Tennis Elbow: On and Off Court

Nilpesh M. Patel, MD

Tennis elbow or lateral epicondylitis is a painful condition of the elbow that limits activity. The condition, first described in 1873, did not become commonly linked to tennis until 1883 when it was described as "lawn-tennis elbow." As the name implies, it is seen in racquet sport athletes, but also in any individual that overuses specific forearm muscles. This overuse can be related to your sport, career, or even recreational activity.

Tennis elbow more often affects the dominant elbow and occurs equally in women and men, being most common in the 4th and 5th decades of life. The pain is usually sharp in nature and lateral sided or on the outside part of the elbow. The pain is worse with activities involving wrist extension and rotation of the forearm. A specific event that starts the symptoms is usually not described, but repetitive activity and holding objects for long periods can be difficult and cause the lateral sided elbow symptoms.

The elbow joint is made of three bones. These bones are stabilized and move due to muscles, tendons and ligaments. The prominent area on the lateral side of the elbow is the lateral epicondyle. This area serves as the attachment point for a group of forearm muscles known as the "extensors" due to their involvement in extending the wrist. The extensor carpi radialis brevis (ECRB) is one of these extensors and is the tendon most commonly linked to tennis elbow. The ECRB has been analyzed in detail in people diagnosed with tennis elbow. Parts of the ECRB tendon have been evaluated under a microscope with special techniques showing changes in the tendon consistent with injury due to overuse and repetitive activity.

The first and most important step in treating tennis elbow is proper evaluation of the arm. Lateral elbow and forearm pain can be caused by many conditions. Proper examination will help to identify sources of pain that can include but are not limited to nerves, bones, ligament and other tendons. Many conditions can co-exist with tennis elbow. For example, numbness and tingling associated with pain may be concerning for nerve irritation or compression. The shoulder joint is also important for proper elbow motion. Limited shoulder motion can causes stresses on the elbow that can lead to tennis elbow, so, thorough evaluation by a qualified health care provider is the first step in treatment and prevention.

Imaging and further studies may be necessary for complete evaluation. X-rays can identify bone changes such as arthritis. Nerve studies may be indicated based on your examination to ensure the pain is not related to other conditions. MRI and ultrasound are also helpful for not only helping to diagnosis the condition but also for evaluating other conditions of the elbow as well as responses to treatment.

Many treatment modalities for tennis elbow have been described that are both invasive and conservative. A majority of patients diagnosed with tennis elbow improve with a well-designed conservative approach to the condition. Rest and activity modification is important in order to relieve the pain and give the tendon time to heal. Bracing can be used to help with rest and improve

symptoms. Icing the area and anti-inflammatory medications can help to decrease inflammation and pain. Rehabilitation is often prescribed as safe exercises that involve stretching and strengthening have been shown to help recovery while keeping patients active. Taping techniques to reduce pain and inflammation have also been described. Conservative treatment does not mean stopping all activity, but instead, involves designing a program that is best fit for you and recovery.

Invasive treatment does not always mean surgery. Shock wave therapy and ultrasound have been described for treatment of tennis elbow. These modalities can be part of the rehabilitation program and can improve symptoms by affecting pain receptors as well as work directly on tendon cells to induce repair. Steroid injections into the area help to reduce acute pain. This can allow patients to start a program for recovery and prevention. Recently, injection of platelet-rich plasma has been described with some success. The patient's own blood is centrifuged and a portion of the blood that is rich in platelets is separated and injected back into the elbow. It is believed that portion of plasma can influences tissue healing, helping to repair the injured tendon. Platelet-rich plasma may have some promise in treating certain conditions such as tennis elbow, but there are still many questions to be answered about this treatment option and its efficacy in treating this complex injury.

After conservative management has been exhausted, surgical treatment may be an option. Open surgical procedure involves an incision over the area followed by debriding the area of damaged tendon and possible reattachment of the tendon to the bone. Arthroscopic treatment is an option for certain patients and involves entering the elbow joint and debriding the involved area. There is no proof that one procedure is better than the other as both results in good outcomes after a program of rehabilitation. The decision to have surgery should be based on thorough evaluation, treatment and discussion with a qualified surgeon.

If you are at risk for tennis elbow, prevention should be your goal. Prevention involves a solid program of stretching and strengthening focusing on particular forearm muscles as well as general conditioning and core strengthening. Athletes should check their equipment. Oversized racquets may need to be down-sized and string tension optimized to reduce stress on the forearm muscles. Manual laborers who over-use there forearm muscles at work may need to take breaks in activity and work on stretching programs as well as icing during these breaks.

Tennis elbow or lateral epicondylitis can be debilitating. Don't let elbow pain affect performance at work or play. Many options exist to get back to activity. Proper evaluation and a solid treatment plan is the key to safe recovery and prevention.

Nilpesh M. Patel, MD is an orthopaedic surgeon fellowship trained in hand, elbow and upper extremity surgery practicing at Lakewood Orthopaedics and Sports Medicine.