

The International  
Society for  
Fracture Repair

# THE INTERNATIONAL SOCIETY FOR FRACTURE REPAIR NEWSLETTER

June 2009



Osteoporotic  
Fracture Campaign



From the President,

Dear members of the International Society for Fracture Repair:

Over the last few years our society has been highly involved in various activities supporting the improvement of care for patients with osteoporosis. As a “fracture” society, our primary concern has been for the care of patients who have already suffered a fracture and require adequate treatment to maintain their mobility. The activities of the ISFR Osteoporotic Fracture Campaign now appear to have been very successful. Not only have we achieved scientific and clinical recognition, but we have also been able to motivate others to follow our path. Larger societies such as the International Osteoporosis Foundation (IOF) and the European Federation of National Associations of Orthopaedics and Traumatology (EFORT) both support the idea of improving the care for osteoporotic patients after a fracture. These societies will have a greater impact on political and clinical decisions and therefore we need to support their activities. In the past, the primary role

of the ISFR has been to develop new ideas and strategies for the treatment of patients with fractures through research and education, and this should remain our objective in the future. This mission is reflected in the upcoming activities which you will read about in this Newsletter.

Successful research with new ideas relies heavily on the young and active members of our society who are willing to spend their time in the laboratory and at scientific meetings. I would like to encourage these enthusiastic researchers and clinicians to play an active role in our society by joining our meetings, participating in our discussions, and providing feedback. I would also like to invite our senior members to find this rising generation of active juniors and involve them in the activities of the ISFR. We need young blood to survive!

Youthful individuals need support, but support is widely available. I would like to draw your attention to several programs which allow young researchers or interested clinicians to educate themselves and improve their knowledge. The following societies and foundations offer interesting opportunities for education and exchange:

BJD : [www.usbjd.org/research/research\\_op.cfm?dirID=122](http://www.usbjd.org/research/research_op.cfm?dirID=122)

EFORT : [www.efort.org/Main-Sections/Fellowships.aspx](http://www.efort.org/Main-Sections/Fellowships.aspx)

OTA : [www.ota.org](http://www.ota.org)

ISFR : [www.fractures.com](http://www.fractures.com)

OTC : [www.otcfoundation.org](http://www.otcfoundation.org) at *QuickLinks*

AO : [www.aofoundation.org](http://www.aofoundation.org) at *Funding*

Hope to see some of you soon at one of our upcoming events.

Peter Augat

**ISFR Symposium in Kyoto**  
**Symposium on Biophysical Stimulation on Bone and Fracture Healing**  
Held in Kyoto, Japan, November 26-28, 2008  
Meeting Chairman: Takashi Matsushita

This symposium was held in Kyoto, Japan from November 26 through November 28, 2008. The purpose of the symposium was to discuss the effects of biophysical stimulation on bone remodeling and fracture healing. Fifteen invited speakers and moderators from the United States, Europe, and Japan presented twenty-four papers (30 minutes each) and discussed topics for more than six hours during the three days. Specialties of the speakers and moderators were grossly divided into three categories: cell biology, biomechanics, and clinicians (orthopaedic surgeons and dentists). The first part of this workshop was reported in the January 2009 ISFR newsletter. The second part was reported in the March issue. We now report part III.

**November, 28 Topics: Low Intensity Pulsed Ultrasound (LIPUS) Stimulation on Fracture Repair**

Takagaki (Japan) studied differential mechanical responses in cells of osteoblastic lineage, and showed three conclusions: 1. Stretching induces bone formation in long bones through osteocytic control over the osteoblasts. 2. Effects of low-intensity pulsed ultrasound can be additive. 3. Differentiation and communication in the cells of osteoblastic lineage are critical in maintaining bone metabolism, which reflects their mechanical environment.

Watanabe (Japan) et al. reported the result of a cohort study of 192 delayed or nonunions treated by low-intensity pulsed ultrasound. They concluded that the greatest gap size of main fragments, instability of a fracture site, and the age of nonunion were the three main predictable factors that affected LIPUS clinical results.

Ryaby (USA) reported that LIPUS accelerated rat femoral fracture healing by acting on the various cellular reactions in the fracture callus, but he stated that the clinical significance of LIPUS therapy for fresh fracture should be more carefully considered.

Leung (Hong Kong) studied the effect of LIPUS on distraction osteogenesis in rabbits. He concluded that the effective period of LIPUS treatment was at the initial stage of consolidation, with accelerated bone formation and remodeling.

In contrast, Inoue (USA) reported that LIPUS was found to increase the size of the distraction callus and that it might alter the composition of regenerate bone. It did not although, have a positive effect on the mechanical properties or density of regenerate bone when applied during the consolidation phase of distraction osteogenesis.

**November, 28 Topics: Electro-Magnetic Field (PEMF) Stimulation on Fracture Repair**

Fini (Italy) et al. studied the effect of PEMF on the osteointegration of bone implants. She reported that histomorphometric and biomechanical tests demonstrated that PEMFs significantly accelerate hydroxyapatite osteointegration, mechanical attachment to bone, bone remodeling and mineralization in both trabecular and cortical bone. Inoue (USA) reported effects of PEMF on osteotomy gap healing and maturation of regenerate



### Can we further improve fixation?

Antonio Moroni, MD  
Rizzoli Orthopaedic Institute

The **Osteoporotic Fracture Campaign** has grown in part due to the global interest in fracture healing. Manipulation of the local fracture environment--in terms of application of growth factors, scaffolds, mesenchymal cells, and the systemic administration of agents promoting bone formation and bone strength--has been considered a treatment option with promising results. In Europe, delayed bone healing leads to socio-economic costs of up to 14.7 billion euros per year.

Fixation augmentation techniques can be defined as surgical procedures aimed at increasing implant stability in the mechanically weak bone. These techniques include a variety of biological and orthobiological materials, and bone graft substitutes. Bone graft substitutes can be classified as calcium phosphates, collagen-calcium phosphate composites, calcium sulphates, demineralised bone matrix, and combined osteoconductive materials. Although there is a great deal of interest in these materials, there are few evidence-based studies reporting on bone graft substitutes for fixation augmentation techniques of hip fractures. Porous hydroxyapatite (HA) granules (an orthobiological material) facilitate the adherence of osteoprogenitor cells and biological growth factors. The granules confer little bending strength, shear, or tension until well incorporated into the bone. HA granules implanted in the proximal femur have been used to improve the holding power of lag screws by augmenting cancellous bone. Based on available evidence, HA-coated screws should be used for cancellous bone fixation in the femoral head in patients with porous bone.

There is no evidence showing any substantial advantage in using calcium phosphate cements as a tool to improve stability for this particular surgical indication. Only recently have BMP-2 and BMP-7 been approved for clinical use, and their introduction to therapeutic strategies for future surgical utilization will depend on the delivery system, biomechanical stabilization, and in establishing reduced complications.

We look forward to engaging discussions of these fracture healing issues at our upcoming event this December 4-5, 2009. This session will feature presentations by G Friedlander (US), on the use of BMPS; M Bhandari (Canada), on the effects of ultrasound and fracture repair; H Bryant (US), will talk on pharmacological challenges; and D Marsh(UK), explores the nature of fracture healing in the elderly. I encourage you to register early for this educational initiative brought to you by the Osteoporotic Fracture Campaign (OFC) which fosters workshops on these critical issues.

#### References:

- Giannoudis P, Schneider E. Principles of fixation of osteoporotic fractures. *J Bone Joint Surg* 2006; 88: 1272-1278.
- Larsson S. Treatment of osteoporotic fractures. *Scand J Surg* 2002; 91: 140-6.
- Moroni A, Larsson S, Hoang-Kim A et al. Can we improve fixation and outcomes? Use of bone substitutes. In press *J of Orthop Trauma* July 2009.
- Schmidmaier G, Schwabe P, Strobel C et al. Carrier systems and application of growth factors in orthopaedics. *Injury* 2008, 39(2).

## **AO Clinical Priority Program: Fracture on Osteoporotic Bone**

Innsbruck, 2009  
J Goldhahn, Switzerland



The forth-general meeting of the AO Clinical Priority Program: Fracture Fixation in Osteoporotic Bone (CPP FFOB) was held in Hall i.Tirol in Innsbruck, Austria, from March 18 to March 19, 2009. The goal of the two-day meeting was to exchange information about the goals reached in individual projects over the preceding year, as well as to set objectives for the coming year. The CPP FFOB Program currently consists of 12 projects which offer a comprehensive overview of the treatment of geriatric fractures.

This year's general meeting was collectively organized by the CPP core team M. Blauth, Innsbruck; N. Suhm, Basel; J. Goldhahn, Zurich; and P. Büscher, Davos; and run by the University Hall, Institute of Biomedical Image; the Medical University Clinic Innsbruck; and the AO. On the first day at University Hall, as part of a "get-together", 58 participants had the opportunity to view spectacular and impressive projects, including hands-on presentations, from the Institute of Biomedical Image Institute (Head: Prof Rainer Schubert).

A further highlight of the day was PD Dr. M. Schieker's guest lecture entitled "Bone regeneration of osteoporotic bone: new approaches for the investigation of metaphyseal fracture healing".

The second day was filled with project updates by various project groups. This helped impress upon those present just how far the entire program has advanced. Some of the projects have already reached the clinical investigation stage of their achievable goals. The results of these projects will soon be transferred to the industrial partners.

For further information please visit: <http://www.aofoundation.org/>

## OSTEOPOROSIS: FROM EVIDENCE TO ACTION

Combined Workgroup Sessions & Symposium

Hosted by the International Society for Fracture Repair

December 4-5, 2009

Monte Carlo, Monaco

By AMY HOANG-KIM

The ISFR is pleased to extend an invitation to join us in Monte Carlo for a synopsis of the past seven years. The event "Osteoporosis: From Evidence to Action" is chaired by M Bhandari (Canada), A Moroni (Italy), and E Schemitsch (Canada); scientific committee members include P Augat (Germany), J Goldhahn (Switzerland), A Hoang-Kim (Canada), and D Marsh (UK). Friday workgroup sessions will be exclusively held for the champions in research dedicated to "Improving outcomes". This will be followed on Saturday with an ISFR symposium entitled: "Hip, Wrist & Spine: do we have an answer?" This 2-day combined event is the first hosted by the ISFR in which the format will take the form of interactive sessions between leaders of research and surgeons specialized in three main areas of interest (wrist, hip and spine), all concerned with the aged population affected by osteoporosis. This tiered event, with parallel running sessions altered with free paper sessions, will allow the network of scientists, fellows, trainees, and young investigators exposure to the evolution of fracture care that begins with the patient's placement in a holistic management pathway and which differs from country to country.

International speakers such as S Bavonratanavech (Thailand), along with N Fazzalari (Australia), K Akesson (Sweden), and D Beaton (Canada) will be presenting perspectives on OP strategies and patient management.

Satellite symposia concerning vertebral compression fracture surgical techniques, AO clinical priority program, and femoral neck fractures will also be featured.

A Ladd (US), L Odert (France), and J Goldhahn (Switzerland) will address the percentage of the comminuted osteoporotic low-energy fractures and the operative stabilization required for these unstable injuries. As the elderly retain an active lifestyle and are physiologically healthier, it is critical to provide indications for operative fixation, as conservative treatment may result in unsatisfactory results.

Traditional measures of outcomes after treatment such as physiologic or anatomic results quantified by radiographic alignment, range of motion, or grip strength are no longer adequate for depicting true patient expectations and a concise clinical picture. Furthermore, literature on clinical studies is skewed by the choice of investigator-developed instruments which either overestimate or underestimate clinical outcome. The extent of discomfort or perceptions of disability are often not represented by standardized measures. The exploration in the rationale behind the use of outcome measures will be the goal of the three workgroups held on Friday. These workshops are open to all participants. We ask you to please indicate your area of specialty on the registration form, which can be downloaded from our website [www.fractures.com](http://www.fractures.com).

Registration details are also found on the website with a discounted price for ISFR members (95Euro); registration fees for non-members are 150Euro.

We are pleased to accept abstracts on breaking news regarding osteoporosis treatment and management. Abstracts must contain presenting author underlined and corresponding author's email address and telephone number. Authors must include: Introduction, Methods/Materials, Discussion and Conclusion. Length cannot exceed one full page and please indicate five keywords.

**Deadline for abstract submission is August 15, 2009.**

Please upload in word document the original abstract. This document may contain tables and figures but cannot exceed one page. Please submit with Arial or Times New Roman, Font Size 12. You will receive a confirmation number once the abstract is received. Please communicate any technical difficulties to Tanja Hadersbeger at the following email address:

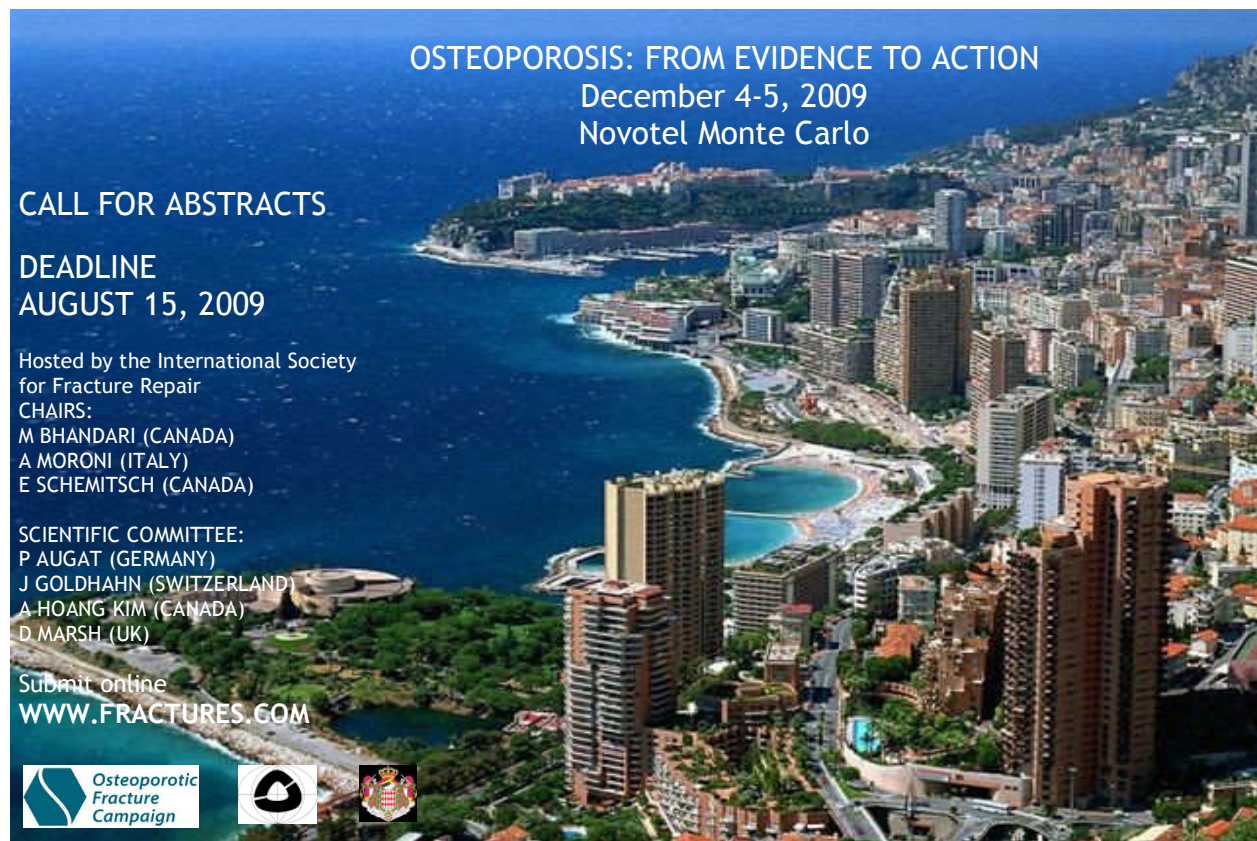
[Tanja.Hadersberger@bgu-murnau.de](mailto:Tanja.Hadersberger@bgu-murnau.de)

References:

Hoang-Kim A, Scott J, Micera G, et al. Functional assessment in patients with osteoporotic wrist fractures treated with external fixation: a review of randomized trials. Arch Orthop Trauma Surg 2009

Poolman RW, Swiontkowski MF, Fairbank J, et al. Outcome Instruments: Rationale for their Use. J Bone Joint Surg Am 2009.

Swiontkowski MF, Buckwalter JA, Keller RC et al. The outcomes movement in orthopaedic surgery: where we are and where we should go. J Bone Joint Surg Am. 1999; 81: 732-40.



**OSTEOPOROSIS: FROM EVIDENCE TO ACTION**  
December 4-5, 2009  
Novotel Monte Carlo

**CALL FOR ABSTRACTS**




**DEADLINE**  
**AUGUST 15, 2009**

Hosted by the International Society  
for Fracture Repair

CHAIRS:  
M BHANDARI (CANADA)  
A MORONI (ITALY)  
E SCHEMITSCH (CANADA)

SCIENTIFIC COMMITTEE:  
P AUGAT (GERMANY)  
J GOLDBAHN (SWITZERLAND)  
A HOANG KIM (CANADA)  
D MARSH (UK)

Submit online  
**WWW.FRACTURES.COM**

# Osteoporosis: From Evidence to Action - Preliminary Programme

## Spine, Wrist and Hip: Improving Outcomes

**Friday, December 4, 2009**

Novotel Monte Carlo

7:30 am Registration Opens  
coffee available

Room *Le Plateau*

### Session I: Evidence-Based Orthopaedics

Moderators: E Schemitsch (Canada) & K Akesson (Sweden)

8:00 **Where are we now and where are we going?**  
M Bhandari (Canada)

8:10 **Making Sense of Health Care Recommendations:  
GRADE System** A Joensson (Germany)

8:20 **Checklists to Grade Quality of RCTs** A Hoang-Kim (Canada)

8:30 **Outcomes Assessment: Validity and Reliability**  
D Beaton (Canada)

8:30 - 8:50 Discussion

**8:50 - 9:00 Break**

## 9: 00 am to 12:00 pm Workgroup Breakouts

### Workgroup I: Hip Fractures

Moderators: M Bhandari & E Schemitsch

Room *Le Plateau*

### Workgroup II: Wrist Fractures

Moderators: A Ladd (US) & J Goldhahn (Switzerland)

Room *Talkshow*

### Workgroup III: Vertebral Fractures

Moderators: P Heini (Switzerland) & D Marsh (UK)

Room *Backstage*

**12:00 pm to 1:00 pm Lunch**

## 1:00 pm to 5:00 pm Workgroup Breakouts

**5:00 - 5:20 Coffee Break**

## Session II: Current Issues in the Design of Orthopaedic Research

Moderators: M Bhandari & A Joensson

5:20 **Limiting Bias in Clinical Research** E Schemitsch

5:30 **Multicenter Trials: Current Challenges** M Bhandari

5:40 **Composite Outcomes** A Hoang-Kim

5:50 **Conflicts of Interest and the Current Industry-  
Surgeon Relationship** B Hanson (Switzerland)

6:00 - 6:30 Discussion

## 8:00 pm Gala Dinner

The Méridien Beach Plaza, Salon Mediterranean

8:30 pm **Welcome Speech** E Schemitsch

8:40 pm **OFC Milestones** A Moroni

## Spine, Wrist and Hip: Do we Have an Answer?

**Saturday December 5, 2009**

8:00 am coffee available

Room *Le Plateau*

### Session I: OP Strategies & Patient Management

Moderators: D Marsh & S Bavonratanavech (Thailand)

8:30 **Introduction** K Akesson

8:40 **Asian Perspective** S Bavonratanavech

8:50 **European Perspective** J Casal (Monaco)

9:00 **Canadian Perspective** D Beaton

9:10 **US Perspective** E Puzas (US)

9:20 **Australian Perspective** N Fazzalari (Australia)

9:30 - 10:15 Discussion

10:15 - 10:30 Break

### Session II: Wrist Fractures

Moderators: A Ladd & E Puzas

10:30 **Proper Diagnosis & Treatment** J Goldhahn

10:40 **Use of Bone Substitutes** A Ladd

10:50 - 11:20 **Case Studies** L Odert (France)

## Session III: AO Satellite Symposium

11:20 **AO Clinical Priority Program: Achievements**

J Goldhahn

11:30 **Complication Reporting: What is the Current Evidence?**

S Goldhahn (Switzerland)

11:40 **Complication Reporting: A Motion Towards Action**

B Hanson

11:50 - 12:15 Discussion

**12:15 pm to 1:15 pm Lunch**

### Session IV: Hip Fractures

Moderators: G Friedlander & J Casal

1:15 **When and How to Fix** A Moroni

1:25 **When and How to Replace** E Schemitsch

1:35 **Emerging Technologies** T Russell (US)

1:45 **Improved Implant Fixation** S Larsson (Sweden)

1: 55 **A Multidisciplinary Approach** R McCann (US)

2:05 - 2:15 pm Discussion

### Session V: 2:15 - 3:05 Free Paper Session

**3:05 - 3:15 Break**

### Session VI: Fracture Healing

Moderators: E Schemitsch & S Larsson

3:15 **Fracture Healing in the Elderly** D Marsh

3:25 **Use of BMPs** G Freidlander (US)

3:35 **Ultrasound** M Bhandari

3:45 **Pharmacological Challenges** H Bryant (US)

3:55 - 4:15 Discussion

### Session VII: Industry Perspectives - Yes We Can!

Moderators: A Hoang-Kim & J Goldhahn

4:15 **The Private Sector and Global OP Awareness:**

**Addressing the Ethical Challenges**

A Valentin (Wyeth)

4:20 **Medical-Surgical Solutions** K Hones (Medi Germany)

4:25 **Advocating Clinical Research Competency:**

**A Key Component of Future Outcome Research**

R Dent (Amgen)

4:30 **Commitment to Musculoskeletal Research:**

**A Key to Social Responsibility** J Mershon (Lilly)

4:35 **New Opportunities in Translational Research:**

**A Key to Finding Clinical Significance** A Spietling (Stryker)

4:40 **Crossing National Boundaries:**

**A Key to Standardizing Practice** H Gervais (Medtronic)

4:50 - 5:00 Discussion

Room *Talkshow*

### Session I: Vertebral Fractures

Moderators: N Fazzalari & R McCann

1:15 **What is the Standard of Care?** S Emery (US)

1:25 **Surgical Perspectives** P Heini

1:35 **Cement & Biocomposites** K Tamalidge (US)

1:45 - 2:30 Discussion

**2:30 - 2:40 Break**

### Session II: 2:40-3:50 Free Paper Session

### Session III: Satellite Symposium

#### Femoral Neck Fractures

3:50 **Internal Fixation vs Arthroplasty** J Feron (France)

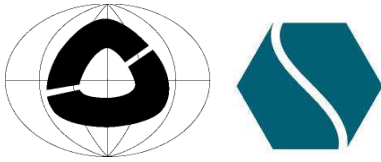
4:00 **Fixation and Bearings** B Wippermann (Germany)

4:10 **New Concepts** A Moroni

4:20-4:45 Discussion

**5:00 Closing Remarks** D Marsh

**Cheese and Wine Reception**



**Osteoporosis: From Evidence to Action**  
**Novotel Monte Carlo, Monaco**  
**December 4-5, 2009**

The International Society for Fracture Repair welcomes you to the ISFR's first combined ISFR Workgroup/Symposium that will be held December 4-5, 2009, at the Novotel, Monte Carlo, Monaco. Registration fees for delegates include the Gala dinner.

**PLEASE RETURN THIS FORM TO Emilie Cavernes no later than September 1, 2009 at [cavernese@im2s.mc](mailto:cavernese@im2s.mc), Phone + 377 99 99 10 36, Fax +377 99 99 1049.**

Any further questions regarding the scientific programme, please do not hesitate to contact: **Amy Hoang-Kim** at [isfr.fractures@gmail.com](mailto:isfr.fractures@gmail.com).

**First name:** \_\_\_\_\_ **Surname:** \_\_\_\_\_

**Address:** \_\_\_\_\_

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**Mobile:** \_\_\_\_\_

***Please check all that apply:***

- 1 night December 3, 2009
- 1 night December 4, 2009
- Single occupancy € 160
- Double occupancy € 180

- ISFR Member Registration fee € 95
- Non-ISFR Member registration fee € 150
- Industry representative fee € 350

- Gala dinner 8pm December 4, 2009 (included in registration fee for delegates)
- Gala dinner for industry representatives € 100
- Gala dinner for accompanying persons € 75

***Additional nights*** \_\_\_\_\_

**Check in date** \_\_\_\_\_

**Check out date** \_\_\_\_\_

- Single occupancy € 160
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- Interested in joining the hip fracture working group
- Interested in joining the vertebral fracture working group
- Interested in joining the wrist fracture working group

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International Society for Fracture Repair

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## MEETINGS OF INTEREST

### Canadian Orthopaedic Association 64<sup>th</sup> Annual Meeting

July 3-6, 2009

Whistler, British Columbia

[www.coaannualmeeting.org](http://www.coaannualmeeting.org)

### 31st Annual Meeting of the American Society for Bone and Mineral Research

September 11-15, 2009

Colorado, Denver

[www.asbmr.org](http://www.asbmr.org)

### Annual Meeting of the British Orthopaedic Association

September 15 - 18, 2009

Manchester, United Kingdom

### 25th Anniversary Annual Meeting Orthopaedic Trauma Association

October 08 - 10, 2009

San Diego, CA

### Annual Meeting of the Australian Orthopaedic Association

October 11 - 15, 2009

Cairns, Australia

### 22nd Annual Congress of the International Society for Technology in Arthroplasty (ISTA)

October 21 - 23, 2009

Big Island, Hawaii, HI

### Osteoporosis: From Evidence to Action

Hip, Wrist & Spine: Do we have an answer?

ISFR Hip, Wrist & Spine Workgroups

Improving Outcomes

**Call for Abstracts**

**Deadline August 15, 2009**

[www.fractures.com](http://www.fractures.com)

December 4-5, 2009

Monte Carlo, Monaco

contact Amy Hoang-Kim at [isfr.fractures@gmail.com](mailto:isfr.fractures@gmail.com) for more information

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