

TENNIS ELBOW

Tennis elbow refers to an acute or chronic painful inflammatory condition of the outer (radial) aspect of the elbow. The underlying cause of the elbow pain may be a chronic overuse or an acute overload of the tendons and muscles surrounding the elbow. This in turn leads to microscopic tears, as well as inflammation over the lateral aspect of the elbow. It is important to remember that the length of the racquet itself and the fact that there is an impact with a ball leads to large forces and torques not only in the elbow but in the entire upper extremity.

The most common cause of tennis elbow, in beginning and intermediate tennis players, is poor or improper back hand mechanics. This can be seen with players who strike the ball with an extended, rigid elbow while making contact with the ball too far from the body. The simplest way to help correct back hand mechanics is to use a two-handed back hand which serves to place the dominant arm in a proper position as well as having the opposite arm acting as a shock absorption mechanism. Late contact with the ball while swinging a back hand can also increase the forces across the elbow.

In the advanced or professional tennis player, tennis elbow is more commonly caused by the forehand strokes. Players who use excess over-the-top wrist snap to add top spin to their ground strokes are at risk to develop tennis elbow. When a player attempts to place top spin on the ball, the wrist will hyper-flex, thus leading to excess strain on the extensor muscles at the elbow. This can be the result of a hard hit spin-slice serve, also.

In tennis players with resistant tennis elbow it is important to consider the racquet itself. Switching to a larger format head or a head with a larger "sweet spot" may help decrease the increased torque which is transmitted to the elbow following a "miss hit". The overall weight and balance of the racquet is an important factor as well. A light weight racquet with weight distributed towards the handle will often force the player to "muscle" the backhand stroke. If the stringing of the racquet is too tight there will be an increased force at the time of impact. The increased forces are directed through the upper extremity increasing the risk for tennis elbow. If the

racquet is under-strung, the condition described as “trampolining” may occur where accuracy of placement is lost. Lastly, grip size and shape should also be taken into consideration. If the grip is too large the wrist range of motion will be restricted and if the grip is too small there will be an unacceptable amount of torque between the shaft and the hand.

The diagnosis of tennis elbow starts with a thorough office examination and history. X-rays and MRI scan are often used to confirm the diagnosis. Trying to uncover the underlying causes of the tennis elbow is critical to a successful outcome. Excessive hammering, hedge trimming or work around the house can often lead to tennis elbow type symptoms. In the initial stages of treatment a brief period of rest may be advisable. Occasionally, a brief period of immobilization is prescribed. Icing the lateral aspect of the elbow 5-10 minutes up to 3 times daily can help reduce the pain and inflammation. When symptoms subside additional exercises can be started at home or a more sophisticated rehabilitation program can be done under the supervision of a physical therapist. In physical therapy, electrical muscle stimulation and ultrasound are often used. A thorough physical therapy program to treat tennis elbow will include strengthening of all muscles from the hand to the shoulder. A course of strengthening and balance exercise is often included. Sessions with a tennis pro can uncover biomechanical flaws and are highly recommended.

Non-steroidal anti-inflammatory medication such as Celebrex or Naprosyn is usually recommended. Cortisone injection into the area of local inflammation can speed up recovery. Other treatments include extracorporeal shock wave therapy and acupuncture. New treatments may be available in the near future. Tennis elbow braces are available for purchase over the counter or by prescription. These braces theoretically help to dampen the shock wave transmitted to the tendon insertion at the elbow. It may be necessary to try several styles to find a brace which is most effective. Although symptoms may persist for up to one year, the success rate in treating “tennis elbow” is very high.