

ISMST

International Society of Medical Shockwave Treatment

11th International Congress of the ISMST

Le Meridien Hotel

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June 5th – 7th, 2008

Scientific Program

Wednesday, June 4th

15:00 – 17:00 **Early registration**

16:00 – 18:00 **Meeting of the Managing Board**

Thursday, June 5th

as of 08:00 **Registration**

8:00 – 17:30 **Industrial exhibition**

08:30 – 09:00 **Opening Ceremony:**

Words of welcome:

→ Dr. Roland Hamisultane (President of the ISMST)

→ Doz. Dr. Heinz Kuderna (Honorary ISMST-President)

09:00 – 09:50 **Session 1: General Overview**

Chairmen: R. Hamisultane – H. Kuderna

09:00 – 09:07 Tom Matula, Jinfei Yu (USA)

How cavitation evolves during ESWT treatment [1]

09:07 – 09:14 Pavel Novak (Switzerland)

Extracorporeal Pulse Activation Therapy (EPAT) [2]

09:14 – 09:21 Christoph Schmitz, Markus Maier (Germany)

Shock wave therapy: What really matters [3]

09:21 – 09:28 Hans-Jürgen Duchstein, Kerstin Neumann, Helmut G. Neuland (Germany)

Possible mechanism of mechanotransduction induced by external stress like shockwave application [4]

09:28 – 09:35 Markus Maier, Christoph Schmitz (Germany)

The development and state of the art treatment of ESWT [5]

09:35 – 09:50 Discussion

09:50 – 10:50 **Session 2: Plantar Fasciitis / Heel**

Chairmen: A. Souza - J. Rompe

09:50 – 09:57 Gabriele Verratti, Miguel Angel Guedez, Myriam Capasso (Venezuela)

Improving the effectiveness of shock wave therapy in plantar fasciitis: A comparative trial [6]

09:57 – 10:04 José Eid (Brazil)

ESWT in Plantar Fasciitis - 7 years of experience with two different devices [7]

10:04 – 10:11 Roberto Audain; Raul Chirinos, Yarila Alvarez (Venezuela)

Extracorporeal shockwave therapy in the treatment of plantar fasciitis: Report of 195 cases [8]

- 10:11 – 10:18 Roland Hamisultane (France)
ESWT in Sever's Disease, an Exceptionally Good Indication [9]
- 10:18 – 10:25 Mahmoud Ibrahim; Robert A. Donatelli, Madeleine Hellman, Frederick Buxbaum (USA)
The Effectiveness of Extracorporeal Shock Wave Therapy for Patients with Plantar Fasciitis who Satisfy a Clinical Prediction Rule [10]
- 10:25 – 10:32 Bernard Fabio Meyer, Erno Thober, Mauro Meyer (Brazil)
The effect of oral analgesics on pain tolerance during Extracorporeal Shock Wave Therapy (ESWT) for Chronic Plantar Fasciitis (CPF): A double-blind randomized placebo-controlled trial [11]
- 10:32 – 10:50 Discussion
- 10:50 – 11:15 **Coffee break**
- 11:15 – 12:25 **Session 3: Tendinopathies I**
Chairmen: J. Furia - S. Russo
- 11:15 – 11:22 Maria Cristina Ottone, Filippo Fagnani (Italia)
ESWT - large focus/low energy density versus small focus/high energy density using the same total energy delivered (mJ): evaluation of Results on calcific tendinitis of the shoulder [12]
- 11:22 – 11:29 Antonio Morral, Mariano Fernández-Fairen (Spain)
Effect of radial extracorporeal shock wave therapy for trochanter pain syndrome [13]
- 11:29 – 11:36 Maria Cristina Ottone, Rino Feltri (Italia)
ESWT in the treatment of epicondylitis: What results in medium- to long-term? (Efficacy only in the short term or also in the medium- to long- term?) [14]
- 11:36 – 11:43 Jan-Dirk Rompe, John Furia, Nicola Maffulli (Germany, USA, UK)
Eccentric loading versus shock wave treatment for chronic insertional Achilles tendinopathy [15]
- 11:43 – 11:50 John Patrick Furia (USA)
High Energy Extracorporeal Shock Wave Therapy as a Treatment for Non-Insertional Achilles Tendinopathy [16]
- 11:50 – 11:57 Antonio Ammendolia, T. Iona (Italy)
Chronic Achilles tendon pain: tendon microcirculation and radial extracorporeal shock wave therapy (rESWT) [17]
- 11:57 – 12:04 Jan-Dirk Rompe, John Furia, Nicola Maffulli (Germany, USA, UK)
Eccentric loading, shock wave treatment, or a wait-and-see policy for tendinopathy of the main body of tendo Achillis [18]
- 12:04 – 12:25 Discussion
- 12:30 – 14:00 **Lunch**

14:00 – 14:50 **Session 4: Experimental I**

Chairmen: L. Gerdesmeyer - S. Marx

- 14:00 – 14:07 Helmut Garrelt Neuland, Andreas Lang (Germany)
The Influence of Mechanotransduction (ESW) on the Reaction of Membrane Ion Channels by means of Patch Clump Technique [19]
- 14:07 – 14:14 Andreas Lang, Helmut Neuland (Germany)
Extracorporeal Shockwaves, Cell and Pain [20]
- 14:14 – 14:21 Loredana Serpe, Roberto Canaparo, Gian Paolo Zara, Pietro Tizzani, Marina Berta, Laura Berta, Roberto Frairia (Italy)
High Energy Shock Waves and 5-aminolevulinic acid: effects on a rat colon cancer cell line [21]
- 14:21 – 14:28 Maria Graziella Catalano, Laura Berta, Mariateresa Pugliese, Nicoletta Fortunati, Pietro Tizzani, Roberto Frairia (Italy)
High energy shock waves (HESW) enhance 5-aminolevulinic acid and paclitaxel cytotoxicity in anaplastic thyroid cancer cells. [22]
- 14:28 – 14:35 Ivana Maria Belotti, Adren Nzeusseu Toukap (Italy)
New RSWT protocols validation in inflamed tendon [23]
- 14:35 – 14:50 Discussion

14:50 – 16:20 **Session 5: Tendinopathies II**

Chairmen: J. Eid - J. Rompe

- 14:50 – 14:57 Aná Claudia Souza, Alexandra Schmidt, Flavia Arkader, João Batista Pereira, Mara Lui, Paulo Rockett, Paulo Roberto dos Santos (Brasil)
Extracorporeal Shockwave for Chronic Tendinopathies – Data Analysis. [24]
- 14:57 – 15:04 Viktor Vyacheslavovich Titov, Andrew Litvinenko (Russia)
The practicalities of the application of the complex enthesopathy theory in orthopaedics [25]
- 15:04 – 15:11 Roland Hamisultane (France)
Evaluation with ultrasound and color doppler of the results of ESWT for the control of hypervascular areas in Non-Insertional Achilles tendinosis. Power Doppler: new tool for ESWT [26]
- 15:11 – 15:18 Rolf F. Rädcl, J. Wertenbruch, U. Dreisilker, G.Kievernagel, G.Schramm (Germany)
Ten-year results of high-energy extracorporeal shock wave therapy (electro-hydraulic) of tendinosis calcarea of the shoulder [27]
- 15:18 – 15:25 Ulrich Dreisilker, Rolf Rädcl (Germany)
Falsities and false diagnosis in shock wave therapy [28]
- 15:25 – 15:32 Paulo Facciolla Kertzman, Jose Eid (Brasil)
ESWT as an option when surgery fails [29]
- 15:32 – 15:39 Paolo Buselli, Sara Messina
Flow analysis of out-patient activity: one-year report. Reflections on shock-wave therapy indications [30]
- 15:39 – 15:46 David H. Zuckerman, Denise Ashcraft (USA)
Our experience using the Dornier Epos Ultra High Energy Protocol one year follow-up [31]
- 15:46 – 15:53 Nick Boden, Thomas Ong (Malaysia)
Focused or Radial Shockwave Therapy? [32]
- 15:53 – 16:20 Discussion

16:20 – 16:50 **Coffee break**

16:50 – 18:20 **Session 6: Bone Pathologies**

Chairmen: R. Coombs - W. Schaden

16:50 – 16:57 Sergio Russo, Emanuele Astarita, Umberto Russo, Vincenzo Scarpato, Clemente Servodio Iammarrone (Italy)

Avascular osteonecrosis in young patients: Long distance follow up of treatment with shock waves [33]

16:57 – 17:04 Ching-Jen Wang, Feng-Sheng Wang, Jih-Yang Ko, Hsuan-Ying Huang, Chung-Jen Chen, Yi-Chih Sun, Ya-Ju Yang (Taiwan)

Extracorporeal Shockwave in Hip Necrosis: Are combined therapies more effective than ESWT alone? [34]

17:04 – 17:11 Maria Cristina d'Agostino, L. Marzella, M. Rubini, C. Bonora, A. Lazzerini, V. Sansone (Italy)

Extracorporeal shock waves in Kienböck disease: Clinical experience and scientific speculations [35]

17:11 – 17:18 Peter Marinov Mihaylov, V. Valchanov (died in 2001), Heriberto Bickman (Angola)

Twenty-one years ago the first patent was filed for treating bone pathologies using high energy shock waves. [36]

17:18 – 17:25 Fernando Dujó Rodríguez (Spain)

Our Experience with Shockwave Therapy [37]

17:25 – 17:32 Dimitar Ivanov Raykov (Bulgaria)

ESWT in Delayed Union of the Ulna [38]

17:32 – 17:39 Julian A. Brañes, D. Sepúlveda; L. Guiloff; M. Brañes (Chile)

Delayed union and non-union in pediatric patients treated with ESWT. [39]

17:39 – 17:46 Andrea Valentin, A. Fischer, A. Menschik, N. Haffner, W. Schaden (Austria)

Extracorporeal Shockwave Therapy for Non-Unions and Delayed Healing Fractures [40]

17:46 – 17:53 Claudio Tuto Maria Guerra, Ernesto Amelio (Italy)

Shock Wave Treatment for Non-Unions - Verona Experience [41]

17:53 – 18:20 Discussion

18:20 – 19:30 **Annual General Meeting**

20:00 **Come Together Meeting:**

Old Antibes Tour and Dinner

Departure at the Le Meridien Hotel entrance at 8.00 p.m.

Friday, June 6th

08:30 – 18:00 **Industrial Exhibition**

09:00 – 10:20 **Session 7: Miscellaneous**

Chairmen: A. Larking - V. Auersperg

09:00 – 09:07 Boris Garilevich, Anton Rotov (Russia)

The first experience of shock wave application in the treatment of chronic prostatitis [42]

09:07 – 09:14 Sara Messina, Paolo Buselli (Italy)

Evaluation of the therapeutic efficacy of shock wave treatment in patients affected by rhizoarthrosis [43]

09:14 – 09:21 Mustafa Hafez, Coombs R, Petrou M, Hanna M, Maher S, Asopa V and Ramsay J. (Great Britain)

Shockwave treatment for deep orthopaedic infections-an experimental model. [44]

09:21 – 09:28 Richard Coombs, Moustafa Hafez , Michael Petrou , Milad Hanna ,Maher Shah ,Vipen Asopa, Johnson Ramsay (Great Britain)

Shockwave treatment for aseptic loosening of prostheses [45]

09:28 – 09:35 Ulrich Piontkowski, Silvia Sommer (Germany)

Efficacy and research of extracorporeal shock wave therapy in the treatment of main postural muscles (Comparison of MET and ESWT) [46]

09:35 – 09:42 Ulrich Piontkowski, Silvia Sommer (Germany)

Combined EPAT/Focussed Shock Wave Therapy and Trigger Points in Sports Medicine [47]

09:42 – 09:49 Anna Michele Larking, Keith Andrews, Susan Hall (Great Britain)

Requirements for Research in ESWT Management of Spasticity [48]

09:49 – 09:56 Xavier Vidal, Antonio Morral, Anna Sanagustin, Anna Fornós (Spain)

Radial extracorporeal shock wave therapy (rESWT) in the treatment of spasticity in cerebral palsy: a preliminary report. [49]

09:56 – 10:20 Discussion

10:20 – 11:00 **Coffee break**

11:00 – 12:20 **Session 8: Experimental II**

Chairmen: C. J. Wang - H. Kuderna

11:00 – 11:07 Michael Wei Chang, Adrienne Oda, Thanaphum Osathanon, Cecilia Giachelli (USA)

Treatment of Heterotopic Ossifications Using Shock Waves: An In Vitro Study [50]

11:07 – 11:14 Roger Lyon, XC. Liu, M. Kubin, *V. Osipov, J. Schwab, and J. Sizensky (USA)

Effect of ESWL on Osteochondritis Dissecans of the Knee in a Rabbit Model [51]

- 11:14 – 11:21 Johannes Holfeld, Barbara Kapeller, Julia Dumfarth, Daniel Zimpfer, Reiner Schultheiss, Robert Goeschl, Udo Losert, Wolfgang Schaden, Michael Grimm, Karin Macfelda (Austria)
The importance of a standardized model for shock wave in-vitro trials - a proposal plus preliminary results of cardiac cells [52]
- 11:21 – 11:28 Biagio Moretti, Angela Notarnicola, Florenzo Iannone, Lorenzo Moretti, Vittorio Patella (Italy)
ESWT down regulates the pathologic mechanisms causing cartilage damage in osteoarthritis [53]
- 11:28 – 11:35 Biagio Moretti, Angela Notarnicola, Roberto Tamma, Alberta Zallone, Angelo Di Giovanni, Vittorio Patella (Italy)
Osteoblast repair action induced by ESWT [54]
- 11:35 – 11:42 Helmut Garrelt Neuland, Yvonne Delhasse, Hans-Jürgen Duchstein, Annette Schmidt, Wilhelm Bloch (Germany)
Focused Extracorporeal Shock Waves Influence Migration, Proliferation and Growth of Human Mesenchymal Stem Cells [55]
- 11:42 – 11:49 Yvonne Delhasse, Helmut Neuland, Caroline Steingen, Annette Schmidt, Wilhelm Bloch (Germany)
Comparative study between the effects and mode of application of focused and radial shock wave treatment on the behaviour of human mesenchymal stem cells (MSC) [56]
- 11:49 – 11:56 Tatjana J. Morton, Joachim Hartinger, Eva Tögel, Anja Peterbauer, Wolfgang Schaden, Martijn van Griensven (Austria)
Shockwave therapy on human fat-derived stem cells [57]
- 11:56 – 12:20 Discussion
- 12:30 – 14:00 **Lunch**
- 14:00 – 15:00 **Session 9: Experimental III**
Chairmen: L. Gerdesmeyer - L. Guiloff
- 14:00 – 14:07 Gerco Bosch, Marieke de Mos, Hans van Schie, Chris van de Lest, René van Weeren (Netherlands)
The effect of ESWT on matrix structure, tenocyte metabolism and gene expression in non-injured tendinous structures [58]
- 14:07 – 14:14 José Cárcamo, E. Clavijo, PhD; M. Campos-Valette, M. Brañes; L. Guiloff; H. Contreras; J. Brañes; R. Aroca (Chile)
Surface-Enhanced Raman Scattering (SERS) as a new tool for the study of Tendinopathic Human Rotator Cuff. [59]
- 14:14 – 14:21 Tao-Chen Lee, Ching-Jen Wang (Taiwan)
Biomechanical Testing of Spinal Fusion Segments Enhanced by Extracorporeal Shock Wave Treatment: A Rabbit Experiment. [60]
- 14:21 – 14:28 Johannes Mueller, Karin Macfelda (Austria)
Treatment of Heart Failure with Physical Methods [61]
- 14:28 – 14:35 Johannes Holfeld, Daniel Zimpfer, Julia Dumfarth, Seyedhossein Aharinejad, Raphael Rosenhek, Anita Thomas, Udo Losert, Margit Vögele Kadletz, Wolfgang Schaden, Ernst Wolner, Michael Grimm (Austria)
Epicardial Shock Wave Therapy Induces Neoangiogenesis and Improves Left Ventricular Function After Myocardial Infarction in Pigs in Vivo [62]

14:35 – 14:42 Daniel Zimpfer, Johannes Hofeld, Julia Dumfarth, Seyedhossein Aharinejad, Raphael Rosenhek, Anita Thomas, Udo Losert, Margit Vögele Kadletz, Wolfgang Schaden, Ernst Wolner, Michael Grimm (Austria)
Direct epicardial shock wave therapy improves left ventricular function in an experimental model of ischemic heart failure [63]

14:42 – 15:00 Discussion

15:00 – 15:40 **Session 10: Experimental IV**

Chairmen: C. J. Wang – R. Thiele

15:00 – 15:07 Rainer Mittermayr, J. Hartinger, M. Hofmann, F. Krammel, M. van Griensven, W. Schaden, H. Redl (Austria)
How many shockwaves are enough? Dose-response relationship in ischemic challenged tissue. [64]

15:07 – 15:14 Lukasz Krokowicz, Aleksandra Klimczak, Mariusz Mielniczuk, Christopher Grykien, Maria Siemionow (USA)
Pulsed Acoustic Cellular Technology Protecting Microcirculation due to Neovascularization and Wound Healing in Ischemic Muscle Flap Model [65]

15:14 – 15:21 Ludger Gerdesmeyer, Hans Gollwitzer, Rainer Mittermayr (Germany, Austria)
Radial extracorporeal shock wave therapy (rESWT) in wound healing – a prospective randomized Placebo-controlled animal trial [66]

15:21 – 15:28 Gabriel Halat, H. Redl, T. Hausner, S. Zandieh, R. Hopf, W. Schaden, R. Schmidhammer (Austria)
Shock wave Therapy in peripheral nerve repair: Investigation in a rat sciatic nerve repair model [67]

15:28 – 15:40 Discussion

15:40 – 15:50 **Welcome Note from**

Marita Eisenmann-Klein, MD

**President of the German Society for Plastic, Reconstructive and Aesthetic Surgery,
General Secretary of the International Confederation for Plastic, Reconstructive and Aesthetic Surgery**

15:50 – 16:30 **Coffee break**

16:30 – 17:50 **Session 11: ESWT for Skin Lesions**

Chairmen: M.C. d'Agostino - W. Schaden

16:30 – 16:37 Ernesto Amelio, Claudio Guerra, Elisa Tinazzi, Elettra Marangoni, Claudio Lunardi (Italy)
Effects of extracorporeal shock waves on skin fibrosis and on biomarkers of patients with Progressive Systemic Sclerosis [68]

16:37 – 16:44 Anna Michele Larking, Keith Andrews, Mary Hardy (Great Britain)
ESWT in Chronic Decubitus Ulceration in Complex Neurological Disability [69]

- 16:44 – 16:51 Julia Dumfarth, Daniel Zimpfer, Johannes Holfeld, Florian Sihorsch, Wolfgang Schaden, Margit Voegele Kadletz, Ernst Wolner, Michael Grimm (Austria)
Shock wave therapy to improve wound healing after vein harvesting for CABG [70]
- 16:51 – 16:58 Rainer Mittermayr, Ch. Köppl, M. Pusch, W. Schaden (Austria)
Clinical Experience with ESWT in Sub Acute and Chronic Wounds [71]
- 16:58 – 17:05 Dieter Oscar Mayer, Devdas T. Inderbitzin, Zoran Rancic, Michele Genoni, Mario Lachat (Switzerland)
ESWT to improve the outcome of complex non-healing leg and foot ulcers [72]
- 17:05 – 17:12 Christian Ottomann, Sergej Marx, Richard Thiele, Bernd Hartmann (Germany)
Accelerated Healing of Ila-Burns Under the Influence of ESWT [73]
- 17:12 – 17:19 Biagio Moretti, Angela Notarnicola, Giulio Maggio, Silvio Patella, Paolo Foscarini, Vittorio Patella (Italy)
ESWT-induced healing of diabetic foot ulcers [74]
- 17:19 – 17:26 Ching-Jen Wang, Re-Wen Wu, Chi-Shiung Hsu, Yur-Ren Kuo, Rue-Tsuan Liu, Feng-Sheng Wang (Taiwan)
Blood flow perfusion and molecular response after ESWT in chronic skin ulcers [75]
- 17:26 – 17:50 Discussion

18:00 – 19:00 **Closing ceremony**

Message of the Scientific secretary

Closing Addresses:

Roland Hamisultane (Past-President of the ISMST)

**Invitation to the 12th Congress of the ISMST
June th – th, 2008 in Sorrento (Italy)**

Sergio Russo (Incoming ISMST President)

21:00 Departure with busses to La Siesta Night Club

Saturday, June 7th

09:00 – 12:30 **Extracorporeal shockwave treatment seminar**

- Basics of shockwave treatment.
- Established indications.
- What tells the industry?
- Trigger point shockwave therapy.
- New trends and future aspects.

Moderation: M. Buch, M. Gleitz

Hands on with devices of different companies is planned.

Onsite registration is necessary.

Participation fee per participant: € 50,00

12:30 – 14:30 **Lunch**

14:30 – 17:30 **SFOCAL / DIGEST / SITOD meetings**

SFOCAL-Meeting

Société Française pour les Ondes de Choc sur l'Appareil Locomoteur

Moderation: R. Hamisultane

14:30 – 17:30

SITOD **“20 anni di onde d’urto: Evoluzione delle applicazioni cliniche e sperimentali”**

Moderazione: MC D’Agostino

14:30 – 17:30

1. **Onde d’Urto nel trattamento delle pseudoartrosi.**
B. Moretti, A. Notarnicola, M. Maiorano, L. Paolillo, V. Patella (Bari)
2. **Sindromi infiammatorie dell’arto superiore: indicazioni, protocolli e analisi metacritica.**
U. Russo, C. Servodio Iammarrone, G. Busco, A. Petteruti, A. Soldati, S. Russo (Napoli)
3. **Ritardi di consolidazione: indicazioni, protocolli e analisi metacritica.**
E. Astarita, C. Servodio Iammarrone, V. Scarpato, G. Busco, A. Soldati, S. Russo (Napoli)
4. **Fratture da stress trattate con Onde d’Urto.**
B. Moretti, A. Notarnicola, L. Moretti, S. Patella, V. Patella (Bari)
5. **Effetti delle Onde d’Urto su differenti linee cellulari mesenchimali.**
L. Berta et al. (Torino)
6. **Onde d’Urto defocalizzate nella riparazione di tessuti di rivestimento.**
R. Saggini (Chieti)
7. **Spasticità e Onde d’Urto.**
C. Servodio Iammarrone, V. Scarpato, A. Petteruti, G. Busco, A. Soldati (Napoli)
8. **Onde d’Urto ad alta energia per la terapia sonodinamica: efficacia in un modello singenico di carcinoma del colon.**
R. Frairia et al. (Torino)

DIGEST-Treffen

Moderation: J.-D. Rompe

14:30 – 17:30

1. **15 Jahre ESWT: Was wissen wir? Was können wir erwarten und tun?**
U. Dreisilker
2. **10 Jahres Ergebnisse der Behandlung der Tendinosis calcarea mit hochenergetischer ESWT (elektro-hydraulisch)**
R. Rädels, J. Wertenbruch, U. Dreisilker, G. Kievernagel, G. Schramm (Herne)
3. **Die Therapie myofaszialer Triggerpunkte mittels fokussierter ESWT beim Schulterschmerz im Sport. Ergebnisse einer RCT- Studie an 60 Patienten unter Berücksichtigung der Veränderung des Schmerzes und der statischen und dynamischen Kraftfähigkeit nach Behandlung**
H. Müller-Ehrenberg, L. Thorwesten, M. Pottebaum, H. Epping, L. Gries, K. Völker (Münster)
4. **Die piezoelektrische ESWT am Bewegungsapparat. Mittelfristige Ergebnisse der myofaszialen Triggerpunkttherapie.**
S. Menkens, A. Betthäuser (Ort)
5. **Beschleunigte Wundheilung 2.-gradiger Verbrennungen durch ESWT**
S. Marx, R. Thiele, B. Hartmann, C. Ottomann
6. **Innovation und Zukunft der ESWT**
W. Schaden, R. Thiele