Injection Therapy

Article by Leighton Bradgate

Injection therapy is commonly used in management of a range of injuries. There are a number of injection therapies, each which work through a different pathway in aiding resolution of an injury. This article discusses some of the more common injection therapies used in mainstream medicine and describes the proposed mechanism for each. Whatever the injection, evidence based best practice suggests that injections should be done under ultrasound guidance, to ensure the medicine being injected is delivered accurately to the target tissue.

Corticosteroid Injection

Corticosteroids (also known as steroids) remain one of the most commonly used injections in injury management and have been in use for a very long time. When corticosteroids are injected into or around a painful area (such as a joint or ligament) they can reduce the inflammation in the area, relieving pain, reducing tissue swelling and improving function and mobility.

Corticosteroids are often used to treat Arthritis (Rheumatoid and Osteoarthritis), frozen shoulder, bursitis and carpel tunnel syndrome. Depending on the condition that is being treated, steroid injections can provide pain relief for several weeks up to many months. They are often administered with a local anesthetic, which provides a temporary relief of pain immediately after the injection .

Platelet-Rich Plasma (PRP) Injection

PRP injections are a relative newcomer on the scene and involves a process where a sample of your blood is taken and a centrifuge is used to remove the red blood cells, to obtain blood plasma that has been enriched with platelets. The blood plasma contains 4-8 times the concentration of growth factors. This is then delivered via injection into the injured area. It is proposed that the platelets discharge these growth factors, triggering an enhanced healing response.

PRP injections are predominantly used for tendon injuries (specifically at the elbow, patella and achilles) but can also be used for nerve injury, osteoarthritis, bone repair and regeneration.
While there appears to be a great deal of anecdotal evidence, there remains a lack of solid longer term scientific proof of its effects.

Prolotherapy Injection

Prolotherapy (also known as Proliferative Injection Therapy) involves the injection of non- pharmacological substances into the body, generally into or around ligaments and joint capsules. The injections are proposed to lead to a reaction which tightens up tissue around loose or unstable joints, to improve control and decrease pain. Initially also referred to as sclerotherapy, as the injections were thought to tighten tissue through stimulating production of scar tissue in the injected tissue, however, this has been shown to be incorrect.

The precise mechanism of action is still unclear. It is thought that these substances act as an irritant leading to cell damage and thus activate the inflammatory process stimulating a healing response. Other suggestions are that the injection results in a cascade of events which lead to the release of PGF (Pre-collagen Growth Factor), which encourages the body to lay down new collagen tissue in the area. The process is reported to take 6-8 weeks and often patients are required

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to undergo a number of injections roughly 4 weeks apart.

There appears to be much conflicting research and information into the underlying physiological process and effects and further research into the area is required.

Synthetic Synovial Fluid Injection

Recently a number of injections have come onto the market which claim to be effective for treatment of arthritic joints. Unlike cortisone injections, these aim to place a synthetic version of the body's own natural joint lubricant, synovial fluid, into the joint.

Currently the injections are mainly being used for osteoarthritis of the knee. The results of the injections appear to be mixed, with some patients reporting quite good relief of their symptoms for up to 6 months and others little benefit. Further research into which patients are likely be benefit is required.

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