

Understanding Tennis Elbow: Causes, Symptoms, and Available Treatments

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Abstract

Tennis Elbow, clinically termed lateral epicondylitis, stands as a prevalent musculoskeletal ailment affecting the outer part of the elbow. Despite its name, this condition isn't exclusive to tennis players; it often arises due to repetitive stress or overuse of the forearm muscles and tendons, leading to micro-tears and inflammation at the elbow's lateral epicondyle. The abstract focuses on elucidating the multifaceted aspects of Tennis Elbow, exploring its causes, symptoms, and the array of treatment options available. Symptoms commonly appear as discomfort and sensitivity around the outer elbow, sometimes extending down the forearm. While common among individuals in professions involving repetitive arm movements, it can also affect those with specific hobbies or activities emphasizing similar motions. The diagnosis mainly depends on a clinical assessment and review of the patient's medical background. In some cases, imaging tests could help confirm the diagnosis or eliminate other potential sources of elbow discomfort. Treatment approaches for Tennis Elbow vary from conservative to more involved interventions. Initially, conservative approaches, including rest, ice application, and modification of activities, serve as foundational components. Additionally, physiotherapy exercises aimed at strengthening and stretching the affected tendons and muscles offer considerable relief. Orthotic devices, such as elbow braces, might assist in mitigating strain during daily activities. For cases resistant to conservative treatments, medical interventions such as corticosteroid injections or platelet-rich plasma therapy may be considered to alleviate pain and promote healing. In rare instances where symptoms persist significantly, surgical procedures, like tendon repair, could be explored. The abstract seeks to provide a comprehensive understanding of Tennis Elbow, emphasizing the importance of early recognition, appropriate diagnostics, and tailored treatment plans. Educating individuals about preventive measures, proper techniques during physical activities, and ergonomic practices holds significance in managing and preventing the recurrence of Tennis Elbow, ultimately enhancing the overall quality of life.

Keywords: Tennis elbow, symptoms, causes, treatment, rehabilitation

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INTRODUCTION

Lateral epicondylitis, commonly referred to as tennis elbow, is a prevalent condition impacting the outer area of the elbow. Contrary to its name, tennis elbow isn't exclusive to tennis players; it can occur in individuals participating in activities requiring repetitive arm and wrist movements. Tennis elbow presents as a painful condition, limiting forearm movement and often requiring prolonged treatment. Currently, available treatments primarily focus on symptom relief, including anti-inflammatory analgesics, steroid injections, physiotherapy, and exercises. However, these therapies frequently produce inadequate outcomes and extended usage can result in negative consequences. This disorder

involves non-specific inflammation at the origin of forearm extensor muscles and is diagnosed clinically through the experience of pain and tenderness at the humerus' lateral epicondyle. Symptoms worsen during resisted dorsiflexion of the wrist and fingers [1–4].

Prevalence

Prevalence of tennis elbow (lateral epicondylitis) is 1–3%. The most frequent occurrence happens among younger individuals and those aged between 40 and 60 years old. Women experience a rise in incidence, reaching 10% between 42 and 46 years of age [5].

Causes

1. *Repetitive strain*: Tennis elbow primarily stems from the repetitive stress placed on the muscles and tendons of the forearm. Engaging in actions that require gripping, twisting, or lifting with the hand and wrist can result in tiny tears in the tendons connected to the lateral epicondyle, the protruding bony area on the elbow's outer side.
2. *Sports activities*: While tennis players are at a higher risk due to the nature of their sport, any activity that involves repetitive use of the forearm muscles, such as racquet sports, golf, and weightlifting, can contribute to the development of the tennis elbow.
3. *Occupational factors*: Jobs involving repetitive and vigorous gripping, or the utilization of vibrating tools might elevate the likelihood of developing tennis elbow. This includes professions such as carpentry, plumbing, and painting.

Symptoms

1. *Pain and tenderness*: The distinctive indicator of tennis elbow is discomfort and sensitivity on the exterior of the elbow. This discomfort might extend along the forearm and intensify when holding or raising objects.
2. *Weakness in grip*: People affected by tennis elbow might encounter difficulties in their grip strength, complicating routine tasks that entail holding or gripping objects.
3. *Stiffness*: Frequent stiffness in the elbow joint, especially following periods of rest, is a prevalent indication of tennis elbow.

Treatment

1. *Rest and modification of activities*: Rest is crucial in the initial stages of tennis elbow to allow the injured tendons to heal. Steering clear of actions that exacerbate symptoms and adjusting techniques can help forestall additional strain.
2. *Ice and compression*: Using ice on the impacted area can diminish swelling and ease discomfort. Employing a bandage or brace for compression might offer support and lessen tension on the affected tendons.
3. *Physical therapy*: Physical therapy exercises aim to fortify and elongate the forearm muscles. This can improve flexibility, reduce tension, and promote healing.
4. *Bracing and supports*: Wearing a brace or splint can help provide support to the affected arm, reducing stress on the injured tendons during daily activities.
5. *Medication*: NSAIDs could be suggested to handle pain and inflammation, while corticosteroid injections might be given to decrease swelling in certain situations.
6. *Extracorporeal shock wave therapy (ESWT)*: ESWT, a non-invasive technique employing shock waves to prompt healing in affected tendons, is contemplated when traditional treatments have not yielded relief.
7. *Surgery*: In rare cases where symptoms persist and are severe, surgical intervention may be considered. Usually, the process includes eliminating injured tissue and mending or reattaching tendons [6].

Preventive Measures for Tennis Elbow

Given that tennis elbow often results from repetitive strain, it's logical to prioritize reducing stress on these delicate tissues initially. However, this might not be the ideal solution as you likely still need to use your elbow for sports or work [7].

In General

- Make sure your arms are strong and flexible.
- Avoid repetitive arm and wrist movements.
- Use your shoulder and upper arms to take the strain off your elbow.

At Work

- Avoid working with a bent wrist. Keep it straight, if possible.
- Talk to your manager about rotating jobs, doing different tasks, or changing your workstation setup to reduce strain.
- Hold tools with a loose grip to take some of the tension out of your hand.
- If you use a hammer, use one with padding to help absorb shock.

For Sports

- Stretch and warm up before any sport or activity that will exercise your elbow or arm.
- If you have a coach, ask them to help with your form. The correct technique can help avoid injury.
- When playing tennis, stick with a two-handed backhand.
- Make sure you have fresh, dry tennis balls. Wet or "dead" tennis balls can aggravate your elbow.
- Use equipment for your height and weight, especially when playing tennis and golf.
- Ice your elbow after playing sports where you use your forearm.

One must strengthen the soft tissues surrounding the joint so that they can meet the heightened demands.

The following are the few strengthening and stretching exercises:

Physical therapy is a common treatment for tennis elbow, whether you have surgery or not. Here are some of the exercises that may help your symptoms improve [8].

Finger Stretch

1. Place a rubber band around your fingers and thumb, and cup your hand.
2. Slowly spread your thumb and fingers apart and then close them.
3. Do three sets of 10 and repeat 2–3 times a day.

Ball Squeeze

1. Hold a tennis ball or stress ball in your hand.
2. Squeeze and release.
3. Do this 10 times and repeat 5–7 times a week.

If this movement causes you pain, use a softer object, like a sponge or balled-up socks.

Wrist Stretch

1. Hold your arm straight out with your palm facing down.
2. Use your other hand to gently pull your fingers of your outstretched hand down toward your body until you feel the stretch in your inner forearm.
3. Hold for 15 seconds. Repeat five times, then do the same motions with your other arm.
4. Try this stretch up to four times a day.

Wrist Turn

1. Bend your elbow to 90 degrees by your side so it forms an L.
2. Hold your hand out, with your palm up.
3. Gently turn your wrist so your palm faces down.
4. Hold for 5 seconds, and then slowly release.
5. Do three sets of 10.

Forearm Strengthening

1. Bend your elbow 90 degrees.
2. Support your forearm on a table with your wrist hanging off the edge.
3. Slowly turn your palm so it faces up, moving only your forearm, not your elbow.
4. Return your wrist to the start position, then slowly turn your palm down, and repeat the action.
5. Do three sets of 10.

When you can do 2 days of 30 reps (repetition) without pain, add a 1-pound dumbbell; then add a 3-pound dumbbell.

Towel Twist

1. Hold a rolled-up towel in both hands and relax your shoulders.
2. Twist the towel in opposite directions (one hand rolling forward, the other pulling back), as if you're wringing out water.
3. After 10 twists, repeat, going in opposite directions.
4. Do three sets of 10.

Elbow Curls

1. While standing, place one foot out in front of the other.
2. Loop one end of a resistance band under your back foot and hold the other end (or the handle) with your palm facing up.
3. Pull the band up and curl your arm toward your shoulder.
4. Do three sets of 10.

Lift Small Weights

Take a lightweight object, around one or two pounds, hold it in your hand, and position your elbow at a right angle with your palm facing inward. Proceed to flex your wrist backward and then towards your body. Repeat this action for each arm approximately 10 to 20 times [9, 10].

CONCLUSION

Tennis elbow, stemming from repetitive stress, inflammation, and subtle degenerative alterations in the tendon of the extensor carpi radialis brevis muscle, leads to restricted and painful movements in the affected arm. Although a prevalent issue, this condition can be successfully addressed through a range of non-invasive measures. Recognizing the symptoms early on, coupled with periods of rest and the application of suitable interventions like physical therapy and the use of braces, proves instrumental in fostering recovery and averting potential long-term issues. It's crucial for individuals grappling with persistent elbow discomfort to seek guidance from healthcare experts. A comprehensive assessment by a medical professional can aid in devising a personalized treatment strategy that caters specifically to their needs. By combining early identification, rest, and the appropriate therapeutic measures, individuals can effectively manage tennis elbow, restoring mobility and alleviating the associated pain to enhance their overall quality of life.

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