

## Keele Critically Appraised Topic (CAT Form)



### Clinical Question

In adults with plantar heel pain (more commonly known as plantar fasciitis (PF)), does extra corporeal shockwave therapy (ESWT) improve pain and function compared to corticosteroid injection (CSI) therapy?

### Clinical bottom line

There is no evidence to show that ESWT is significantly better at improving pain or function compared to a CSI in the short term.

It is important to consider the impact of cost and time to both the NHS and patients when delivering care. The additional cost of buying an ESWT machine, the number of hospital appointments needed and time to deliver the treatment compared to a one off appointment for a steroid injection should also be considered in further research analysis.

Further good quality randomised controlled studies are needed involving multicentres to enable larger study numbers, with consistent protocols for ESWT and outcomes at 12 months to determine if this form of treatment provided better pain and functional improvement. This was a recommendation by NICE in 2009.

### Why is this important?

Plantar heel pain is a common foot complaint accounting for 11-15% of all foot complaints requiring professional care. It is commonly seen in patients aged between 40-60yrs old and in the majority of cases, symptoms completely resolve within 12 months of onset.

In persistent cases, patients can be referred to physiotherapy/podiatry where they can receive further education on the condition and its management, which may include exercises, footwear advice, provision of insoles and a CSI.

Following an in-service training session, it was found that there is variation in practice across our service for patients with plantar heel pain. Some patients can be referred on to

physiotherapy for consideration of ESWT, whereas some areas are not able to offer this to their service users.

We wanted to explore that latest evidence to see if there was any good quality trials to inform our pathways of practice for this condition

Search timeframe 2013-2023

## Search criteria

<b>Population Intervention Comparison Outcomes (PICO) themes</b>	<b>Description</b>	<b>Search terms</b>
Population and Setting	Adults 18yrs and over with chronic plantar heel pain – plantar fasciitis > 3 months	Plantar heel pain Plantar fasciitis
Intervention or Exposure	Corticosteroid injection	CSI – Clinically guided/Bony landmarks. Or ultrasound guided
Comparison, if any	Shock wave therapy	Also referred to as extracorporeal shock wave therapy, radial shock wave therapy, focused shock wave therapy
Outcomes of interest	Pain -VAS Function	VAS scale Function EQ5DL
Types of studies	RCTs/SR, Meta analysis	

## Databases searched

Clinical Knowledge Summaries, PEDro, BMJ Updates, Clinical Evidence, TRIP, Database, NICE, HTA, Bandolier, The Cochrane Library, Medline, Cinahl, Embase, PsycInfo, Professional websites, Joanna Briggs Institute, Web of Science, Sports discuss and Pub Med

## Date of search

March 2023

Results of the search: include the number in each box

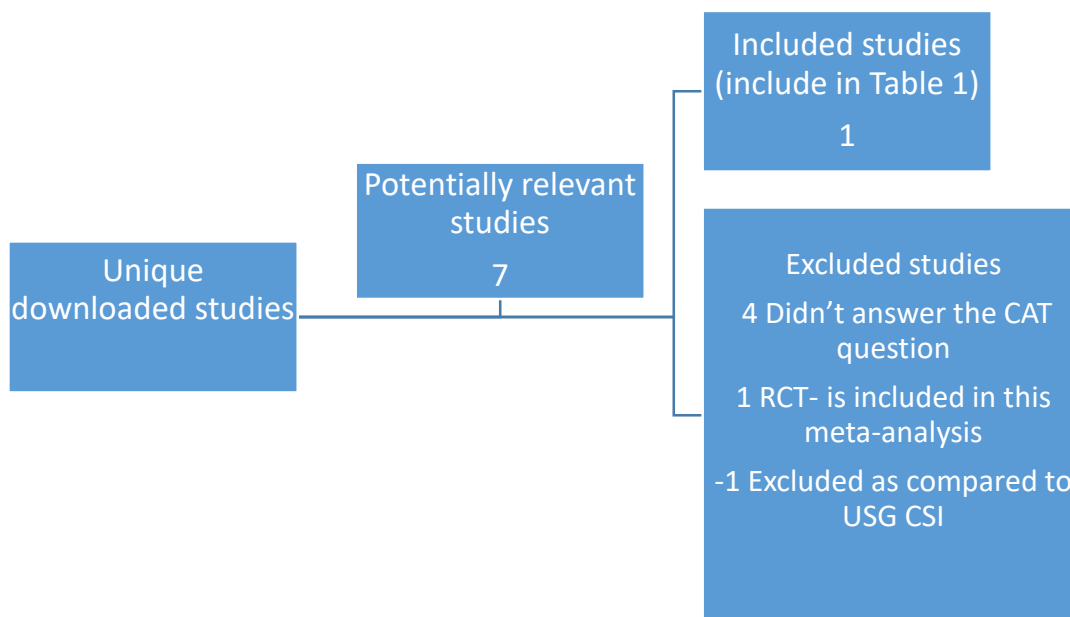


Table 1- Detail of included studies

First author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Xiong et al (2019). Meta analysis of RCT	6 RCTs selected comparing SWT (shock wave therapy) with corticosteroid injections (CSI) for adults with planta fasciitis.  Electronic databases were searched	2 investigators reviewed the articles.  The modified Jadad scale was used to assess the methodological quality of each study. A score of $\geq 4$ indicated high quality.	No significant difference was found in VAS, Functional foot score or PFT at 3 months between SWT and CSI. High heterogeneity I2 84% FFI and I2 96% VAS	Good data base searches and clear inclusion criteria  Only used trials written in English  All SWT parameters were very different in the frequency of energy and

	<p>from inception to May 2018.</p>	<p>The Cochrane Handbook for Reviews of Interventions was used to assess the risk of bias.</p> <p>Outcomes VAS, functional foot score (FFI), Mayo CSS, HFI and 110 scoring system and Planta fascia thickness (PFT)</p>		<p>pulses. Only one trial reported how long treatment lasted for and over how many days. There was no discussion on the impact of this.</p> <p>Different types of injectate were used, volume and frequency were different and this differed from what is commonly used in NHS setting.</p> <p>Quality of the trials is questionable. 3 trials did not describe the methods of allocation concealment.</p> <p>Blinding of participants and personnel (performance bias) was unclear and incomplete outcome data was high risk in one trial. One trial had patients lost to follow-up.</p>
--	------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

--	--	--	--	--

## Summary

The above research paper showed there is no significant difference between ESWT and CSI for the treatment of plantar heel pain for pain, function, or plantar thickness over 3 months. The studies had small numbers (20-64 pts), the parameters for SWT varied between studies and it was not clear how often patients received the treatment or how long the treatment session lasted. The type of steroid used dose and frequency was variable between studies and did not reflect current NHS practice. This evidence may support shared decision-making conversations.

Taking this into account it does not change current management of treatment for those patients who do not have access to ESWT.

## Implications for practice

NICE Guidance on SWT has not been reviewed since 2009 for plantar heel pain. This CAT shows no significant difference between the outcomes of SWT to CSI for the treatment of this condition. A more robust multi centre, RCT, with greater numbers and consistent protocols for SWT would help clinicians and inform pathways of the best way to manage this condition. Local audits of practice would be recommended.




## What would you post on X (previously Twitter)?

There is no significant differences between CSI and SWT for the treatment of plantar heel pain for improving pain, function or plantar fascia thickness.

## References

[Comparison of efficacy of shock-wave therapy versus corticosteroids in plantar fasciitis: a meta-analysis of randomized controlled trials - PubMed \(nih.gov\)](#) 11th January 2004

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"/>

If you require this document in an alternative format, such as large print or a coloured background, please contact [health.iau@keele.ac.uk](mailto:health.iau@keele.ac.uk)

©Keele2024