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## EUROPE

## 14th EFORT Congress opens doors to attendees, encouraging education, participation, collaboration

The Executive Committee and the Local Organizing Committee are delighted to welcome attendees to the 14<sup>th</sup> EFORT Congress, the most important meeting of musculoskeletal specialists in Europe.

"The EFORT Congress is an opportunity for acquiring formal education by attending the conferences and debates of the scientific program," Pierre Hoffmeyer, MD, president of EFORT and chairman of the department of surgery at the University of Geneva, said. It is also an opportunity to meet and mingle with colleagues from all around Europe discussing the issues pertaining to our field of activity."

The planned program for 2013 is impressive in breadth and scope. Following success seen in previous years, this year's program includes more than 30 Symposia organized by the best and most well-known European expert teams, 20 Instructional Lectures, which are also published in parallel in the EFORT Instructional Lectures book, and more than 500 specially selected Free Papers. In addition, attendees can enjoy the popular full-day Comprehensive Review Course, many e-posters, numerous workshops, industry symposia and technical exhibits.

"This year the Congress will truly be a unique event presenting the best of European orthopaedics and traumatology in science and practice," Hoffmeyer said. "At-

tendees should look forward to this year's hot topics, including discussions centered on infectious complications, tribology and bearings, traumatology and pediatrics."

In addition to the exciting features that attendees have grown accustomed to each year, this year's Congress also features several new formats.



Pierre Hoffmeyer

Attendees can attend the day-long EFORT Advanced Course in total hip and knee replacement offered in collaboration with the European Hip Society and the European Knee Association. In addition, new Evidence Based Medicine Sessions will present the

best evidence possible applicable to good practice, which is a major priority for EFORT in the future.

### Exciting new formats

Other exciting new formats include Interactive Expert Exchanges, Complex Case Discussions and Debate Forums.

"These formats were chosen to provide more interactivity and participation," Hoffmeyer said. "The best educational experience has been shown to be the one where the participant can give his or her own viewpoint."

According to Hoffmeyer, the sessions will be run in a friendly and productive atmosphere so that the participants will be encouraged to speak up, present their own cases and voice their opinions. Direct ex-

change with the experts is the best way to bring back new information positively and directly affecting clinical practice.

### Best-rated papers

The Congress also features a Best Free Paper Session which will allow participants to hear a selection of the best-rated Free Papers. These papers were selected by a jury of three internationally respected and recognized leaders in their field. The jury reviewed each of the submitted 4,500 abstracts.

"This is painstaking, often heart-wrenching work, when difficult decisions must be made to keep or to eliminate quality ab-

stracts," Hoffmeyer said. "The chosen abstracts are then again evaluated by a second group of experts with representatives of the specialty societies and the program is then elaborated in its definitive form."

Finally, the best of the best scientific works are analyzed in detail by the EFORT Executive Committee and prizes are awarded to highest quality scientific presentations.

The EFORT Scientific Committee and Local Organizing Committee encourage attendees to participate in as much of the meeting as possible, as they are certain this exceptional scientific program will be a valuable educational event. ■

## Welcome to Istanbul



Istanbul is the host city of the 14<sup>th</sup> EFORT Congress. Visit page 9 for an Istanbul City Guide.

### ► Featured Sessions

#### Horizon 2020

Learn more about the European Union's new research in innovation program . . . . page 3

#### Charity Run

Run for a good cause at the EFORT Charity Run/Walk. . . . . page 4

#### Exhibitor Listing

Read a full listing of exhibitors . . . . . page 6

#### EFORTnet

Explore EFORTnet, the new online community. . . . . page 8

#### Vitamin E-enhanced polyethylene liners show low wear in THA performed for OA

Nanna Sillesen, MD, PhD, and Henrik Malchau, MD, PhD present findings of multicenter THA study . . . . . page 10

### ► Schedule of Events

#### • Opening Ceremony

The Opening Ceremony for this year's EFORT Congress will take place today at 12:00.

#### • Exhibit Hall

The Exhibit Hall will open at 10:30.



For the online version, visit: [efort.org/congress-daily](http://efort.org/congress-daily)



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## Horizon 2020 integrates research and innovation

Horizon 2020 aims to stimulate growth and jobs across Europe from 2014 to 2020. In comparison to its predecessor, the so-called Framework Program 7 (FP7), Horizon 2020 will make it easier to participate in EU-funded research and innovation projects through a simplified procedure, thus slashing red tape for researchers who want access EU financing. The average time to grant also will be reduced by 100 days. Horizon 2020 will also facilitate access to funding for SMEs through the introduction of a comprehensive program adapted to their needs.

One of the main innovations of Horizon 2020 as highlighted by the European Commission is research and innovation. "The program will provide seamless and coherent funding from idea to market and help innovative businesses turn technological breakthroughs into viable products with real commercial potential."

Horizon 2020 is structured around three main pillars: the first pillar "Excellence in the science base" targets frontier or basic research; the second pillar "Creating industrial leadership and competitive frameworks" supports business research and innovation, and the third pillar "Tackling societal challenges" focuses on tackling the major challenges of our society (e.g., aging, well-being; health, climate change, etc).

"This means more funding for testing, prototyping, demonstration and pilot type activities; promoting entrepreneurship and risk-taking" according EFORT.

With Horizon 2020, the European Commission is keen to adopt a more horizontal and integrated approach on research projects, avoiding for instance to mention any specific disease area or research topic as it was done under FP7. This different approach is desired in order to avoid narrowing the scope of the calls and to provide the interested parties with an opportunity for creative ideas for research. Moreover, this horizontal approach has been introduced to eliminate the "silo" approach and encourage cross-disease/sector research, including social implications of certain diseases, integrated care, understanding the relation existing between certain diseases, reducing inequalities, etc. Much emphasis will be put on the European added value and on the diversity of project consortia, both in terms of nationality as well as in terms of expertise.

The proposed overall financial envelop for this ambitious program is of 80 billion euros. Horizon 2020 is still under discussions at the European Parliament and Council level. The debate is expected to be finalized in the Autumn, with final drafts ready for vote in December 2013. The first call for proposals are scheduled for January 2014.

Horizon 2020 will be valuable in setting future Excellence in Research, removing barriers to innovation and supporting growth in Europe. EFORT welcomes the Commission's proposal on Horizon 2020 and believe mobility must be addressed in addressing the demographic change in Europe. Keeping the elderly mobile and maintaining a healthy workforce will contribute to economic growth and sustainable health care systems. This is where orthopaedics and traumatologists have a unique op-

portunity to make a significant difference. High-quality research studies are necessary to develop strong evidence based practice recommendations to support health policies and ultimately improve patient care. Support of EU funding is therefore necessary to advance the science of musculoskeletal health and reduce the economic and societal loss of function and mobility.

The orthopaedics and traumatology community has a role to play in this important ambitious program and EFORT

encourages all researchers in the field of orthopaedics and traumatology to start preparing topics for potential projects which will respond to the Horizon 2020 major requirements and which will help position musculoskeletal health as a major health challenge.

The European Affairs Committee will be happy to respond to questions on Horizon 2020 at the EFORT booth during the EFORT Congress or by email [wolfhart.puhl@efort.org](mailto:wolfhart.puhl@efort.org). More information on Horizon 2020 will be made available on the EFORT activities webpage. ■

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# Exercise brain and body at EFORT Charity Run/Walk

Attendees of all athletic levels are welcome.



EFORT Congress attendees are encouraged to get out and get their blood pumping at what has become a well-liked Congress tradition, the EFORT Charity Run/Walk. This Friday, 7 June at 6:00, participants can experience a different side of Istanbul as they run 4 kilometers, or walk 2 kilometers in picturesque Ma-

çka Park in support of the EFORT Foundation.

"Several days of congress attendance can be exhausting," Viviane Knerr said, EFORT Congress Coordinator. "A healthy activity in fresh air is the perfect way to complement the brain work during the scientific program and, at the same

time, it benefits a good cause."

One hundred percent of the race proceeds will support the EFORT Foundation. The Foundation's primary goal is to promote science and research in the field of orthopaedics and traumatology to make progress in the treatment of musculoskeletal disorders and injuries. One way that is accomplished is to provide fellowships and grants to surgeons and researchers throughout Europe to support knowledge exchange and training.

Entry for the race was included in the online registration for this year's Congress. If attendees are unsure if they are registered, onsite registration for the event is also available on Tuesday afternoon when the Congress opens, and all day Wednesday and Thursday. Registration is 19 euros. A race kit with information about the start area and a race t-shirt distributed by the sponsor, Brainlab, can be picked up at the Charity Run/Walk counter.

Everyone is welcome and encouraged to participate.

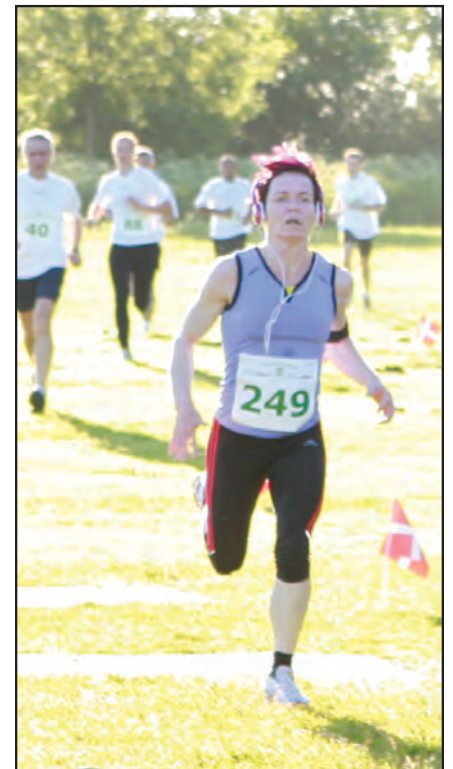
"Each year we have some passionate runners, as well as some more leisurely newcomers at the race," Knerr said. "As the race takes place very early in the morning, it is a good opportunity to catch some fresh air before starting the day's scientific program."

Participants can stay and mingle with colleagues after the race when refreshments and a small snack will be served.

The Charity Run/Walk is also a great opportunity for Congress attendees to see another side of busy, bustling Istanbul. In contrast to the typical hustle and bustle of the city, participants in the race will get to explore and take in Maçka Park near the Congress venue.

"The picturesque Maçka Park boasts a beautiful flora and great views on the Bosphorus, the straight that separates Europe and Asia," Knerr said.

Although the park does have a few hills, collaboration with a local race organizer has resulted in a route that is feasible for all types of runners and walkers.



## EFORT Charity Run/Walk

Friday, 7 June

RUN 4 kilometers  
Or  
WALK 2 kilometers

Maçka Park

Supports the EFORT Foundation

Those unfamiliar with Istanbul's weather should expect early morning temperatures that are perfect for a run, and a light breeze coming from the seaside.

"As the European umbrella organization for orthopaedics and traumatology, EFORT wants to set a good example and exercise for a good cause before the sessions start," Knerr said.

Come out and explore, exercise and support a good cause on 7 June at the EFORT Charity Run/Walk. Better yet, bring a friend, too. ■

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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

## Poster exhibition

This year, all accepted posters are displayed as wall posters with a rotating schedule from Wednesday to Friday. It is well worth revisiting the poster area on Level B5 on the mezzanine each day to discover the wealth of topics and meet the authors at their posters during the lunch breaks. This will create excellent opportunities for lively discussions and networking.





# MUA with steroid injection superior to arthroscopic capsular release for frozen shoulder

## Surgeons should consider MUA with steroid injection once conservative treatments have failed.

Manipulation under anesthesia offered improved outcomes and range of motion compared with arthroscopic capsular release, according to a study scheduled to be presented at the EFORT Congress in Istanbul on Friday, 7 June.

"Manipulation under anesthesia (MUA) with steroid injection should be considered first in the management of frozen shoulder once conservative methods have failed to relieve symptoms," Ahsan Akhtar, MBChB, MRCS, of Leighton Hospital, Crewe, United Kingdom, said.

MUA with steroid injection and arthroscopic capsular release are common treatments for frozen shoulder. However, "there is no clear evidence in the literature as to which treatment method provides the best results for management of frozen shoulder," Akhtar said. The aim of this prospective study, performed between March 2009 and November 2011, was to determine which procedure yielded superior results.

The researchers included 78 patients with idiopathic frozen shoulder who had failed functional recovery with physiotherapy. To participate, patients had to agree to perform postoperative therapy.

Akhtar and colleagues randomized patients into 2 groups. The 33 patients in group 1 underwent MUA with steroid injection; group 2 included 45 patients who underwent arthroscopic capsular release. A single surgeon performed all of the procedures, and an independent observer evaluated the results. The mean follow-up was 14.6 months.

### Both groups improved

Results showed that both procedures improved patient outcomes. Preoperatively, the mean Oxford Shoulder Score was 22.8 for group 1 and 24.2 for group 2 ( $P=.5$ ). The postoperative Oxford scores improved to 44.1 for group 1 and 40.9 for group 2.

The mean preoperative QuickDASH score 48.9 for both groups ( $P=.9$ ); postoperatively, that score improved to 9.8 in group 1 and 18.4 in group 2.

Analysis revealed that for both groups, mean range of motion improved flexion  $170^\circ \pm 7^\circ$ , abduction  $172^\circ \pm 5^\circ$ , external rotation  $77^\circ \pm 7^\circ$ , internal ro-

tation  $T9 \pm 1$  ( $P<.001$ ).

"Results reveal [that] MUA gave a better outcome, regarding pain relief and function, and better improvement in range of motion compared to

arthroscopic capsular release," Akhtar said.

"The evidence in the literature does report some good results both MUA and arthroscopic capsular release, but they have never been compared in this way before. As such, it is good to see that one is superior to the other on the basis of these results," Akhtar said.

#### Reference:

Akhtar A. Paper #13-4762. Scheduled to be presented 7 June at the EFORT Congress.

#### Source info:

Ahsan Akhtar, MD, can be reached at Leighton Hospital, Middlewich Rd Crewe, Cheshire CW1 4QJ, United Kingdom; +07859 030 906; email: ahsan.akhtar@doctors.org.uk.

#### Disclosure:

Akhtar has no relevant disclosures.



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 David C. Templeman, Minneapolis, US

**13.20 Open Tibial Injuries: Case Scenarios**  
 Wade T. Gordon, Washington DC, US

**13.40 Development & Clinical Application of Galaxy Fixator**  
 S. Nayagam, Liverpool, UK (via videoconference)

**13.55 Discussion**

**14.00 External Fixation: Only for Damage Control?**  
 N. Tartaglia, Bari, Italy

**14.15 Round Table Discussion**

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# TKA and HTO navigation protocols yield different limb alignment outcomes

In a presentation scheduled to be held Friday, 7 June, Seung-Suk Seo, MD, plans to discuss a study he and his colleagues at Bumin Hospital, in Busan, Korea, conducted into total knee arthroplasty surgery performed with computer assistance.

"It is a hot issue in the knee arthroplasty societies. In my experience, alignment of the lower limb is important for implant longevity. There must be an acceptable range of lower limb alignment. Traditionally, within 3° varus/valgus in mechanical axis (MAX) has been recommended,"



Seung-Suk Seo

Seo said in an interview prior to the EFORT Congress.

In their investigation, Seo and colleagues found differences between the preoperative and postoperative lower limb MAX that they measured in the same knee of 71 patients undergoing total knee arthroplasty (TKA) surgery. These differences were significant at three levels, based on the measurements the team made with radiographs and during computer-assisted TKA surgery, according to the abstract.

Seo and colleagues used the TKA and high tibial osteotomy (HTO) protocols offered with the OrthoPilot computer-aided surgery system (B. Braun Aesculap; Tuttlingen, Germany). These two protocols use either bony or soft tissue anatomical landmarks around the knee, respectively, for registration.

The lower limb alignment findings from the investigation were unaffected by the weight, height, range of motion and age of the patients, according to the results.

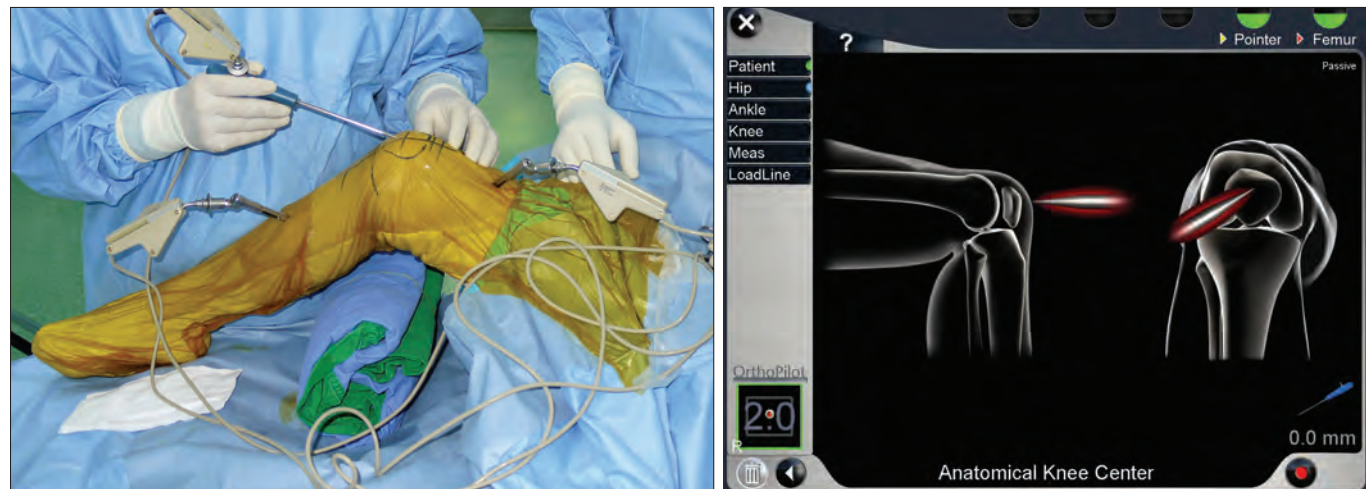
"Our data showed the preoperative difference between radiography and HTO [protocol] and [between radiography and] TKA protocol was 3.5° and 4.5°, respectively, and that the postoperative difference between radiograph and TKA was 2.2°," Seo said. "We suspect preoperative deformity makes the difference larger."

However, he noted, it is difficult to say what amount of MAX is in the safe range for patients.

All the TKA procedures in the study were performed for primary osteoarthritis. ■

#### Reference:

Seo SS. Abstract #13-2053. Presented at: 14<sup>th</sup> EFORT Congress. 5-8 June, 2013; Istanbul.



The surgeon performs high tibial osteotomy (HTO) registration (left) preoperatively at the knee joint center. The resultant registration area (right) is shown according to the HTO protocol.

#### Source info:

Seung-Suk Seo, MD, can be reached at Department of Orthopedic Surgery, Bumin Hospital, 380-4, Dwocheon-Dong, Buk-Gu, Busan, Korea 616-819; email: wellknee@gmail.com.

#### Disclosure:

Seo has no relevant financial disclosures.

#### PERSPECTIVE

This Korean study done with the OrthoPilot navigation system (B. Braun Aesculap, Tuttlingen, Germany) highlights

the difficulty of imaging and navigation in knee arthroplasty. The navigating surgeon delivers precise surgery, but the results are not confirmed on postoperative standing 2-D radiographs. The confirmed conventional surgeon will gain comfort from this study using "image-free" technology.

Increasingly surgeons are using patient-matched instruments based upon supine axial imaging without any kinematic input. Like the navigators, this group can tell us that they achieve their intraoperative goals, but long leg stand-

ing films may not reflect their results either. Is it time for a new "gold standard" beyond long leg films?

— Justin P. Cobb, MD

Chair, Section of Orthopaedics, MSK Lab  
Imperial College London  
London

#### Disclosure:

Cobb is a shareholder in and receives royalty payments from Stanmore Implants. He is a paid consultant to MatOrtho, and received grant support from CeramTec, DePuy and Biomet.

## EFORTnet creates online community for orthopaedic, traumatology providers

EFORT is proud to announce the launch of its European orthopaedic and traumatology community platform, EFORTnet, a password protected and free-of-charge community platform that targets health care professionals in the field.

Unlike other social media networks, EFORTnet is designed to be a one-stop shop resource center for orthopaedic and traumatology knowledge sharing in Europe.

"Through EFORTnet, each member of the orthopaedic and traumatology community will be able share knowledge and build their network of excellence," Oscar Vispo, web project manager at EFORT Head Office, said.

The platform offers several traditional features familiar to members who take part in social media, such as personal walls, the ability to contact other members and the ability to send direct messaging between members.

EFORTnet also offers a unique and innovative federated search function that covers only professional and dedicated sources of information. As a concrete example, members will be able to use the federated search function to search abstracts from EFORT Congresses Free Papers, e-posters, videos and presentations.

In addition to its resources, such as the federated search and an e-library, knowledge sharing within the community will be ensured by the platform members via knowledge sharing events such as webinars and topic-specific forums.

"With individual communication and networking tools such as personal walls, contact searches and direct messaging between members, EFORTnet strives to become the point of reference and the community platform of preference on orthopedics," Vispo said.

The features of EFORTnet will be rolled

out in two parts during the next 2 years. Phase 1 – the official launch – kicks off here at the 14<sup>th</sup> EFORT Congress. Phase 2 of development will add the resource center, forum facilities, webinars and other functionalities.

Professionals interested in learning more can visit the fully integrated EFORT booth located at the exhibition area (ICC level B5). Everyday, several demos will be programmed and dedicated staff will be able to show the EFORTnet interface and register users upon request. In addition, two EFORTnet mobile booths, located in the B2 foyer will introduce EFORTnet to participants.

Professionals interesting in signing up must create an account by filling out a simple form. To create an account, visit [www.efort.org](http://www.efort.org) and click "create account" underneath the login box located in the top right corner of the screen. ■





# Istanbul city guide

Voted as the premier European destination, the city of Istanbul provides a vibrant mix of cultures. Istanbul has a variety of influences on daily life due in part to its location on the Bosphorus Strait between Europe and Asia, and its long history at the center of various ruling empires. Attendees exploring the city will see Greek, Roman, Byzantine and Ottoman architectural influences.

Now is a great time to visit Istanbul as 2013 is the 90<sup>th</sup> anniversary of the creation of the Republic of Turkey following the collapse of the Ottoman Empire.

## Top ten things to do and see:

**1 Bosphorus Strait**  
A strategic waterway, the Bosphorus Strait connects the Black Sea to the Sea of Marmara. Spanning almost 20 miles long and 3,600 yards wide, the Strait offers magnificent views of the city while providing the city with import access and fishing markets. In addition to the spectacular views, the shores of the strait are lined with upscale neighborhoods, Ottoman palaces, fortresses, old wooden villas, hotels, parks and gardens, restaurants and more.

Life in Istanbul is centered on the Bosphorus Strait. Boat tours are an essential, part of any trip to Istanbul. Tours attendees an opportunity to see Istanbul and see the unique sites along the Bosphorus Strait.

**2 Topkapi Palace**  
Topkapi Palace is the largest and oldest palace in the world and is situated at the site of the first settlement in Istanbul. Serving as the primary residence for Ottoman Sultans for nearly 400 years, the palace was built around the year 1453. In 1924, the palace was turned into a museum to mark the beginning of the imperial era. The museum now contains of ancient artifacts while displaying many excellent examples of Ottoman architecture.

**3 Hagia Sophia**  
Initially a church before it was converted into a mosque and finally to a museum, Hagia Sophia was at the center of both the Byzantine and Ottoman empires. Its diverse architecture offers a look rare look into the Byzantine and Ottoman empires under one magnificent dome.

**4 Grand Bazaar**  
The Grand Bazaar is one of the world's oldest landmarks. It is also the largest covered market in the world, spanning 61 covered streets and housing more than 3,000 shops. The bazaar attracts anywhere between 250,000 and 400,000 visitors on a daily basis.

**5 Blue Mosque**  
The Blue Mosque, Sultanahmet Camii in Turkish, is one of the most well known and historical mosques in Istanbul. Thousands of blue tiles surround the interior walls which is where its name came from. The Blue Mosque was built between 1609 and 1616 during the rule of Ahmed I like many other mosques contains the tomb

of the founder and it is still used as a place of worship today.

**6 Galata Tower**  
Offering a panoramic view of the picturesque city of Istanbul, Galata Tower offers a variety of cafes and restaurants. One of the oldest and most important towers in the world, Galata Tower was originally constructed of wood by Byzantium Emperor Anastasius in 507 before being rebuilt with pile stone in 1348.

Originally designed to the highest point of the city walls, this tower is of great im-

portance as the opening of the two ports of Halic and Marmara and has much history, including the first man in history to fly using wooden wings in the 17<sup>th</sup> century.

**7 Basilica Cistern**  
Located next to the Hagia Sophia in the crowded Eminönü district, the Basilica Cistern was build to provide water for the entire city of Istanbul during the reign of Emperor Justinian in the sixth century. The Cistern is a large underground chamber that is divided by

*Guide, continued on page 10*

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# Vitamin E-enhanced polyethylene liners show low wear in THA performed for OA

The amount of head penetration and cup migration was low in patients with osteoarthritis who underwent total hip arthroplasty with vitamin E-enhanced highly crosslinked polyethylene liners

patients treated at center 2 received either 32-mm or 36-mm diameter ceramic femoral heads.

The surgeons at center 1 under-reamed the acetabular bone bed by 1 mm and sur-

polyethylene and we have no side effects with increased migration of the implants," Malchau said, noting the main outstanding question about vitamin E-doped highly crosslinked polyethylene is how it will withstand wear in the second decade.

One patient in the study who developed an infection underwent surgical debridement and irrigation, but did not require a revision or a liner exchange. Study limitations included a lack of randomization and controls and the low numbers of patients enrolled in the study at both centers, Malchau said.

"We are running a much larger cohort study where we include 500 patients with vitamin E-stabilized polyethylene and 500 patients with a more conventional type of polyethylene, but it needs a much longer follow-up before we can make any clinical conclusions." ■

reached at Orthopedic Department, Massachusetts General Hospital, 55 Fruit St., GRJ 1126, Boston, MA 02114, USA; email: hmalchau@partners.org.

#### Disclosure:

Malchau is a shareholder in RSA Biomedical and is a consultant to Biomet. Malchau and Sillesen receive grant/research support from Biomet.

#### PERSPECTIVE

I think this is an important study as it is one of the first clinical evaluations of crosslinked polyethylene. Although the follow-up time is short, the authors can give, because of their radiostereometric analysis technique, first promising results of an improved wear performance of this type of crosslinked polyethylene. It will be important that the authors continue their follow-up on this device to confirm the improvement in the long run.

**Karl Knahr, MD**

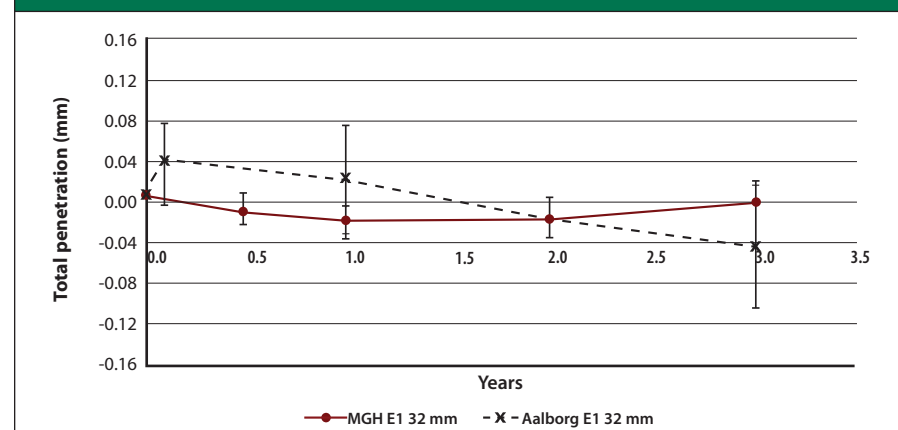
ORTHOPAEDICS TODAY EUROPE Editorial Board Member  
University Professor  
Orthopedic Hospital Vienna-Speising  
Vienna

#### Disclosure:

Knahr has no relevant financial disclosures.

## Total head penetration into polyethylene liners

This chart depicts head penetration into the E1 polyethylene implant (Biomet; Warsaw, Ind., USA) used in the study at both centers 1 and 2.



Source: Sillesen N

regardless of the femoral head material used in the implant or the size of the femoral head.

"We have demonstrated less wear compared to any other study of polyethylene," Henrik Malchau, MD, PhD, of Massachusetts General Hospital (MGH), in Boston, one of the investigators, said. "We have not demonstrated any side effects in implant stability."

Nanna Sillesen, MD, PhD, a research fellow at Harris Orthopaedic Laboratory at MGH is scheduled to present on 6 June, Paris Auditorium from 17:15-18:15.

### Multicenter THA study

Malchau and colleagues prospectively studied 144 patients (150 hips) who underwent total hip arthroplasty (THA) at two of three centers involved in the study. The average follow-up was 5 years.

The 61 patients operated on at center 1 received a Regenerex Porous Titanium Construct acetabular cup (Biomet; Warsaw, Ind., USA) with a vitamin E-enhanced highly crosslinked polyethylene liner (E1 Antioxidant Infused Technology; Biomet) and a 32-mm or 36-mm diameter cobalt chrome femoral head.

Forty-five patients treated at center 2 received the same cup with a highly crosslinked polyethylene liner that was doped with vitamin E and 44 patients treated at center 2 received Arcom XL liners not doped with vitamin E (Biomet; Warsaw, Ind., USA). All the

geons at center 2 reamed the bone bed line-to-line, according to Malchau.

To measure femoral head displacement into the polyethylene and acetabular component stability, investigators performed radiostereometric analyses (RSA) in all patients immediately postoperatively and at 6 weeks, 6 months, and 1 year, 2 years, 3 years and 5 years after THA surgery.

### Low wear, no increase in migration

The median femoral head penetration for THAs performed at center 1 with the vitamin E-doped liners and 32-mm metal heads was  $-0.02 \text{ mm} \pm 0.02 \text{ mm}$ .

Malchau and colleagues found this penetration was about the same as that for THAs performed at center 2 with ceramic heads with the vitamin E liners at  $0.02 \text{ mm} \pm 0.05 \text{ mm}$  and for ceramic heads used at center 2 with non-vitamin E liners, where head penetration was  $0.02 \text{ mm} \pm 0.04 \text{ mm}$ .

At 3 years of follow-up, these differences were not significant.

At postoperative year 1, investigators found proximal cup migration of  $0.14 \text{ mm} \pm 0.04 \text{ mm}$  for cases at center 1, a distance that was significantly lower than at center 2 where the cup migration was  $0.38 \text{ mm} \pm 0.05 \text{ mm}$  ( $P < 0.001$ ). However, they noted cup migration at both centers did not increase at 3 years.

"We have the lowest wear percentage so far with any highly crosslinked

#### Reference:

Malchau H. Abstract #13-2743. Presented at: 14<sup>th</sup> EFORT Congress. 5-8 June 2013; Istanbul.

#### Source info:

Henrik Malchau, MD, PhD can be

### Guide, continued from page 9

a forest of 336 columns made of solid marble and accented by arches. The walls are made of firebrick and coated with a special mortar making the entire chamber waterproof.

## 8

### Taksim Square

Taksim Square is a lively neighborhood located on the European side of Istanbul. This major tourist attraction is famed for its restaurants, bars and hotels, as well as numerous international fast food chains. The square is also the home of the Monument of the Republic, which was built in 1923 to celebrate and symbolize the creation of the Turkish Republic.

## 9

### Istanbul Archaeology Museum (Arkeoloji Müzesi)

Since it opened in 1891, the Istanbul Archaeology Museum has built a massive collection. The museum, which actually consists of three buildings, is home to more than 1 million artifacts. Included in the collection is

the Alexander Sarcophagus. Although his body does not rest inside as was originally believed, the sarcophagus is covered with carvings inspired by the life of Alexander the Great.

Admission to the Istanbul Archaeology Museum is approximately \$8 USD. The museum is open Tuesday through Sunday from 9:30 to 17:00.

## 10

### Dolmabahçe Palace

Dolmabahçe was the home of the last sultan of the Ottoman Empire. This lavish and glamorous palace, however, has major historical significance to the people of Turkey. Mustafa Kemal Atatürk, also known as "the father of the Turks," and the first president of the Republic of Turkey died in the Dolmabahçe Palace in 1938. To this day, the clock in what once served as Atatürk's bedroom is stopped at 9.05, the precise time in which he died. Located directly on the Bosphorus Strait, this masterpiece of architecture is a must see for not only its beauty, but its historical significance. ■



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