

NEWSLETTER

SEPT 2009

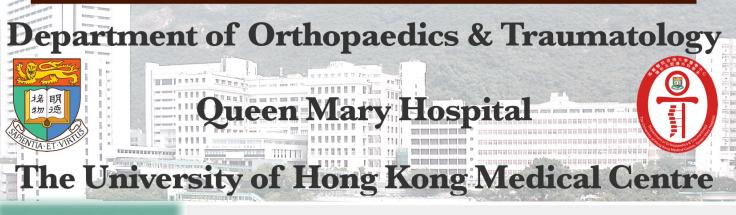


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Announcements

Tribute to A Giant Professor Sir Harry SY Fang

We are deeply saddened by the passing of one of our most beloved and respected members of the Department of Orthopaedics & Traumatology, Professor Sir Harry Fang, on 24 August 2009.

Professor Fang was born in Nanjing in 1923 and relocated to Hong Kong in 1936. In 1949 he completed his medical school studies at the University of Hong Kong. Thereafter, he pursued graduate studies at Liverpool University in England. After completing his post-graduate orthopaedic training, he became an orthopaedic specialist in Hong Kong and joined the University of Hong Kong as a Clinical Assistant in 1950, becoming a Lecturer in Orthopaedic Surgery in 1956.



Since that time, his contributions to the field of orthopaedics in Hong Kong were singular and immeasurable. From early-on in his career, he contributed to the international reputation of the department by

pioneering novel surgical approaches, most notably the Fang-Ong transoral approach, for the treatment of various conditions of the spine. His love for his patients, surgical skills, and vigor provided the foundation for many seminal works in the years that followed. However, his contributions to the field of rehabilitation medicine were equally monumental. In the 1980s, he was a pivotal figure in establishing the Hong Kong Society for Rehabilitation as a World Health Organization (WHO) Collaborating Centre. Such a distinction was the first of its kind in Hong Kong and remains to this day one of the longest running WHO Collaborating Centres in Asia. His dedication to the field of rehabilitation earned him the affectionate title of the "Father of Rehabilitation" as well as many awards, international acclaim, and honorary degrees from esteemed institutions of higher learning.

In the 1960s, Professor Fang entered private practice but maintained a close relationship with our department as Honorary Professor. He continued to teach our medical students until he suffered from a stroke in 2000. Though having sustained tremendous disability following this event, his dedication to the field of orthopaedics and rehabilitation medicine never wavered.

Without question, Professor Fang was one of the most prominent members of our department and was instrumental in its development as a worldwide centre for orthopaedic excellence and innovation, as well as one of the most respected figures in the orthopaedic and medical community of Hong Kong. He was elected the Founding President of the Hong Kong College of Orthopaedic Surgeons when the College was established in 1987. His vision and passion in establishing an academy of medicine for Hong Kong to monitor and accredit specialist vocational training has allowed Hong Kong's medical establishment to enjoy independence. Professor Fang was admitted by the Hong Kong Academy of Medicine as Honorary Fellow in 2007 for his great contributions to the field of medicine.

A gentleman, scholar, innovator, and activist are only but a few terms that attempt to define Professor Fang. As Sir Isaac Newton once said, "If I have seen further, it is by standing on the shoulders of giants." If our department takes pride today for its past accomplishments and future direction, it is attributed to such individuals as Professor Fang. He was a "giant" among men who will continue to inspire many and to improve the lives of others as his memory will continue to live on in all our hearts. The members of the department express their deepest condolences to Professor Fang's family.

"Doc! My feet hurt!" Hallux Valgus Dr. E Kuong / Dr. KH Ng

Hallux valgus is a common reason for many patients to visit a general practitioner or orthopaedic surgeon. The incidence of the deformity increases with age, so the condition grows in significance in our aging society. About 16% of persons over the age of 60 are affected. Females have a higher incidence rate, a fact which may reflect the differences in footwear between the two genders. Patients typically turn up with a chief complaint of "bunion", referring to a symptomatic medial prominence of the forefoot. "Bunion" is derived from Latin, meaning "turnip". This loose descriptive term is traditionally used for a myriad of conditions with swelling around the 1st

metatarsophalangeal joint (MTPJ) including gout, bursitis and osteophytes. "Hallux valgus" was later coined to describe a subluxation of the 1st MTPJ with lateral deviation of the great toe (hallux) and medial deviation of the first metatarsal.



The major anatomical pathology of hallux valgus is an increased angle between the first and second metatarsals -- "metatarsus primus varus", with a corresponding increased valgus angulation at the 1st MTPJ which is normally 15°. As the deformity progresses, the big toe goes into pronation. Other contributing pathologies include excessive lateral deviation of the distal metatarsal articular angle (DMAA) and deformity at the proximal phalanx level. It should be emphasized that hallux valgus is a three dimensional deformity affecting multiple sites of the foot. Focusing on just the "bunion" is an inaccurate concept. "Trimming it off" is a grossly inadequate treatment, nor is it appropriate to claim any one single treatment will be suitable for all cases.

The exact etiology of hallux valgus is multifactorial. Genetics is shown to play a part with strong familial history seen in many patients. As for gender, females make up 90% of all cases. Unphysiological footwear, as high-heeled, tight-fitted, small toe box shoes, acts as a continual source of extrinsic deforming force. However, contrary to common belief, it is not an initiating factor. Among other etiologies are congenital, biomechanical, traumatic and metabolic. Tight heel cord, flexible or rigid flatfoot, metatarsal adductus, splayed forefoot, 1st ray deficiency, 1st ray hypermobility are some local factors, while systemic inflammatory diseases, gout, neuromuscular diseases, and generalized ligamentous laxity are some general factors.

On patient assessment, apart from the obvious, look out and ask for symptoms of forefoot dysfunction. These manifest as forefoot discomfort, subjective imbalance during walking, and easy fatigue after prolonged walking. There may be secondary disturbances like hammertoe deformity and metatarsalgia. Associated etiologies, as mentioned above, should be actively sought. A weightbearing examination is a must, to reveal true deformity



Bilateral hallux valgus and associated deformity

under body weight. Similarly for investigations, Xrays of the foot should be taken in a standing position. On the antero-posterior view, congruency of the 1st MTPJ, intermetatarsal angle, and DMAA are assessed. A lateral view will reveal any flatfoot and any dorsal osteophytes over the 1st MTPJ.

The aims of management are to restore forefoot function, alleviate forefoot pain, and prevent further progression of deformity. Management should not be instituted solely for cosmetic reasons without any symptoms. Conservative management mainly focuses on maintaining flexibility of all MTPJs and ensuring even distribution of weight across the plantar surface. This is achieved with comfortably-fitted footwear, molded orthosis, and patientinstituted exercises including heel cord stretching and big toe mobilization. For the majority of cases, this is largely effective.



For severe symptomatic deformities, surgery is sought to correct the underlying structural pathologies. The procedure of choice should reduce the widened intermetatarsal angle, restore the congruity of the 1st MTPJ, and to "square" the sesamoids underneath the 1st metatarsal head. After surgery, patients must be instructed on active mobilization exercises to avoid stiffening of big toe joints. It is reasonable to expect reliable symptom relief after a successful operation, although there may still be some limitations on the subsequent choice of footwear.



Pre-op (left) Metatarsus primus varus; Scarf osteotomy (right) "squared" sesamoid beneath 1st metatarsal head

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Cutting Edge Development Modern trend in foot and ankle surgery

Dr. KH Ng

One important trend of modern surgery is to "do less to achieve more", or to minimize the scope and adverse side effect of surgical trauma while adhering to sound and time-honored surgical principles to fulfill goals of treatment. This certainly applies to foot and ankle surgery.

Forefoot surgery numbers in variations of dozens. However, the essential principles of achieving a congruent 1st MTPJ and squaring of the metatarsal head on the two sesamoids remain the goal of outcome. Minimal invasive surgery is nothing new and is encountered by this author as far back as 2000 with Italian professor Giannini and his "SERI" operation, which means "simple, effective, rapid, inexpensive", which is a percutaneous osteotomy. A similar

procedure is adopted in this department since 2005, and the result is satisfactory and compares favorably with traditional open method.



Before operation (left), early post-op (middle) and post-op consolidated osteotomy (right)



Before operation



After operation with minimal invasive approach

In a latest conference in Paris this year, further development in this direction involves specialized instrumentations to aid surgeons carrying out these procedures.

Triple arthrodesis is a standard and well-tried surgical option for many hindfoot deformity. Since its inception in treating paediatric patients, the technical step has evolved from making a flat cutting surface to a more conservative and congruent preparation of the surfaces to be fused, in adult patients, in order to preserve bone stock and foot shape. We have progressed a step further by making use of



Triple fusion. Lateral portal (left) and posterior portal and medial incision (right)



arthroscopy as the means to prepare the fusion surfaces and even to correct deformities. This is aided by approach from posterior portals. Our experience shows similar correction of deformity could be achieved with less risk of wound complications.

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Achilles tendon rupture incidence is on steady rising trend, due to a health-conscious society. Treatment pendulum swings from conservative to operation and swings back for fear of dreadful wound complications. We have overcome this obstacle with a minimal invasive surgical repair procedure, by making use of a 3cm proximal wound located at muscle level to introduce a suture passer. This procedure has been proven feasible in our hands since 2005. For the recent half year we progress by doing the whole procedure under local anesthesia, which further minimizes anesthetic-related side effect and complications.

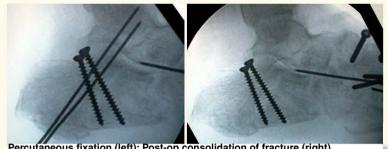


Achilles tendon rupture pre-op (left); minimal incision Achilles tendon repair (right)

Calcaneus fracture is a constant challenge to treat, because much of the prognosis is determined at time of injury. As the consistent fracture pattern becomes well-studied, we can attempt minimal invasive reduction and fixation, to avoid further surgical trauma. In some cases this proves a better rehabilitation, and in some this remains the only solution because of the poor soft tissue envelop. We are also exploring the possibility of Norian calcium phosphate bone cement injection technique as an adjunct to this method.



tissue



Percutaneous fixation (left); Post-op consolidation of fracture (right)

The criteria for success in surgery is a correct indication and clear surgical goals. As surgical experience accumulates, it is possible to distill the essential steps from less essential ones, and achieve the same surgical outcome. It is prudent to conclude that, as health care provider, it is our responsibility to be on the constant outlook for progress that benefit our patients.

Tips from our Allied Health

UCBL Shoe Insert in the Management of Flexible Flatfoot

Department of Prosthetic and Orthotic Hong Kong West Cluster



Flatfoot is a commonly encountered problem in an orthopaedic clinic. Treatments include observation, physiotherapy, orthosis and surgical correction. UCBL shoe insert is one of the most popular shoe insert used in the management of flexible flatfoot. UCBL stands for University of California Berkeley Laboratory. This plastic insert was developed in 1967. It has a medial arch support and a molded heel cup to provide support to the flattened medial arch and the excessive hindfoot deformity.

Patients are recommended to wear sports shoes or walking shoes with laces when they put on the UCBL inserts. Sandals and high heel shoes are not recommended because the inserts cannot fit in the shoes stably. For every new pair of inserts, one should observe the feet to see whether there is any pressure area developed after putting on the inserts. If the feet develop blisters or bruises, one should stop using the inserts immediately and contact the orthotists for adjustment.

The inserts should be cleaned regularly with water. Alcohol or detergent is not necessary because it may damage the plastic. The inserts should be kept away from heat to avoid producing deformation of the UCBL.

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A Chat with Dr. Ng Ka Ho Chief of Foot and Ankle Surgery Division of Hand and Foot Surgery

Kenny Kwan

"the whole lower limb functions to serve the foot and ankle, which in turn serves the human in its exploration of this world..."

What do you like and dislike about Foot and Ankle surgery?

Foot and Ankle is fascinating as a part of our human body. You could say that the whole lower limb functions to serve the foot and ankle, which in turn serves the human in its exploration of this world. It is really a joy to be able to help our patients regain this unique ability. Foot and Ankle as a subspecialty is comprehensive, in that there are all sorts of pathologies, requiring all skills of clinical diagnosis and management. The treatment outcome is transparent and immediate as well. In short, it is a challenging and gratifying field.

In foot and ankle, the mass of evidence-based reports is still inadequate. This is especially true in areas of conservative treatments, such as orthotics. As a substantial part of treatment regime depends on orthotics, this is a significant issue. On the other hand, one has to acknowledge that the application of orthotics is both an art and a science. This is exemplified in the case of a total contact cast.

What is up and coming in Foot and Ankle surgery?

One definite trend is the minimal invasive approach. The way I see it, this is a mode of thinking and not to be mistaken as a measure of the size of skin incision. The philosophy is to minimize surgical trauma and to allow for some margin of accuracy while adhering to strict principles and goals. This has been well-received in some parts of Europe, although the Americans are less keen. Personally I think it is a correct direction. As outlined in a separate article, our department has been embracing this for some time.

Another area to watch for would be various novel treatments for arthritis and tendinosis. Total ankle arthroplasty is now at its third generation, since the 1970s. Much ground has been gained, although this modality, in my opinion, is still not ready for widespread use. Nevertheless, many top-notch investigating teams are continuing work in this area and in ten years time, we will see a lot of reports on its use. As for tendinosis, this topic will be more and more pronounced as the society becomes more health-conscious and exercise-oriented. Current research work includes investigating the underlying pathology and devising nonsurgical treatments such as shockwave and nitrate patch.



Are there any special problems that we in Hong Kong may tackle more when compared with other countries?

Overall, the entire spectrum of pathologies is fairly well represented in our local practice. Being a humid locality, we see a lot of foot infections. This has led us to gain vast clinical experience in foot salvage reconstruction surgery after the initial stage of radical debridement, which varies from case to case. Our collaboration with the podiatry service is also strong for this reason. One clinical product is the development of our Negative Pressure Wound Therapy which does not depend on any commercial brand.

Our population has a rather reluctant attitude for surgery. This has led to the very late presentation of many deformities, such as those in the forefoot and in adult flatfoot. As a result many of our operative cases belong to the severe category. This is a test of application of surgical principles as well as operative acumen.

What is the best and worst experience you have had in dealing with foot problems all these years?

There is a saying among surgeons, "If you have no complications, you just have not done enough". Fortunately over the years we do not have many major complications. When things turn bad, it is important to be honest to oneself and to the patient, to face the problem with rational analysis, to derive a remedy, and to communicate timely with the patient.

My involvement with voluntary work in the Mainland constitutes some of the most cherished moments of my working experience. Each time I was there, I felt humbled, not only by the immense trust the patients placed on me or the much less-facilitated environment we had to treat them, but also by the fact that we as doctors could not have full control of everything and had to learn to work together with nature to help a patient.

What vision do you have for foot surgery at QMH?

Queen Mary Hospital is a university teaching hospital. We have the obligation to keep abreast of latest developments in our field. By attending international conferences regularly, I maintain contact with overseas friends who excel in different areas, and bring back new ideas and procedures that I think is suitable for NEWSLETTER

our local practice. We also have excellent laboratory backup and research personnel from the university from which we can draw support to research our clinical and basic science ideas. As a teaching institution, our younger generation of trainees is our most valued asset, in whom we should nourish not only technical skill but also the moral integrity of a clinician. By organizing conferences, workshops and courses, we hope to be a regional educational centre for Foot and Ankle surgery for overseas participants, as well as to the local layman population. In short, I visualize a centre of excellence in service, research and education.

Do you have any advice for trainees who would like to pursue Foot and Ankle Surgery as a career?

There is nothing more rewarding than helping a patient back on his feet, so this would be the most worthwhile career choice. Many a time, it involves a lot of communication with the patients as we work to improve their quality of life. Clinical skills, sound bookwork and logical thinking go a long way, as we face various pathologies and do not usually rely on X-rays or other imaging. At surgery, meticulous soft tissue handling is a must as the foot is an area of tenuous vascular supply. A fine tactile feedback would be an asset in procedures of minimal invasive and indirect approaches. Rehabilitation period plays a decisive role in the final outcome, so it is imperative that a foot surgeon takes the responsibility to see patients through the post-operative period. A lot of these abilities can be acquired. The most essential elements are dedication and a strong personal interest.

From another perspective, Foot and Ankle as a subspecialty is steadily gaining momentum, as society becomes more affluent and health-conscious and the population seeks consultations on foot problems more readily. We do not depend heavily on surgical instruments or implants, so the setup costs and treatment costs are widely affordable. At present, there are not many local Foot specialists and this career opportunity is quite attractive. At the international scene, from personal experience, the fraternity is excellent. The experts are both masters of their trade as well as sincere teachers and friends. All in all, I can say to anyone, it would make a proud and happy life to be a Foot and Ankle surgeon.

What do you enjoy doing outside work?

I like to keep a lookout for inspirations in life. I enjoy reading from newspapers, to magazines, to books and websites. You can find me and my companion in the concert hall or movie house. We also enjoy short walks in the countryside and traveling overseas.

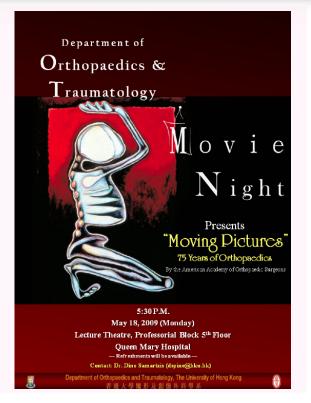
Orthopaedic Movie Night

Dr. Dino Samartzis

Research Assistant Professor

"Orthopaedic Movie Night" has been recently inaugurated as an informal gathering of the Department to showcase educational videos/films focusing upon critical historical events, surgical procedures, research development, technological advancements, patient insights, and other areas of interest as they pertain to orthopaedics and the musculoskeletal field overall. The aim is to develop a deeper appreciation for the discipline of orthopaedics with the hopes to inspire new and innovative thought in the prevention, treatment, and patient care of various musculoskeletal diseases and conditions. Our first movie was shown on 18 May 2009.

The first movie was generously provided to us by the American Academy of Orthopaedic Surgeons to commemorate their 75th Anniversary and was entitled "Moving Pictures" (duration: 1 hour). The 75th Anniversary historical film "Moving Pictures" reflects on the last 75 years of orthopaedic innovation and development by researchers, surgeons, industry, and happenstance. The story is conveyed largely through the personal stories of orthopaedic surgeons and patients.



http://www.hku.hk/ortho/ortho

Another Reason to Sin City

Dr. Ng Fu Yuen

Division of Joint Replacement Surgery

After enjoying 5 movies on flight, I landed at Las Vegas – sin city of the world on 17th May 2009. I was fascinated by the grand casino suite where I stayed. Certainly, this is not the reason for my visit but for Current Concepts in Joint Replacement (CCJR) Spring 2009. This was the tenth annual meeting since 2000. The meeting included plenary lectures, Crossfire®, case discussions and live surgical demonstrations. The topics encompassed shoulder, hip and knee; from non-replacement to replacement; from primary to revision replacement. Every morning, the meeting started at 7:30am which was a typical American style. So, struggling through my jetlag and striving to enjoy American continental breakfast with heavy doses of caffeine, I made more efforts than ever from 18th to 20th May 2009.

Every plenary lecture was delivered by distinguished surgeons. Just to name a few, "Cuff tear arthropathy: The great escape by Louis Bigliani; Pre-operative planning in THA: Bringing home a winner by Thomas Schmalzried; Extensor mechanism disruption: When the unthinkable happens by Wayne Paprosky".

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Crossfire® was the signature dish. It was a debate on controversial topics. Kelly Vince debated with David Hungerford on the topic of "Extra-articular deformity: Always correctable intra-articularly". You could imagine as if you are watching championship boxing game.

Six live surgeries from high flexion, PS rotating platform TKA, TKA using patient specific cutting guides, cementless TKA, MIS TKA to ceramic-on-ceramic THA from different joint replacement centres in United States were demonstrated.

I am not sure whether this amazing show could bring you to the sin city for another reason. Definitely, this breathtaking experience enlightens me technically and mentally.

P.S. I do not receive any royalty from CCJR! Every US surgeons declare their relationships with each company during the meeting. I definitely receive " royalty " from my division & department.

6th Hong Kong International Orthopaedic Forum

25-26 April 2009 The Musculoskeletal Degeneration Li Ka Shing Faculty of Medicine The University of Hong Kong

About 400 participants attended this compact two-day program that highlighted the recent advances in the management of degenerative musculoskeletal diseases including hand arthritis, osteoarthritis of the knees, lumbar spine degeneration and rotator cuff arthropathy. Apart from our renowned local experts, international experts, including **Prof. Dieter Grob (Switzerland)**, **Prof. Eiji Itoi (Japan)**, and **Prof. Arnold-Peter C Weiss (United States of America)** were invited to share their experience in managing our ageing population. To further enrich our Forum, a cadaveric workshop focusing on shoulder arthroscopy and a week of very comprehensive satellite program including lectures, case discussions and surgical demonstrations were arranged this year.

Prof. Arnold-Peter C Weiss

DEPARTMENT OF ORTHOPAEDICS & TRAUMATOLOGY

Arthroscopic Workshop



Prof. Eiji Itoi

Prof. Arnold-Peter C Weiss



of. Dieter Grob



D Grob





Announcement

Many of our staff continue to excel their talent and have been highly recognized locally and internationally.

Congratulations

Dino Samartzis, Jaro Karppinen, Florence Mok, Daniel Fong, Keith DK Luk, and Kenneth MC Cheung had won the Best Poster Award in the

Global Spine Congress, San Francisco, USA, June 23-26, 2009 for their paper "Juvenile Disc Degeneration of the Lumbar Spine: Epidemiology, Risk Factors, and Clinical Relevance"



Dino Samartzis receiving the prize in the Global Spine Congress

Professor SP Chow, Pro-Vice-Chancellor, represented the University of Hong Kong in the inaugural 1.8km Leaders Cup in the Standard Chartered Hong Kong Marathon on 8 February 2009. The university team was the largest participating squad and triumphed in the Most Supportive Group Award for the fourth consecutive year. Some members of our department including **Professor Kenneth MC Cheung, Ms Raven Liu** and **Mr Stephen Chan** also participated in the race.

Darwesh Mohideen was a finalist in the PhD Student Paper Competition, Podium Presentation Solids, Design, and Rehabilitation Category for his paper "Correlation between the Nano-Structure and the Macro-Mechanics of the Human Intervertebral Discs".

Donations and Grants

The Kyorin Group China Ltd donated a sum of HKD \$200,000 in support of the project entitled "Novel Bioactive Strontium-reinforced Borosilicate Glass for Tissue Engineering" undertaken by the Research Division of the Department of Orthopaedics and Traumatology.

Professor Richard Y.H. Yu donated a sum of HKD \$100,000 in support of research activities undertaken by Division of Paediatric Orthopaedics.

An anonymous donor donated a sum of HKD \$100,000 in support of research activities undertaken by Division of Spine Surgery.

Dr GQ Zhou and co-investigators **Professors Keith DK Luk** and **Kenneth MC Cheung** had won a Start-up award of CHF 50,000 from AOSpine International and the Hansjrg Wyss Foundation for their project entitled "MRIand genetic labeling-based molecular imaging for tracking differentiation fates and functionality of mesenchymal stem cells transplanted into the intervertebral disc of a Rhesus monkey model".

Results of this year RGC funded projects:

Principle Investigator	Title	Grant Amount
Dr. KWK Yeung	Development of a novel method to suppress bacterial adhesion on orthopaedic implant surface using plasma-based technology	HK\$976,608
Professor KDK Luk	A mesenchymal stem cell-based approach to rescue intervertebral disc allograft from post-transplantation degeneration	HK\$676,000
Dr. GQ Zhou	Molecular Analysis of the BMP-2 Action on Intervertebral Disc Cells	HK\$804,884

New Appointments

Dr. Boris Fung is promoted to Consultant

Dr. Dino Samartzis is promoted to Research Assistant Professor.

Dr. Kelivn Yeung is appointed Assistant Professor. **Dr. Vivian Tam** is appointed Post-doctoral Fellow.

Hello

Richard Lee, Dennis Yee, Henry Fu, Paul Koljonen, and Samuel Wan (left to right) have recently joined the department on 1 July 2009. KC Mak (right) coordinated an orientation program for the new comers.



Upcoming Events

The **11th Yang Hsueh Chi Visiting Professor Lecture** by **Professor Christopher G Moran** is scheduled on 23 November 2009 (Monday) at 18:15 in 5/F Lecture Theatre of Professorial Block, QMH. Professor Moran is the Special Professor in Trauma and Orthopaedics of the University of Nottingham, Consultant in Trauma and Orthopaedics, and Head of Trauma Service of the Nottingham University Hospital.

The **Hand and Foot Certificate Course** is scheduled on 31 October 2009 in Sung & Ming Room, Level 4, Sheraton Hotel, Kowloon.

EDITORIAL BOARD

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