

# **ISMST**

**International Society of Medical Shockwave Treatment**

## **11<sup>th</sup> International Congress of the ISMST**

**Le Meridien Hotel**

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**June 5<sup>th</sup> – 7<sup>th</sup>, 2008**

## **Scientific Program**

## Wednesday, June 4<sup>th</sup>

15:00 – 17:00 **Early registration**

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

## Thursday, June 5<sup>th</sup>

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 Dujo Rodriguez (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 6<sup>th</sup>

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. Köpl, 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 7<sup>th</sup>

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. Räderl, 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