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Plantar Fasciitis / Heel Pain

algies plantaires et talalgies : évaluation de l'acupuncture

Articles connexes : - conduites thérapeutiques - pathologie et zheng -

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Asokumaran 2024 (Plantar Fasciitis, Network Meta-Analysis)

Asokumaran I, Verasamy BS, Hasan MIB, Wong DKC, Ong SS, Ng SC. Comparative Effectiveness of Acupuncture Versus Non-surgical Modalities for Treating Plantar Fasciitis: A Network Meta-Analysis. Cureus. 2024 Sep 8;16(9):e68959. https://doi.org/10.7759/cureus.68959

Background	Plantar fasciitis, or plantar heel pain, causes inflammation of the plantar fascia due to various causes, with no clear consensus on the treatment protocol. Standard first-line treatment includes non-steroidal anti-inflammatory drugs and physiotherapy. Second-line treatment prior to surgery includes extracorporeal shockwave therapy (ESWT), ultrasound-guided (USG) therapy, corticosteroid injection (CSI), and platelet-rich plasma (PRP) injection. Recently, the use of acupuncture treatment has been gaining popularity, with increasing published evidence showing its effectiveness in treating plantar fasciitis.
Objective and Methos	The objective of this study was to determine whether acupuncture intervention was a viable alternative treatment method for managing plantar fasciitis when compared to ESWT, USG therapy, CSI, and PRP injection. Data sources from PubMed, Google Scholar, Scopus, Science Direct, and China National Knowledge Infrastructure were reviewed. Clinical trials were searched from their inception over the period of January 2000 to October 2020.

Results	A total of **32 relevant paper**s were included for analysis, totaling 2390 samples. Visual Analog Scale (VAS) scores measuring pain were analyzed in terms of outcome after one and three months of treatment. Each time point was analyzed separately through a network meta-analysis using the frequentist approach. VAS scores for each intervention at baseline and the two-time points (i.e., one and three months) were included in the comprehensive meta-analysis. Then, differences in VAS scores were calculated in R studio (V4.1.2; RStudio: Integrated Development for R, RStudio, Inc., Boston, USA) using the netmeta package. The netmeta package was also used to perform the network meta-analysis and generate corresponding figures. Direct and indirect effects were assessed and visualized through a direct evidence plot and a node-splitting forest plot. Randomized controlled trials (RCTs) and non-RCTs involving treatments of acupuncture, ESWT, USG therapy, CSI, or PRP injection, either in comparison with each other or with a placebo, were included in our review. Our meta-analysis showed that at one month, VAS scores for acupuncture treatment had the highest mean difference (MD) of -1.33 (95% confidence interval (95% CI) = -2.19 to -0.46) compared to placebo, indicating that acupuncture treatment was more effective than other treatment arms when compared to placebo. Analysis at threemonths showed that the highest-ranked treatment was PRP injection, with an MD of -2.67 (95% CI = -6.23 to 0.89). However, the CI for the net effect of all treatments crossed the null effect on the forest plot, indicating no statistically significant difference between the treatment and placebo.
Conclusions	Acupuncture treatment should be considered as a second-line treatment for treatment of plantar fasciitis together with other common treatment options such as ESWT, PRP injection, CSI, and USG therapy. Further long-term studies measuring acupuncture treatment outcomes would be beneficial in the future.

1.1.2. Trinh K 2021 ☆

Trinh K, Belski N, Zhou F, Kuhad A, Luk D, Youn E. The Efficacy of Acupuncture on Foot and Ankle for Pain Intensity, Functional Status, and General Quality of Life in Adults: A Systematic Review. Med Acupunct. 2021 Dec 1;33(6):386-395. doi

Objective	To assess the effect of acupuncture on foot and ankle pain intensity, functional status, quality of life, and incidence of adverse events in adults.
Methods	Randomized controlled trials (RCTs) were obtained from a systematic search of 6 major English databases, and a manual search of relevant systematic reviews using Google Scholar. RCTs that compared acupuncture with various forms of sham acupuncture, nonactive and waitlist controls for pain intensity, functional status, and general quality of life were included. Study screening, data extraction, risk of bias assessment, and quality assessment were all performed independently. A narrative synthesis was performed when quantitative pooling was inappropriate.
Results	**Four RCTs** were included, encompassing a total of **211 participants**. Due to clinical heterogeneity for all outcomes, quantitative analysis was not appropriate. Our Grades of Recommendation, Assessment, Development and Evaluation rated all outcomes to have either low or very low quality of evidence. With low-quality evidence, acupuncture was shown to be efficacious for participants with **plantar fasciitis** for pain relief and functional status improvement at short- and intermediate-term follow-ups. Acupuncture was also shown to be efficacious for participants with **Achilles tendinopathy** for pain relief at short- and intermediate-term follow-ups. No adverse events were reported.
Conclusion	There is some evidence to suggest acupuncture to be a safe and efficacious treatment for relieving pain and improving functional status for the foot and ankle. The results of this systematic review should be interpreted with caution due to the limited evidence. Future research should

1.1.3. Thiagarajah 2017 (plantar fasciitis) ☆

Thiagarajah AG. How effective is acupuncture for reducing pain due to plantar fasciitis? Singapore Med J. 2017. 58(2):92-7. [188401].

Introduction	Plantar fasciitis is a commonly seen outpatient condition that has numerous treatment modalities of varying degrees of efficacy. This systematic review aimed to determine the effectiveness of acupuncture in reducing pain due to plantar fasciitis.
Methods	Online literature searches on the PubMed and Cochrane Library databases were done for studies on the use of acupuncture for pain due to plantar fasciitis. Studies designed as randomised controlled trials and which compared acupuncture with standard treatments or had real versus sham acupuncture arms were selected. The Delphi List was used to assess the methodological quality of the studies retrieved.
Results	**Three studies** that compared acupuncture with standard treatment and **one study** on real versus sham acupuncture were found. These showed that acupuncture significantly reduced pain levels in patients with plantar fasciitis, as measured on the Visual Analogue Scale and the Plantar Fasciitis Pain/Disability Scale. These benefits were noted between four and eight weeks of treatment, with no further significant reduction in pain beyond this duration. Side effects were found to be minimal.
Conclusion	Although **acupuncture may reduce plantar fasciitis pain in the short term**, there is insufficient evidence for a definitive conclusion regarding its effectiveness in the longer term. Further research is required to strengthen its acceptance among healthcare providers.

1.1.4. Clark 2012 (plantar heel pain) ☆☆

Clark RJ, Tighe M. The effectiveness of acupuncture for plantar heel pain: a systematic review. Acupunct Med. 2012 30(4):298-306.[157556]

Purpose	Plantar heel pain (PHP) is a common complaint, yet there are no definitive guidelines for its treatment. Acupuncture is increasingly used by podiatrists, and there is a need for evidence to validate this practice. It is acknowledged that PHP and acupuncture are both complex phenomena.
Methods	A systematic review (PROSPERO no.CRD42012001881) of the effectiveness of acupuncture for PHP is presented. Quality of the studies was assessed by independent assessors with reference to Quality Index (QI), STandards for Reporting Interventions in Controlled Trials of Acupuncture (STRICTA) and CONsolidated Standards Of Reporting Trials (CONSORT) criteria. Pooling of data, or even close comparison of studies, was not performed.
Results	**Five randomised controlled trials** and three non-randomised comparative studies were included. High quality studies report significant benefits. In one, acupuncture was associated with significant improvement in pain and function when combined with standard treatment (including non-steroidal anti-inflammatory drugs). In another, acupuncture point PC7 improved pain and pressure pain threshold significantly more than LI4.
Conclusion	**There is evidence supporting the effectiveness of acupuncture for PHP**. This is comparable to the evidence available for conventionally used interventions, such as stretching, night splints or dexamethasone.

1.2. Special Acupuncture Techniques

1.2.1. Acupotomy

1.2.1.1. Rao 2019

RAO Yun, FANG Ting, LIU Fu-shui, ZHOU Fan-yuan, ZHAO Mei-mei, CHEN Mei. [Meta-analysis of Therapy Comparison of Acupotomy Versus Block Therapy for Heel Pain]. Chinese Journal of Basic Medicine in TCM. 2019;25(9):1280. [202950].

Methods	A computer-based research was conducted on PubMed database, Cochrane Library database, CNKI database, VIP database and Wanfang database of the clinical literature about randomized clinical trials (RCTs) of needle knife and block therapy for HP. Data were extracted and evaluated by two reviewers independently, and then cross check date with each other. The final data is imported into the software for Meta-analysis.
Results	Totally 9 RCTs involving 937 cases were included. The Mets-analysis showed that there was no significant difference between the experimental group and the control group for the short-term in the total effective rate and cure rate; The total effective rate and cure rate of the experimental group were higher than that of the control group for the long-term, The pain of the experimental group was lower than that of the control group for the short-term and long-term.
Conclusion	Acupotomy therapy is a safe and effective treatment for HP. The effect of acupotomy therapy and block therapy for the HP are similar for the short-term, but the longterm efficacy of acupotomy therapy is than the block therapy, and the pain degree of acupotomy group is lower than the block therapy group, the acupotomy therapy is more suitable for clinical application.

1.2.2. Dry needling

1.2.2.1. Llurda-Almuzara 2021 (dry needling) ★

Llurda-Almuzara L, Labata-Lezaun N, Meca-Rivera T, Navarro-Santana MJ, Cleland JA, Fernández-de-Las-Peñas C, Pérez-Bellmunt A. Is Dry Needling Effective for the Management of Plantar Heel Pain or Plantar Fasciitis? An Updated Systematic Review and Meta-Analysis. Pain Med. 2021;22(7):1630-1641. [220671]. doi

Objective	Dry needling is commonly used for the management of plantar fasciitis. This meta-analysis evaluated the effects of dry needling over trigger points associated with plantar heel pain on pain intensity and related disability or function.
Methods	Electronic databases were searched for randomized controlled trials in which at least one group received dry needling, not acupuncture, for trigger points associated with plantar heel pain and in which outcomes were collected on pain intensity and related disability. The risk of bias was assessed with the Cochrane Risk of Bias tool, methodological quality was assessed with the Physiotherapy Evidence Database (PEDro) score, and the level of evidence is reported according to the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. Between-groups mean differences (MD) and standardized mean differences (SMD) were calculated.

Results	The search identified 297 publications, with **six trials** eligible for inclusion. The meta-analysis found low-quality evidence that trigger point dry needling reduces pain intensity in the short term (MD -1.70 points, 95% confidence interval [CI] -2.80 to -0.60; SMD -1.28, 95% CI -2.11 to -0.44) and moderate-quality evidence that it improves pain intensity (MD -1.77 points, 95% CI -2.44 to -1.11; SMD -1.45, 95% CI -2.19 to -0.70) and related disability (SMD -1.75, 95% CI -2.22 to -1.28) in the long term, as compared with a comparison group. The risk of bias of the trials was generally low, but the heterogeneity of the results downgraded the level of evidence.
Discussion	Moderate- to low-quality evidence suggests a positive effect of trigger point dry needling for improving pain intensity and pain-related disability in the short term and long term, respectively, in patients with plantar heel pain of musculoskeletal origin. The present results should be considered with caution because of the small number of trials.

1.2.2.2. Al-Boloushi 2019

Al-Boloushi Z, Lopez-Royo MP, Arian M, Gomez-Trullen EM, Herrero P. Minimally invasive non-surgical management of plantar fasciitis: A systematic review. J Bodyw Mov Ther. 2019;23(1):122-137.. 2019;23(1):122-37. [170222]. DOI

Background	Minimally invasive non-surgical techniques have been widely used worldwide to treat musculoskeletal injuries. Of these techniques, injectable pharmaceutical agents are the most commonly employed treatments, with corticosteroids being the most widely used drugs.
Objective	The aim of this article is to review current scientific evidence as well as the effectiveness of minimally invasive non-surgical techniques, either alone or combined, for the treatment of plantar fasciitis.
Methods	This systematic review was conducted from April 2016 until March 2017, in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement and was registered with PROSPERO. Randomized controlled trials (RCTs) of adult patients diagnosed with plantar fasciitis were included as well as intervention studies, with a minimal sample size of 20 subjects per study (10 per group). Assessment of study eligibility was developed by three reviewers independently in an unblinded standardized manner. The physiotherapy evidence database (PEDro) scale was used to analyse the methodological quality of studies.
Results	Twenty-nine full-text articles on minimally invasive techniques were reviewed. These articles focused on corticosteroid injections, platelet-rich plasma, Botox, dextrose injections, as well as comparative studies with dry needling vs sham needling. Conclusion: The treatment of plantar fasciitis has dramatically improved in the past decade with minimally invasive techniques becoming increasingly available. Research findings have shown that the long term effects of minimally invasive (non-surgical) treatments such as shock wave therapy, botulinum toxin type-A injections, platelet-rich plasma injections and intratissue percutaneous electrolysis dry needling show similar and sometimes better results when compared to only corticosteroid injections. The latter have been the mainstay of treatment for many years despite their associated side effects both locally and systemically.
Conclusions	To date, there is no definitive treatment guideline for plantar fasciitis, however the findings of this literature review may help inform practitioners and clinicians who use invasive methods for the treatment of plantar fasciitis regarding the levels of evidence for the different treatment modalities available.

1.2.2.3. Li 2019

Li H, Lv H, Lin T. Comparison of efficacy of eight treatments for plantar fasciitis: A network meta-

analysis. J Cell Physiol. 2019;234(1):860-70. [186261]. doi

Objective	The objective of this network meta-analysis (NMA) was to assess the pain relief performance of eight different plantar fasciitis therapies, including nonsteroidal anti-inflammatory medications, corticosteroid injections (CSs), autologous whole blood, platelet-rich plasma (PRP), extracorporeal shockwave therapy (ESWT), ultrasound therapy (US), botulinum toxin A (BTX-A), and **dry needling (DN)**.
Methods	Published prospective or randomized controlled trials (RCTs) as for the above eight therapies were identified by searching CNKI, PubMed, and Embase. Mean difference (MD) and 95% credible intervals (CrIs) of visual analogue scale (VAS) were used to evaluate multiaspect comparisons. The ranking result was obtained by utilizing surface under cumulative ranking curve (SUCRA). Node-splitting plots were conducted to assess the consistency between direct and indirect evidence. Egger's test and funnel plots were performed to examine publication bias.
Results	Forty-one trials with a total of 2,889 cases were involved in this NMA. In terms of 1-month VAS, only ESWT turned out to be of better efficacy than placebo (MD = -3.3; CrI: [-5.3, -1.1]). No statistically significant difference was found between pair-wise comparisons concerning 2-month VAS. ESWT also demonstrated better efficacy as for 3-month results (MD = -2.7; CrI: [-4.2, -1.3]). Besides, CSs was significantly better than placebo as well in 3-month results (MD = -2.1; CrI: [-4.1, -0.19]). With regard to 6-month VAS results, ESWT performed better than placebo (MD = -3.0; CrI: [-5.0, -0.51]).
Conclusions	According to the SUCRA, ESWT ranked the first as for all seven outcomes. ESWT might be the optimal treatment. In addition, BTX-A and PRP were considered as suboptimal

1.2.2.4. He 2017

He C, Ma H. Effectiveness of trigger point dry needling for plantar heel pain: a meta-analysis of seven randomized controlled trials. J Pain Res. 2017;10:1933-1942. [001]. doi

Background	Plantar heel pain can be managed with dry needling of myofascial trigger points (MTrPs); however, whether MTrP needling is effective remains controversial. Thus, we conducted this meta-analysis to evaluate the effect of MTrP needling in patients with plantar heel pain.
Materials and methods	PubMed, Embase, Web of Science, SinoMed (Chinese BioMedical Literature Service System, People's Republic of China), and CNKI (National Knowledge Infrastructure, People's Republic of China) databases were systematically reviewed for randomized controlled trials (RCTs) that assessed the effects of MTrP needling. Pooled weighted mean difference (WMD) with 95% CIs were calculated for change in visual analog scale (VAS) score, and pooled risk ratio (RR) with 95% CIs were calculated for success rate for pain and incidence of adverse events. A fixed-effects model or random-effects model was used to pool the estimates, depending on the heterogeneity among the included studies.
Results	Extensive literature search yielded 1,941 articles, of which only seven RCTs met the inclusion criteria and were included in this meta-analysis. The pooled results showed that MTrP needling significantly reduced the VAS score (WMD =-15.50, 95% CI: -19.48, -11.53; P<0.001) compared with control, but it had a similar success rate for pain with control (risk ratio [RR] =1.15, 95% CI: 0.87, 1.51; P=0.320). Moreover, MTrP needling was associated with a similar incidence of adverse events with control (RR =1.89, 95% CI: 0.38, 9.39; P=0.438).
Conclusion	MTrP needling effectively reduced the heel pain due to plantar fasciitis. However, considering the potential limitations in this study, more large-scale, adequately powered, good-quality placebo-controlled trials are needed to provide more trustworthy evidence in this area.

1.2.2.5. Salvioli 2017 Ø

Salvioli S , Guidi M , Marcotulli G. The effectiveness of conservative, non-pharmacological treatment, of plantar heel pain: A systematic review with meta-analysis. Foot (Edinb). 2017:57-67. [168886].

Aim	Plantar heel pain is one of the most common causes of pain and musculoskeletal pathologies of the foot. The aim of this systematic review was to identify the most effective, conservative and non-pharmacological treatments regarding pain in patients with plantar heel pain.
Methods	The authors searched 5 databases and included only randomized control trials which investigated the efficacy of a conservative non-pharmacological treatment compared to the placebo, for the outcome of pain. Study selection, data collection and risk of bias assessment were conducted independently by two authors, and consensus was reached with a third author. Results were quantitatively summarized in meta-analyses, by separating homogeneous subgroups of trials by type of intervention.
Results	A total of 20 studies that investigated the efficacy of 9 different types of interventions were included, with a total of 4 meta-analyses carried out. The interventions: shock waves, laser therapy, orthoses, pulsed radiofrequency, **dry-needling**, and calcaneal taping resulted in being effective treatments for the outcome pain in patients with plantar heel pain when compared to the placebo.
Conclusions	However, considering that the improvements were very small, and the quality of evidence was mostly low or moderate for many of the interventions, it was not possible to give definitive conclusions for clinical practice.

1.2.2.6. Cotchett 2010 Ø

Cotchett MP, Landorf KB, Munteanu SE. Effectiveness of dry needling and injections of myofascial trigger points associated with plantar heel pain: a systematic review. J Foot Ankle Res 2010;3:18.[165296]

Purpose	Plantar heel pain (plantar fasciitis) is one of the most common musculoskeletal pathologies of the foot. Plantar heel pain can be managed with dry needling and/or injection of myofascial trigger points (MTrPs)however the evidence for its effectiveness is uncertain. Therefore, we aimed to systematically review the current evidence for the effectiveness of dry needling and/or injections of MTrPs associated with plantar heel pain.
Methods	We searched specific electronic databases (MEDLINE, EMBASE, AMED, CINAHL, SPORTDiscus and AMI) in April 2010 to identify randomised and non-randomised trials. We included trials where participants diagnosed with plantar heel pain were treated with dry needling and/or injections (local anaesthetics, steroids, Botulinum toxin A and saline) alone or in combination with acupuncture. Outcome measures that focussed on pain and function were extracted from the data. Trials were assessed for quality using the Quality Index tool.
Results	**Three quasi-experimental trials** matched the inclusion criteria: two trials found a reduction in pain for the use of trigger point dry needling when combined with acupuncture and the third found a reduction in pain using 1% lidocaine injections when combined with physical therapy. However, the methodological quality of the three trials was poor, with Quality Index scores ranging form 7 to 12 out of a possible score of 27. A meta-analysis was not conducted because substantial heterogeneity was present between trials.

Conclusion	**There is limited evidence for the effectiveness of dry needling and/or injections of MTrPs associated with plantar heel pain**. However, the poor quality and heterogeneous nature of the included studies precludes definitive conclusions being made.

2. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported)
Ø negative recommendation (or lack of evidence)

2.1. American College of Occupational and Environmental Medicine (ACOEM, USA) 2015 Ø

Ankle and Foot Disorders. American College of Occupational and Environmental Medicine. 2015. 453P. [180844].

- Recommendation. Acupuncture for Acute, Subacute, Chronic, or Post-operative **Achilles Tendinopathy**. There is no recommendation for or against the use of acupuncture for the treatment of acute, subacute, chronic, or post-operative Achilles tendinopathy. Strength of Evidence - No Recommendation, Insufficient Evidence (I). Level of Confidence – Low.
- Recommendation. Dry Needling for Acute, Subacute, or Chronic **Achilles Tendinopathy**. Dry needling is not recommended for treatment of acute, subacute, or chronic Achilles tendinopathy. Strength of Evidence - Not Recommended, Insufficient Evidence (I). Level of Confidence – Moderate.
- Recommendation: Other Non-operative Interventions Including Manipulation and Mobilization, Massage, Deep Friction Massage, or Acupuncture for Acute, Subacute, or Chronic **Ankle Tenosynovitis.** There is no Recommendation for or against the use of other non-operative interventions (i.e., manipulation and mobilization, massage, deep friction massage, or acupuncture) for the treatment of acute, subacute, or chronic ankle tenosynovitis as other interventions have proven efficacy and are preferentially indicated for initial and subsequent treatment options. Strength of Evidence - No Recommendation, Insufficient Evidence (I). Level of Confidence – Low.
- Recommendation: Acupuncture for Acute, Subacute, or Chronic **Plantar Fasciitis**. There is no recommendation for or against the use of acupuncture for treatment of acute, subacute, or chronic plantar fasciitis. Strength of Evidence - No Recommendation, Insufficient Evidence {I). Level of Confidence - Low.
- Recommendation: Acupuncture for Treatment of TTS (**tarsal tunnel syndrome**). There is no recommendation for or against the use of acupuncture for the treatment of TTS. Strength of Evidence - No Recommendation, Insufficient Evidence {I). Level of Confidence - Low.

2.2. American College of Occupational and Environmental Medicine (ACOEM, 2011) Ø

American College of Occupational and Environmental Medicine (ACOEM). Ankle and foot disorder. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM). 2011;68P. [166016].

No recommendation : Acupuncture (I)

3. Randomized Controlled Trials

3.1. Sources

1. **Trinh 2021**: Trinh K, Belski N, Zhou F, Kuhad A, Luk D, Youn E. The Efficacy of Acupuncture on Foot and Ankle for Pain Intensity, Functional Status, and General Quality of Life in Adults: A Systematic Review. Med Acupunct. 2021;33(6):386-395. doi
2. **Llurda 2021** : Llurda-Almuzara L, Labata-Lezaun N, Meca-Rivera T, Navarro-Santana MJ, Cleland JA, Fernández-de-Las-Peñas C, Pérez-Bellmunt A. Is Dry Needling Effective for the Management of Plantar Heel Pain or Plantar Fasciitis? An Updated Systematic Review and Meta-Analysis. Pain Med. 2021;22(7):1630-1641. [220671]. doi
3. **Li 2019** : Li H, Lv H, Lin T. Comparison of efficacy of eight treatments for plantar fasciitis: A network meta-analysis. J Cell Physiol. 2019;234(1):860-70. [186261]. doi
4. **Rao 2019**: Rao Y, Fang T, Liu FS, Zhou FY, Zhao MM, Chen M. [Meta-analysis of Therapy Comparison of Acupotomy Versus Block Therapy for Heel Pain]. Chinese Journal of Basic Medicine in TCM. 2019;25(9):1280. [202950].
5. **Thiagarajah 2017**: Thiagarajah AG. How effective is acupuncture for reducing pain due to plantar fasciitis? Singapore Med J. 2017. 58(2):92-7. [188401].
6. **Clark 2012**: Clark RJ, Tighe M. The effectiveness of acupuncture for plantar heel pain: a systematic review. Acupunct Med. 2012 30(4):298-306.[157556]

3.2. List

	Références	Sources
2021	Wang W, Liu Y, Jiao R, Liu S, Zhao J, Liu Z. Comparison of electroacupuncture and manual acupuncture for patients with plantar heel pain syndrome: a randomized controlled trial. Acupunct Med. 2021 ;39(4):272-282. doi: 10.1177/0964528420947739.	
2020	Ho LF, Guo Y, Ching JY-L, et al. Efficacy of electroacupuncture plus warm needling therapy for plantar heel pain: A randomised waitlist-controlled trial. Acupunct Med. 2020; 964528420946048.	
	Bagcier F, Yilmaz N. The impact of extracorporeal shock wave therapy and dry needling combination on pain and functionality in the patients diagnosed with plantar fasciitis. J Foot Ankle Surg 2020;59(4):689–93	Llurda 2021
2019	Uygur E, Aktas¸ B, Eceviz E, Yilmazoglu EG, Poyanli O. Preliminary report on the role of dry needling versus corticosteroid injection, an effective treatment method for plantar fasciitis: A randomized controlled trial. J Foot Ankle Surg 2019;58 (2):301–5. 22.	Llurda 2021
2018	Rastegar S, Baradaran Mahdavi S, Hoseinzadeh B, Badiei S. Comparison of dry needling and steroid injection in the treatment of plantar fasciitis: A single-blind randomized clinical trial. Int Orthop 2018;42(1):109–16.	Llurda 2021
	Rahbar M, Eslamian F, Toopchizadeh V, et al. A comparison of the efficacy of dry-needling and extracorporeal shockwave 1640 therapy for plantar fasciitis: A randomized clinical trial. Iran Red Crescent Med J 2018:e68908.	Llurda 2021
2016	Wang L, Guo J, Lin F, et al. Efficacy of warm needling plus Chinese Herb Fumigation in chronic plantar fasciitis: a randomized controlled trial. Modern J Integr Trad Chin West Med. 2016;25:416–417.	He 2017
	Eftekharsadat B, Babaei-Ghazani A, Zeinolabedinzadeh V. Dry needling in patients with chronic heel pain due to plantar fasciitis: A single-blinded randomized clinical trial. Med J Islam Repub Iran 2016;30(1):401.	He 2017, Li 2019, Llurda 2021
2015	Qian S, Chen L. Efficacy of warm needling plus Chinese Herb Fumigation in patients with chronic heel pain due to plantar fasciitis: a randomized controlled trial. Shanghai J Acu Mox. 2015;34: 362–363.	He 2017

	Références	Sources
	Cai YM, Zhang JF, Huang WY. [Therapeutic Observation of Grain-sized Moxibustion plus Acupuncture for Plantar Fasciitis]. Shanghai Journal of Acupuncture and Moxibustion. 2015;34(11):1111. [187580].	
2014	Li S, Shen T, Liang Y, Zhang Y, Bai B. Miniscalpel-needle versus steroid injection for plantar fasciitis: a randomized controlled trial with a 12-month follow-up. Evid Based Complement Alternat Med. 2014;2014:164714.	He 2017
	Cotchett MP, Munteanu SE, Landorf KB. Effectiveness of trigger point dry needling for plantar heel pain: A randomized controlled trial. Phys Ther. 2014;94(8):1083–1094.	He 2017, Li 2019, Trinh 2021, Llurda 2021
2012	Kumnerddee W, Pattapong N. Efficacy of electro-acupuncture in chronic plantar fasciitis: a randomized controlled trial. Am J Chin Med 2012; 40:1167-76. [157865].	Thiagarajah 2016, He 2017, Al-Boloushi 2019
2011	Karagounis P, Tsironi M, Prionas G, Tsiganos G, Baltopoulos P. Treatment of plantar fasciitis in recreational athletes: two different therapeutic protocols. Foot Ankle Spec 2011; 4:226-34. [145311]	Thiagarajah 2016, Clark 2012
	Zhang SP, Yip TP, Li QS. Acupuncture treatment for plantar fasciitis: a randomised controlled trial with six months follow up. Evid Based Complement Alternat Med 2011; 2011. [28888].	Clark 2012, Thiagarajah 2016, He 2017, Al-Boloushi 2019,
2010	Liu MY, Nie RR, Chi ZH, Tang XM. [Observation on Therapeutic Effect of Acupuncture at Xuanzhong (GB 39) Combined with Chinese Herbs Pyrogenic Dressing Therapy for Treatment of Calcaneus Spur]. Chinese Acupuncture and Moxibustion. 2010;30(3):189-91. [155724].	Clark 2012
	Orellana Molina A, Hernández Díaz A, Larrea Cox PJ, et al. Láser infrarrojo frente a acupuntura en el tratamiento del espolón calcáneo. Revista de la Sociedad Espana del Dolor 2010;17:69–77. [165217]	Clark 2012
2007	Ebrahim AH, Ahmed GM, Elsayed E, Sarhan R. Effect of electro acupuncture TENS, stretching exercises and prefabricated insole in patients with plantar fasciitis. Sci J Al-Azhar Med Fac 2007; 28:1-10. [72249].	Thiagarajah 2016
1991	Vrchota K, Belgrade M, Johnson R, et al. True acupuncture vs. sham acupuncture and conventional sports medicine therapy for plantar fascitis pain: a controlled, double-blind study. Int J Clin Acupunct 1991;2:247–53. [84223]	Clark 2012

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