

THE INTERNATIONAL SOCIETY FOR FRACTURE REPAIR NEWSLETTER



Osteoporotic
Fracture Campaign

October 2009



From the President,

The ISFR activities of 2009 will be crowned by our conference **Osteoporosis: From Evidence to Action** taking place in Monte Carlo, Monaco on December 4th and 5th. Please register for the meeting before October 15th to obtain the early registration discount. Detailed information, including the program, can be found in this newsletter and also on our website.

Over the past years, the focus of ISFR activities has been in providing the evidence for the effective treatment of patients with osteoporotic fractures. We will now have to observe how this evidence will help to better the treatment care of our patients. In the coming years, putting this evidence into adequate action will be the challenge for our clinical colleagues. The exchange of insights from different countries and the healthcare systems by which they are governed will provide the backbone to further developments in the treatment of fracture healing across the globe. The ISFR will continue to provide a platform for this exchange to clinicians and health care providers.

Research in the area of fracture repair is still faced with the challenge of the fixation of osteoporotic bone. New treatment options that improve the fixation, the augmentation of brittle bones, and the enhancement of fracture healing in the elderly will have to be developed. As always, the development of improved treatment options is an interdisciplinary task and therefore ideally suited as a focus for ISFR activities. My hope is that during our ISFR meetings, as many as possible will be inspired by our mission to advance the science of fracture repair for the betterment of patient care.

I would like to thank all of the ISFR members for their continuing support of our activities and I hope to see all of you soon, and in good health during one of our upcoming meetings.

Yours, sincerely
Peter Augat

Fracture Treatment in the Indian Health Care System



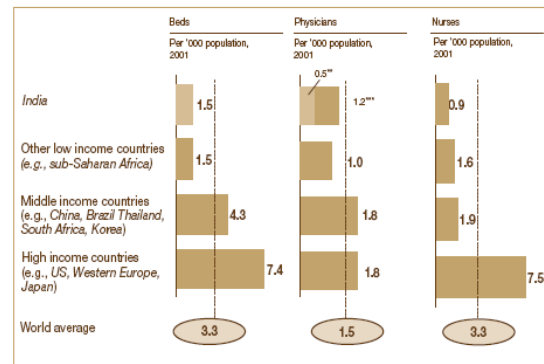
**Dr Parag Sancheti MS. DNB. MCh.
Professor & Chairman
Sancheti Institute for Orthopaedics &
Rehabilitation (S. I. O. R), Pune, India
Consultant Orthopaedic Surgeon at SIOR
Visiting consultant at University of
Dundee, U.K.**

An analysis of fracture care in the Indian health care system would more than clearly show that even though the standard of care may be well defined, the ultimate decision for treatment involves other important factors such as cost, social, cultural and religious affiliations which the orthopaedic surgeon has to consider before deciding what would be the optimal treatment for his patient.

What makes India unique from other health care systems around the world is its large population and the equally large diversity in economic, cultural and religious values to which it caters.¹ India today is the second most populous country in the world and is expected to surpass China in 2030.² Adding to the burden of a large population is its equally wide cultural and religious divide. India can be broadly divided into its rural and urban populations and is traditionally a rural agrarian economy. Nearly three quarters of the population still live in rural areas and as of 2004 nearly 27.5% of Indians were still living below the poverty line. Three hundred million Indians earn less than a dollar a day.³ While most of the rural

population depend on primary health care centers set up by local government bodies, these centers are usually poorly staffed, have inadequate equipment, and serve more as referral centers for state central hospitals that provide free treatment for the poor. Urban area hospitals are well equipped with state of the art equipment and expertise; however, the cost involved in having treatment at these facilities makes it unattainable for all but the middle class and tourists.

India Health Infrastructure



Government run hospitals were the main providers of healthcare in India until the 1980's; however, over the last decade the Indian medical system has undergone a major change with an increasingly strong participation from the corporate and private sector. These private and corporate hospitals are highly advanced and provide world-class medical services. Corporate hospitals use the latest technology available and perform more complex procedures and treatments. Most state of the art equipment is imported from countries like the USA, UK, Germany, Japan etc. These hospitals have specialists for every department of medical care and employ doctors that are highly educated and have years of experience.

The Indian health care system is also unique in that apart from allopathic medicine, the health care sector is divided into other modalities of medicine including ayurvedic medicine, Unani medicine, homeopathic medicine, and other alternative medicines. Different sectors of the population have varied faiths in these alternative medical treatments. A considerable portion of the population still believes in the “local bone setters” for the management of trauma.

Cultural aspects of the Indian population also has consequences that are unique to India rendering most validated scoring system defunct. By custom, most Indians sit cross-legged on the floor while eating their meals and praying to God, and the inability to do this post-operatively results in significant dissatisfaction with the treatment.

The Indian orthopaedic surgeon’s decisions also have to be cost effective as the health insurance sector in India has yet to develop and most patients pay from their savings. High quality medical care is available mainly to the upper and middle class, and tourists; however, in reality this sector constitutes only 25% of the total population. For the remaining population that cannot afford the standard treatment of care, the Indian orthopaedic surgeon has to use less expensive implants made by local companies and in some cases, older generation implants. Although this may be a deviation in the universal standard of care, the ultimate result in the hands of the experienced orthopaedic surgeon may not be much different using the more economical implants compared to international branded products.

The need for good quality, less expensive implants is also reflected in the sprouting up of numerous Indian companies that produce international standard implants

and sometimes make them available for 25% of the international cost. Some senior Indian orthopaedic surgeons have also taken the initiative in designing implants to suit Indian needs and make them available to the larger lower affording majority. Dr. K. H. Sancheti’s indigenous “Indus Knee” (high-flexed knee replacement prosthesis) gave joint replacement surgery a new dimension by reducing the total cost of total knee replacement surgery to 500 US dollars. In view of long hospital durations, escalating costs of treatment, and concerns of affordability, orthopaedic surgeons are frequently dissuaded from heroic efforts in limb salvage in cases of mangled extremities and opt for amputation as an easy and more affordable option; in which case they commence their work at an earlier date with a suitable prosthesis instead.

The Indian population also has a wide diversity in its level of education and even today has a large percentage of illiterate people. As per the 2001 Census, the overall literacy rate in India is 65.38%. This also effects fracture management as patients may not follow the prescribed post-operative instructions; a fact which results in most surgeons being over protective, using longer periods of post-operative immobilization, and also being



more careful with weight bearing after fracture fixation of a lower limb. These factors are also not considered in most validated scoring systems resulting in the depiction of poorer Indian outcome results.

The lack of an adequate emergency response system in the country has resulted in each individual center providing their own emergency response number which although effective, lacks the normal coordination seen in central based systems. This deficiency is responsible for the higher incidence of complications in fracture management with patients routinely presenting at delayed intervals due to lack of facilities in their rural habitat.

Today India is emerging as a hub for medical tourism which is one of the major external drivers for growth in the Indian health care sector. The availability of English speaking medical staff, state of the art private hospitals, diagnostic facilities, highly skilled/trained surgeons, and treatment at sometimes one-tenth the cost of other international centers makes it a veritable destination for foreigners who have long wait times for their elective surgeries due to burgeoning demands on their own health care systems. According to a joint study by the Confederation of Indian Industry and Mckinsey, Indian medical tourism was estimated at \$350 million in 2006 and has the potential to grow into a 2 billion dollar industry by 2012.

Today, Indian health care is also witness to numerous specialized hospitals equipped with state of the art equipment and expertise for dealing in specialties like orthopaedics, cardiology, nephrology etc. The Sancheti Institute for Orthopaedics and Rehabilitation, founded in 1972, has evolved into the largest purely orthopaedic center for south east Asia and acts as a tertiary referral care center

receiving patients from all over India and other parts of the world including South Africa, United Kingdom, United States, the Middle East region, and parts of south east Asia. We are committed to following the highest level of ethical standards in patient care, clinical research, education, and administrative management. The institute offers 14 distinct specialist services that cover the entire spectrum of medical care in orthopaedics. Sancheti Institute is also an educational centre with affiliations to major medical colleges and establishments worldwide.



Dr Parag Sancheti with the team of surgeons and specialists at Sancheti Hospital

With the growing economy, a rising number of skilled surgeons, an increasing number of hospitals with state of the art facilities, diagnostic facilities, and the growing awareness of evidence based practice, the Indian health care industry is growing neck to neck with the software and pharmaceutical industry and will soon emerge as one of the leading health care centers in the world.

References

1. Indian census 1961: Office of the Registrar General and Census Commissioner of India
2. Health care in India: Emerging market report 2007: Pricewaterhouse Coopers
3. Finance wire, July 2006

American Orthopaedic Foot & Ankle
Society Conference
25th Annual Summer Meeting
Vancouver, British Columbia, Canada
July 15-18, 2009

AOFAS President: Robert B. Anderson, MD
Program Chair: W. Hodges Davis, MD

By Ellie Pinsker, BA & Sc., MSc Candidate
St. Michael's Hospital, Toronto

The 25th annual summer meeting of the American Orthopaedic Foot & Ankle Society was held in beautiful Vancouver, British Columbia from July 15 through July 18, 2009. The meeting was well attended with participants from 26 different countries coming together to engage in scientific dialogue and to celebrate the 40th anniversary of the AOFAS. The comprehensive program consisted of symposia, current concept reviews, 59 paper presentations, 104 scientific e-posters, a pre-meeting course on Deformity Correction, and special *Then and Now* commemorative presentations which reflected on the first AOFAS program and the progress made within the specialty over the past 40 years. Subjects presented during the podium presentations included sports and scope, basic science and anatomy, Achilles and soft tissue injury, trauma, and ankle replacement. Symposia topics focused on surgery of the neurologic foot, complications, and painful fusions.

This year the special presidential guest speaker was Jack Taunton, Chief Medical Officer for the Vancouver 2010 Olympic and Paralympic Winter Games. He described his role overseeing the medical services program for the Olympics including the construction of new medical facilities for athletes and the public, the

development of programs relating to doping control, and basic and emergency health care delivery. The conference also marked the usual changing of the guard as outgoing AOFAS President, Robert B. Anderson (Charlotte, North Carolina), reflected on successes of the past year and the work to be done in the future. Newly installed President, Charles L. Saltzman (Salt Lake City, Utah), was welcomed and spoke of his hopes for the AOFAS in the coming years.

The **Leonard J. Goldner Award** was given to Martinus Richter (Coburg, Bavaria, Germany) and coauthors in recognition of their research paper "Intraoperative Pedography Leads to Improved Clinical Outcome Scores in a Randomized Controlled Trial". In the clinical category, the **Roger A. Mann Award** was given to Charles L. Saltzman (Salt Lake City, Utah) and coauthors for their study "Prospective Controlled Trial of STAR vs Ankle Fusion: Initial Results". First place for **Best Poster** was awarded to Anthony R. Cadden (Wollongong, NSW, Australia) and coauthors for their study on "Varus Deformity and Total Ankle Arthroplasty: Classification and Treatment Algorithm".

There was ample opportunity to make new friends, network, and catch up with colleagues at the many social functions which included an opening reception, afternoon excursions to Vancouver landmarks, and a gala event which featured entertainment by the AOFAS "musical performing artists" known as the Sole-Heelers. Next year's meeting will take place from July 7 through 10, 2010, in National Harbor, Maryland.

For more information, please go to www.aofas.org.

Improving Clinical Care Pathways for Elderly Persons with Fractures

10th EFORT Congress
Austria Centre Vienna, Vienna, Austria
June 3-6, 2009
By Amy Hoang-Kim, MSc
ISFR Coordinator

Co-morbidity ultimately elevates the rate of complications and as such, a new operation is often either contraindicated or refused by the patient. In a study, C Costantino et al. (F581) noted whether a surgical procedure followed by daily consumption of teriparatide could improve functional outcome of femoral fracture in the elderly with osteoporosis. Twenty one compliant female patients presenting with femoral fractures were recruited and administered teriparatide (20 µg per day) for a period of 18 months. In addition, they received 1 g of calcium and 800 UI of vitamin D3 daily, initiated 15 days after surgery. Results, observed with a radiogram, showed that healing resulted in a peak of biochemical variable in bone formation and resorption within the consolidation process which remained normalized for two years thereafter. Lumbar and contralateral femoral BM increased after 12 months and maintained at 24 months. Patients receiving either endomedullary nail, cemented endoprosthesis, or plate and screws did not have any new fractures and were not re-operated on.

Injury to the distal radioulnar joint can result in ulna sided wrist pain and instability. A method adopted by Adams and Berger for stabilizing the distal radioulnar ligaments uses a tendon graft that runs alongside the ligaments from the lip of the radial sigmoid notch to the fovea of the ulna. The graft wraps around the

ulna head and is fixed with a simple suture; this can be challenging for the surgeon and requires a considerable length of tendon.

K Nicholas et al. (F391) proposes a new method whereby the length of graft required could be reduced by fixing the graft directly to the ulna. When the graft is short, bone anchors and interference screws could provide for a stabilized joint. Four ulna bones were harvested and the tendons were divided into 2mm wide strips and run through a 3.5 mm hole in the ulna. The maximum load was measured after fixing the tendon with 1) simple suture 2) a bone anchor and 3) an interference screw. Maximum load was highest for the mini bio-suture tack bone anchor (99.28 ± 47.39), followed by the simple suture method (96.23 ± 24.14 N) and the biotenodesis interference screw (46.90 ± 11.29). Previous work using a single graft and a single tendon has consistently shown that interference screws are superior to other methods of fixation. However, when performing Adam's procedure for stabilization of the distal radioulnar joint, suturing the tendon together or using a bone anchor provides the greatest fixation strength. The authors suggest that this might be due to loss of the interference effect when placing two grafts in the tunnel.

Osteoporosis is in fact a major cause of fractures and the enhanced risk of sustaining further fractures should empower physicians and coordinators to assess for osteoporosis as part of any orthopaedic fracture service. Akimau et al. (P1840), in a UK hospital setting, compared the effectiveness of varying ways of referring patients to an osteoporosis assessment service. In the first arm, doctors in the fracture clinic were asked to refer patients over the age

of fifty to an osteoporosis specialist nurse. In the second arm, further to the doctor's referral, patients were given explanatory leaflets and pre-designed pro-forma and were asked to self register for OP assessment. In the third arm, an OP specialist nurse present in the clinic identified appropriate patients through evaluation of medical records and performed the assessment. Relying on family physicians gave an osteoporosis catchment rate of only 1.6%. In addition, asking patients to self refer increased the rate of diagnosis to 63% ($P < 0.0001$). This study shows that a specialist osteoporosis nurse in the clinic positively identified 77% patients at risk for future fractures ($P=0.036$). These findings should help set a precedence when defining OP protocols in the future.

With the increasing number of elderly persons, the relation between mobility and strength influenced by a sustained vertebral fracture and cognitive decline should be further investigated. K Siggeirsdottir et al. (F577) used data from the population-based *Age, Gene/Environment Susceptibility Reykjavik Study (AGES Reykjavik Study)*. In a population of 5371, the effect of vertebral fractures was compared using performance based measures such as the Timed Up and Go (TUG) test, 6 meter walk, and grip and knee extension strength. The investigators found that the effect of vertebral fractures on function was similar for both men and women. There was a consistent gradient in performance when comparing the fracture groups. Cognitive impairment had an effect on performance but a correlation to with or without fracture was not observed in this particular study. Overall, those who were cognitively impaired had even worse function which was independent of the vertebral fracture.

Recent ISFR Member Publications

[The effects of loading on cancellous bone in the rabbit.](#)

van der Muelen MC, Yang X, Morgan TG, Bostrom MP. Clin Orthop Relat Res. 2009 Aug;467(8):2000-6. Epub 2009 May 21

[Teriparatide for acceleration of fracture repair in humans: A prospective, randomized, double-blind study of 102 postmenopausal women with distal radial fractures.](#)

Aspenberg P, Genant HK, Johansson T, Nino AJ, See K, Krohn K, Garcia-Hernandez PA, Recknor CP, Eihorn TA, Dalsky GP, Mitlak BH, Fierlinger A, Lakshmanan MC. J Bone Minor Res. 2009 Jul 13

[Can we improve fixation and outcomes in the treatment of femoral neck fractures? The use of pharmaceuticals.](#)

Kakar S, Little D, Einhorn TA. J Orthop Trauma. 2009 Jul;23(6):413-21. Review.

[Distal radial fractures in the osteoporotic patient should be patient specific.](#)

Jupiter J, Moroni A, Hoang-Kim A, Ladd A Orthopaedics Today 2009; 29:38

[Interobserver reliability of classification systems to rate the quality of femoral neck fracture reduction.](#)

Karanicolas PJ, Bhandari M, Walter SD, Heels-Ansdell D, Sanders D, Schemitsch E, Guyatt GH. J Orthop Trauma. 2009 Jul; 23(6):408-12

[The elastic fibre network of the human lumbar anulus fibrosus: Architecture, mechanical function and potential role in the progression of intervertebral disc degeneration.](#)

Smith LJ, Fazzalari NL. Euro Spine J. 2009 Apr; 18(4):439-448. Epub 2009 Mar 5. Review.

[Can we improve fixation and outcomes? Use of bone substitutes.](#)

Moroni A, Larsson S, Hoang-Kim A, Gelsomini L, Giannoudis PV. J Ortho Trauma. 2009 Jul;23(6):422-5. Review.

[Clinical evaluation of medicinal products for acceleration of fracture healing for patients with osteoporosis.](#)

Goldhahn J, Scheele WH, Mitlak BH, Abadie E, Aspenberg P, Augat P, Brandi ML, Burlet N, Chines A, Delmas PD, Dupin-Roger I, Ethgen D, Hanson B, Hartl F, Kanis JA, Kewalramani R, Laslop A, Marsh D, Ormarsdottir S, Rizzoli R, Santora A, Schmidmaier G, Wagener M, Reginster JY. Bone. 2008 Aug;43(2):343-7. Epub 2008 May 7.

Toronto Addis Ababa Academic Collaboration (TAAAC) in Ethiopia

By Michael Blankstein

Fracture treatment in Ethiopia represents a major challenge. Road traffic injuries have produced a growing burden of surgical issues that currently cannot be addressed by the limited number of physicians and resources. As a consequence, children and young adults are facing permanent and potentially preventable disability.

The recently formed Toronto Addis Ababa Academic Collaboration (TAAAC) aims to provide local training opportunities for Ethiopia's most ambitious minds. This university wide initiative was developed in order to enhance the education of residents and now involves fourteen departments ranging from psychiatry and medicine to surgery and laboratory medicine.

The TAAAC orthopaedics and traumatology program has been developed based on a needs assessment study that was carried out through collaboration between the University of Toronto and Addis Ababa University faculty and surgical residents. This new questionnaire was developed to precisely assess the needs of Ethiopian faculty and residents. The partnership envisions developing a skill-based curriculum in collaboration with local orthopaedic faculty and residents.

Goals include:

1. enhancing the AAU residency training for orthopaedics
2. developing a research curriculum in partnership with Ethiopian faculty and residents adequate to local capacity and needs which will focus on health services research related to musculoskeletal care
3. co-assessing the orthopaedic residency

training and research programs based on annual reviews; recognizing the need for mutual learning to understand feasibility and context; plus specific planning for achievable goals

We are currently planning three visits per year involving a staff orthopaedic surgeon, operating room nurse, and two senior residents for four weeks of teaching and collaborative work at the Black Lion Hospital, AAU. University recognition of this scholarly work of residents and faculty is imperative to implement a sustainable program. Long-term plans include obtaining peer-reviewed grants and producing tangible academic outputs such as publishable research articles.

More information is available at <http://www.taaac.com/>



Dr. David Cadotte (Left) and Dr. Michael Blankstein at the annual Ethiopian surgical society meeting



Cast technicians and physiotherapists applying the Ponseti technique at the clubfoot clinic.

ISFR-IOF Osteoporosis: From Evidence to Action

Spine, Wrist and Hip: Improving Outcomes

Thursday, December 3, 2009

8:00—10:00 pm ISFR Board Meeting

Friday, December 4, 2009

Novotel Monte Carlo

7:30 am Registration opens

Coffee available

Room Le Plateau

7:40 **Opening speech** E Schemitsch (Canada)

7:50 **OFC Milestones** A Hoang-Kim (Canada)

Session I: Evidence-Based Orthopaedics

Moderators: E Schemitsch & 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

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 fracture Outcome

Moderators: M Bhandari & E Schemitsch

Room Le Plateau

Workgroup I: Femoral Neck Fractures

Moderators: A Moroni & B Wippermann (Germany)

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: OTC Satellite Symposium

Current Issues in the Design of Orthopaedic Research

Moderators: A Ladd & 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 **It's not the size but the number of events that counts** H Ahn (Canada)

6:00 **Conflicts of Interest and the Current Industry-Surgeon Relationship**
B Hanson

6:10- 6:30 Discussion

8:00 pm Gala Dinner

The Méridien Beach Plaza, Salon Mediterranean

8:30 pm **Welcome speech** 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 **Identifying patients with quantitative imaging** H Genant (US)

8:40 **Asian perspective** S Bavonratanavech

8:50 **European perspective** K Akesson

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 **A Multidisciplinary Approach** S Goemaere (Belgium)

11:00-11:20 **Case Studies** L Obert (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 & S Larsson (Sweden)

1:15 **Femoral neck fractures** J M Feron (France)

1:25 **Trochanteric fractures** T Russell (US)

1:35 **Hip Replacement** J Cazal (Monaco)

1:45 **A multidisciplinary approach** R McCann (US)

1:55 - 2:05 Discussion

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

Moderators: A Moroni & T Russell

2:05 **A significant fall in haemoglobin prior to theatre in hip fractures**
N Mangat (UK)

2:15 **Fracture repair in osteoporosis: the importance of osteoclasts?**
P Jaiswal (UK)

2:25 **Osteoporosis and hip fractures: the contribution of cortical versus trabecular bone to femoral neck strength** G Holzer (Austria)

2:35 **Assessing changes in bone strength after orthopaedic device removal in the proximal femur** T Russell (US)

2:45 **A step towards quantifying fracture healing in clinical practice** N Mangat

2:55 **Direct mechanical comparison of kyphoplasty and vertebroplasty in cadaveric spines** M Adams (UK)

Session VI Fracture healing

Moderators: P Heini & S Goldhahn

3:05 **Fracture healing in the Elderly** D Marsh

3:15 **Use of BMPs** G Friedlander (US)

3:25 **Ultrasound and fracture repair** M Bhandari

3:35 **Pharmacological Challenges** J Gasser (Switzerland)

3:45 - 4:05 Discussion

Session VII Industry perspectives: Yes we can!

Moderators: A Hoang-Kim & J Goldhahn

4:05 **The private sector and global OP awareness:**

Addressing the ethical challenges A Valentin (Wyeth)

4:15 **Medical-surgical solutions** K Hones (Medi Germany)

4:25 **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** P Procter (Stryker)

4:45 **Crossing national boundaries: A key to standardizing practice** H Gervais (Medtronic)

4:55 **Focusing on impairment: A key to improving clinical outcomes** V Lefauconnier (Vexim)

Room Talkshow

Session I Smith and Nephew Satellite Symposium

8:50—10:15 am

10:15-10:30 Break

Session II Medtronic Satellite Symposium

Vertebral Compression Fractures

10:30—12:15 pm

12:15 pm to 1:15 pm Lunch

Session III Vertebral Fractures

Moderators: N Fazzalari & H Genant

1:15 **What is the standard of care?** H Ahn

1:25 **Surgical perspectives** P Heini

1:35 **Clinical outcomes** K Tamalidge (US)

1:45 - 2:30 Discussion

Session IV 2:30-3:40 Free Paper Session

Moderators: D Beaton & R McCann

2:30 **A provincial integrate model to improve care for patients following hip fracture** J Waddell (Canada)

2:40 **Age, Sex, Rheumatoid Arthritis Duration: Risk Factors for Fragility Fractures an Orthopaedic Surgeon Should Consider** F Pegreff (Italy)

2:50 **Percutaneous k-wire fixation versus palmar plating with locking screws for Colles' fractures. Comparison of short-term results**
N Hollevoet (Belgium)

3:00 **Mortality risk for operated and non-operated vertebral fracture patients in the medicare population** K Ong (US)

3:10 **Cost-effectiveness of balloon kyphoplasty in patients with symptomatic vertebral compression fractures in a UK setting** O Stroem (Sweden)

3:20 **A new method of surgical treatment of extra-articular femur fractures in osteoporosis** M Milorad (Serbia)

3:30 **Mortality after delayed hemiarthroplasty for femoral neck fractures**
O Eren (Turkey)

Session V AIC-JRI Satellite Symposium

Femoral neck fractures

3:40 **Strategies in displaced femoral neck fractures** S Larsson

3:50 **Minimally-invasive techniques** B Wippermann

4:00 **New bearing concepts** A Moroni

4:10 **Uncemented HA-coated prostheses** R Raman (UK)

4:20-4:50 Discussion

Room Le Plateau

5:00 **Cheese and wine reception**

5:10 **Closing remarks** D Marsh

ISFR-IOF 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. This event is endorsed by the International Osteoporosis Foundation. Registration fees for delegates include the Gala dinner. The Symposium fee is available to those who are interested in attending only for the day.

PLEASE RETURN THIS FORM TO Emilie Cavernes no later than October 15, 2009

at 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.

First name: _____ **Surname:** _____

Address: _____

Email: _____ **Tel:** _____

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

Symposium fee € 200

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

Double occupancy € 180

Interested in joining the hip fracture working group

Interested in joining the vertebral fracture working group

Interested in joining the wrist fracture working group

Credit Card Payment (N.B. We do **not** accept AMEX)

Amount : \$ Visa MasterCard Discover Solo Switch

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International Society for Fracture Repair

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FIRST ANNOUNCEMENT
International Society for Fracture Repair
12th Biennial Conference
Lord's Cricket Ground, London
September 19-22, 2010

This multidisciplinary conference in association with surgeons and physicians, biologists, bioengineers, and industrial partners from around the world is expected to attract around 200 participants. The program will consist of a combination of invited speakers, symposia and submitted oral and poster presentations which will be peer-reviewed by an international panel. The conference will immediately follow the 8th International Conference on BMPs in Leuven, Belgium which takes place September 15-18th. Efficient rail transport is available between the two venues.

Themes of the meeting

Reports on basic, translational, clinical and health services research are all welcome.

Themes of the conference will be:

- Fragility fractures
 - * the basis for bone fragility
 - * the effect on healing of fractures of age, osteoporosis and osteoporotic drugs
 - * new technologies for fixing osteoporotic bone
 - * biological stimulation of bone formation - drugs, mechanical stimulation etc.
 - * systems for secondary prevention
- High energy fractures
 - * the role of inflammation in initiating bone healing
 - * the aetiology of nonunion and how to avoid it
 - * drugs designed to stimulate healing
 - * animal models of fracture
- Spinal injuries
 - * high energy injuries
 - * vertebral compression fractures associated with osteoporosis
- Bone regeneration and tissue engineering
 - * stem cells
 - * inductive molecules
 - * scaffolds

Industrial partners are invited to join the meeting as full participants as well as providing exhibition stands.

[Further details will be outlined in our upcoming newsletters.](#)

MEETINGS OF INTEREST

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

Bone and Joint Decade Global Network Conference
October 22-24, 2009
Washington DC, USA

International Society for Quality of Life Research 16th Annual Scientific Meeting
October 28-31, 2009
New Orleans, Louisiana

Osteoporosis: From Evidence to Action

ISFR Hip, Wrist & Spine Workgroups: Improving Outcomes
Hip, Wrist & Spine Symposium: Do we have an answer?
December 4-5, 2009
Monte Carlo, Monaco

56th Annual Orthopaedic Research Society Meeting
March 6-9, 2010
New Orleans, Louisiana

Annual American Academy of Orthopaedic Surgeons
March 9-13, 2010
New Orleans, Louisiana

contact Amy Hoang-Kim at isfr.fractures@gmail.com on how to get more involved with ISFR activities, visit our website www.fractures.com

or

follow us on Twitter, <http://twitter.com/isfrfractures>
where you can find useful links to ongoing events & society updates

and to re-connect and keep up with colleagues and ISFR board alumni, join us on Facebook
<http://www.facebook.com/group.php?gid=20240493832&ref=mf>