



**GOOD
NEWS**

PEDro:
PHYSIOTHERAPY EVIDENCE DATABASE
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TOP-NOTCH CLINICAL SCIENCE

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PEDRO IS A FREE DATABASE OF OVER 28'000 RANDOMIZED CLINICAL TRIALS (RCTs), SYSTEMATIC REVIEWS AND CLINICAL PRACTICE GUIDELINES IN PHYSIOTHERAPY

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WHEN ENTERING THE KEY WORDS "RADIAL SHOCK WAVE THERAPY" TO SEARCH THE WEBSITE WWW.PEDRO.ORG.AU

THE WINNER IS →

THE PEDRO DATABASE (www.PEDro.org.au)

WAS DEVELOPED BY THE GEORGE INSTITUTE FOR GLOBAL HEALTH
AFFILIATED WITH THE UNIVERSITY OF SYDNEY, AUSTRALIA

SHOCK WAVE FRONT →

HYDROPHONE →

SECONDARY SHOCK WAVES →

CAVITATION BUBBLES →

APPLICATOR SWISS DOLORCLAST® →

RADIAL SHOCK WAVES

15:20 CLINICAL STUDIES PERFORMED WITH THE SWISS DOLORCLAST®

PEDro QUALITY CRITERIA →

10	9	8	7	6	5	4	3	2	1	S	INDICATIONS	STUDIES	0* DEVICES
+	+	+	+	+	-	+	+	+	+	9/10	Calcifying tendinitis of the shoulder Plantar fasciopathy	Cacchio et al. 2006	+ Not specified (Elettronica Pagani)
+	+	+	+	+	-	+	+	+	+			Gerdesmeyer et al. 2008	+ Swiss DolorClast® (EMS)
+	+	+	+	+	-	+	+	+	+			Ibrahim et al. 2010	+ Swiss DolorClast® (EMS)
+	+	+	+	+	-	(-)	+	+	+	8/10	Achilles tendinopathy Plantar fasciopathy	Rompe et al. 2007	+ Swiss DolorClast® (EMS)
+	+	+	+	+	-	(-)	+	+	+			Rompe et al. 2008	+ Swiss DolorClast® (EMS)
+	+	+	+	+	-	(-)	+	+	+			Rompe et al. 2009a	+ Swiss DolorClast® (EMS)
+	+	+	+	+	-	(-)	+	+	+			Rompe et al. 2010	- Swiss DolorClast® (EMS)
+	+	+	+	+	-	+	+	-	+			Lohrer et al. 2010	+ Duolith SD 1 radial part (Storz)
+	+	+	-	-	-	+	+	+	+	7/10	Calcifying tendinitis of the shoulder Subacromial pain Lateral epicondylitis Plantar fasciopathy	Kolk et al. 2013	- Swiss DolorClast® (EMS)
+	+	+	+	-	-	(-)	+	+	+			Engebretsen et al. 2011	- Swiss DolorClast® (EMS)
+	+	-	+	+	-	-	+	+	+			Gündüz et al. 2012	+ Not specified
+	+	-	+	+	-	+	+	-	+			Chow and Cheing 2007	+ Swiss DolorClast® (EMS)
+	+	-	-	+	-	+	+	-	+	6/10	Plantar fasciopathy	Shaheen 2010	+ Swiss DolorClast® (EMS)
+	+	-	+	-	-	+	+	-	+	5/10	Nonspecific shoulder pain Primary long bicipital tenosynovitis Myofascial pain syndrome Lateral and medial epicondylitis Greater trochanteric pain syndrome	Damain and Zalpour 2011	+ Masterpulse MP 200 (Storz)
+	+	-	+	-	-	-	+	-	+			Liu et al. 2012	+ Swiss DolorClast® (EMS)
+	+	-	+	-	-	-	+	-	+			Cho et al. 2012	+ JEST-2000 (Joeunmedical, Korea)
+	+	-	+	-	-	-	+	-	+			Lee et al. 2012	+ Swiss DolorClast® (EMS)
+	+	+	+	-	-	(-)	+	-	-			Rompe et al. 2009b	+ Swiss DolorClast® (EMS)
+	+	-	+	-	-	-	-	-	+	4/10	Plantar fasciopathy and tennis elbow Spasticity	Mehra et al. 2003	+ Swiss DolorClast® (EMS)
+	+	-	-	+	-	-	-	-	+			Vidal et al. 2011	+ Swiss DolorClast® (EMS)

1 Subjects randomly allocated to groups

2 Concealed allocation

3 Groups similar at baseline regarding the most important prognostic indicators

4 Subjects blinding

5 All therapists who administered the therapy were blinded

6 All assessors who measured at least one key outcome were blinded

7 Measures of at least one key outcome obtained from more than 85% of the subjects initially allocated to groups

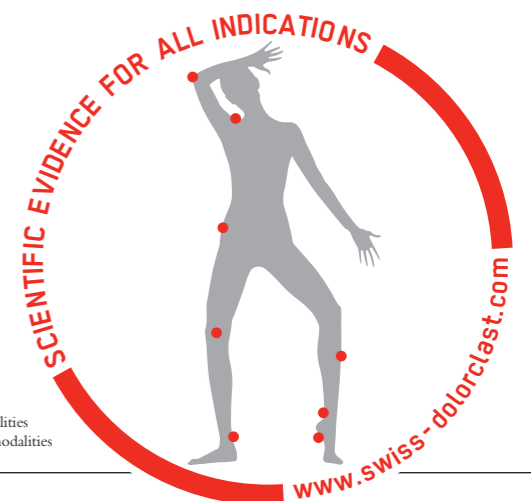
8 All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analysed by "intention to treat"

9 The results of between-group statistical comparisons reported for at least one key outcome

10 Both point measures and measures of variability for at least one key outcome provided

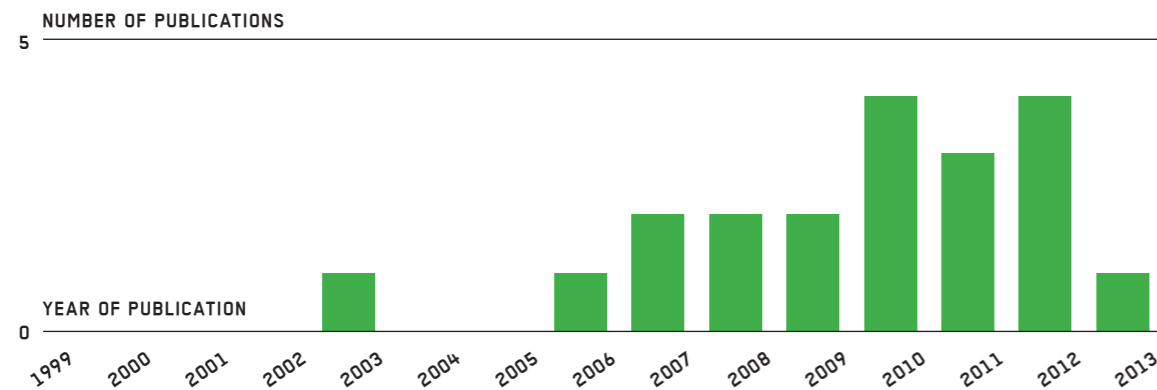
* OUTCOME OF THE STUDY

- + Radial shock wave therapy significantly better statistically than either placebo or alternative treatment modalities
- Radial shock wave therapy significantly not better statistically than either placebo or alternative treatment modalities



SUCCESSFUL FROM THE START

→ CONTINUOUSLY IMPROVED



> Radial Shock Wave Therapy was invented by EMS in 1999. It immediately found its place in pain management of the musculoskeletal system, and has since become an integral part of everyday clinical practice

PEDro IS VALID

> De Morton NA. The PEDro scale is a valid measure of the methodological quality of clinical trials: a demographic study. *Aust J Physiother* 2009;55(2):129-133.

THE RELIABILITY OF THE PEDro SCALE FOR RATING THE QUALITY OF RANDOMIZED CONTROLLED TRIALS WAS DEMONSTRATED IN THE LITERATURE

> Maher CG, Sherrington C, Herbert RD, Moseley AM, Elkins M. Reliability of the PEDro scale for rating quality of randomized controlled trials. *Phys Ther* 2003;83(8):713-721.

CACCHIO A, PAOLONI M, BARILE A, DON R, DE PAULIS F, CALVISI V, RANA VOLO A, FRASCARELLI M, SANTILLI V, SPACCA G. Effectiveness of radial shock wave therapy for calcific tendinitis of the shoulder: single-blind, randomized clinical study. *Physical Therap* 2006;86(5):672-682.

CHO YS, PARK SJ, JANG SH, CHOI YC, LEE JH, KIM JS. Effects of the combined treatment of extracorporeal shock wave therapy (ESWT) and stabilization exercises on pain and functions of patients with myofascial pain syndrome. *J Phys Ther Sci* 2012;24:1319-1323.

CHOW IHW, CHEING GLY. Comparison of different energy densities of extracorporeal shock wave therapy (ESWT) for the management of chronic heel pain. *Clin Rehabil* 2007;21(2):131-141.

DAMIAN M, ZALPOUR C. Trigger point treatment with radial shock waves in musicians with nonspecific shoulder-neck pain: data from a special physio outpatient clinic for musicians. *Med Probl Perform Art* 2011;26(4):211-217.

ENGBRETSSEN K, GRO TLE M, BAUTZ-HOLTER E, EKEBERG O, JUEL N, BROX J. Supervised exercises compared with radial extracorporeal shock wave therapy for subacromial shoulder pain: 1-year results of a single-blind randomized controlled trial. *Phys Ther* 2011;91(1):37-47.

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. 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. *Am J Sports Med* 2008;36(11):2100-2109.

GÜNDÜZ R, MALAS FU, BORMAN P, KOCAOGLU S, OZCAKAR L. Physical therapy, corticosteroid injection, and extracorporeal shock wave treatment in lateral epicondylitis: clinical and ultrasonographical comparison. *Clin Rheumatol* 2012;31(5):807-812.

IBRAHIM MI, DONATELLI RA, SCHMITZ C, HELLMAN MA, BUXBAUM F. Chronic plantar fasciitis treated with two sessions of radial extracorporeal shock wave therapy. *Foot Ankle Int* 2010;31(5):391-397.

KOLK A, AUW YANG KG, TAMMINGA R, HOEVEN H. Radial extracorporeal shock-wave therapy in patients with chronic rotator cuff tendinitis: a prospective randomised double-blind placebo-controlled multicentre trial. *Bone Joint J* 2013;95-B(11):1521-1526.

LEE SS, KANG S, PARK NK, LEE CW, SONG HS, SOHN MK, CHO KH, KIM JH. Effectiveness of initial extracorporeal shock wave therapy on the newly diagnosed lateral or medial epicondylitis. *Ann Rehabil Med* 2012;36:681-687.

LIU S, ZHAI L, SHI Z, JING R, ZHAO B, XING G. Radial extracorporeal pressure pulse therapy for the primary long bicipital tenosynovitis: a prospective randomized controlled study. *Ultrasound Med Biol* 2012;38:727-735.

LOHRER H, NAUCK T, DORN-LANGE NV, SCHOLL J, VESTER JC. Comparison of radial versus focused extracorporeal shock waves in plantar fasciitis using functional measures. *Foot Ankle Int* 2010;31(1):1-9.

MEHRA A, ZAMAN T, JENKIN AI. The use of a mobile lithotripter in the treatment of tennis elbow and plantar fasciitis. *Surgeon* 2003;1:290-292.

ROMPE JD, NAFE B, FURIA JP, MAFFULLI N. Eccentric loading, shock-wave treatment, or a wait-and-see policy for tendinopathy of the main body of tendo Achillis: a randomized controlled trial. *Am J Sports Med* 2007a;35(3):374-383.

ROMPE JD, FURIA JP, MAFFULLI N. Eccentric loading compared with shock wave treatment for chronic insertional Achilles tendinopathy. A randomized, controlled trial. *J Bone Joint Surg Am* 2008;90(1):52-61.

ROMPE JD, FURIA JP, MAFFULLI N. Eccentric loading versus eccentric loading plus shock-wave treatment for midportion Achilles tendinopathy: a randomized controlled trial. *Am J Sports Med*. 2009a;37(3):463-470.

ROMPE JD, SEGAL NA, CACCHIO A, FURIA JP, MORRAL A, MAFFULLI N. Home training, local corticosteroid injection, or radial shock wave therapy for greater trochanter pain syndrome. *Am J Sports Med* 2009b;37:1981-1990.

ROMPE JD1, CACCHIO A, WEIL L JR, FURIA JP, HAIST J, REINERS V, SCHMITZ C, MAFFULLI N. Plantar fascia-specific stretching versus radial shock-wave therapy as initial treatment of plantar fasciopathy. *J Bone Joint Surg Am* 2010 3;92(15):2514-2522.

SHAHEEN AAM. Comparison of three different treatment protocols of low-energy radial extracorporeal shock wave therapy for management of chronic plantar fasciitis. *Indian J Physiother Occupat Therap* 2010;4(1):8-12.

VIDAL X, MORRAL A, COSTA L, TURA M. Radial extracorporeal shock wave therapy (rESWT) in the treatment of spasticity in cerebral palsy: A randomized, placebo-controlled clinical trial. *NeuroRehabilitation* 2011;29(4):413-419.



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**RSWT® IN THEORY AND PRACTICE
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