



A STUDY TO ASSESS THE EFFECTIVENESS OF KINESIO TAPING AND THERAPEUTIC ULTRASOUND IN PATIENTS WITH TENNIS ELBOW

Orthopaedics

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ABSTRACT

BACKGROUND AND PURPOSE: Tennis elbow, or lateral epicondylitis, is a painful condition of the elbow caused by overuse. Playing tennis or other racquet sports can cause this condition. However, several other sports and activities can also put at risk. Tennis elbow is an inflammation of the tendons that join the forearm muscles on the outside of the elbow. The forearm muscles and tendons become damaged from overuse, repeating the same motions again and again. This leads to pain and tenderness on the outside of the elbow. Physiotherapy plays a crucial role in the reducing pain and disability.

AIM/OBJECTIVES OF THE STUDY: To assess the effectiveness of kinesio taping and therapeutic ultrasound in patients with tennis elbow in reducing pain and disability.

METHODOLOGY:

SUBJECTS : 20 Patients with Tennis Elbow ranging the age group of 40 years to 50 years

DURATION: 4 weeks

DATA ANALYSIS: The pre and post test data has been collected from the subjects. The data has to be analysed in statistics.

RESULTS: Study proved that kinesio taping and therapeutic ultrasound for patients with Tennis Elbow had an effective role in reducing pain and disability.

CONCLUSION: Physiotherapy with ultrasound and kinesio taping plays a crucial role in the treatment of patients with tennis elbow.

KEYWORDS

Kinesio taping, Ultrasound, Pain, Disability

INTRODUCTION

Tennis elbow, also known as lateral epicondylitis is usually caused by repetitive movements or too much strain, for instance, during sports like tennis or when doing manual labour. About 2% of the population have tennis elbow. The symptoms are most common in people between the ages of 40 and 60 – probably because the muscles are more susceptible to overuse in middle and older age. Tennis elbow is equally common in men and women.

In tennis elbow, the pain arises where the tendons attach to muscles on the outside of the elbow. These tendons are involved in movements that extend the wrist. It often affects people who usually don't use their forearm muscles much, and then suddenly overuse them. But the symptoms don't only result from short-term overuse. Regular repetitive strain can also result in tennis elbow. The main symptom is pain in the outer elbow, but it may also spread over the entire arm. The pain in the outer elbow is mostly only felt when the elbow is moved or touched, and it may spread into the upper arm, forearm or the hand. Even the simplest movements can be painful, like unscrewing the cap of a bottle. It also becomes difficult to get a strong grip, and the arm is often less flexible than it was before. The pain might go away when the arm is resting. These symptoms can also occur at night and make it hard to sleep.

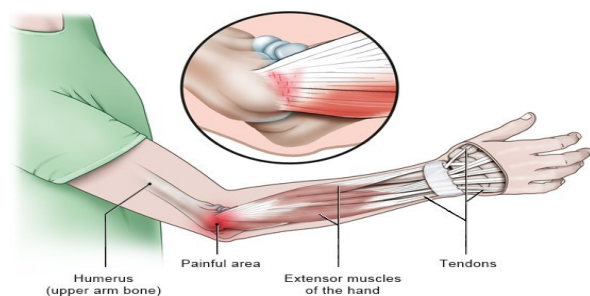


Figure Painful Area In Tennis Elbow

Possible causes include:

- Sports like tennis, rowing or strength training
- Manual labour like painting, carpentry or turning screws
- Heavy lifting
- Playing musical instruments, such as the piano
- Working at a computer or a supermarket cash register

Tennis elbow probably arises from the overuse or incorrect use of muscles, which leads to small injuries and wear and tear at the base of

the tendons that attach to the muscles. A physical examination is usually enough to find out whether the patients have tennis elbow. X-rays, ultrasound scans or MRI (magnetic resonance imaging) are only considered if doctors think that patients might have something else. Trying to avoid activities that provoke the symptoms or reducing those activities enough to make the symptoms improve, may help. Special exercises to strengthen the forearm and wrist, called “eccentric exercises,” can help to relieve the pain. Manual therapy by a Physiotherapist can also help.

AIM / OBJECTIVE OF THE STUDY:

To assess the effectiveness of kinesio taping and therapeutic ultrasound in patients with tennis elbow in reducing the pain and disability.

RESEARCH DESIGN AND METHODOLOGY

An experimental study design was conducted with 20 patients within the age group of 40 to 50 years who fulfilled the inclusion and exclusion criteria, at the Physiotherapy centre in Chennai for a duration of 4 weeks.

Inclusion Criteria:

- 20 Subjects of age of 40 to 50 years
- Subject who had no history of taking oral NSAID or corticosteroid injection previously.
- The participants who had no any deformity of the affected elbow and wrist.
- Voluntary participants

Exclusion Criteria:

- Patients with clinical disorder which may become worsen with taping, such as skin disease, dermatitis, eczema.
- Subjects who had any deformity in the affected sided elbow and wrist.
- Subjects who were unwilling to participate.

METHOD

Tips for Applying Kinesio Tape

- Use approximately 4 cm anchors at each end of the tape, and apply anchors without any tension
- Don't touch the adhesive if possible, and avoid creases in the tape
- Use scissors to round the edges of tape to avoid early lifting off skin
- Apply directly over painful area, using multiple strips if necessary, generally along the muscle fibres
- Use around 25% tension but no more than 50% to avoid skin irritation

- Gently rub the tape after application to activate the adhesive
- If skin becomes red and irritated, remove immediately (it may be an allergic reaction)
- The tape can be worn for up to 3 days, although exposure to water may reduce that time.



Figure 2: Kinesio Taping For Tennis Elbow

OUTCOME MEASURES:

- 1.VAS (Visual Analogue Scale)
- 2.UEFI (Upper Extremity functional Index)

Data Analysis:

The pre and post test data has been collected from the subjects. The data has to be analysed in statistics using the paired t test and simple t test.

T-Test: Paired Two Sample for Means VAS

	Pretest	VASPosttest
Mean	140	101
Variance	843.0333	843.0333
StandardDeviation	0.85839508	0.686333
Pvalue	0.4466779	
Tvalue	2.1622	

RESULT:

There is significant improvement in reducing pain due to the treatment ($t\text{ value}=2.16, p<0.05$). The mean value of VAS is decreased from 140 to 101 and the SD has decreased from 0.858 to 0.686

T-test: Paired Two Sample For Means

	UEFI Pretest	UEFI Posttest
Mean	603	789
Variance	15740.35714	15740.36
StandardDeviation	10.94616011	10.28783
Pvalue	0.93924998	
Tvalue	9.99304	

RESULT:

There is significant improvement in reducing disability due to the treatment ($t\text{ value}=9.99, p=0.9$). The mean value of UEFI has increased from 603 to 789 showing significant improvement in reducing disability. As the scores increases, disability decreases.

DISCUSSION:

The statistical analysis has proved that the kinesio taping and the therapeutic ultrasound has played a vital role in reducing pain and disability. The mean scores of VAS has decreased from pre test to post test which indicates that the pain has reduced to a greater extent. Similarly, the scores of UEFI has increased from pre-test to post test, which has shown that the level of disability has reduced. As the mean scores increases, the disability decreases.

CONCLUSION

Kinesio Taping technique along with therapeutic ultrasound plays an effective role in restoring the functional activities of the elbow. It is a cost-effective treatment and helps to facilitate rehabilitation program.

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