

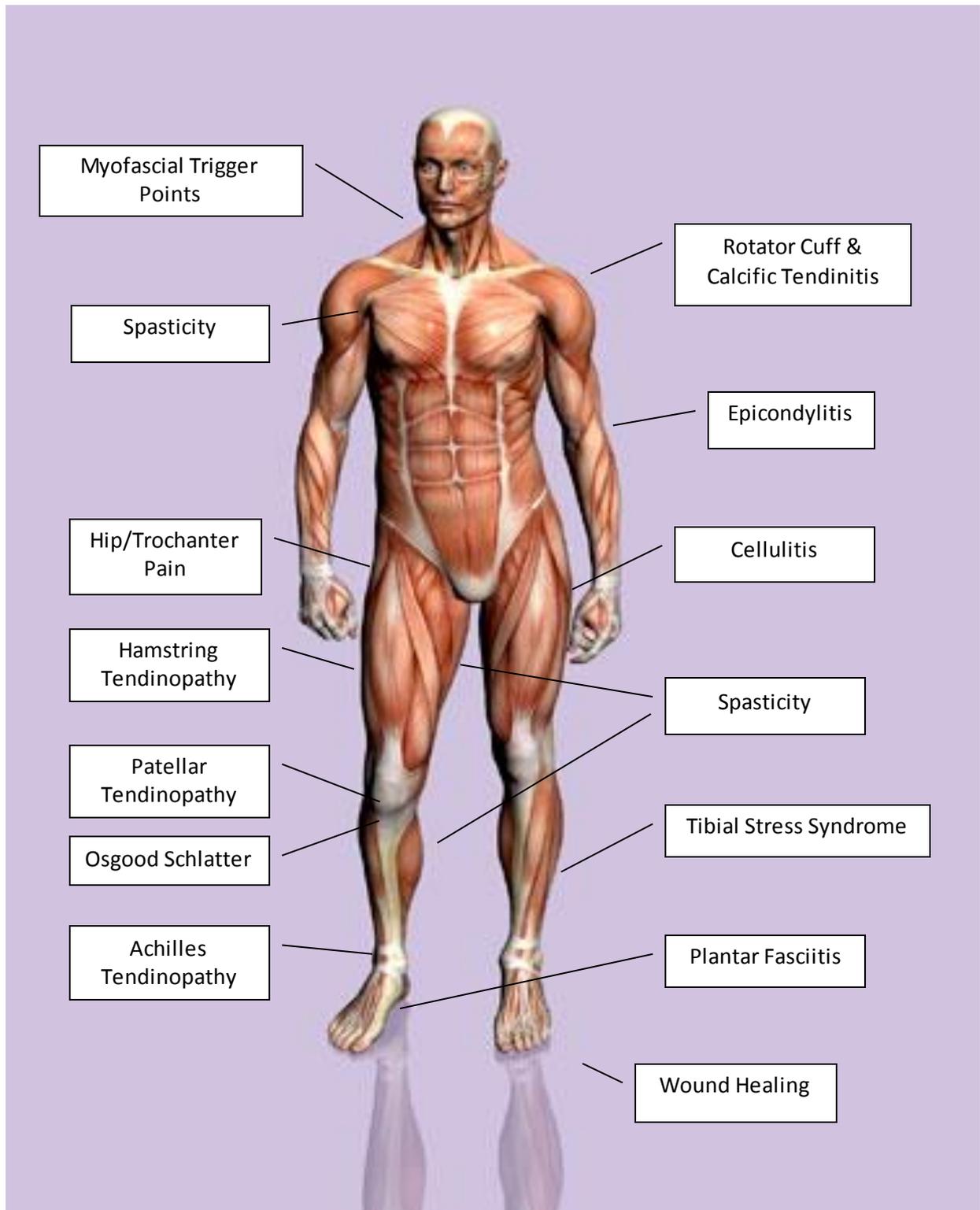
# Radial Pressure Wave Therapy



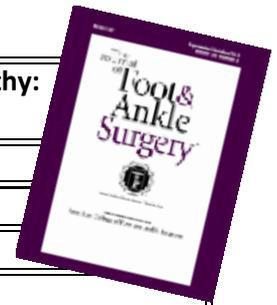
## Scientific Studies Overview



# Evidence based indications



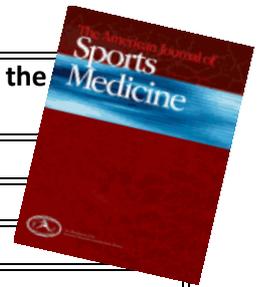
## ACHILLES TENDINOPATHY



<b>Extra-corporeal pulsed-activated therapy ("EPAT" sound wave) for Achilles tendinopathy: a prospective study.</b>	
Authors	Saxena A, Ramdath S Jr, O'Halloran P, Gerdesmeyer L, Gollwitzer H.
Published	J Foot Ankle Surg. 2011;50(3):315-9.
Date	May 2011
Place of origin	Palo Alto Medical Foundation, Palo Alto, CA , USA.
Background	Achilles tendinopathy is common and extracorporeal shockwaves have become a popular treatment for this condition, even though previous research has not provided conclusive results regarding its efficacy in cases of Achilles tendinopathy.
Objective	To evaluate the effect of low-energy radial-pulsed-activated (EPAT) shockwave (sound wave) as an isolated treatment for Achilles tendinopathy.
Tested products	Storz D-Actor 200
Study design & methods	<p><b>Prospective cohort study.</b></p> <p><i>Subjects:</i> a total of 74 tendons in 60 patients, including 32 (43.24%) paratendinoses, 23 (31.08%) proximal tendinoses, and 19 (25.68%) insertional tendinoses.</p> <p><i>Methods:</i> patients received 3 low energy (&lt;0.5mj/mm<sup>2</sup>) shockwave treatments at weekly intervals, 2500 shocks per session, at 2.4 Bar ranging from 11 to 13 Hz.</p> <p><i>Outcomes:</i></p> <ul style="list-style-type: none"> <li>• Roles and Maudsley score (functional disability score 1-4)</li> <li>• Subjective 'improvement'</li> <li>• Return to activities including sports</li> </ul> <p>Patients were assessed at baseline and at least 1 year after administration of the shockwave therapy.</p>
Results	<ul style="list-style-type: none"> <li>• 58 (78.38%) tendons 'improved' by at least 1 year posttreatment, including 75% in the paratendinosis, 78.26% in the proximal tendinosis, and 84.21% in the insertional tendinosis groups.</li> <li>• The Roles and Maudsley score improved from 3.22 to 1.84 (P &lt; .0001) in the paratendinosis group, 3.39 to 1.57 (P &lt; .0001) in the proximal tendinopathy group, and 3.32 to 1.47 (P = .0001) in the insertional tendinopathy group.</li> <li>• Athletic patients were able to continue their activity.</li> <li>• No adverse effects were observed.</li> </ul>
Conclusion	<p>This study showed:</p> <ul style="list-style-type: none"> <li>• <b>Statistically and clinically significant improvements in 78.38% of tendons</b> treated with the low-energy radial shockwave device <b>at least 1 year after treatment.</b></li> <li>• <b>Improvement in activity level</b>, which is beneficial not only for athletic individuals but also for anyone required to work on their feet.</li> </ul> <p>The authors conclude shockwave therapy serves as a safe, viable, and effective option for the treatment of Achilles tendinopathy.</p>
Key message	Radial shockwave therapy produces significant improvement of symptoms and activity level and is therefore <b>considered as a viable non-surgical treatment option for Achilles tendinopathy.</b>
Pubmed ID	21406328

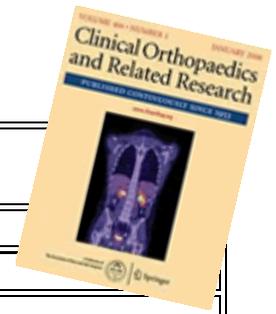


Eccentric Loading Versus Eccentric Loading Plus Shock-Wave Treatment for Midportion Achilles Tendinopathy. A Randomized Controlled Trial.	
Authors	Rompe, Furla, Maffulli
Published	American Journal of Sports Medicine, Volume 37, No. 3, pp. 463-471
Date	2009
Place of origin	Germany
Background	Results of a previous randomized controlled trial have shown comparable effectiveness of a standardized eccentric loading training and of repetitive low-energy shock-wave treatment (SWT) in patients suffering from chronic midportion Achilles tendinopathy. No randomized controlled trials have tested whether a combined approach might lead to even better results.
Objective	To compare the effectiveness of 2 management strategies: eccentric loading versus eccentric loading plus repetitive low-energy shock-wave therapy.
Tested products	EMS Swiss Dolorclast
Study design & methods	<p><b>Randomized controlled trial; Level of evidence, 1.</b></p> <p><u>Subjects:</u> 68 patients with a chronic recalcitrant (&gt;6 months) noninsertional Achilles tendinopathy. All patients had received unsuccessful management for &gt;3 months, including peritendinous local injections, nonsteroidal anti-inflammatory drugs, and physiotherapy.</p> <p><u>Methods:</u> patients were randomised to receive</p> <ul style="list-style-type: none"> <li>• Group 1: 12-week eccentric training program alone (n=34) or</li> <li>• Group 2: same eccentric training program + 3 weekly sessions of RPW treatment (n=34).</li> </ul> <p><u>Outcomes:</u> observer-blinded outcome assessments were performed before randomization and at 16 weeks after baseline assessment</p> <ul style="list-style-type: none"> <li>• <b>VISA-A score:</b> a pain score validated for Achilles tendon problems. The VISA-A questionnaire contains 8 questions that cover the 3 domains of pain, function and activity.</li> <li>• <b>General assessment</b> was scored by the patient on a 6-point Likert scale. For the computation of success rates, patients who rated themselves 1 or 2 (ie, completely recovered or much improved) were counted as successes; patients who rated themselves 3 (somewhat improved), 4 (hardly improved), 5 (not improved), or 6 (worse) were rated as failures.</li> <li>• <b>Pain Assessment:</b> 11-point numerical rating scale (NRS; 0 = no pain to 10 = very severe pain).</li> </ul>
Results	<ul style="list-style-type: none"> <li>• At 4 months from baseline, the <b>VISA-A score</b> increased in both groups, from <b>50 to 73</b> points in group 1 (eccentric loading) and from <b>51 to 87</b> points in group 2 (eccentric loading plus shock-wave treatment).</li> <li>• <b>Pain rating</b> decreased from <b>7 to 4</b> points in group 1 and from <b>7 to 2</b> points in group 2.</li> <li>• 19 of 34 patients in group 1 (<b>56%</b>) and 28 of 34 patients in group 2 (<b>82%</b>) reported a Likert scale of 1 or 2 points ("<b>completely recovered</b>" or "<b>much improved</b>").</li> <li>• For all outcome measures, groups 1 and 2 <b>differed significantly in favor of the combined approach</b> at the 4-month follow-up.</li> <li>• At 1 year from baseline, there was no difference any longer, with <b>15 failed</b> patients of group 1 opting for having the combined therapy as cross-over and with <b>6 failed</b> patients of group 2 having undergone surgery.</li> </ul>
Conclusion	<b>The likelihood of recovery after 4 months was higher after a combined approach of both eccentric loading and SWT compared to eccentric loading alone.</b> Eccentric training plus SWT should be offered to patients with chronic recalcitrant midportion tendinopathy of the Achilles tendon.
Key message	<b>The combined approach of eccentric loading plus repetitive low-energy SWT produced significantly better results (82% success rate) than eccentric calf muscle training alone.</b>
Pubmed ID	19088057

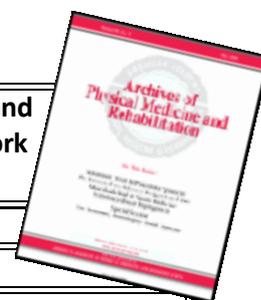


<b>Eccentric Loading, Shock-Wave Treatment, or a Wait-and-See Policy for Tendinopathy of the Main Body of Tendo Achillis A Randomized Controlled Trial</b>	
Authors	Rompe JD, Nafe B, Furia JP, Maffulli N.
Published	Am J Sports Med. 2007 Mar;35(3):374-83
Date	2007
Place of origin	OrthoTrauma Clinic, Gruenstadt, Germany.
Background	Few randomized controlled trials compare different methods of management in chronic tendinopathy of the main body of tendo Achillis.
Objective	To compare the effectiveness of 3 management strategies - eccentric loading, repetitive low-energy shock-wave therapy (SWT), and wait and see - in patients with chronic tendinopathy of the main body of tendo Achillis.
Tested products	EMS Swiss Dolorclast
Study design & methods	<p><b>Randomized controlled trial; Level of evidence, 1.</b></p> <p><u>Subjects:</u> 75 patients with a chronic recalcitrant (&gt;6 months) noninsertional Achilles tendinopathy. All patients had received unsuccessful management for &gt;3 months, including peritendinous local injections, nonsteroidal anti-inflammatory drugs, and physiotherapy.</p> <p><u>Methods:</u> patients were randomly allocated to one of the three treatment groups.</p> <ul style="list-style-type: none"> <li>• Group 1: eccentric loading</li> <li>• Group 2: radial shock wave</li> <li>• Group 3: wait-and-see</li> </ul> <p><u>Outcomes:</u> patients were assessed at baseline and at 4 months from baseline.</p> <ul style="list-style-type: none"> <li>• VISA-A score: a validated questionnaire for assessing pain, function, activity</li> <li>• Pain Assessment: 11-point numerical rating scale (NRS; 0 = no pain to 10 = very severe pain).</li> <li>• Likert score: general assessment of recovery (6-points).</li> </ul>
Results	<ul style="list-style-type: none"> <li>• At 4 months from baseline, the VISA-A score increased in all groups, from 51 to 76 points in group 1 (eccentric loading), from 50 to 70 points in group 2 (repetitive low-energy SWT), and from 48 to 55 points in group 3 (wait and see).</li> <li>• Pain rating decreased in all groups, from 7 to 4 points in group 1, from 7 to 4 points in group 2, and from 8 to 6 points in group 3.</li> <li>• 15 of 25 patients in group 1 (60%), 13 of 25 patients in group 2 (52%), and 6 of 25 patients in Group 3 (24%) reported a Likert scale of 1 or 2 points ("completely recovered" or "much improved").</li> <li>• For all outcome measures, groups 1 and 2 did not differ significantly.</li> <li>• For all outcome measures, groups 1 and 2 showed significantly better results than group 3.</li> </ul>
Conclusion	At 4-month follow-up, eccentric loading and low-energy SWT showed comparable results. The wait-and-see strategy was ineffective for the management of chronic recalcitrant tendinopathy of the main body of the Achilles tendon.
Key message	Both eccentric loading and repetitive low-energy SWT led to a successful outcome in 50% to 60% of patients and should be offered to patients with chronic recalcitrant midportion tendinopathy as an alternative to surgery.
Pubmed ID	17244902

## PLANTAR FASCIITIS



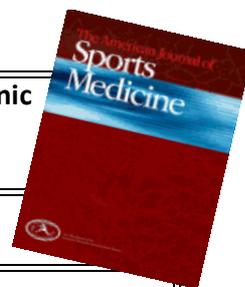
<b>Extracorporeal Shock Wave Therapy Is Effective In Treating Chronic Plantar Fasciitis: A Meta-analysis of RCTs.</b>	
Authors	Aqil A, Siddiqui MR, Solan M, Redfern DJ, Gulati V, Cobb JP.
Published	Clin Orthop Relat Res. 2013 Jun 28. [Epub ahead of print]
Date	Jun 2013
Place of origin	Department of Surgery and Cancer, Imperial College London, Charing Cross Hospital, London, UK
Background	Plantar fasciitis is the most common cause of heel pain. It may remain symptomatic despite conservative treatment with orthoses and analgesia.
Objective	To investigate whether there is a significant difference in the change of (1) VAS scores and (2) Roles and Maudsley scores from baseline when treated with ESWT and placebo.
Study design & methods	<p><b>Systematic review with meta-analysis.</b></p> <p><i>Methods:</i> included studies had to be prospective RCTs on adults who were irresponsive to conservative treatments for &gt;3months; studies did not use local anesthesia as part of their treatment protocol.</p> <p><i>Included studies:</i> 7 prospective RCTs were included in this study (total 663 patients). There were 369 patients included in the placebo group and 294 in the ESWT group.</p> <p><i>Outcomes:</i></p> <ul style="list-style-type: none"> <li>• overall improvement from baseline composite VAS (heel pain in the morning, doing daily activities, and application of dolorimeter),</li> <li>• reduction in overall VAS pain,</li> <li>• success rate of improving overall VAS pain by 60%,</li> <li>• success rate of improving VAS pain by 60% when taking first steps, doing daily activities, and during application of a pain pressure meter.</li> <li>• Roles and Maudsley scores: 4-pt patient assessment of pain and limitations of activity (1 = excellent result/ no symptoms post-treatment; 2 = significant improvement from pretreatment; 3 = somewhat improved; 4 = poor, symptoms identical or worse than pretreatment).</li> </ul>
Results	<ul style="list-style-type: none"> <li>• Patients from the ESWT group had <b>significantly better improvement of composite VAS scores</b> compared with placebo.</li> <li>• Patients from the ESWT group had a <b>significantly greater reduction in their absolute VAS scores</b> compared with placebo.</li> <li>• Patients from the ESWT group had <b>significantly greater success of improving heel pain by 60%</b> when taking first steps and during daily activities.</li> <li>• Patients from the ESWT group had <b>significantly better subjective measurement of pain</b> using a pressure meter.</li> <li>• Significantly more patients in the ESWT group had a <b>change to "excellent - good" Roles and Maudsley scores.</b></li> </ul>
Conclusion	<ul style="list-style-type: none"> <li>• ESWT is a safe and effective treatment of chronic plantar fasciitis refractory to nonoperative treatments.</li> <li>• Improved pain scores with the use of ESWT were evident 12 weeks after treatment.</li> <li>• The evidence suggests this improvement is maintained for up to 12 months.</li> <li>• The authors recommend the use of ESWT for patients with substantial heel pain despite a minimum of 3 months of nonoperative treatment.</li> </ul>
Key message	<b>ESWT is more effective than placebo for treating chronic plantar fasciitis</b> and should be advised to patients not improving after other nonoperative measures.
Pubmed	23813184



Comparative Effectiveness of Focused Shock Wave Therapy of Different Intensity Levels and Radial Shock Wave Therapy for Treating Plantar Fasciitis: a Systematic Review and Network Meta-analysis	
Authors	Chang KV, Chen SY, Chen WS, Tu YK, Chien KL
Published	Arch Phys Med Rehabil. 93(7):1259-68.
Date	July 2012
Place of origin	National Taiwan University, Taipei, Taiwan
Objective	To compare the effectiveness of focused shock wave (FSW) therapy of different intensity levels and a new alternative, radial shock wave (RSW) for managing plantar fasciitis.
Study design & methods	<p><b>Systematic Review and Network Meta-analysis.</b>  <i>(Network Meta-analysis is a method used to determine the comparative effectiveness of treatments that have not been compared directly in a randomized trial. A network meta-analysis adds an additional variable to a meta-analysis. It is an extension of traditional meta-analysis but allows comparisons for more than two alternative therapies by integrating direct and indirect evidence.)</i></p> <p><u>Methods:</u></p> <ul style="list-style-type: none"> <li>• <b>Randomized control trials</b> that compared shock wave and placebo therapy were included.</li> <li>• A total of <b>12 RCTs (n= 1431 participants)</b> met the inclusion criteria and were enrolled into meta-analysis. <ul style="list-style-type: none"> <li>- 2 compared low intensity FSW with placebo</li> <li>- 5 compared medium intensity FSW with placebo</li> <li>- 2 compared high intensity FSW with placebo,</li> <li>- 1 compared high intensity FSW with medium intensity FSW</li> <li>- 2 compared RSW with placebo</li> </ul> </li> <li>• FSW of different intensity ranges were treated as three subgroups, whereas studies using RSW were regarded as a separated one.</li> </ul> <p><u>Outcomes:</u> <b>success rates</b> of treatment and <b>pain reduction</b> magnitudes.</p>
Results	<p>1. Network meta-analysis revealed that:</p> <ul style="list-style-type: none"> <li>• <b>RSW had the highest effectiveness vs. placebo</b>, followed by low, high and medium intensity FSW.</li> </ul> <p>-&gt; The probabilities of being ranked as the best treatment for RSW, and low, medium and high intensity FSW were 82.7%, 12.3%, 1.7% and 3.1%, respectively.</p> <ul style="list-style-type: none"> <li>• <b>RSW had the most significant pooled reduction in pain VAS</b>, followed by low, medium, high intensity FSW and placebo treatment</li> </ul> <p>-&gt; The probabilities of being the best therapy to relieve pain were 91.0%, 2.8%, 4.2% and 1.8% regarding RSW, and low, medium and high intensity FSW, respectively.</p> <p>2. The meta-regression indicated that the success rate of FSW wasn't related to its intensity, but there was a dose-response relationship between pain reduction and energy flux density, whereas elevated energy efflux densities tended to relieve pain more.</p> <p><b>3. Overall the network meta-analysis revealed that the probability of being the best therapy was the highest in RSW, followed by low, medium or high intensity FSW.</b></p>
Conclusion	Setting the highest and mostly tolerable energy output within medium intensity ranges is the prior option when applying FSW on plantar fasciitis. <b>RSW is considered as an appropriate alternative due to its lower price and probably better effectiveness.</b> Its potential advantage over FSW comprises <b>broader treatment area, less requirement of precisely focusing and free of adjunct local anesthesia.</b>
Key message	Radial shock wave therapy is a good alternative choice for plantar fasciitis treatment because of its lower price and probably better effectiveness than traditional focused shock wave.
Pubmed ID	22421623

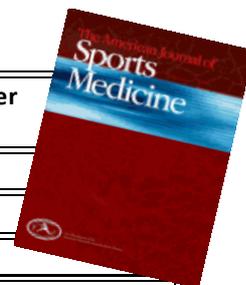


<b>Chronic Plantar Fasciitis Treated with Two Sessions of Radial Extracorporeal Shock Wave Therapy</b>	
Authors	Ibrahim MI, Donatelli RA, Schmitz C, Hellman MA, Buxbaum F.
Published	Foot Ankle Int. 2010 May;31(5):391-7.
Date	May 2010
Place of origin	Rocky Mountain University of Health Professions, Brooklyn, New York.
Background	In a previous study by Gerdesmeyer et al. (AJSM, 2008) was shown that RSWT is effective for plantar fasciitis treatment when administered in 3 sessions.
Objective	To test whether two sessions of RSWT can also be effective for treating plantar fasciitis.
Tested products	EMS Swiss Dolorclast.
Study design & methods	<p><b>Randomised controlled study.</b></p> <p><u>Subjects:</u> a total of <b>50 patients</b> with unilateral, chronic PF</p> <p><u>Methods:</u> subjects were randomly assigned to either RSWT or placebo treatment (n = 25).</p> <ul style="list-style-type: none"> <li>• <b>RSWT</b> (n = 25) - applied in 2 weekly sessions (2,000 impulses with energy flux density = 0.16 mJ/mm<sup>2</sup> per session).</li> <li>• <b>Placebo</b> treatment (n = 25) was performed with a clasp on the heel.</li> </ul> <p><u>Outcomes:</u></p> <ul style="list-style-type: none"> <li>• Visual Analog Scale (VAS) Pain scores</li> <li>• modified Roles &amp; Maudsley (RM) score</li> </ul> <p>Changes from baseline to 4 weeks, 12 weeks and 24 weeks followup were assessed.</p>
Results	<p>The <b>mean VAS scores were reduced after RSWT</b></p> <ul style="list-style-type: none"> <li>• Mean changes from baseline: -92.5% at 4 weeks, -87.3% at 12 weeks and -93.9% at 24 weeks.</li> </ul> <p>The <b>mean RM scores were changed after RSWT</b></p> <ul style="list-style-type: none"> <li>• Mean changes from baseline: -69.1% at 4 weeks -61.7% at 12 weeks -64.9% at 24 weeks.</li> </ul> <p>These changes in mean VAS and RM scores were <b>not observed after placebo treatment.</b></p> <ul style="list-style-type: none"> <li>• Mean VAS scores changes of the placebo-treated patients were -15.2% at 4 weeks, 13.5% at 12 weeks -17% at 24 weeks from baseline.</li> <li>• Mean RM score changes of the placebo-treated patients were -6.3% at 4 weeks -15.8% at 12 weeks and -16.8% at 24 weeks from baseline.</li> </ul> <p>Statistical analysis demonstrated that RSWT resulted in <b>significantly reduced mean VAS scores and mean RM scores at all followup intervals compared to placebo treatment</b> (each with p &lt; 0.001).</p> <p>No serious adverse events of RSWT were observed.</p>
Conclusion	<p>The authors conclude that RSWT was a <b>safe, effective and easy treatment for patients with chronic PF</b> and <b>successful treatment can be achieved with only two sessions</b> of RSWT which increases the attractiveness of this treatment method.</p> <p>The authors recommend considering RSWT treatment for every patient with chronic plantar fasciitis who is irresponsive to conventional treatment.</p>
Key message	RSWT was successful in the treatment of chronic PF even when <b>only two sessions with 2,000 impulses</b> each were performed 1 week apart.
Pubmed ID	20460065



<b>Radial Extracorporeal Shock Wave Therapy Is Safe and Effective in the Treatment of Chronic Recalcitrant Plantar Fasciitis. Results of a Confirmatory Randomized Placebo-Controlled Multicenter Study</b>	
Authors	Gerdesmeyer L, Frey C, Vester J, Maier M, Weil L Jr, Weil L Sr, Russlies M, Stienstra J, Scurran B, Fedder K, Diehl P, Lohrer H, Henne M, Gollwitzer H.
Published	Am J Sports Med. 2008 Nov;36(11):2100-9.
Date	2008
Place of origin	Department of Orthopedic and Traumatology, Technical University Munich, Klinikum Rechts der Isar, Germany.
Background	Radial extracorporeal shock wave therapy is an effective treatment for chronic plantar fasciitis that can be administered to outpatients without anesthesia but has not yet been evaluated in controlled trials.
Objective	To evaluate the efficacy and safety of rESWT in patients with chronic painful heel syndrome.
Tested products	EMS Swiss Dolorclast
Study design & methods	<p><b>Randomized, controlled trial; Level of evidence, 1.</b></p> <p><b>Subjects:</b> 245 patients with chronic plantar fasciitis.</p> <p><b>Methods:</b> patients were randomised to receive three interventions of radial extracorporeal shock wave therapy (0.16 mJ/mm<sup>2</sup>; 2000 impulses) or placebo treatment.</p> <p><b>Outcomes:</b></p> <ul style="list-style-type: none"> <li>• <b>Primary endpoints</b> were changes in visual analog scale composite score from baseline to 12 weeks' follow-up, overall success rates, and success rates of the single visual analog scale scores (heel pain at first steps in the morning, during daily activities, during standardized pressure force).</li> <li>• <b>Secondary endpoints</b> were single changes in visual analog scale scores, success rates, Roles and Maudsley score, SF-36, and patients' and investigators' global judgment of effectiveness 12 weeks and 12 months after extracorporeal shock wave therapy.</li> </ul>
Results	<ul style="list-style-type: none"> <li>• Radial extracorporeal shock wave therapy proved <b>significantly superior to placebo</b> with a reduction of the <b>visual analog scale</b> composite score of <b>72.1% compared with 44.7%</b> (P = .0220), and an overall <b>success rate of 61.0% compared with 42.2%</b> in the placebo group (P = .0020) at <b>12 weeks</b>.</li> <li>• <b>Superiority was even more pronounced at 12 months</b>, and all secondary outcome measures supported radial extracorporeal shock wave therapy to be significantly superior to placebo (P &lt; .025, 1- sided).</li> <li>• No relevant side effects were observed.</li> </ul>
Conclusion	<b>Radial extracorporeal shock wave therapy significantly improves pain, function, and quality of life compared with placebo</b> in patients with recalcitrant plantar fasciitis. Especially in the cases of failed nonsurgical treatment, rESWT represents an excellent alternative to surgery because anesthesia is not required and long recovery times are avoided.
Key message	Radial ESWT can be <b>strongly recommended</b> for patients with therapy-resistant plantar painful heel syndrome.
Pubmed ID	18832341

## GREATER TROCHANTER PAIN



Home Training, Local Corticosteroid Injection, or Radial Shock Wave Therapy for Greater Trochanter Pain Syndrome	
Authors	Rompe JD, Segal NA, Cacchio A, Furia JP, Morral A, Maffulli N.
Published	Am J Sports Med. 2009 Oct;37(10):1981-90.
Date	2009
Place of origin	OrthoTrauma Evaluation Center, Mainz, Germany.
Background	A frequent painful overuse syndrome of the hip in adults engaging in recreational sports activities is commonly called trochanteric bursitis. Given the absence of bursal lesions and the presence of gluteal tendinopathy, it was suggested to rename the condition greater trochanter pain syndrome (GTPS). There are no controlled studies testing the efficacy of various nonoperative strategies for treatment of GTPS.
Objective	To compare the individual effectiveness of a single local corticosteroid injection, a standardized home training program, and a standardized shock wave treatment protocol.
Tested products	EMS Swiss Dolorclast
Study design & methods	<p><b>Randomized controlled clinical trial; Level of evidence, 2.</b></p> <p><b>Subjects:</b> 229 patients with refractory unilateral greater trochanter pain syndrome</p> <p><b>Methods:</b> subjects were assigned sequentially to</p> <ul style="list-style-type: none"> <li>• Home training program – 12 weeks, 7 days/week, 2x/day</li> <li>• A single local corticosteroid injection (25 mg prednisolone), or</li> <li>• Low-energy radial shock wave treatment - 3 sessions, 1/wk</li> </ul> <p><b>Outcomes:</b> subjects underwent outcome assessments at baseline and at 1, 4, and 15 months.</p> <ul style="list-style-type: none"> <li>• Degree of recovery, measured on a 6-point Likert scale (subjects with rating completely recovered or much improved were rated as treatment success),</li> <li>• Severity of pain over the past week (0-10 points).</li> </ul>
Results	<ul style="list-style-type: none"> <li>• <b>1 month from baseline</b>, results after corticosteroid injection were significantly better than those after home training or shock wave therapy: success rate, 75% versus 7% and 13% resp.; pain rating: 2.2 points versus 5.9 points and 5.6 points resp.</li> <li>• <b>4 months from baseline</b>, radial shock wave therapy led to significantly better results than did home training and corticosteroid injection: success rate 68% versus 41% and 51% resp.; pain scores: 3.1 points versus 5.2 points and 4.5 points resp.</li> <li>• <b>15 months from baseline</b>, radial shock wave therapy and home training were significantly more successful than was corticosteroid injection: success rates were resp. 74%, 80% and 48%; pain scores were resp. 2.4, 2.7 and 5.3 points.</li> </ul>
Conclusion	<ul style="list-style-type: none"> <li>• The role of corticosteroid injection for greater trochanter pain syndrome needs to be reconsidered. Subjects should be properly informed about the advantages and disadvantages of the treatment options, including the economic burden. <b>The significant short-term superiority of a single corticosteroid injection over home training and shock wave therapy declined after 1 month.</b></li> <li>• Both corticosteroid injection and home training were significantly less successful than was <b>shock wave therapy at 4-month</b> follow-up.</li> <li>• Corticosteroid injection was significantly less successful than was <b>home training or shock wave therapy at 15-month follow-up.</b></li> </ul>
Key message	Both radial shock wave therapy and home training were significantly more effective than was the single corticosteroid injection. <b>Better results were achieved earlier after shock wave therapy than with the home training protocol. Corticosteroid injections offered only short term benefits.</b>
Pubmed ID	19439758





Questions?

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