an injury which together fight infection, clear away debris, and rebuild the damaged structure. Complex interplay occurs between nutrition, hormones, underlying disease, circulation, neurological connections, and many other factors. Many patients who do not heal their original injuries have deficiencies of some of these factors, or may have had such extensive injury that the result of healing was insufficient.

Osteoarthritis is the result of connective tissue laxity, resulting in bone and cartilage changes. The laxity occurs from chronic stress and strain to some degree, but in a normal state, these processes heal and there is no significant damage. There are numerous growth factors and disrepair factors which influence the ultimate healing of the joint. It is the imbalance among these factors that creates the degeneration that is called arthritis.

Deficiencies in nutrition may include consumption of excess carbohydrates for many people. The result of this is obesity and insulin resistance. Insulin is structurally very similar to Growth Hormone, and Growth Hormone is processed into "Insulin-like Growth Factors." There is evidence that people with Adult Onset Diabetes (Insulin Resistance) are also resistant to their own Growth Hormone and other growth factors. This may explain why so many people with adult onset diabetes develop severe arthritis, tendonitis, ligament injuries, and circulatory deficits. They have lost the ability to heal their own tissues. Sadly, much of this may be avoidable with an appropriate diet, low in unrefined carbohydrates and starchy vegetables, such as sugar, flour, potatoes, pasta, and corn.

Supplements such as glucosamine, chondroitin, and MSM are helpful to provide the "building blocks" required for successful joint and ligament repair. Other cofactors, such as Vitamin C, zinc, selenium, iron, and manganese support a strong tissue structure. A good vitamin source should be taken daily, along with plenty of colored vegetables.

Most people are dehydrated to some degree because of the widespread intake of soft drinks and caffeinated beverages. The joints require adequate hydration to function properly. Most people should drink 2-4 liters of water a day, unless there is a medical reason not to.

Hormone deficiencies also result in poor connective tissue healing. Androgenic hormones such as Testosterone, Growth Hormone, Progesterone, and DHEA stimulate healing of bone and connective tissue, and unfortunately decline with aging. If a patient has multiple painful areas or seems very slow to respond to Prolotherapy, laboratory testing for these hormones may make the difference between success and failure of healing the tissues and resolving the pain.

Smoking impairs circulation and limits the availability of Oxygen to the tissues. Other sources of exposure to Nicotine (snuff, patches, etc.) also reduce the blood flow to the tissues. Nicotine recently has been shown to be a factor in cancer development, even without inhaling the cigarette smoke. Tobacco and nicotine products should be discontinued for general health, reduction of cancer risk, and for improved tissue healing.

Anti-inflammatory medication often will inhibit the response to Prolotherapy. There is some evidence that certain Prolotherapy solutions may be less inhibited by such medication, but to attain the best result, the patient should discontinue such medication for 3-4 days before treatment and 10-14 days afterward. If a patient can do reasonably well without these medications, discontinuing them is the best option.

Prolotherapy will resolve arthritis and connective tissue pain in the great majority of cases, in the hands of an experienced Prolotherapist. The above factors and many more must be considered when a patient does not seem to respond to Prolotherapy as expected.