8TH ESTROT CONGRESS

Nina Lindfors
Chairman

European Society of Tissue Regeneration in Orthopaedics and Traumatology

10-12 June 2024

Bridge Hospital
Helsinki, Finland

PROGRAM

European Society of Tissue Regeneration in Orthopaedics and Traumatology

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

MAIN TOPICS

- BIOMATERIALS – TISSUE REGENERATION, INFECTION TREATMENT
- BONE AND CARTILAGE – TISSUE RECONSTRUCTION AND REGENERATION
- TRAUMATOLOGY – SURGICAL TECHNIQUES, HOST REACTIONS
- PLASTIC SURGERY – SOFT TISSUE REGENERATION
- TISSUE REGENERATION IN CHILDREN

European Society of Tissue Regeneration in Orthopaedics and Traumatology

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

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Leeds, United Kingdom

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Heidelberg, Germany

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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.

FACULTY

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Welting Tim - Maastricht, The Netherlands
Werner Krista - Helsinki, Finland
Ylitalo Antti - Tampere, Finland

Monday, June 10, 2024

09:00 **Registration**

10:25 **Welcome opening** - *Nina Lindfors, Peter Giannoudis*

Session I - Cartilage regeneration and osteoarthritis
Chairmen: *Nina Lindfors, Peter Giannoudis*

10:30 Meniscal allograft transplantation outcomes in both minimal and moderate knee osteoarthritis *Jan Lindahl*
10:50 Cartilage repair and joint-preservation - *Pieter Emans*
11:10 Role of subchondral bone in joint cartilage regeneration - *Jari Salo*
11.30 Peptide-based molecular interventions for osteoarthritis - *Tim Welting*
11.50 Free vascularized fascia for the treatment of trapeziometacarpal osteoarthritis - *Simo Mattila*

Session II - Complications and treatment protocols
Chairmen: *Jan Lindahl, Gerhard Schmidmaier*

12:10 Complications using externally controlled intramedullary nails for limb lengthening or bone transport *Sören Kold*
12.30 Reducing complications - Protocol based orthoplastic approach to open tibia fractures - *Antti Ylitalo*

12.50 **Lunch Break** - the stairs in the Bridge Hospital

13:20 **Poster Session (5'+ 3')**

The influence of tissue engineering procedure on collagen cross-links - ***J. Vettese***, *J. Manon, A. Chretien, R. Evrard, L. Fievé, T. Schubert, B. Lengelé, C. Behets, O. Cornu*

Radiographic analysis: 57 ACDF interventions using novel allograft growth factor assessed for safety and efficacy - ***E. Broadaway***

Additive manufacturing of hybrid biomaterials for bone regeneration - ***A. Heyraud***, *D. Sory, J. Liu, F. Tallia, P. Lee, S.M. Rankin, J.R. Jones*

N1-N2 Neutrophil Phenotypes present in the fracture hematoma in a time-dependent pattern - ***F. Lu***, *R.V.M. Groven, D. Meesters, M. Poeze, T.J. Blokhuis, M. van Griensven*

Radiological assessment of postoperative radiographs of long bone non union and critical size defects using the modified rust and lane-sandhu score - *A.J.L. Lodewijks,* ***L. van der Broeck***, *D. Loeffen, J. Geurts, M. Poeze, T.J. Blokhuis*

Impact of residual HLA content in decellularization on biocompatibility - ***J. Manon***, *R. Evrard, L Maistriaux, L. Fieve, D. Xhema, U. Heller, L. van der Broeck, J. Vettese, J. Boisson, T. Schubert, B. Lengelé, C. Behets, O. Cornu*

The molecular mode of action of the P-15 peptide in bone healing: a literature review - ***E.IJ.M. Burgers***, *T.A. Hoelen, C. Arts*

Quadriceps tendon re-rupture after post-operative infection treated with Sartorius Muscle Transfer: a case report - ***G. Colleluori***, *I. Contadini, A. Morellini, S. Landi*

Impact of the Dexamethasone concentration in the cell culture medium on the osteogenic potential of ABCB5 mesenchymal stem cells - ***J. Hofmann***, *T. Bewersdorf, U. Sommer, C. Schamberger, G. Schmidmaier, T. Grossner*

Outcome of the treatment of symptomatic osteoarthritis of the trapeziometacarpal joint with an oral compound containing hyaluronic acid, chondroitin sulfate, hydrolized collagen type II, and hydrolyzed keratin in 40 patients - ***M. C. Fra***, *M. Cason, E. Moore, L. Cristani, T. Maluta, M. Corain*

Clinical and radiological efficacy of single-dose intra-articular high-molecular-weight hyaluronic acid associated with clodronic acid vs single dose high-molecular-weight hyaluronic acid in knee osteoarthritis ***L. Meccariello***, *L. Sorrentino, D. Mottola, L. Matera*

Water Jet Assisted Laser Drilling (WALD) of Biomorphic Ratan Wood Scaffolds for Critical Bone Defects *E. Daskalakis, N. Iqbal, S. Loganathan, E.M. Raif, E. Spettoli, G. Morozzi, A. Ballardini, P.V. Giannoudis,* ***A. Jha***

Monday, June 10, 2024

Session III - Soft tissue treatment and tissue regeneration: plastic and hand surgery
Chairmen: *Jyrki Vuola, Thierry Bégué*

14:00 Adipose tissue derived stromal cells - Clinical Applications - *Susanna Kauhanen*
14:20 Helsinki approach in the surgical management of lymphedema - *Sinikka Suominen*
14.40 Cell therapy for wound healing in burn patients - *Jyrki Vuola*
15.00 Skin substitutes: experiences from the burn centre - *John Gästgifvars*
15.20 Novel algorithmic approach for hand soft tissue reconstruction - *Panu Nordback*

15:40 **Coffee Break**

Session IV - New technologies: Artificial Intelligence and 3D printing
Chairmen: *Chris Arts, Jorma Ryhanen*
16:00 Detection of DRF with AI from plain radiographs - *Turkka Anttila*
16:20 Detection of avascular necrosis of the lunate using AI - *Krista Werner*
16:40 Using 3D printed patient specific b-TCP synthetic bone graft in distal radius osteotomies - *Samuli Aspinen*
17:00 Development and Characterization of a 3D printable filament containing Vancomycin for local antimicrobial and prophylactic applications - *Jonas Neijhoft*

17.20 **Summary**

18.00 Welcome reception Finska Läkaresällskapet garden and Annex

Tuesday, June 11, 2024

07:30	**ESTROT Board meeting**
	Session V - Musculoskeletal tissue regeneration in children Chairmen: *Ilkka Helenius, Taco J. Blokhuis*
08:30	Distraction osteogenesis in limb deformities - *Mikko Haara*
08:50	Bioactive glass for benign pediatric bone lesions - *Ilkka Helenius*
09:10	Nerve transfer and grafting for Brachial plexus birth injuries - *Yrjänä Nietosvaara*
09:30	**Coffee Break**
	Session VI - Innovative methods and techniques for treatment of bone Chairmen: *Gerhard Schmidmaier, Ingo Marzi*
09:45	Surgical technique for intramedullary bone infections - tactics for using bone endoscopy for debridement and cavity filling with S53P4 bioactive glass - *Leon Mora*
10:05	Innovative techniques for the treatment of bone defects in maxillofacial surgery - *Karri Mesimäki*
10:25	Implant induced ossification in cranial reconstructions - *Pekka Vallittu*
	Session VII - War trauma and treatment methods Chairmen: *Joona Kalske, Leon Mora*
10:45	Situation in Ukraine since the war started “We shall overcome” - *Oleksandr Rikhter*
11:00	War trauma and bone substitutes in Ukraine - *Oleksandr Rikhter*
11:15	Experience in war trauma - *Jan Geurts*
11.35	Antibiotic-resistant infections in combat injuries - *Oleksandr Rikhter*

Tuesday, June 11, 2024

12:00 **Lunch Break - the stairs in the Bridge Hospital**

Session VIII - Basic science and Tissue Regeneration
Chairmen: *Julian Jones, Nina Lindfors*

12:30 Phage therapy in orthopedic infections - *Saija Kiljunen*
12.50 Co-culture strategies to study the mechanisms of tissue regeneration - *Terhi Heino*
13.10 Supporting guided regeneration and controlling inflammation in order to replace bone defects clinically via tissue engineering - *Ingo Marzi*

Session IX - Treatment methods of bone tissue I
Chairmen: *Taco J. Blokhuis, Giorgio M. Calori*

13:30 Algorithm of treatment of non union and critical size bone defects, based on the innovative Nuss Classification - *Giorgio M. Calori*
13:50 Fresh Osteochondral Allografts for focal cartilage lesions of the humerus - *Thomas Ibounig*
14:10 Polytherapy for posttraumatic long bone non-unions - *Taco Blokhuis*
14:30 Bioactive glass S53P4 in the treatment of infected bone - *Joona Kalske*
14:50 The Art of Bone Void Filling: Issues, Challenges, Solutions - *Peter Giannoudis*

15.10 **Coffee Break**

15.30 **Free Paper Session** (5'+3')

Chairmen: *Chris Arts, Nina Lindfors*

Electrospun Amorphous S53P4 Cotton-Wool-Like Bioactive Glass for Tissue Regeneration - ***J. Zheng***, *J. Jones*

Influence of defect size on bone healing in critical size bone defects in a rat femoral defect model - a comparison between the induced membrane technique and human acellular dermis as a single-step membrane - ***R. Verboket,*** *A. Kammerer, C. Nau, M. Leiblein, J. Neijhoft, D. Henrich, M. Janko*

Improvement of one step membrane technique for the treatment of large bone defects by preoperative colonisation of the membrane with CD8-lymphocytes depleted bone marrow mononuclear cells (BMC) in a rat femur defect model - ***D. Henrich***, *M. Penna-Martinez, A. Kammerer, P. Stutzle, I. Marzi, C. Nau*

The Diverse Roles of N1 and N2 Neutrophils in Chondrogenesis - ***F. Lu***, *A. Cremers, M. Poeze, M. van Griensven, T.J.M. Welting, T.J. Blokhuis, M.M.J. Caron*

In vivo studies of an innovative 3D printed device for articular cartilage regeneration - ***F. Tallia***, *A. Heyraud, T. Al-Jabri, A. De Mori, M. Parkes, J.N. Clark, J.R. Jeffers, J. Cobb, G. Blunn, J.R. Jones*

Assessing diagnostic accuracy: F-FDG PET-CT Scans in Low-grade infection detection among post-traumatic long bone non-unions - *L.C.A.* - ***van der Broeck***, *C. Mitea, D. Loeffen, M. Poeze, S. Qiu, J. Geurts, T.J. Blokhuis*

Effect of Tricalcium Phosphate on Healing of Non-Unions: an Observational Study of over 400 Non Unions ***C. Muench***, *T. Ferbert, S. Findeisen, W. Pauly, M. Miska, T. Grossner, M.C. Tanner, G. Schmidmaier, L. Helbig*

Evaluating experimental bone healing: which parameters are necessary? - ***N. Soehling***, *O. von Jan, M. Janko, D. Henrich, C. Nau, U. Ritz, I. Marzi, R.D. Verboket*

Novel antimicrobial coating on titanium with stable non-antibiotic quaternary ammonium compounds to prevent implant-associated infection - *L. van Hofwegen, R. Li, N. Vavilthota, L. de Boer, J.A. Loontjens, S.A.J. Zaat,* ***M. Riool***

A novel photoactive bone adhesive for fracture reduction and fixation - *N. Iqbal, E. Daskalakis, T.M. Braxton, E.M. Raif, P.V. Giannoudis,* ***A. Jha***

Treatment of scaphoid non-unions with custom-made 3D-printed titanium partial and total scaphoid prostheses and scaphoid interosseous ligament reconstruction - ***G. Rovere****, A. Cioffi*

Session X - Treatment methods of bone tissue II
Chairmen: *Timo Simons, Peter Giannoudis*

17:00 "Treatment options of segmental bone defect with Bioglass S53P4 – what is the evidence?" *Gerhard Schmidmaier*

17.20 Single stage treatment of small-medium sized bone defects using S53P4 bioactive glass *Robert Björkenheim*

17:40 Long-term results of using bioactive glass S53P4 in the spine - *Tom Asklof*

18.00 Closure of the day

Wednesday, June 12, 2024

Session XI - Bone defects and bone grafts
Chairmen: *Gerhard Schmidmaier, Thierry Bégué*

08:30 Reconstruction of severe segmental bone defects in the lower limb by structural allograft in addition to the Masquelet technique - *Benoit Villain*
08:50 Limits of the Masquelet technique with or without bioactive glass S53P4 - *Thierry Bégué*
09:10 Bouncy bioglass for large bone defect regeneration - *Julian Jones*
09:30 Management of infected failed arthroplasty in adults over 70 years of age, comprehensive management in a single step with bioactive glass as part of the total strategy - *Leon Mora*
09:50 CMD 3D-printed mPCL-Bioglas Scaffolds for segmental bone regeneration - First in-vitro and biomechanical results from the SCABAEGO Project - *Tobias Grossner*

10:10 **Award Ceremony**

10:30 **Coffee Break**

Session XII - Future challenges and the way forward
Chairmen: *Peter Giannoudis, Nina Lindfors*

10:50 Material technology to curb AMR; the DARTBAC project - *Chris Arts*
11:10 Bioactive glass S53P4 what have we achieved in 30 years and what next? - from a statistically suggested
11:30 composition to clinical success and the way forward - *Nina Lindfors*
12.00 Segmental defect reconstruction an opening for a multicenter study? / Discussion - *Gerhard Schmidmaier*

12.20 **Closure**

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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]

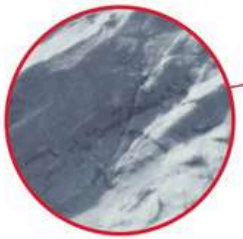
Inner mesh allows nutrient access and supports bone graft remodeling[4]

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

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*Comminuted Gustilo Anderson Type III open tibia fractures.

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REGISTRATION FEES AND AWARDS

REGISTRATION FEES (VAT included)	UNTIL 09/05/2024	FROM 10/05/2024
Medical Doctors Member	200,00 €	250,00 €
Medical Doctors Non Member	350,00 €	€ 400,00 Joining ESTROT membership (fee € 50,00) will imply 8th ESTROT Members Registration fee € 250,00
Scientist, Residents and Researchers	75,00 €	100,00 €
Students 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 Reception 10 June	80,00 €	80,00 €

AWARDS	
Free papers	
Gold	€ 1.000,00
Silver	€ 500,00
Bronze	€ 250,00
Poster	€ 250,00

The registrations will be accepted in a chronological order and must have the copy of payment

Cancellation policy: registration fees are non refundable

GENERAL INFORMATION

LOCATION

MEILAHTI BRIDGE HOSPITAL
Haartmaninkatu 4 - ENTRANCE N. 1 MEILAHTI TOWER HOSPITAL
Helsinki - Finland

REGISTRATION

SCAN ME

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