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Implant choice, early mobilization remain important for periprosthetic lower limb fractures

A stable prosthesis, good bone stock, fracture union and restoration of anatomical alignment are all important principles of periprosthetic fracture treatment.

Surgeons should seek to mobilize patients with lower limb periprosthetic fractures as soon as possible and choose

Macheras said surgeons should first grade the severity of the fracture using the Vancouver Classification. He noted that choosing an implant with good stability and a quality surface for bone growth is essential. In general, surgeons should seek to restore anatomical alignment, maintain bone stock for possible revision, create a stable prosthesis, mobilize the patient early and ensure fracture union. Additionally, surgeons should exclude infection in case of loosening.

For B2 fractures, Macheras recommended a revision long stem prosthesis

with cables, plates or struts aiding additional rotational stability. He noted that if done correctly, the implant loosening rate is about 12%, with some published papers reporting as high as 20%. B3 fractures are a challenge because the patient has poor bone quality that requires a long stem revision hip arthroplasty in addition to an allograft-prosthetic composite revision. Macheras said revision hip arthroplasty cemented long stems are generally porous, while long uncemented stem choices range from tapered, proximally coated, extensively porous coated and

locking as well as allograft composites.

Tapered stems provide fixation through bypassing the proximal femur and gaining fixation in the distal femoral shaft while avoiding stress concentration at the implant tip. However, Macheras noted reports of subsidence after placing the stem. Locking stems involve placing 2 or more distal fixation screws and removing them 6 to 9 months postoperatively after the fracture has healed. These stems can provide opportunities for early weight-bearing, but distal anchorage for secondary osseointegration is difficult, Macheras said.

Proximally coated stems do not have sufficient distal stability, while extensively coated porous stems have a high success rate, with scratch fit providing additional *(Lower limb, continued on page 10)*



Bernd Stöckl, MD, MSc, George Macheras, MD, PhD, and Norbert P. Haas, MD (from left to right), discuss classifying and treating lower limb periprosthetic fractures.

an appropriate implant based on fracture severity, according to a presenter at the 14th EFORT Congress.

"Periprosthetic fractures are a problem which is growing due to the fact that we have many [older] patients with prostheses," George Macheras, MD, PhD, from KAT General Hospital in Athens, Greece, said. "The problem is, the bone quality is not so good all the time. The injury is severe so you have to stabilize as soon as possible and you have to give the opportunity to walk again if it is possible in the first 24 to 48 hours."

Older patients with periprosthetic fractures require additional treatment, careful implant selection

Successful outcomes include factors such as, early patient mobilization, minimally invasive surgery, angular stable plating and geriatric care for older patients, according to a presenter at the 14th EFORT Congress.

Elderly patients with periprosthetic femur fractures undergoing osteosynthesis can challenge surgeons regarding implant choice and treatment modality.



Norbert P. Haas

"I can say periprosthetic fractures are a surgical challenge in nearly all regions now," not just in the lower limb, Norbert P. Haas, MD, director of the Center for Musculoskeletal Surgery at the University Hospital Charité in Berlin, said in his presentation. "Exact preopera-

tive analysis is very important, [as is] the correct classification of fracture location, the stability of the implant

and the bone quality."

Haas stressed the importance of the right procedure for the right patient, which he said starts with fracture classification. In his institution, he uses the Vancouver Classification for proximal femur fractures and the Su Classification for distal femur fractures.

"You have to perform an osteosynthesis in all three types of fracture using the Su Classification," Haas said. "But the prosthesis must be *(Fractures, continued on page 10)*

► Featured Sessions

Painful TKA

Siegfried Hofmann, MD, PhD, presents a diagnostic algorithm for painful knees after TKA page 3

Shoulder and Elbow Fractures

David Stanley, MBBS BSc, FRCS, discusses the management of complex elbow fractures. page 4

Metal-on-Metal

Ashley Blom, MBChB, MD, PhD, FRCS, FRCS (Tr & Ortho), and Michael M. Morlock, PhD, update Congress attendees on metal-on-metal hip arthroplasty issues. page 5

Academy Award Dinner

EFORT Academy celebrates its second year at annual Academy dinner page 8

► Schedule of Events

• Exhibition Hall

The Exhibition Hall will be open today from 9:00 to 17:30.

• Charity Run/Walk

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Failure analysis for painful knees after TKA is critical for success

For patients with a painful knee after total knee arthroplasty, orthopaedic surgeons must conduct a full failure analysis to know the exact cause of the pain, according to a presenter at the 14th EFORT Congress.



Siegfried Hofmann

"If you don't understand what is wrong, then don't do revision surgery because you might just do revision surgery and might not address the final mistake," Siegfried Hofmann, MD, PhD, said.

He said it is important for patients to have pain-free daily activities. While residual pain is normal, unexplained pain can present a diagnostic challenge.

"Residual pain is normal after TKA. You have to tell the patient that residual pain is not something wrong. It might take 1 year to get rid of it. Otherwise, the patient is not happy with the results of their surgery. Unexplained pain when the patient comes to you and tells you 'I hate my knee' and you look at the X-rays and they look normal, this is [then] a challenge."

Hofmann outlined a 10-step diagnostic algorithm that orthopaedic surgeons should use in their approach to painful knees after TKA. Surgeons should get an extended history of the patient before revision surgery, including all the operating room reports and radiographs.

"You should know everything about that patient, even before surgery. Sometimes the history tells you the cause of the pain," he said.

Hofmann said orthopaedic surgeons also should conduct psychological exploration of the patient especially when the pain continues past 6 months. Psychological evaluations will exclude patients with secondary gain of disease.

"Psychological therapy might be necessary," he said.

A full clinical examination should include the knee, hip, lumbar spine, foot and ankle, peri-articular soft tissue, extensor mechanism, arteriosclerosis, neuropathy, arthrofibrosis and allergy. Surgeons should also test for intra-articular loosening, tendinitis, bursitis, neurinoma, and guanethin or sympathetic complex regional pain syndrome.

Additional laboratory tests are needed to include all nonspecific markers of inflammation such as C-reactive protein, PCR and interleukin-6. Hofmann said negative lab tests

do not exclude infection.

Standard radiographs, including full-leg weight bearing for alignment and joint space, should be performed. Additionally, special imaging tests, such as fluoro-controlled views, computed tomography for rotational positioning, stress radiographs for instability and rotation, bone scans for overloading and infection, should be done during the diagnostic algorithm. Orthopaedic surgeons should also consider conserva-

tive therapy for patients with the painful TKA, such as pain killers, bracing for instabilities and psychological therapy.

"If you follow this diagnostic algorithm, in 95% of unexplained painful knees, you might identify the problem and you might help the patient. Don't do surgery without knowing the exact cause of the pain," he said.

Reference:

Hofmann S. The painful TKA: Causes and

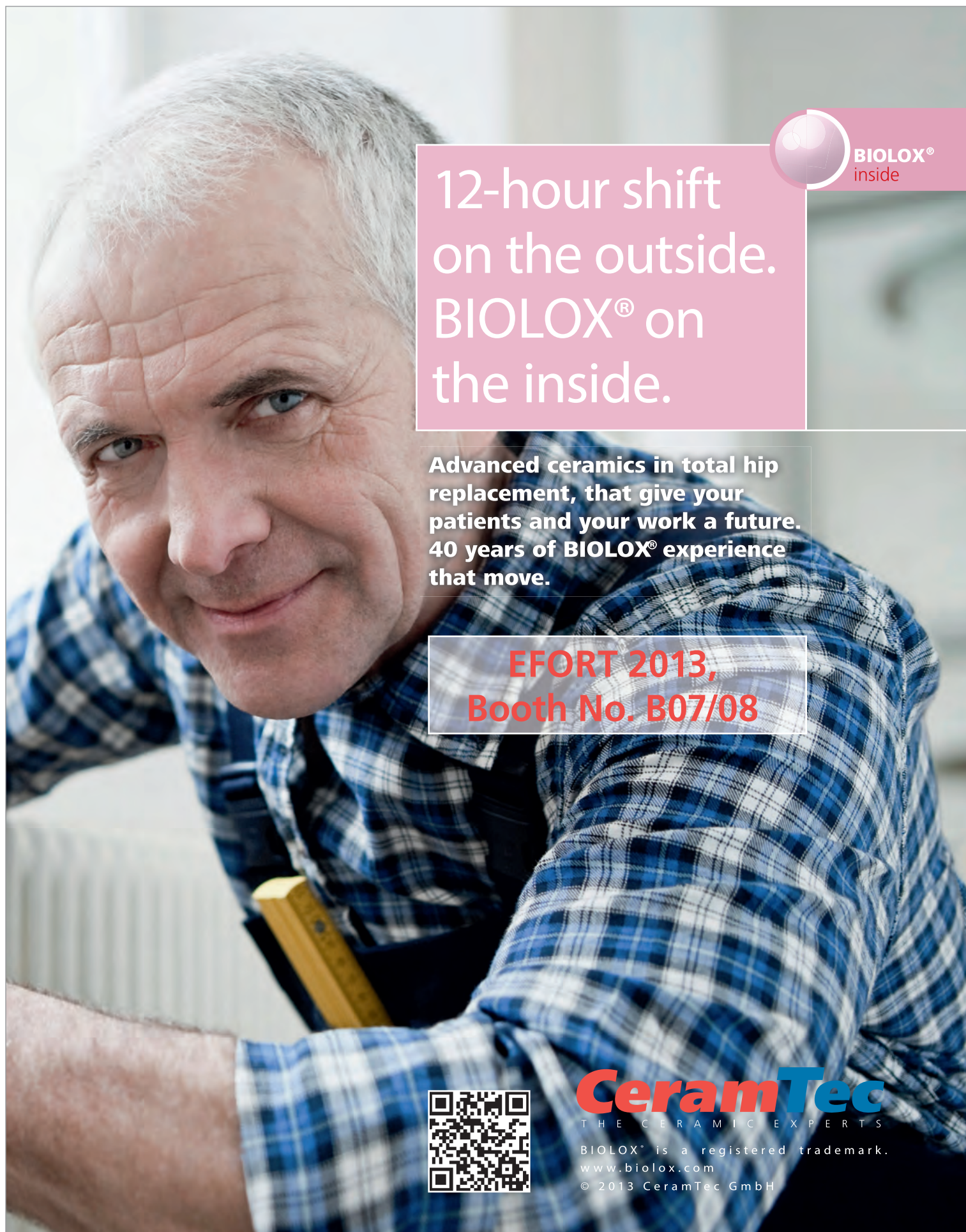
diagnostic algorithm for failure analysis. Presented at: 14th EFORT Congress. 5-8 June 2013; Istanbul.

Source info:

Siegfried Hofmann, MD, PhD, is an associate professor of orthopedic surgery, LKH Stolzalpe, Vienna, Austria.

Disclosure:

Hofmann has no relevant financial disclosures.



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Speaker: Consider olecranon osteotomy for distal humeral fractures

In the management of complex elbow fractures, orthopaedic surgeons must consider the surgical approach and rigid internal fixation.

"On the whole, we must be thinking about rigid internal fixation with early mobilization. If you don't do that, there is a strong risk the elbow will become stiff," David Stanley, MBBS BSc, FRCS, said at the 14th EFORT Congress.

The surgical approaches for distal humeral fractures include olecranon osteotomy, triceps splitting and triceps reflecting, he said.

"If I could give one piece of advice only it would be to say to you that if you are doing these cases, you should nearly always consider olecranon osteotomy. It will give you the greatest exposure to the

articular surface. But even if you do the approach, you still will have difficulty getting to the anterior third," he said.

Stanley said his published studies indicate that olecranon osteotomy is the best approach.

"You don't need to do it if you think you can fix the fractures. But these fractures are often more complicated than you anticipate even if you have done the imaging beforehand" he said.

Because failure occurs at the supracondylar level, orthopaedic surgeons should maximize fixation of distal fragments, he said. Fixation in distal fragments contributes to supracondylar stability.



David Stanley

Stanley said every screw should pass through a plate in the management of distal fragments. Additionally, every screw should be anchored in a fragment on the opposite side fixed by a plate. Surgeons should place as many screws as possible in the distal fragments.

Every screw should be as long as possible and should engage as many articular fragments as possible, he said. The screws in the distal fragments should lock together by interdigitation.

In the reconstruction of complex elbow fractures, Stanley said plates must be applied with compression at the supracondylar level. Additionally, plates must resist

bending or breakage before union occurs.

"I would suggest to you that fixing that with this type of plate helps you get it right, helps you to reconstruct it, and helps you get a reasonable result," he said.

Reference:

Stanley D. Elbow fractures: Reconstruction of complex elbow fractures. Presented at: 14th EFORT Congress. 5-8 June 2013; Istanbul.

Source info:

David Stanley, MBBS BSc, FRCS, is a consultant orthopaedic surgeon, Shoulder and Elbow Unit, Department of Orthopaedic Surgery, Sheffield Teaching Hospitals NHS Trust, Northern General Hospital, Sheffield, United Kingdom.

Disclosure:

Stanley has no relevant financial disclosures.

Two failure mechanisms related to ARMD

Finnish researchers found critical differences in failure mechanisms related to adverse reaction to metal debris, according to findings scheduled to be presented on Saturday, 8 June. They

found that pseudotumors are formed by a lymphocyte-dominated immune response whereas intracapsular reactions are related to a macrophage-dominated foreign body reaction.

"Our results are a good representation of adverse reaction to metal debris [ARMD]," Aleksi Reito, MD, of the Coxa Hospital for Joint Replacement in Tampere, Finland, said.

"There are two different failure mechanisms, and based on our results, we could in our further studies divide the possible adverse reactions and have some type of basis to classify the failed hips or those hips which have been revised. [We could] study those unrevised cases with abnormal findings and how they develop during follow-up," Reito said.

After the ASR Hip System recall (DePuy), Reito and colleagues at Coxa Hospital established a screening protocol to identify patients with adverse soft tissue reactions. They used the Norwich classification system to prospectively classify the MRI findings. They used the Imperial classification system to retrospectively reclassify all hips that were revised until May 2012.

After taking samples for histological analysis, the researchers performed semiquantitative analysis on the amount of synovial fibrin (none, focal, moderate or extensive), macrophages and perivascular lymphocytes (absent, mild, moderate or high). Because the researchers introduced the aseptic lymphocytic vasculitis associated lesions (ALVAL) score 9 months after the protocol began, ALVAL scores were not available for all samples.

There were 92 revised hips in 92 patients with full clinical data available for the study; 64 patients had ALVAL scores. Preoperatively, the researchers diagnosed pseudotumors in 61 patients.

Results showed a positive correlation between the amount ($P<.001$) and pres-

ence (absence or mild vs. moderate to high, $P<.001$) of perivascular lymphocytes (PVLs) and the severity of MRI findings. Twenty percent of patients with no pseudotumor seen on MRI had moderate-to-high PVL levels, whereas all patients classified as Imperial 3 had moderate-to-high PVL levels.

The researchers found a negative but weak link between macrophage infiltration and MRI findings ($P=0.15$). Total ALVAL score and severity of MRI finding were associated (mean $P<.001$).

Reito and colleagues saw no significant differences in histological findings or in ALVAL-subscores between T1-weighted core signals in patients with pseudotumors. ALVAL scores were higher in patients with hyperintense T1-weighted core signal.

T2-weighted images were different. "High metal ion levels can be seen and MRI shows hyperintense pseudotumour core signal intensity in T2-weighted images," Reito said. "In these cases, the histology is more macrophage-dominated whereas the other entity is the one with the aggressive histology with a lot of lymphocytes and necrosis. In these cases, the MRI findings are different. They have isointense or variable pseudotumour core signal intensity in the T2-weighted MRI images." ■

References:

Reito A. Abstract #13-5523. Scheduled to be presented 8 June at the 14th EFORT Congress.

Source info:

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Disclosures:

Reito has no relevant financial disclosures.

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¹ Roche C, et al. Scapular notching radiographic analysis: recommendations for glenoid plate positioning and glenosphere overhang in male and female patients. Transactions of the 2012 Annual Meeting of the Orthopaedic Research Society, San Francisco, CA.

² Flurin P, et al. A correlation of five commonly used clinical metrics to measure outcomes in shoulder arthroplasty. Transactions of the 2012 Annual Meeting of the Orthopaedic Research Society, San Francisco, CA.

³ Orthopedics This Week, Volume 8, Issue 16, May 15, 2012

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Presenters call for continued studies into outcomes, cancer, taper wear in metal-on-metal hip replacement

The use of larger head sizes and resurfacing of metal-on-metal hip prosthesis has become an increasingly important issue as indicated by metal-on-metal hip findings in the National Joint Registry of England, Wales and Northern Ireland and biomechanical studies of friction conducted in Germany.



Ashley Blom

But that is not the only problem, according to two presenters at the

14th EFORT Congress.

"There is no conclusive evidence that resurfacing or metal-on-metal gives better functional results," Ashley Blom, MBChB, MD, PhD, FRCS, FRCS (Tr & Ortho), of Spire Bristol Hospital, Bristol, United Kingdom, said. He discussed the most pertinent and recent results for these prostheses in the National Joint Registry of England, Wales and Northern Ireland (NJR).

The use of metal-on-metal (MoM) hip replacement has been especially problematic in women aged 55 years or older, based on NJR data he reviewed.

"Resurfacing has a massive failure rate compared to alternatives" particularly when surgeons performed the procedures with the ASR prosthesis (DePuy; Warsaw, Ind., USA), Blom said.

Citing a study where he and colleagues compared patients with MoM arthroplasty to a controlled population in the UK Hospital Episode Statistics database, Blom said although the model used is imperfect, "MoM does not lead to an increased incidence of cancer in the short-term." But because some cancers take time to develop, "We need to repeat this study every 5 to 10 years in this cohort."

Michael M. Morlock, PhD, of Institute of Biomechanics, Hamburg, Germany, discussed the consequences of friction with large femoral heads in MoM hip arthroplasty during the session, which was organized by the European Orthopaedic Research Society.

"Large heads were introduced in order to deal with the dislocation problem in total hip arthroplasty. This was done without realizing that large heads carry certain disadvantages with respect to increased friction and require even more adequate cup positioning than smaller heads in order to function properly and achieve good tribological behavior," Morlock said.

When it comes to increased in vivo friction in MoM hip arthroplasty, "It is not just the head size itself. It also has something to do with the cup position," he said.

He addressed factors that affect friction, including some that Sir John Charnley personally analyzed 50 years, including the role of lubrication and material hardness.

Morlock also described MoM hip arthroplasty taper wear as a high frictional problem that "we have not seen coming."

It will likely be one that is discussed for the next 10 years, he said.

References:

Blom A. An update on metal-on-metal from the National Joint Registry of England and Wales. Presented at: 14th EFORT

Congress; 5-8 June 2013; Istanbul.

Morlock MM. Frictional consequences of using large diameter THR bearings. Presented at: 14th EFORT Congress; 5-8 June 2013; Istanbul.

Disclosures:

Blom is on the speaker's bureau for Stryker and receives research support or is a principal investigator for DePuy Synthes and Stryker. Morlock is a consultant to, on the faculty of, and/or receives institutional support from Aesculap, Ceramtec and DePuy Synthes.



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A33A.....MEDIOX LTD.	A74.....ORTHOSOLUTIONS	B26.....SHANGHAI BOJIN	C38A.....BEIJING AKEC MEDICAL CO. LTD.
A33B.....GAME READY	A75.....LITOS GMBH	C01A.....TEKNIMED	C38B.....KINAMED INC.
A33C.....LISI MEDICAL	A76.....DE SOUTTER MEDICAL LTD	C01B.....CLEAN MEDICAL	C38C.....ARTHROCARE
A33D.....SICOT	A77A.....THE KOREAN ORTHOPAEDIC ASSOCIATION	C02A.....SUZHOU XR BEST MEDICAL CO.	C40.....ORTHOFIX
A34.....DOT	A77B.....EORS	C02B.....ELİT METALURJİ	C41... NORMED MEDIZIN-TECHNIK GMBH
A35.....BAUMER S.A.	A78A.....SO.F.C.O.T.	C03A.....ORTIZ MEDİCAL	C42.....GROUPE LEPINE
A36.....JOINT	A78B.....EUROSPINE	C03B.....MEDGAL SP. ZO.O.	C43A.....MERETE MEDICAL GMBH
A37.....AAP IMPLANTATE AG	A79.....AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS	C04A.....LIBEIET ORTHOPAEDICS	C43B.....TAKIRON CO. LTD
A38.....7S MEDICAL AG	A80..FORTE FEDERATION OF ORTHOPAEDIC TRAINEES IN EUROPE	C04B.....CARBOFIX ORTHOPEDICS LTD.	C44.....TRB CHEMEDICA
A39.....ACUMED	A81.....EUROPEAN WOUND MANAGEMENT ASSOCIATION	C05A.....BEIJING FULE SCIENCE & TECHNOLOGY	C45A.....ARTHROSURFACE INC
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A43.....MEDTRONIC KANGHUI MEDICAL		C08.....NEWCLIP TECHNICS	C47.....MDT INT'L SA
			C47A.....FII

EFORT Academy celebrates second year at annual dinner

The EFORT Academy gathered national delegates, board members and members on Tuesday, 4 June, for its annual Academy dinner.

Started in 2012, the EFORT Academy is designed for surgeons and other interested parties to become more involved in the education, teaching or research activities of EFORT.

"The Academy provides an opportunity to play an active part in EFORT for

talented and interested individuals," Pierre Hoffmeyer, MD, EFORT president and chairman of the department of surgery at the University of Geneva said. "All the National Delegates are ex-officio members of the Academy."

In addition to the promotion of educational and research activities, members of the EFORT Academy are also involved in making recommendations on the awards of stipends and fellowships, and evaluat-

ing all scientific, educational and publication activity requiring EFORT approval.

The Academy also offers various levels of fellowship affiliation (see sidebar). The affiliates of the Academy carry the title: "Fellow of the Academy of the European Federation of National Associations of Orthopaedics and Traumatology (EFORT)."

Members of the EFORT Academy benefit from reduced fees to the Congress

and have complimentary access to many EFORT educational and publications offerings.

"The Academy was only just created in Berlin at the 2012 meeting," Hoffmeyer said. "It is a very new structure and the first members will have an opportunity to fashion its organization. They will also be called upon to make suggestions and provide ideas for the future activities of EFORT." ■



Pierre Hoffmeyer, MD, EFORT president and chairman of the department of surgery at the University of Geneva, congratulates Stéphane Pelet, MD, PhD, (right) of CHU de Québec-Pavillon Enfant Jésus, on his Gold Free Paper Award.

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The EFORT Academy: Fellowship Levels See which level might be right for you.

Junior Fellowship: To be eligible, a candidate must be less than 35 years of age, and a member of a recognized national orthopaedic or musculoskeletal surgical training program or equivalent. Proof must be supplied.

Benefits:

- Reduced fee for the EFORT Advanced Training Program and a Comprehensive Review Course course during the EFORT Congress.
- Free access to the EFORT e-science pages on the EFORT portal.
- Free online access to the EFORT e-Journal and Textbook.
- 25% reduction on the EFORT book series.
- Free access to the EFORT Newsletters.

Annual fee: 155 euros

Affiliate Fellowship: For individuals who are active in an area, be it clinical or research, that is related to orthopaedics and musculoskeletal surgery.

Benefits:

- Free entrance to the EFORT Congress.
- Free online access to the EFORT e-Journal and Textbook.
- Free access to the EFORT Newsletters.

Annual fee: 340 euros

Associate Fellowship: To be eligible, a candidate must be a member of a recognized national orthopaedic or musculoskeletal surgical or research society or equivalent. Proof must be supplied.

Benefits:

- Free entrance to the EFORT Congress.
- Reduced fee for the EFORT Advanced Training Program.
- Free access to the EFORT e-science pages on the EFORT portal.
- Free online access to the EFORT e-Journal and Textbook.
- 25% reduction on the EFORT book series.
- Subscription to Bone & Joint³⁶⁰.
- 10% discount on the article processing charge for the new open-access journal Bone & Joint Research.
- Free access to the EFORT Newsletters.

Annual fee: 490 euros

Full Fellowship: To be eligible, a candidate must be a member of a recognized national orthopaedic or musculoskeletal surgical or research society or equivalent. Proof must be supplied. Full fellowship is awarded on the basis of scientific, educational and publication activity criteria.

Benefits:

- Free entrance to the EFORT Congress.
- Reduced fee for the EFORT Advanced Training Programme.
- Free access to the EFORT e-science pages on the EFORT portal.
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Duties:

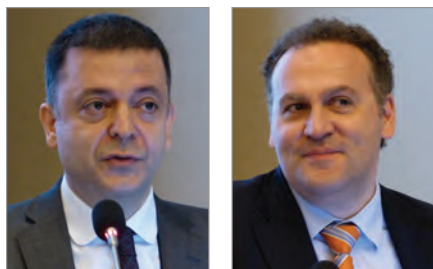
- Participate in the abstract reviewing process.
- Participate in drawing up the scientific programs for the EFORT Congress and related EFORT training activities.

Annual fee: 490 euros



Debate on conservative or surgical thoracolumbar burst fracture care raises issues about classification, prevention of kyphotic deformity

In a Debate Forum on conservative vs. surgical management of traumatic thoracolumbar junction burst fractures at the 14th EFORT Congress,



Ahmet Alanay

Frank Kandziora

Ahmet Alanay, MD, of Ankara, Turkey, debated Frank Kandziora, MD, PhD, of Frankfurt, Germany, discussed the dilemmas orthopaedic spine surgeons encounter with these cases.

"This is a fracture that should be treated conservatively," Alanay said.

Kandziora said some of the ongoing debate over appropriate care of these fractures is because burst fracture is an umbrella term.

"Studies show a lack of evidence for one treatment, but these studies have no long-term follow-up," Kandziora said.

Alanay discussed the challenges of thoracolumbar junction burst fractures that are important in the selection of an appropriate treatment option, but noted many of these fractures can be adequately addressed with bracing or casting.

Alanay said it is a myth that canal clearance was a real problem with these fractures.

Alanay reviewed the patient-centric literature results to support his contention that good patient outcomes can frequently be attained with conservative treatment.

"We see several papers with satisfactory outcomes," including one by Wood and colleagues published in 2003, he said.

Alanay said his experience and that reported in the literature show few complications with conservative management of thoracolumbar burst fractures.

"If you looked at the conservative care series, we do not have that many complications," although complication rates can be as high as 15% for surgery, in some instances, and later revisions may be required with those procedures, he said.

The balance of Kandziora's argument addressed the fact that published studies include inhomogeneous groups of patients, and many of the studies are greatly underpowered. Additionally, there are no validated trauma-specific clinical scores on a par with the Oswestry Low Back Disability Index or the SF-36 for the spine, he said.

"We simply do not know what we are measuring with these scores at all," he said.

Kandziora shared some insights into how surgeons in Germany manage these patients effectively with standing radiographs that show more kyphotic deformity than films made with the patient laying down. Those differences in kyphotic angle measurement can be critical, he said.

He discussed the role that the re-evaluation of patients 6 months or more af-

ter surgery can play in deciding if anterior thoracoscopic stabilization is required or when to attempt implant removal.

Burst fractures are not as controversial as they seem, Kandziora said.

"It is just a lack of detailed evaluation and treatment," he said.

References:

Alanay A. Conservative management.

Kandziora F. Surgical management. Both presented at: 14th EFORT Congress; 5-8 June 2013; Istanbul.

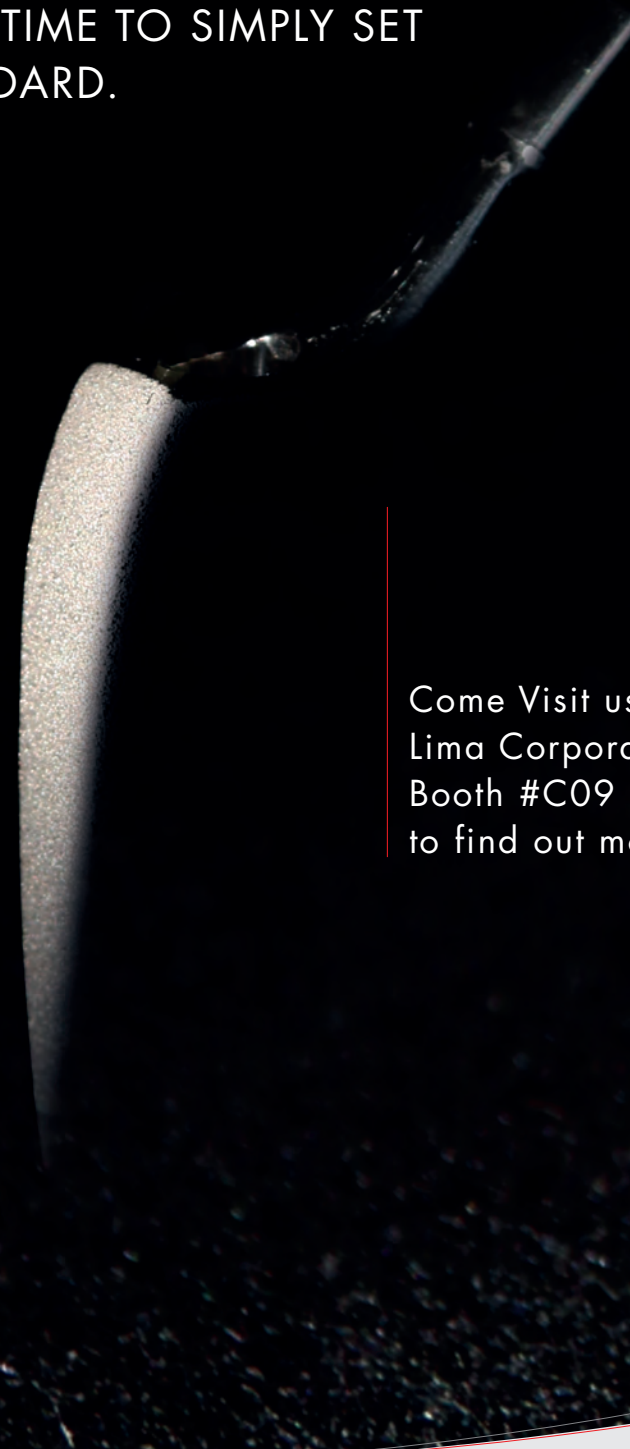
Wood K. *J Bone Joint Surg Am.* 2003; 85:773-781.

Disclosures:

Alanay is a consultant and speaker and receives funds for travel from Medtronic.

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Fewer implants fail with dynamic fixation vs. screws for syndesmosis rupture

Researchers from Canada and the Netherlands found pain and function scores were better and there was a low reoperation and complication rate when they used a dynamic suture button design for ankle syndesmosis rupture fixation, according to a study scheduled to be presented on 8 June.

"When you fix the syndesmosis with a dynamic system, you are more anatomic," Stéphane Pelet, MD, PhD, of CHU de Québec Pavillon Enfant Jésus, said. "With [Tightrope], you will achieve earlier, better functional results with fewer complications."

The investigators conducted a prospective, randomized study of 70 patients with acute syndesmotic ruptures who underwent fixation with either dynamic fixation using an endobutton device (Tightrope; Arthrex, Naples, Fla., USA) or static fixation with one 3.5-mm quadricortical screw. They recorded the



Stéphane Pelet

Olerud-Molander and American Orthopaedic Foot and Ankle Society (AOFAS) scores in all the patients, comparing the groups at 3 months, 6 months and 12 months post-treatment.

Pelet and colleagues saw improved Olerud-Molander scores at all three follow-up time points. At 3 months, AOFAS scores were better than before treatment, but not at 6 months or 12 months in the endobutton device group, which also showed better plantar flexion and less implant failure than the screw group.

Among the other findings were four patients in the screw group who lost reduction and needed early revisions. Two patients in the endobutton device group developed a superficial infection.

"The knot of the Tightrope created skin irritation," Pelet said, and as a result surgeons removed the device.

Pelet said the study was limited be-



The Tightrope endobutton device (Arthrex, Naples, Fla., USA) maintained a quality reduction at postoperative year 1.

cause CT scans were not used to assess the quality of the reductions and follow-up did not extend to 1 year.

"We cannot detect long-term com-

plications with this study," he said. "We do not know with a short-term follow-up if the Tightrope will fail later on."

The next step in this investigation, which is one of the top studies to be presented here at the EFORT Congress and which received the Gold Free Paper Award, is to explore why the endobutton device results were better.

"Is it because it is dynamic or is it because there is a better reduction with the tightrope?" Pelet said. "If the system is dynamic, it is more forgiving to the joint and can help it stay more dynamic."

The researchers plan to test the Tightrope with early weightbearing. ■

Reference:

Pelet S. Paper #13-3027. Scheduled to be presented 8 June at the EFORT Congress.

Source info:

Stéphane Pelet, MD, PhD, can be reached at 1401 18th St., Québec (Quebec) 1Z4 G1J Canada; email: stephane.pelet.ortho@gmail.com.

Disclosure:

Pelet receives grants and research support from Arthrex.

(Lower limb, continued from page 1) stability, Macheras said. He noted that a necessary part of a successful extensively coated porous stem procedure is 5 cm of diaphyseal fixation. Additionally, allograft composites can be useful for B3 fractures with severe comminution and lack of bone stock, he added. Impaction grafting where severe osteolysis is present has the potential for long-term fixation, but Macheras said that the procedure is technically challenging and subsidence may occur after implant placement.

Regardless of treatment method, an agreeable surgical team is one of the most important factors for success, Macheras said.

"It is very important to have teamwork in order to be able to give patients the best outcome, mobilize them and send them home," he said. ■

Reference:

Macheras G. Revision arthroplasty with long stems in periprosthetic fractures. Presented at: 14th EFORT Congress. 5-8 June, 2013; Istanbul.

Source info:

Macheras can be reached at KAT Hospital, Nikis 2 Kifissia P.C. 145-61, Athens, Greece; email: george.macheras@efort.org.

Disclosure:

Macheras has no relevant financial disclosures.

(Fractures, continued from page 1) stable; otherwise you have to perform a revision arthroplasty."

"The implant must restore and maintain the correct axis, length and rotation, because most patients are elderly. It must allow a maximum of weight bearing because many of these patients cannot use crutches anymore," he added.

As these patients are more prone to problems, Haas recommended geriatric care involvement as soon as possible. Patients should be mobilized soon after surgery using minimally invasive surgery with as little soft tissue damage as possible. Using angular stable plating one can provide higher stability in osteoporotic bone and a decrease in the secondary loss of reduction.

"Beside the plate osteosynthesis, fractures at the distal femur around a knee prosthesis with an open box design have a retrograde nailing procedure as an additional option for fracture stabilization, but only if the prosthesis is stable," Haas said. "Nevertheless, in our hands the angular stable osteosynthesis in this region is the best solution. If the prosthesis is not stable, revision arthroplasty is indicated."

For fractures around the hip, Haas said a Vancouver AG fracture can be fixed with cerclage wires and a hook plate. Vancouver B1 fractures are

fixed with an angular stable plate and cerclage wires, while a Vancouver C fracture can be fixed with an angular stable plate. He said distal femur fractures for Su type I and type II fractures are fixed with an angular stable plate and a nail in open box prosthesis. Type III fractures are fixed with an angular stable plate.

Reference:

Haas NP. Influence of fracture type for the

choice of osteosynthesis in periprosthetic femur fractures. Presented at: 14th EFORT Congress. 5-8 June, 2013; Istanbul.

Source info:

Haas can be reached at Augustenburger Platz 1, D-13353 Berlin, Germany; email: norbert.haas@charite.de.

Disclosure:

Haas has no relevant financial disclosures.

14th EFORT Congress Awardees

Free Paper Award

GOLD Stéphane Pelet, Canada
SILVER Björn Peter Roßbach, Germany
BRONZE Marcus Landgren, Sweden

Jacques Duparc Award

Scott Evans, England
Ersin Kuyucu, Turkey
F. Thomas D. Kaplan, USA
Roman Nowak, Poland
Torsten Prietzel, Germany
Stephen Ellis Graves, Australia
Anne Lübbecke, Switzerland
Vishal Patel, UK
Stéphane Pelet, Canada
Mark Thomas Roger Gaden, UK

Allied Professions Award

Rasa Valaviciene, Lithuania

EFORT Tribology Award

Tiago Barbosa, Portugal

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