E.S.T.R.O.T. CONGRESS 7TH

FROM BENCH TO PATIENT BEDSIDE:
LATEST ADVANCES AND INNOVATIONS
IN TISSUE REGENERATION AND REPAIR

FINAL PROGRAM

CHAIRMAN: INGO MARZI

Bone regeneration
Cartilage regeneration
Nerve and muscle regeneration
Soft tissue reconstruction
Fracture related infection
Surgical techniques

3-5 JULY 2023 - FRANKFURT, GERMANY

TOPICS

BONE REGENERATION
Non-union, bone defects, bone voids, avascular necrosis. The role of stem cells, Scaffolds, Growth factors, Composite grafts, Physical stimulation

CARTILAGE REGENERATION
Matrices, scaffolds, chondrocyte re-implantation, biological response modifiers

NERVE AND MUSCLE REGENERATION
Latest advances

SOFT TISSUE RECONSTRUCTION
VAC devices, growth promoting factors
Artificial skin, composite flaps

FRACTURE RELATED INFECTIONS
Preventative strategies for bone infection
Modern treatment of osteomyelitis

SURGICAL TECHNIQUES TO IMPROVE OUTCOMES
Osteosynthesis, distraction, arthroplasty

E.S.T.R.O.T.

European Society of Tissue Regeneration in Orthopaedics and Traumatology

BOARD

PRESIDENT:
Prof. Peter V. Giannoudis
Leeds, United Kingdom

PAST PRESIDENT:
Prof. Gerhard Schmidmaier
Heidelberg, Germany

TREASURER:
Prof. Thierry Bégué
Paris, France

ESTROT AMBASSADOR:
Scientific Committee Chair
Prof. Giorgio M. Calori
Milan, Italy

OBJECTIVES

The objectives of the Society are:

To relieve sickness in particular by advancing and promoting education and research in the treatment of musculoskeletal disorders.
To cover all matters relating to the progress and development of the field of tissue regeneration including surgery of bone, cartilage, muscle, nerve, skin, imaging techniques, rehabilitation and other related medical specialities.
To disseminate the useful results of tissue regeneration research into the medical profession.
To promote audit of hard and soft tissue reconstruction in relation to patient outcomes.
To guide European Tissue Regeneration Policies and to guide alliances of similar organisations from other continents.

INVITED SPEAKERS

Amling Michael, Hamburg DE

Arts Chris, Maastricht NL

Basile Giuseppe, Milano IT

Bégué Thierry, Paris FR

Bläser Andreas, Darmstadt DE

Blokhuis Taco J., Maastricht NL

Böcker Wolfgang, Munich DE

Brune Jan, Berlin DE

Bühren Volker, Murnau DE

Calori Giorgio M., Milan IT

Docheva Denitsa, Wuerzburg DE

Duda Georg, Berlin DE

El Khassawna Thaqif, Giessen DE

Ferracini Riccardo, Turin IT

Frank Johannes, Frankfurt DE

Gebhard Florian, Ulm DE

Gelinsky Michael, Dresden DE

Ghanaati Shahram, Frankfurt DE

Giannoudis Peter, Leeds UK

Grässel Susanne, Regensburg DE

Grillari Johannes, Vienna AT

Guerado Enrique, Malaga ES

Hildebrand Frank, Aachen DE

Hirche Christoph, Frankfurt DE

Henrich Dirk, Frankfurt DE

Hückstädt Marc, Halle DE

Hofmann Gunther, Jena DE

Ignatius Anita, Ulm DE

Jenei-Lanzl Zsuzsa, Frankfurt DE

Kobbe Philipp, Aachen DE

Löhning Max, Berlin DE

Marzi Ingo, Frankfurt DE

Madry Henning, Homburg DE

Mittelmeier Wolfram, Rostock DE

Nau Christoph, Frankfurt DE

Neijhoft Jonas, Frankfurt DE

Niemeyer Philipp, Munich DE

Poeze Martijn, Maastricht NL

Putzeys Guy, Kortrijk BE

Redl Heinz, Vienna AT

Rosado Balmayor Elizabeth, Aachen DE

Schmidmaier Gerhard, Heidelberg DE

Shen Ping, Berlin DE

Söhling Nicholas, Frankfurt DE

Stief Felix, Frankfurt DE

Trampuz Andrej, Berlin DE

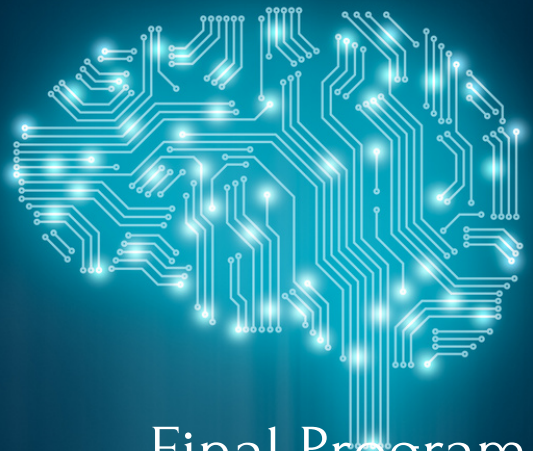
Van Griensven Martijn, Maastricht NL

Van Osch Gerjo, Rotterdam NL

Verboket René, Frankfurt DE

Wildemann Britt, Jena DE

Zaucke Frank, Frankfurt DE



Final Program

CONGRESS PRESIDENT:
Prof. Dr. Ingo Marzi

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Monday, July 3, 2023

09:30	Registration
10:25	Welcome Opening – Peter Giannoudis, Ingo Marzi
10:30	**Session I: Bone Healing - New Insights** Chairmen: Ingo Marzi, Johannes Grillari
10:30	New insights in the pathophysiology of bone healing - Georg Duda
10:45	Mast cells – Crucial modulators of fracture healing - Anita Ignatius
11:00	Role of microRNA in fracture healing environment: still important? - Martijn van Griensven
11:15	Circulating miRNAs in bone health and disease - Johannes Grillari
11:30	Situation after metal ion overload in metal/metal articulation: Is there a local bone regeneration? - Wolfram Mittelmeier
11:45	**Free Paper Session**
11:45	The potential of scaffolds loaded with mouse iPSC and iPSC-derived extracellular matrix in treating critical size bone defects F. Brück, K. Arnke, H.C. Pape, P. Cinelli, S. Tiziani
11:51	Can human MSC be frozen directly on the scaffold and used for bone defect grafting? - L. Leppik, A. Schaible, R. Frank, J. Wolf, Z. Kuci, I Schaible, H. Boenig, I. Marzi, D. Henrich
11:57	One stage Masquelets technique - Evaluation of different forms of membrane filling - R. Verboket, N. Soehling, C. Nau, M. Janko, J.C. Brune, D. Henrich, I. Marzi
12:03	Surgical trauma treatment surgery influences systemic inflammation and local fracture healing mechanism - R.M.V. Groven, C. Kuik, J. Greven, U. Mert, F.G. Bouwman, M. Huber-Lang, F. Hildebrand, T.J. Blokhuis, B. Cillero-Pastor, M. van Griensven
12:09	Impact of TSG-6 on the healing of critical-sized defects of MICE - O. Kueppers, J. Buelow, M. Haffner-Luntzer, M. Ahmad, A. Ignatius, V. Fischer
12:15	Mechanically induced WNT1 promotes osteoblast differentiation through plat - M. Ahmad, M. Haffner-Luntzer, A. Schoppa, T.A. Yorgan, M. Amling, T. Schinke, A. Ignatius
12:21	Summary
12:30	**Lunch Break in the Poster Area**

13:15

Poster Presentations - FOYER Building 22 Ground Floor

GROUP 1
Chairmen: Christoph Nau Nicholas Söhling
Clinical Aspects of Bone and Cartilage Repair

GROUP 2
Chairmen: René Verboket Dirk Henrich
Experimental Approaches for Bone Regeneration

GROUP 3
Chairmen: Frank Zaucke Elizabeth Rosado Balmayor
Clinical and Experimental Cartilage Research II

GROUP 4
Chairmen: Zsuzsa Jenei-Lanzl Felix Stief
Clinical and Experimental Cartilage Research I

13:15 **GROUP 1 - Poster Presentations**
Chairmen: Cristoph Nau, Nicholas Söhling

Ganglion Cyst of the Foot and Ankle - How common is recurrence following surgical excision?
R. Patel, D. Sunderamoorthy, P. Lokanathan, P. Patil, S. Ganapathy Pandiyarajan, A. Kanamukkalu Narayanamurthy
The Princess Royal Hospital - Apley Castle, United Kingdom

Increasing bioactivity and compatibility of PLA/BG composites for bone tissue engineering - high Bioglass content makes the difference
N. Söhling, J. Neijhoft
University Hospital Frankfurt - Frankfurt, Germany

Aims and challenges in the management of severe open fractures. How promising is an interdisciplinary approach in a German Trauma Level I Centre?
S. Kuepper, N. Spranger
Burn Centre and Plastic Surgery BG Klinikum Unfall - Berlin, Germany

The application of Negative pressure wound therapy as a multistaged protocol in septic distal tibia nonunion
N. Di Cristofaro, G. Conza, L. Schiavo, G. Iodice, G. Landi, G. Toro
University of Campania "Luigi Vanvitelli" - Naples, Italy

Effectiveness of the "Diamond Concept" in the treatment of mutifocal non-union of the forearm. A small series and a review of the literature
G. Iodice, G. Conza, N. Di Cristofaro, L. Schiavo, A. De Cicco, G. Toro
University of Campania "Luigi Vanvitelli" - Naples, Italy

Superior capsular reconstruction for irreparable rotator cuff tears: a single surgeon experience
R. Patel, L.M. Ahmed, S.J. Rhee
The Princess Royal Hospital - Apley Castle, United Kingdom

13:15

GROUP 2 - Poster Presentations

Chairmen: René Verboket, Dirk Henrich

The use of antibiotic- impregnated cancellous bone grafts in one-stage surgery for long bone fracture related infections: a case series
G. Putzeys, K. Dendoncker
Az Groeninge - Kortrijk, Belgium

Ex vivo pretreatment of mesenchymal stem cells with electrical stimulation as strategy to improve bone tissue engineering outcomes
S. Bianconi, L. Leppik, K.L. Klein, J. Wolf, A. Schaible, K. Michelin Oliveira, J. Barker, I. Marzi, D. Henrich
University Hospital Frankfurt - Frankfurt, Germany

MSCs and Bioscaffolds in Complex Orthopedic Surgery: our research for the future
N. Crippa Orlandi, N. Mondanelli, S. Giannotti
University of Siena - Siena, Italy

Evaluation of the local effects of PMMA spacers loaded with antimicrobial drugs on the osteogenic of hMSCs
J. Hofmann, T. Bewersdorf, U. Sommer, C. Schamberger, T. Grossner
University Hospital Heidelberg - Heidelberg, Germany

3D-printed polycaprolactone/tricalcium phosphate cages for posttraumatic critical size bone defects, a research proposal for randomised controlled trial
A.J.L. Lodewijks, R.V.M. Groven, T.J. Blokhuis, L. van der Broeck, M. van Griensven, M. Poeze
Maastricht University - Maastricht, the Netherlands

13:15

GROUP 3 - Poster Presentations
Chairmen: Frank Zaucke, Elizabeth Rosado Balmayor

Cathepsin expression in human fracture hematoma is associated with fracture healing phases and patient age
R.V.M. Groven, D. Meesters, F. Lu, M. van Griensven, M. Poeze, R. Shiri-Sverdlov, T.J. Blokhuis
MERLN Institute for Technology-Inspired Regenerative Medicine - Maastricht, the Netherlands

Osteoarthritis patients exhibit a sympathovagal imbalance
R. Sohn, T. Assar, S. Braun, M. Brenneis, I. Kaufhold, F. Zaucke, Z. Jenei-Lanzl
University Hospital Frankfurt - Frankfurt, Germany

Adipose derived mesenchymal stem cells conditioned medium: applications in diabetic tendinopathy
M.C. Trotta, C.C. Lepre, M. Russo, M. Schiavone, T. Coppola, A. Itro, A. Braile, G. Toro
University of Campania "Luigi Vanvitelli"- Naples, Italy

The composition of the extracellular and pericellular matrix of articular cartilage in relation to cartilage thickness
L. Weimer, A.E. Rapp, R.M. Phillips, A.M. Smith, F. Zaucke, I. Brandlin
Frankfurt University of Applied Sciences - Frankfurt, Germany

Anti-Osteoporotic Effects of Periosteal Stem Cell Derived Exosomes containing Biphosphonates
O. Eren, M. Yildirim, B. Kabatas, N. Unsal, F. Sahin
Fatih Sultan Mehmet Research and Training Hospital - Istanbul, Turkey

13:15

GROUP 4 - Poster Presentations
Chairmen: Zsuzsa Jenei-Lanzl, Felix Stief

The role N1-N2 Neutrophil Phenotypes in Bone Regeneration: a Systematic Review
F. Lu, S.M.N.E. Verleg, R.V.M. Groven, M. van Griensven, M. Poeze, T.J. Blokhuis
Maastricht University - Maastricht, the Netherlands

TLR1/2 stimulation in human primary chondrocytes had little impact on autophagy
Y. Dai, X. Liu, S. Serve, P. Wu, P. Shen, M. Löhning
Deutsches Rheuma-Forschungszentrum(DRFZ) - Berlin, Germany

Evaluation of efficacy of pooled human platelet lysate (pHPL) as a growth supplement for clinical grade chondrocytes culture
P.K. Javaregowda, M. Goni, S.S. Jeevannavar
SDM College of Medical Sciences & Hospital - Dharwad, India

The addiction of amino acids boosts the positive effects of hyaluronic acid injection in knee osteoarthritis. Early results from the Hyaloplus protocol
L. Schiavo, G. Iodice, G. Conza, L. Mottola, N. Di Cristofaro, A.B. Cecere, E. Iannelli, V. Desiderio, G. Toro
University of Campania "Luigi Vanvitelli" - Naples, Italy

In vitro culture mesenchymal stem cell-derived chondrocytes under cyclic motion
M.C. Solans Lopez, C. Sanchez Perez, F.J. Narbona Carceles, F. Chana Rodriguez, F.J. Vaquero Martin, M.E. Fernandez Santos, R. Couceiro Otero, D.M. Crego Vita
Hospital General Universitario Gregorio Marañón - Madrid, Spain

Monday, July 3, 2023

14:00 **Session II: Scaffolds – New Structures**
Chairmen: Heinz Redl, Florian Gebhard

14:00 3D printing and bioprinting of complex osteochondral constructs - Michael Gelinsky
14:15 Fiber-reinforced bioinks as multi-functional building blocks in hybrid 3D-bioprinting- Andreas Bläser
14:30 Bioprinting with new filaments - Jonas Neijhoft
14:45 Surgical treatment of traumatic bone defects using 3D printed scaffolds - Martijn Poeze

15:00 **Free Paper Session**
15:00 Porous tubelike structures made by 3D-printed polylactic acid improves large bone defect healing in a femur defect model of the rat - impact of lumen diameter - N. Söhling, D. Henrich, J. Neijhoft, A. Kammerer, R. Feriduni, E. Schatzlein, U. Ritz, A. Blaser, J. Frank, I. Marzi
15.06 The osteoconductive and antibacterial responses of phototermally treated biphasic Al2O3-TiB2 - TiO2/CuO / CeO2/ CaO Scaffolds - E. Daskalakis, N. Iqbal, A. Jha, P. Giannoudis
15.12 Physicochemical and Biological Characterisation of Chitosan Scaffolds from Crustacean and Fungal Sources - N. Iqbal, P. Ganguly, A. Jha, P. Giannoudis
15.18 Investigating the feasibility of utilizing a bioink consisting of self-expanding hydrogel and bone marrow aspirate for tissue regeneration - R. Jamous, J. Zheng, T. Jung, S. Stötzel, C. Heiss, T. El Khassawna
15.24 Summary

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15:30 **Keynote Lecture - Preliminary RCT results: comparing the effect of bioactive glass (S53P4) with autologous bone and TCP for treating large bone defects - Gerhard Schmidmaier**

16:00 **Coffee Break**

Monday, July 3, 2023

16:30 **Session III: Cartilage Repair – Latest Advances**
Chairmen: Gerjo van Osch, Frank Zaucke

16:30 Translational Cartilage Regeneration: From matrices to biological response modifiers - Henning Madry
16:45 Autologous adipose tissue extract for the treatment of osteoarthritis: A 5 year follow up experience - Riccardo Ferracini
17:00 Articular Cartilage Repair via Extracellular Vesicles - Susanne Grässel
17:15 Hydrogels and how their properties influence cartilage repair - Gerjo van Osch

17:30 **Free Paper Session**
17.30 Guiding nasal chondrocytes through 3D bioprinted design to generate an osteochondral tissue - E.B. Tankus, G. Miklosic, V. Basoli, A. Mainardi, N. Sharma, M. D'Este, A. Barbero, F.M. Thieringer
17.36 Respondins are prohypertrophic stimulators of chondrocyte mineralization - S. Diederichs, C. Binder, S. Chasan, W. Richter
17.42 Aggrecan 32-Mer impairs mitochondrial respiration capacity of human chondrocytes via TLR2 - X. Liu, Y. Dai, P. Wu, P. Shen, M. Loehning
17.48 Chronic stress accelerates osteoarthritis progression in vivo - G. Rösch, A.E. Rapp, P. Tsai, H. Kohler, S. Taheri, A.F. Schilling, F. Zaucke, D. Slattery, Z. Jenei-Lanzl
17.54 Summary

19:30 **Welcome Reception – Senckenberg Museum, Frankfurt**

Tuesday, July 4, 2023

7:30 **ESTROT BOARD MEETING**

8:30 **Session IV: Infection Still an Unresolved Issue?**
Chairmen: Enrique Guerado, Gunther Hofmann

8:30 Diagnostic of fracture related infection update of current evidence - Andrej Trampuz
8:45 Old and new way to treat osteomyelitis: Antibiotics and beyond - various biomaterials for osteomyelitis treatment - Chris Arts
9:00 Implant modification to prevent infection - Britt Wildemann
9:15 Prophylaxis and treatment of FRI by local AB delivery with bone chips - Guy Putzeys

9:30 **Free Paper Session**
9:30 Fracture related infections and their risk factors for treatment failure - a major trauma centre perspective - R. Patel
9:36 Implant retention with serial debridement and use of antibiotic-loaded calcium sulfate beads in acute fracture-related infection (FRI) after pelvic ring or acetabular fractures: a retrospective case series of 7 series - A. Casiraghi, C. Galante, M. Rohayem, G. Vittone, M.Domenicucci, S. Cattaneo, E. van Hauwermeiren, G. Milano
9:42 Can antibiotic-impregnated bone grafts in aseptic secondary bone surgery prevent infection? A clinical case series G. Putzeys, K. Dendoncker
9:48 Rifampicin-loaded polymethylmethacrylate: is it possible to preserve mechanical properties and setting time? E. Carbò-Laso,P. Sanz-Ruiz, M.C. Solans-Lopez,J.M. Hernandez Mateo,T. Fernandez-Fernandez,E. Garijo-Ruiz, J.Vaquero Martin
9:54 Struggling with a cefazolin impregnation protocol of bone chips. The effect of the timing of the impregnation and gamma-irradiation of the cefazolin release - K. Dendoncker, G. Putzeys, T. Nieuwenhuizen, M. Bertrand, H. Valster, K. Croes
10:00 Clinical, histological and radiographic evidence of new bone formation at the periphery of bone defects using antibiotic-loaded calcium sulfate beads in bone transports - M. Domenicucci, C. Galante, F. Cavina Pratesi, D.C. Aloj, G. Milano, A. Casiraghi
10.06 Summary

10:20 **Coffee Break**

Tuesday, July 4, 2023

10.45 **Session V: Fracture Non-union – Can we do better?**
Chairmen: Giorgio M. Calori, Volker Bühren

10:45 Treatment of bone defects and non unions; more than autografts - Taco J. Blokhuis
11:00 Non union: Molecular genetics and therapeutic osteology - Michael Amling
11:15 When and how I use the diamond concept? - Peter Giannoudis
11:30 The NUSS (non union scoring system) classification and the Algorithm of treatment - Giorgio M. Calori

12:00 **Session X: Free Paper Session**
12:00 Bone defects greater than 6 cm in the lower extremity: is the induced membrane technique associated with favorable outcomes? - V. Giannoudis, N. Kanakaris, P. Harwood, P. Foster, P. Giannoudis
12:06 The induced membrane technique improves the health-related quality of life in patients with a post-traumatic long bone non-union - L. van der Broeck, J. Geurts, S. Qiu, M. Poeze, T.J. Blokhuis
12:12 Severe intraoperative vascular bleeding as main complication of acetabular fractures treated with plate osteosynthesis via the modified Stoppa approach - J. Riemenschneider, I. Marzi
12:18 Tissue impregnated bone substitutes for the promotion of bone healing - E. Papaeleftheriou, A. Busch, M. Haversath, E. Rehage, A. Sowislok, M. Jaeger
12:24 Summary

12:30 **Session VI: Video Session: Surgical Techniques**
Chairman: Peter Giannoudis
12:30 AVN - Giorgio M. Calori, Peter Giannoudis
12:40 Megaprosthesis - Giorgio M. Calori, Giuseppe Basile
12:50 Different variants of Masquelet-Techniques - Marc Hückstädt
13:00 Injection of stem cells and PRP - Peter Giannoudis
13:10 Discussion

13:15

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Chairmen: Prof. Peter Giannoudis, Prof. Thierry Bégué

Introductory Lecture - Peter Giannoudis
- The Science Behind b.Bone & the Clinical Experience
- Hands-On Workshop Instructions

Hands-On Workshop - Peter Giannoudis, Thierry Bégué
- Iliac Crest Reconstruction following Bone Harvesting
- Reconstruction of an Anterior Distal Femoral Defect

Discussion

Tuesday, July 4, 2023

14:00 **Session VII: Pathophysiology of musculo-skeletal healing**
Chairmen: Heinz Redl, Elizabeth Rosado Balmayor

14:00 Bone healing phases after transcript therapy – what do we know? - Elizabeth Rosado Balmayor
14:15 NOS inhibition reverses TLR2-induced chondrocyte dysfunction and attenuates age-related osteoarthritis - Ping Shen, Max Löhning
14:30 Tubular structures to improve experimental bone healing - Dirk Henrich
14:45 Tendon healing: can it be upgraded? - Denitsa Docheva

15:00 **Free Paper Session**
15:00 CD4/CD8 T-Cells as prognostic biomarker to early identify patients with risk for impaired Achilles tendon healing
F. Klatte-Schulz, T. Gehlen, N. Bormann, S. Tsitsilonis, S. Manegold, A. Schmock, J.A. Melzer, K. Schmidt-Bleek, S. Geisler, G.N. Duda, B. Sawitzki, B. Wildemann
15:06 Achilles tenocytes from diabetic and non diabetic donors exposed to high - or normoglycemic conditions respond differentially to inflammatory stimulus - E. Frank, C.L. Gogele, C. Werner, M. Kokozidou, G. Schulze-Tanzil
15:12 A novel marker of Wound Response: the Phosphorylated Ribosomal Protein S6 - N.A.R. Ring, H. Dworak, B. Bachmann, B. Schadl, K. Valdivieso, T. Rozmaric, J. Grillari, H. Redl, M. Ogrodnik
15:18 Vancomycin pharmacokynetics and activity in a novel in vivo model of orthopedic device-related infections: comparison with in vitro data - R. Buzisa Mbuku, H. Poilvache, F. van Bambeke, O. Cornu
15:24 Platelet Rich Plasma (PRP) injection therapy for Plantar Fasciitis - is it effective? - R. Patel, D. Sunderamoorthy, P. Lokanathan, P. Patil, S. Ganapathy Pandiyarajan, A. Kanamukkalu Narayanamurthy
15:30 Summary

15:45 **Coffee Break**

Tuesday, July 4, 2023

16:15 **Session VIII: Biological Approaches to Cartilage and bone preservation**
Chairmen: Henning Madry, Thierry Begué

16:15 The main problem of osteopenic bone in hip fracture is protein - Enrique Guerado
16:30 Cartilage cell transplantation - Philipp Niemeyer
16:45 Do stem cells work? - Ingo Marzi
17:00 Stem cell therapy in fracture healing - Wolfgang Böcker
17:15 Cartilage Repair - the Translational Perspective - Henning Madry

17:30 **Free Paper Session**
17:30 Matrix-Associated Autologous Chondrocyte Implantation (MACI) in the knee - F. Maroski, A. Chakraborty, G. Zimmermann
17:36 Treatment of gonarthrosis with stromal-vascular fraction results after two years follow up - K.W. Labarre, G. Zimmermann
17:42 Functional and arthroscopic outcomes in Indian patients with osteochondral lesions of the knee treated by standalone microfracture technique - S.S. Jeevannavar, P.K. Javaregowda, M. Goni
17:48 Effects of cartilage extracellular matrix components on osteoarthritis-relevant cells - A.E. Rapp, V. Roeb, F. Zaucke
17:54 Can adipose derived mesenchymal stem cells injection improve functional outcome and delay surgery in patients with hip osteoarthritis? A case control study with 36 months follow up - G. Conza, G. Iodice, L. Schiavo, N. Di Cristofaro, A. Braile, G. Toro
18:00 Treatment protocol for hip osteoarthritis based on stem cells from adipose tissue: comparison with PRP-based analogue M. Rucci, F. Onorato, M. Formica, R. Ferracini
18:06 Adipose stem cells harvesting and processing techniques. Correlation between treatment techniques and success rates of cells - F. Colao
18:12 Summary

Wednesday, July 5, 2023

8:30 **Session IX: Bone defect treatment: surgical and new translational approaches**
Chairmen: Frank Hildebrand, Gerhard Schmidmaier

8:30 The current way of 'Masquelet Technique' - Thierry Bégué
8:45 New Insights in Masquelets technique - insights from translational research - Christoph Nau
9:00 Convergence of scaffold guided bone regeneration and RIA bone grafting - Philipp Kobbe
9:15 Bone substitute materials in the context of digital medicine - Thaqif El Khassawna
9:30 Evidence for reconstruction of large bone defects - Gerhard Schmidmaier
9:45 Update Muscoloskeletal Allografts - Jan Brune
10:00 Round Table Discussion

10:15 **Coffee break**

10:30 **Award Ceremony**

11:00 **Session X: The interaction of soft tissue and bone regeneration**
Chairmen: Johannes Frank, Peter Giannoudis, Thierry Begué

11:00 Composite flaps in soft and bone tissue - Christoph Hirche
11:15 Perspective Lecture: Bone Reconstruction - Heinz Redl
11:30 PRF in soft tissue and bone repair - Sharham Ghanaati
11:45 Round Table Discussion

12:15 Closure

Lunch Packages

REGISTRATION

REGISTRATION FEES (VAT included)	UNTIL 31/05/2023	FROM 01/06/2023
Medical Doctors Member	200,00 €	250,00 €
Medical Doctors - Non Member	350,00 €	• € 400,00 • Joining ESTROT membership will imply members registration fee
Scientist, Residents and Researchers	75,00 €	100,00 €
Students, Physiotherapists and Nurses	50,00 €	75,00 €
Exhibitors	150,00 €	200,00 €
One day registration Member	100,00 €	150,00 €
One day registration Non Member	150,00 €	200,00 €
SOCIAL DINNER	100,00 €	100,00 €

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ESTROT lunch symposium
Tue, 4th July 2023
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*The word "precise" refers to surface bound mechanism of action. **Demonstrated 97.3% fusion rate at 2 years in the single-level ACDF study.

1. Nguyen H, Qian JJ, Bhatnagar RS, Li S. Enhanced cell attachment and osteoblastic activity by P-15 peptide-coated matrix in hydrogels. Biochem Biophys Res Commun. 2003 Nov 7;311(1):179-86. 2. i-FACTOR Instructions for Use. Cerapedics 2022. 3. Arnold PM, Sasso RC, Janssen ME, Fehlings MG, Smucker JD, Vaccaro AR, Heary RF, Patel AL, Goulet B, Kalfas IH, Kopjar B. Efficacy of i-FactorTM Bone Graft versus Autograft in Anterior Cervical Disectomy and Fusion. Results of the Prospective Randomized Single-blinded Food and Drug Administration Investigational Device Exemption Study. Spine. 2016; 41(13): 1075-1083. 4. Arnold PM, Sasso RC, Janssen ME, Fehlings MG, Heary RF, Vaccaro AR, Kopjar B. i-FACTOR Bone Graft vs Autograft in Anterior Cervical Disectomy and Fusion: 2-Year Follow-up of the Randomized Single-Blinded Food and Drug Administration Investigational Device Exemption Study. (2018) Neurosurgery; Vol-83(3): pages 377-384.

Cerapedics™

Repairing bones. Healing lives.

ML-1084-1

TRUMATCH®
GRAFT CAGE – LONG BONE

Reconstructing injured limbs with critical-sized segmental bone defects can be clinically challenging, because of significant bone loss and difficulty to reconstitute structural integrity.

Currently, there is no standard treatment protocol to treating segmental defect. Treatment methods have traditionally included distraction osteogenesis, induced membrane (Masquelet) technique, bone-grafting, and amputation.[1]

Segmental defect treatment has high risk of complications. A few of the clinical complications for segmental defects* include:[2]

51.9% DEEP INFECTION[2]

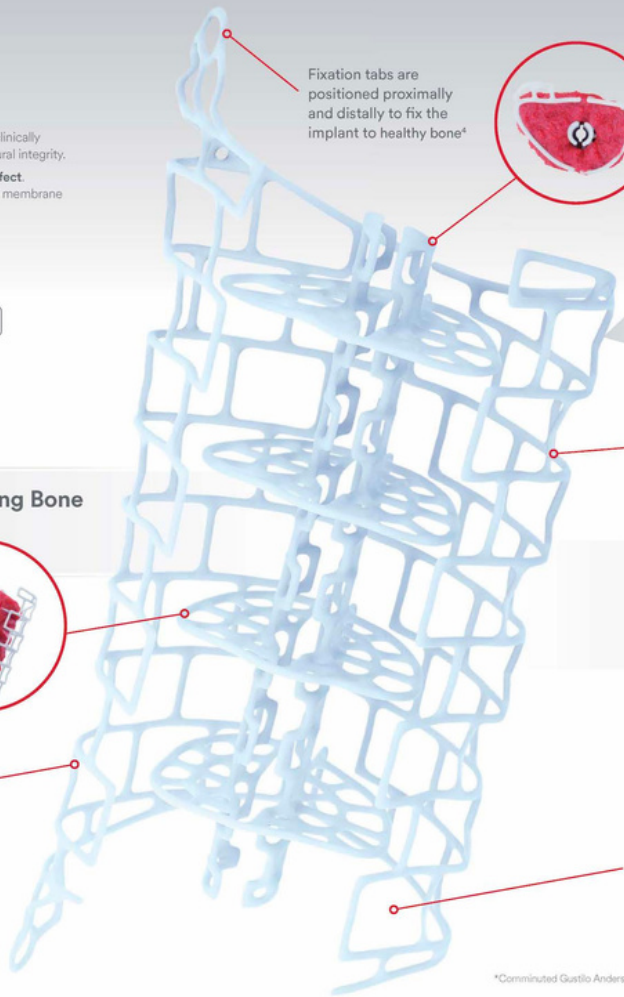
6.6% AMPUTATION[2]

66% NONUNION[2]

12% MALUNION[2]

Introducing TRUMATCH® Graft Cage – Long Bone

A DePuy Synthes' 3D printed, patient-specific implant for the treatment of critical-sized segmental defects.



Fixation tabs are positioned proximally and distally to fix the implant to healthy bone[4]

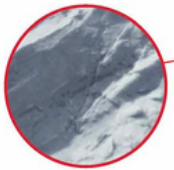
Inner mesh allows nutrient access and supports bone graft remodeling[4]

Coated with osteoconducitive Calcium Phosphate to promote mineralization at the surface[4,5]

Outer mesh provides an envelope to contain the graft within the defect[4]

Versatile design allows for use with IM nails, plates/screws, or external fixation devices[4]

The interstitial shelves are designed to prevent bone graft collapse[4]



Made of slow resorbing PCL, hence providing graft retention and structure for the healing period[3,4]

Open outer mesh design allows angiogenesis[4]

DePuy Synthes
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

*Comminuted Gustilo Anderson Type III open tibia fractures.

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HAUS 23 - 2nd floor

Registration
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NOTES

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