

Soft-Tissue Technique Versus Corticosteroid Injection

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The question often arises as to the effect of a cortisone injection versus manipulation or a soft-tissue technique in treating tennis elbow or a similar problem. It is accepted that corticosteroid injection is not effective in acute trauma, injection into the tendon, immediately before competition, and in joint instability or malalignment.¹ Some of the side effects of corticosteroids are avascular necrosis, especially of the hip;² tendon rupture due to the inhibition of the formation of healing adhesions, which results in weakening;³ and alteration of biomechanical ligamentous properties due to inhibition of the formation of granulation and connective tissue.⁴ Local injection of corticosteroids has proved to have a systemic effect on remote collagenous structures, as evidenced by diminished joint swelling distant from the injected site.⁵

A recent study by Bisset, et al.,⁶ involved a single-blind randomized controlled trial designed to compare the efficacy of physiotherapy versus corticosteroid injections versus a wait-and-see approach for tennis elbow over the course of 52 weeks. Physiotherapy consisted of eight treatments of 30 minutes apiece over six weeks; treatments consisted of elbow manipulation, massage and therapeutic exercise. Corticosteroid injections (lidocaine and triaminolone acetate) were given to the painful elbow site; participants were told to return gradually to normal activities and were given a second injection after two weeks if the doctors felt it necessary. All of the 198 participants were given advice of self-management and ergonomic information.

At the end of 52 weeks, most of the participants in all of the groups reported a successful outcome. The corticosteroid injections showed significantly better effects at six weeks, but with high recurrence rates and significantly poorer outcomes in the long term compared with physiotherapy, which was superior to wait-and-see in the short term in the first six weeks and to steroid injections in the long term. Recurrence rates were therefore higher and recovery delayed in the mid to long term after corticosteroid injection compared with physiotherapy or wait-and-see. Finally, patients who received physiotherapy sought significantly less other treatment.

It is apparent that the injection does not add to the healing of the tissue, but in the short term it does relieve the pain. I have seen many patients who showed a functional test of pain on resisted wrist extension and passive wrist flexion, indicating a tennis elbow. Some of these patients opted for a cortisone injection rather than a soft-tissue technique. A large percentage of these patients returned with the same complaint within six months, and some who had stated they felt better initially still complained of pain on resisted wrist extension, indicating the tissue was still pathologic.

Exercise, massage and manipulation all fall under the heading of mechanical load, as does Graston technique, active release and friction massage. I remind patients who decide on an injection that they will not have improved healed tissue if they only rely on the injection for relief of pain.

Nirschl⁷ stated that the major goals in the promotion of healing are to enhance the proliferative

invasion of vascular elements and fibroblasts, followed by collagen deposition and ultimate maturation. Pressure techniques have been proven to stimulate fibroblastic proliferation, which is responsible for creating both increased new collagen formation and the extracellular matrix that surrounds it. Fibroblast proliferation and activation are key events in the healing process of connective tissue-based structures and are responsible for the gene expression, and thereby production of, cellular mediators of healing and synthesis of collagen.⁸ Replacement of new collagen is the essential ingredient in healing, followed by stretching and strengthening.

References

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