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NEWS AND NOTES

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Physical Therapy Treatment Effectiveness for Lateral Epicondylitis or “Tennis Elbow”

Lateral epicondylitis or “tennis elbow” is an irritation of the insertion of the wrist extensors on the lateral epicondyle of the humerus. The condition occurs in 1-3% of the population most commonly between the ages of 35 and 54. Forty to fifty percent of tennis players are affected and 15% of workers in at risk industries develop symptoms. Occupations that require repetitive overuse of the elbow, forearm, and wrist particularly in gripping and wrist extension activities are considered at risk. Tennis elbow is characterized by pain over the lateral epicondyle usually reproduced by palpation or resisted wrist extension. Activities involving the wrist such as grasping and pinching are often affected causing decreased functional use of the involved hand. The extensor carpi radialis brevis and extensor digitorum are the most commonly involved muscles (Kohia et al., 2008).

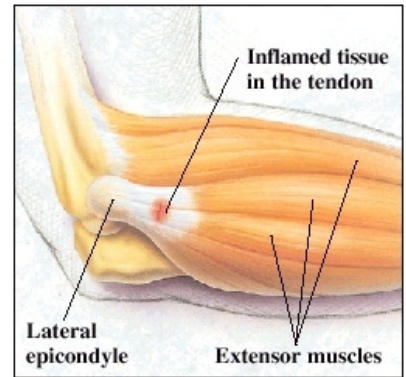
There are a variety of treatment approaches for lateral epicondylitis. A conservative approach is preferred; however, a gold standard of treatment has yet to be established. Stasinopoulos and Stasinopoulos (2006) examined three common treatments to determine which was most effective in regards to both decreased pain and increased function. The treatments were Cyriax physiotherapy, supervised exercise, and polarized polychromatic non-coherent light (Biopton light).

The researchers assigned 75 patients to one of three treatment groups. Each group received one of the three interventions for a 4 week time frame. Baseline pain was measured using a visual analog scale. Function was measured by both a visual analog scale and pain-free grip strength. Cyriax physiotherapy consisted of 10 minutes of deep transverse friction massage to the affected tendon and one intervention of Mill’s manipulation. The supervised exercise program focused on

slow progressive eccentric exercise and static stretching of the wrist extensors. Biopton light therapy was administered at three sites for 6 minutes each. Subjects were instructed to use their arm between therapy sessions but to avoid activities that may irritate the condition such as shaking hands, grasping, lifting, knitting, handwriting, driving a car, and using a screwdriver (Strasinopoulos & Strasinopoulos, 2006, 14). Patients were monitored at baseline (week 0) and at the end of treatment (week 4). Follow up was conducted at one month, three months, and six months from the end of treatment.

The results of the study found that Cyriax physiotherapy, supervised exercise, and polarized polychromatic non-coherent light all reduced pain and improved function at the end of the four week episode of treatment and at the 6 month follow-up.

The supervised exercise program was found to have the largest effect in the short, intermediate, and long-term (Table 1). The outcomes of this study indicate that a supervised physical therapy exercise program focused on eccentric exercise and stretching is the most effective treatment for lateral epicondylitis.



Kohia, M., Brackle, J., Byrd, K., Jennings, A., Murray, W., & Wilfong, E. (2008). Effectiveness of physical therapy treatments on lateral epicondylitis. *Journal of Sport Rehabilitation*, 17, 119-136.

Stasinopoulos D, Stasinopoulos I. Comparison of effects of Cyriax physiotherapy, a supervised exercise programme and polarized polychromatic non-coherent light (Biopton light) for the treatment of lateral epicondylitis. *Clin Rehabil*. 2006;20:12–23.

Table 1 Outcomes at Week 4

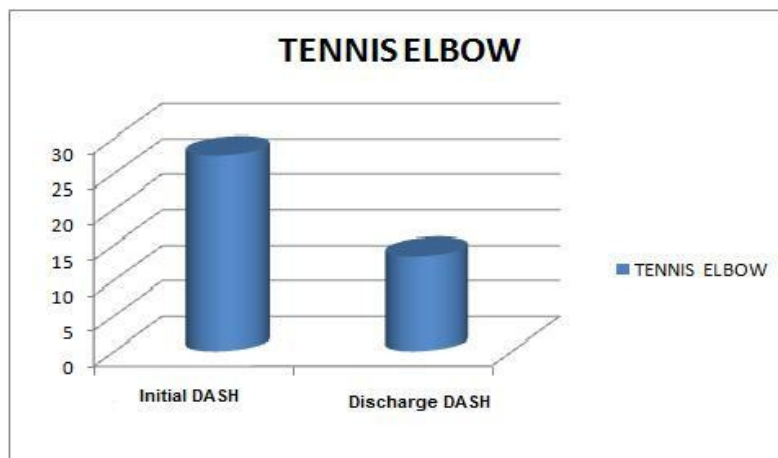
Outcome Measure	Cyriax Physiotherapy	Supervised Exercise	Biopton Light
Pain (VAS scale)	2.8	2.2	3.3
Function (VAS scale)	7.1	7.8	6.7
Pain-Free Strength (in pounds)	66.5	73.7	63.1

(Strasinopoulos & Strasinopoulos, 2006, 18)

Our Results

At Stover Physical Therapy we see people with a wide range upper extremity problems including tennis elbow. Our treatments may include any combination of passive and active range of motion stretches, strengthening exercises, manual techniques, functional training, or pain modalities. We take all of our patients with elbow pain through a thorough history and physical examination that includes assessment of active and passive ROM and resisted testing, our physical examination also includes assessment of repeated movements and repeated resisted testing to identify the nature of the pain (mechanical or chemical). Frequently these conditions behave mechanically and the repeated testing allows us to sub classify the patients mechanical pain into articular or contractile disorders thus allowing us to develop a condition specific therapeutic rehabilitation program. Lateral elbow pain is often classified as contractile dysfunction involving the wrist extensor muscle group (i.e. tennis elbow). We treat these disorders with a controlled movements of varying dosages to promote a remodeling or healing affect on the dysfunctional contractile tissues. You can view an example of exercises we commonly use to treat tennis elbow under the patient handouts link on this site.

We evaluate our treatment results for the elbow using a standardized instrument called the Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH). The DASH is a self report instrument that assesses upper extremity pain and function. Higher DASH scores represent more pain and lower function and lower DASH scores represent less pain and more function. You can view a copy of the DASH by clicking on the new patient forms link on this site. We have documented outcomes of 10 patients with tennis elbow treated at our facility. These patients received an average of 10 visits over a 6 weeks period. The bar graph below represents the average DASH scores pre and post treatment (25 and 12).



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