

BONE SUBSTITUTES IN SPINAL FUSION

New Horizons in Spinal Medicine

Zurich, October 19th – 20th, 2001



Invitation

The Swiss Spine Institute is a multidisciplinary organisation whose purpose is to advance quality spine care through education, research and documentation. To this end, the institute now invites all orthopaedic surgeons, neurosurgeons, spine specialists and other experts who are interested in the topic to the

International Symposium

Bone Substitutes in Spinal Fusion

October 19 – 20th, 2001

The coincidence of progress in implant technology and improvement of less invasive surgical approaches opened a new dimension in spinal fusion. However, the implant itself functions only as a temporary fixation device promoting bony fusion and the key factor for a successful fusion is the ingrowth of the bone graft. The autogenous bone graft is the gold standard but needs an additional surgical procedure with a high donor site morbidity and often inadequate supply. However, progress in biological and biochemical research seems to open new avenues in fusion surgery by the potential application of bone substitutes, growth factors like morphogenetic proteins and other options like cell engineering.

The objective of the symposium is to present by an international, distinguished faculty a state-of-the-art review of the present knowledge in the field of bone substitutes and growth factors. Furthermore, the symposium will address the biological and biochemical facts that are behind these new bone substitutes, the latest experimental and clinical results as well as new facts in imaging spinal fusion.

Early registration is strongly recommended because enrolment is strictly limited. This is necessary in order to guarantee an interactive symposium and to encourage fruitful and practice-related discussions between the participants and faculty members in a friendly atmosphere. An event of this kind shall be a further step towards the Swiss Spine Institute's commitment to excellent education in spinal surgery.

Welcome to Zurich!

Faculty

- Aebi M., MD** Professor and Chairman Division of Orthopaedic Surgery, MC Gill University, MUHC, Montreal, Canada
- Alexander D., MD** Professor of Orthopaedic Surgery, Dalhousie University, Halifax, Canada
- Arvinte T., PhD** Professor University of Geneva and Head of Exploratory Formulation, Biotechnology Development & Production, Novartis Pharma AG, Basel, Switzerland
- Bellincampi L., PhD** Director of Pre-clinical Research, Orthovita Inc., Malvern, PA, United States
- Bertagnoli R., MD** Chief Staff Surgeon, Spine Center, Elisabeth Krankenhaus GmbH, Straubing, Germany
- Caserta S., MD** Chief of Scoliosis Department, Orthopaedic Institute Gaetano Pini, Milan, Italy
- Etter Ch., MD** Chief Spine Unit, Hirslanden Clinic, Zurich, and Klinik im Schachen, Aarau, Switzerland
- Grob D., MD** Professor and Head of Spine Surgery Department, Schulthess Clinic, Zurich, Switzerland
- Gunzburg R., MD, PhD** Orthopaedic Department, Eeuwfeestkliniek, Antwerpen, Belgium
- Hadjipavlou A. G., MD, MSc** Professor and Chairman Department of Orthopaedic Surgery & Traumatology, School of Health Sciences, University of Crete, Greece
- Klöti R., MD** Head of Rehabilitation Center, Medizinisches Zentrum im Park, Schinznach Bad, Switzerland
VP Swiss Spine Institute, Basel, Switzerland
- Korge A., MD** Chief Staff Surgeon, Spine Center, Orthop. Klinik München-Harlaching, München, Germany
- Le Huec J. C., MD** Professor and Chief of Spine and Upper Limb Unit, Department of Orthopaedics and Traumatology, Bordeaux University Hospital, France
- Lübbers T., MD** Chief Staff Surgeon, Department of Neurosurgery, Ludmillerstift Hospital, Meppen, Germany

- Magin M., MD** Orthopaedic Group, EuromedClinic, Fürth, Germany
- McCulloch J. A., MD** Professor, Department of Orthopaedics, Northeastern University College of Medicine, Rootstown, Ohio, United States
- Naderi S., MD** Associate Professor, Department of Neurosurgery, Dokuz Eylul University, Turkey
- Rusel J. L., PhD** Executive Vice President, Chief Scientific Officer, Osteotech Inc., United States
- Schöpf C., Dipl. Biol.** Head of Scientific Information, Tutogen Medical GmbH, Neunkirchen, Germany
- Schwarzenbach O., MD** Head of Department of Orthopaedic Surgery, Regionalsspital Thun, Switzerland
- Specchia N., MD** Department of Orthopaedics, University of Ancona, Italy
- Steffen Th., MD** Laboratory and Assistant Professor of Surgery, Royal Victoria Hospital Montreal, Quebec, Canada
- Stoll T., MSc** Head of Development, Department of Synthes Biosurgery, Mathys Medical Ltd, Bettlach, Switzerland
- Strömqvist B., MD** Associate Professor, Department of Orthopaedics, Lund University Hospital, Sweden
- Tay B., MD** Assistant Professor in Residence, Department of Orthopaedic Surgery, University of San Francisco, United States
- Uyttendaele D., MD** Professor in Orthopaedic Surgery, Gent University, Belgium
- Velan G. J., MD** Chief Spine Surgeon, Department of Orthopaedic Surgery, The Soroka Medical Center and The Faculty of Health Sciences, The Ben Gurion University of the Negev, Israel
- Volonec F. J., PhD** Director, Product Development, Orquest Inc., California, United States
- Zileli M., MD** Head of Spine Section of Neurosurgery Department, Aegan University Faculty of Medicine, Izmir, Turkey

Program, Friday, October 19th

- 12.00** Welcome and Introduction to the Conference **Ch. Etter**
- 12.15** Goals of the Swiss Spine Institute **R. Klöti**
- 12.30** **Guest Lecture**
«The Biology of Spinal Fusion:
The Effect of the Mechanical Environment
and Current Osteoinductive Materials» **B. Tay**

Scientific Session I

Basic Science: Osteoconduction (Substitutes, Carriers, Scaffolds and Matrix)

- 13.00** Porous Calcium Phosphate Bone Substitutes
for Spinal Fusion **Th. Steffen**
- 13.15** Plaster of Paris as Bone Substitute in
Spinal Surgery **A. Hadjipavlou**
- 13.30** PLF and Iliac Crest Repair with a Synthetic
Cancellous Bone in the Baboon **L. Bellincampi**
- 13.45** Healos – the True Replacement of Autograft **F. J. Volonec**
- 14.00** Discussion
- 14.15** Coffee Break, Refreshments

Scientific Session II

Osteoinduction and Osteogenesis Cell Engineering

- 14.35** Local Bone Repair Induced by
Transforming Growth Factor Beta 3:
Importance of Growth Factor Formulation and
Delivery System **T. Arvinte**
- 14.50** Improved Lumbar Vertebral Interbody
Fusion Using rhOP-1 **M. Magin**

- 15.05** Osteoinductivity of Subcutaneous Ultraporous
Beta-TCP with Isologous Bone Marrow in Rats **L. Bellincampi**
- 15.20** Osteogenetic Properties of a Porous Graded
Hydroxyapatite Loaded with TGF Beta **N. Specchia**
- 15.35** Anterior Interbody Fusion with TCP/TGF Beta 3
Prefilled Cages in a Baboon Test Model **M. Aebi**
- 15.50** A Highly Porous Beta-tricalcium Phosphate/
Bone Marrow Graft Promotes Osteoinductivity
in a Rat Subcutaneous Model **R. Gunzburg**
- 16.05** Discussion
- 16.20** Coffee Break, Refreshments

Scientific Session III

Clinical Results Lumbar Spine Part I

- 16.40** Fusion with Ne-Osteo in the Lumbar Spine –
a Pilot Study **D. Grob**
- 16.55** Osteoinductive Collagen I Complex in Anterior
Fusion of Cervical and Lumbar Spine **R. Bertagnoli**
- 17.10** The Efficacy of a Collagen-Mineralised Matrix in
Anterior and Posterior Spine Fusion **N. Specchia**
- 17.25** A Pilot Safety and Efficacy Study of OP-1 (rhBMP-7)
in Posterolateral Lumbar Fusion as an Adjunct
and Replacement for Iliac Crest Autograft **J. McCulloch**
- 17.40** Pre-clinical Study of OP1 (rhBMP-7) in
a «Patient Safety First» Test Model **Ch. Etter**
- 17.55** Discussion
- 18.10** End of Day 1
- 19.30** Meet at the Lobby for Welcome Cocktail with Dinner

Program, Saturday, October 20th

Scientific Session IV

O. Schwarzenbach

Company Lectures

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| 8.00 | Tutoplast Processed Allografts and Xenografts for Spinal Applications | C. Schöpf |
| 8.15 | Demineralized Bone Matrix: From Animal Models to Human Applications | J. L. Russel |
| 8.45 | chronOS – a Synthetic, Porous and Fully Resorbable Osteoconductive Bone Substitute for Spinal Surgery | T. Stoll |
| 9.00 | A New Generation of Osteoinductive Matrix: Healos MP52 | F. J. Volonec |
| 9.15 | Discussion | |

Scientific Session V

A. Korge

Clinical Results Lumbar Spine Part II

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| 9.30 | Minimally Invasive Anterior Lumbar Interbody Fusion – Clinical Results and Sequelae | A. Korge |
| 9.45 | Lumbar Stabilisation-Arthrodesis by Using Pass System and New Bone Substitutes – the Healos | S. Caserta |
| 10.00 | Efficacy of Calcium Sulphate plus Decompression Bone in Lumbar and Lumbosacral Spinal Fusion: Preliminary Results in 40 Patients | D. Alexander |
| 10.15 | Anterior Strut Grafting in Thoracic and Lumbar Spine – When is a Posterior Fixation Necessary? | M. Zileli |
| 10.30 | Bone Morphogenetic Protein in Uninstrumented Lumbar Spine Fusion | B. Strömqvist |
| 10.45 | Discussion | |
| 11.00 | Coffee Break, Refreshments | |

Scientific Session VI

Ch. Etter

Imaging Spinal Fusion

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| 11.30 | Diagnostic Value of CT Scan in Spinal Fusion Assessment | Ch. Etter |
| 11.45 | An Algorithmic Approach to the Assessment of Spinal Fusion – Correlating Clinical Presentation and Imaging Studies | G. J. Velan |
| 12.00 | How Do We Assess Spinal Fusion of Intervertebral Cages? A Comparative Radiological Evaluation | T. Lübbers |
| 12.15 | Discussion | |

Scientific Session VII

M. Aebi

Clinical Results Cervical Spine

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| 12.30 | The Healos Bone Substitute in Anterior Cervical Fusion | D. Uyttendaele |
| 12.45 | Clinical Results of Tricalcium Phosphate Ceramics in Cervical Interbody Fusion: Two to Five Years Follow-up | J. C. Le Huec |
| 13.00 | Indications and Results of Cervical Corpectomy with Fibula Allograft | S. Naderi |
| 13.15 | Modified BAK-C Threaded Cage Insertion to Promote Interbody Fusion | Ch. Etter |
| 13.30 | Discussion | |
| 13.45 | Final Remarks and Outlook | M. Aebi |
| 14.15 | Light lunch and industrial exhibition | |

General Information

Congress Secretary

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Chairmen

Christian Etter, MD

Chief Spine Unit
Hirslanden Clinic, Zurich, and
Klinik im Schachen, Aarau
Switzerland

Othmar Schwarzenbach, MD

Chief Spine Unit,
Department of Orthopaedic Surgery
Hospital of Thun, Switzerland

Max Aebi, MD

Professor and Chairman Division of
Orthopaedic Surgery
Mc Gill University,
MUHC, Montreal, Canada

Congress Hotel

Arabella Sheraton Atlantis Hotel
Döltschweg 234
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Registration

until Friday September 30th, 2001
CHF 850.00 full registration
including hotel accommodation
CHF 590.- registration only
(without hotel accommodation)

The fee includes all congress documents, admission to the scientific program, coffee breaks and lunch, welcome cocktail and dinner, industrial workshop and hotel accommodation for one night.

Methods of Payment

Payment should be made in advance by one of the following methods:

Bank transfer in CHF to: UBS AG, Basel

Account No. 233-581 954.01G

Account Holder: Swiss Spine Institute

A copy of the remittance order should be attached to the registration form. The name of the participant as well as the reference SSI 19./20.10.2001 should be clearly marked on every remittance. If payment is made for more than one person, please indicate all names.

Credit Card

Alternatively, payment can be made by either VISA, Diners Club, EURO-CARD/Mastercard or American Express. Please complete the credit card section on the registration form to allow us to charge your credit card in advance in respect of the registration fee.

We regret that on site-payment is not possible. Please use one of the above payment methods.

Registration

Registration forms should be completed and returned to the Swiss Spine Institute by September 30th, 2001 at the latest. Your registration both for the congress and for the hotel will be confirmed upon receipt of the required fee.

**Please note: Registration after September 30th cannot be guaranteed.
On-site registration is not possible.**

All registrations must be submitted on the official registration form. Please use a separate form for each participant. For additional registration forms, please take photocopies.

If you have already registered by using the pre-registration form supplied with the first announcement, please bring your proof of payment with you and hand it over to the registration secretary, or send your credit card details with your signature for the attention of the Congress Secretary at the Swiss Spine Institute.

Admission Badges

The registration counter is located in the Foyer of the Hotel Arabella Sheraton Atlantis. At the registration counter, registered participants will receive their badges and congress documents. Only participants who have paid their fees will be admitted to the congress.

The official congress badges will be required for admission to the scientific sessions, the social event and the exhibition.

Lost badges can be replaced at the registration counter.

Opening Times are: Friday, October 19th, 2001, 10.00 – 19.00 h
Saturday, October 20th, 2001, 7.30 – 14.00 h

For any information during the congress, please contact the registration counter.

Cancellations

If any written cancellation is received by the Swiss Spine Institute on or before October 12th, 2001, 50% of the registration fee will be refunded. No refunds will be made for cancellations made after October 12th, 2001 or for participants who do not show up at the congress.

Congress Language

The official congress language will be English. Simultaneous translation will not be provided.

Hotel Reservations

Hotel reservations will only be made by the Swiss Spine Institute after receipt of the deposit. Please note: if the congress hotel is fully booked, the Swiss Spine Institute cannot guarantee rooms in the congress hotel after September 30th, 2001.

How to get to the Congress

by train/bus

Take the train from the airport to Zurich main railway station. Trains leave every 20 minutes. Travelling time will be approximately 10 to 15 Min./CHF 15.00. At the main station, a bus shuttle to the Arabella Sheraton Hotel will be available to take you to the Hotel. This shuttle departs at regular intervals every 60 minutes between 07.30 and 19.30 (eg. 07.30 h, 08.30 h, 09.30 h...) and will leave the main station from the bus stop which is located next to the railway platform no. 3.

by taxi

You can also take a taxi from the Airport or from Zurich main station to get to the hotel. Travelling time from the airport to the hotel is approximately 30 Min./CHF 60.00.

Travelling time from Zurich main station to the Hotel: approx. 15 Min./CHF 25.00.

by car

Zurich can be reached from nearly anywhere in Europe. Together with the registration confirmation you will receive a hotel brochure with detailed instructions how to drive to the hotel.



Thank you for coming to this meeting.
We are hoping to see you at the next Symposium.

TOP OF NEUROMODULATION ON TOP OF EUROPE INTERACTIVE EXCHANGE OF EXPERIENCE

New Horizons in Spinal Medicine
Grindelwald, March 21th – 23th, 2002

PROGRESS IN SPINAL FIXATION TECHNIQUES

New Horizons in Spinal Medicine
Zurich, June 21th – 22th, 2002



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