



### Clinical Question

In patients with lateral elbow tendinopathy (LET), also known as tennis elbow, is extracorporeal shockwave therapy (ESWT) more effective compared with other interventions commonly used in physiotherapy practice.

### Clinical bottom line

There is low to moderate quality evidence to prove the effectiveness of extracorporeal shockwave therapy (ESWT) over interventions commonly used in physiotherapy practice for patients with lateral elbow tendinopathy (LET). If it is used, then it should be used in conjunction with other therapy modalities until further research is conducted proving its effectiveness.

### Plain Language Summary

Tennis elbow (also called lateral elbow tendinopathy) is a common cause of elbow pain. About 1 to 3 out of every 100 people may get it each year. It usually affects people aged 35 to 54, and men and women get it equally. It is much more common than golfer's elbow.

Tennis elbow often happens after small injuries or doing the same arm movement many times, like lifting or gripping things. This can hurt the tendons in the elbow, causing pain and making the area weaker over time.

If not treated early, the pain can last a long time. The best way to treat it is with physiotherapy — this includes exercises, advice on pain, and using an elbow strap. Steroid injections don't help much, and surgery is only used if other treatments don't work.

We looked at a treatment called ESWT (shockwave therapy), which may help with pain in tendons. A recent article said it can be useful for tennis elbow. Our aim was to see how helpful ESWT is and whether it can support better care for patients.

### Why is this important?

Lateral elbow tendinopathy (LET) is common cause of persistent elbow pain, with a population prevalence estimated at 1-3% and an incidence of 4-7 per 1000 people a year. Women and men are affected equally, and peak incidence occurs between 35–54 years of age. It is seven times more common than golfers' elbow (medial epicondylitis).

It typically follows minor trauma or repetitive overuse from wrist extension and forceful gripping, causing micro-tears in the forearm extensor tendons near the lateral epicondyle. This triggers a degenerative process, leading to granulation tissue, fibrosis, and tendinosis (NICE,n.d)

The symptoms of this condition are quite long lasting if not treated in a timely manner. We need to be using evidence-based treatments for this condition and exploring the best method of treatment. In a sequence of Physiotherapy inclusive of exercises, advice on pain control and elbow clasp are recommended as conservative management. Research does not support cortico-steroid injections (CSI) effectiveness in relieving pain. Surgery is only offered following failure of conservative treatment. Over the years different types of treatment modalities have been utilised to manage the pain. An article in Frontline Physio Journal recently discussed EWST as being an effective Rx for tendinopathies, tennis elbow being one of them. Hence, we wanted to explore how effective it is in treatment of tennis elbow. Our aim was to research the efficacy of ESWT to see if it would be helpful in supporting patient care whilst clinical decision making.

Search timeframe (e.g. 2018-2023)

AMED, CINAHL, Embase, Emcare, Medline, TRIP, ClinicalKey, PubMed, PEDro, OrthoSearch, Cochrane Library, Google Scholar. Supplemented with a wider Internet search. Results were limited to the last 15 years and to those in the English language

Search criteria

<b>Population Intervention Comparison Outcomes (PICO) themes</b>	<b>Description</b>	<b>Search terms</b>
<b>Population and Setting</b>	Adults over 18 years old with lateral elbow tendinopathy (LET)	Adults over 18 years old Tennis elbow, lateral epicondylitis, Lateral elbow pain
<b>Intervention or Exposure</b>	Extracorporeal shockwave therapy	Extracorporeal shockwave, corticosteroid injections, Physiotherapy
<b>Comparison,</b>	Corticosteroid injection Physiotherapy Usual care	Corticosteroid injections Physiotherapy Usual care

<b>Outcomes of interest</b> e.g. Visual analogue scale, Range of motion	Pain intensity, grip strength and elbow disability	Pain – VAS Grip strength Elbow disability/ outcome measure?
<b>Types of studies</b>	Systematic review/ meta-analysis/ RCT's	Systematic review/ meta-analysis/ RCT's

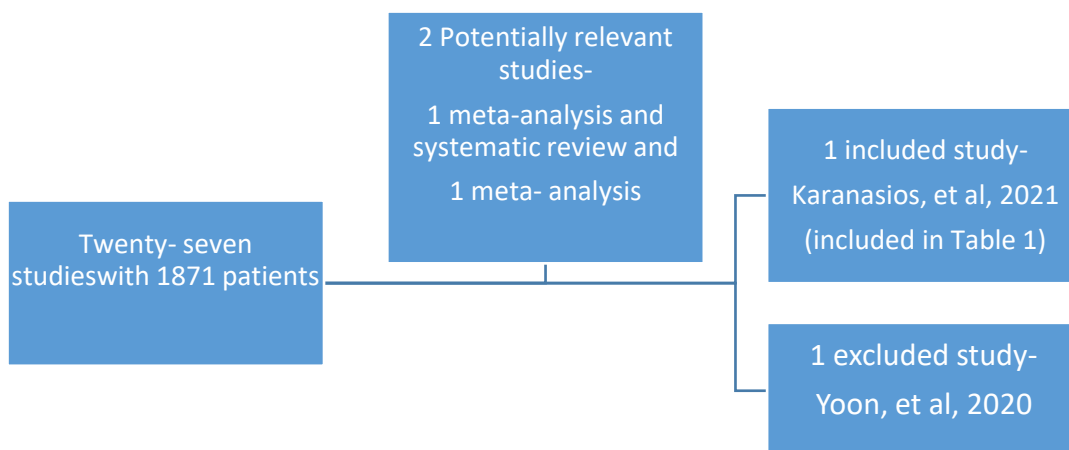
### Databases searched

MEDLINE, PubMed, CINAHL, EMBASE, PEDro, ScienceDirect, Cochrane Library and clinical trial registries

### Date of search

2011- 2023

Results of the search: include the number in each box



Two studies were identified as potentially relevant.

### Table 1- Detail of included studies

First author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
<p>Karanasios, et al, 2021</p> <p>Systematic review and meta-analysis</p> <p>The authors assessed methodological quality with the PEDro score to assess the risk of bias and quality/certainty of evidence with the GRADE approach.</p>	<p>Twenty-seven studies with 1871 patients</p> <p>Three reviewers conducted the study in Greece</p>	<p>Extracorporeal shockwave therapy was compared to sham, Laser, ultrasound or corticosteroid injection</p>	<p>Using primary outcome measures such as on grip strength and pain; it was found that</p> <ol style="list-style-type: none"> <li>1) There were no clinical benefits of using extracorporeal shockwave therapy compared to sham interventions with low to moderate certainty of evidence</li> <li>2) But when compared with compared with Laser and ultrasound modalities then extracorporeal shockwave therapy had better results even though with very low to moderate</li> </ol>	<p>Randomized by computer programme, using quite wider and main databases did a good literature search</p> <p>Participants were adults' patients &gt;18 years diagnosed with lateral elbow tendinopathy. The search was wide with no restriction on language or publication year (from inception to February 2020). The excluded studies were either LET treated surgically or was the result of a fracture or any systemic disease.</p> <p>Follow up were at different time points but none greater than a year i.e., &lt; 2months,</p>

			certainty of evidence	<p>between 2months-3months, between 3months-12months and &lt;12months.</p> <p>Negatives- studies had different diagnostic criteria and had limited number of studies causing possible publication bias</p>
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## Summary

There is low to moderate evidence to show that ESWT was no better than sham interventions, laser and ultrasound. A few reasons are found to explain these low-moderate evidence including statistical heterogeneity, high risk of publication bias, different interventions used in the different studies, and different follow up timescales. Hence it indicates that patients with LET pain would not greatly benefit from ESWT in reducing pain intensity, improving grip strength or functional activities. The results were similar at short term, mid-term, and long term follow up.

## Implications for practice

Further good quality research is required to accurately study the effectiveness of Extracorporeal Shockwave Therapy in patients with LET. Our practice for the management of lateral elbow tendinopathy has not changed based on the findings of this CAT question.

## What would you post on social media?




Extracorporeal Shockwave Therapy was not found to be more effective in the treatment of patients with Lateral elbow tendinopathy (tennis elbow) compared to sham, laser, ultrasound or corticosteroid injection therapy.

## References

Karanasios, S, Tsamasiotis, G.K., Michopoulos, K, Sakellari, V, Gioftsos, G. (2021). Clinical effectiveness of shockwave therapy in lateral elbow tendinopathy: systematic review and meta-analysis. Clinical Rehabilitation 1-16

NICE. (n.d.). *CKS is only available in the UK*. [online] Available at: <https://cks.nice.org.uk/topics/tennis-elbow/background-information/causes/>.

Please tick the box that best reflects your clinical bottom line and include the picture on page 1

CAT image	Evidence quality	Checkbox
	Good quality evidence to support use....	<input type="checkbox"/>
	Insufficient or poor-quality evidence OR substantial harms suggest intervention used with caution after discussion with patient...	<input type="checkbox"/>
	No good quality evidence, do not use until further research is conducted OR Good quality evidence to indicate that harms outweigh the benefits....	<input checked="" type="checkbox"/>

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