

Professional activities during this trip:

The mission was: "During the trip we will give scientific presentations regarding research with special reference to the treatment of fractures in osteoporotic bone. The aim will be to stimulate awareness and support for research in its scientific and clinical aspects."

The scientific activities consisted in establishing contacts for collaboration in the fight against osteoporosis, which is a priority goal of the International AO Foundation

The first contacts were organized in Iran through Dr. Elham Mir, a collaborator of Prof. Larijani in the Endocrinology and Metabolism Research Centre in Teheran. Professor Larijani assumed shortly before our visit the office of chancellor at the University of Teheran, congratulations.

In Täbriz we were cordially invited by Prof. Bahrami and his endocrinology team. We



spent the day discussing mutual problems and visiting their laboratories. His osteoporosis assessment centre uses top modern densitometry with impressive structure and activities. The system of reporting the data to the treating doctor and the patient deserves interest.

Visit with Prof. Bahrami of the Endocrinological University Clinic Taebriz with his collaborators Zarghami, Mobasseri, Aliasgarzadeh and Alani.

The meeting with this group impressed us both from a scientific and from a personal aspect. Complementary aspects to the surgeons view were brought up by the endocrinologists. When a surgeon is confronted with a fracture in porotic bone the stabilization of the fracture has priority. Prior to and soon after the surgery the basic disease cannot be treated with immediate effect. Nevertheless, once the fracture is stabilized the treatment of osteoporosis must gain priority thus the surgeon must have a basic understanding of the treatment modalities of osteoporosis.



We hope to maintain and deepen the contact with this team around the impressive leadership and personality of Prof. Bahrami.

Visiting the densitometry lab with Prof. Bahrami

At our next stop in Iran we met Dr. Elham Mir and Dr. Arash Hossein-Nezhad from the Endocrinology and Metabolism Research Centre of Prof. Larijani in Teheran. They had undertaken the travel from Teheran and gave us an in depth view into the structure and activities of the fight against osteoporosis in Iran. Osteoporosis is frequent in Iran and the fact that also young people are affected plays an important role. Several Centres are communicating in a national network in Iran. The good news is that the government is aware of the problem of osteoporosis in Iran and supports the network.



Dr. Elham Mir (middle) and Dr. Arash Hossein-Nezhad from the EMRC of the University of Teheran, Medical School. Collaborators of Professor Bagher Larijani.

In Esfahan we also met with a group of orthopaedic doctors:

Dr. Mohammad Reza ETEMADIFAR

Dr. Mohammad Hossein DEHGhani

Dr. Mahdi ZIAEI

Dr. Alireza FARID MOAYER

It was an interesting communication mainly regarding the impact of new technologies, such as locked internal fixators on fracture fixation in osteoporotic bone. The principle of locked screws improving the anchorage of the implants in porotic bone is well under-

stood and gains interest. The dinner offered by the local Synthes representative took place in a historical environment reflecting the unique cultural history of Iran.

After crossing the large desert and flying over the city of Bam, which was destroyed in a recent earthquake we reached Zahedan where Afghanistan, Pakistan and Iran meet. Once again the local representative of Synthes brought us in contact with local orthopaedic doctors for a vivid exchange of ideas about fracture treatment in osteoporotic bone.

Dr. Farzad ARASTEH

Dr. Hadi HAMED AZIMI

Dr. Afshin TAHERI AZAM

Dr. Seyed Moniroddin DABIRI

We were impressed by the quality of understanding bone reactions and anchorage principles at the basis of fracture treatment in porotic bone in this remote area of Iran. The discussions were interesting unfortunately the pictures of the meeting got lost, sorry friends, we remember an interesting contact, which we want to maintain.

The scientific program in New Delhi was quite heavy but rewarding; three hours of presentations with the themes as listed below. And interesting discussions followed.



Prof. Surya Bhan

The presentations:

- **Fracture healing and biomechanics**
- **Internal fixation of fractures in porotic bone , the new technology and its impact**
- **Nailing versus plating the newest status report**



Dr. Malhotra



Dr. Kotwal

Prof. Surya Bhan who organized the meeting has managed to build a centre of excellence in bone fracture treatment. The inspiration and the motivation of his team impressed us. In spite of the fact, that the meeting took place in the middle of the afternoon the lecture hall was crowded. The interest in the technique of the LCP (Locked compression plate) which offers the possibility of performing the osteosynthesis according conventional as well as new internal fixator technology was great. The LCP offers the possibility of smooth transition from conventional compression plating to locked internal fixator technology. The limitations of mixing incompatible technology are well understood.

In Chiangmai we met with Prof. Theerachai Apivatthakakul from the University Hospital. The meeting, which for technical reasons could only be organized on very short term, was creative. Prof. Apivatthakakul is member of MIS (Minimally Invasive Surgery) group of the AOTK (Technical Commission of the AO Foundation) a typical representative of Thai orthopaedic surgeons; skilful, well organized and creative.

The next scientific meeting took place in Pattaya Thailand. The Thai Royal College of Orthopaedic surgeons held its yearly congress with several hundred participating surgeons. The main scientific topic was Minimally Invasive Surgery (MIS). Today fractures can be treated using endoscopic technology, newly developed instruments and locked implants taking advantage of less tissue trauma.

The scientific contributions by Stephan Perren were:

- **Minimally invasive Internal Fixation and its scientific background. It covered the chances, basic potential and pitfalls of MIPO**
- **The scientific aspects of fracture fixation in porous bone, the potential of new development namely the internal fixator technology as developed in the last 16 years in Davos ARI and ADI opens new horizons for these demanding problems of bone fracture surgery.**
- **An interesting panel discussion concerned “the difficult fracture” Clinical cases were presented and part of the discussion concerned the basic bio-mechanical and biological aspects of success and failure. A live discussion helped to clarify much of the complex problem.**



**Laudatio presented by Prof. Suthorn Bavonratanatech
Showing the in flight picture of the crew of HBDGL.**

At its yearly convention Prof. Stephan Perren was awarded the honorary membership of

the Thai Royal College of Orthopedic Surgeons (RCOST).

This is a culmination of many years of collaboration with the RCOST, a great group with

high competence and respect towards personal contributions. Thank you, Thai friends, we will not forget the days in a familiar setting and look forward to further fruitful exchange of ideas.



Stephan gave as a honorary lecture a short breakdown of the problems of osteoporosis and fracture treatment and a short history of the flight using the pictures Nicolas took during the flight so far.

**The president of the RCOST
Prof. Suthorn Bavonratatech**

handed the document over.

Prof. Suthorn Bavonratatech, President of the Thai Royal college of orthopaedic surgeons, with his wife Sinaporn and Prof. Pietro Regazzoni from Basel University at the occasion of the Thai Royal college meeting.



The next working stop was Kuala Lumpur: The meeting of some 30 Orthopedic Surgeons and OR personnel was dedicated to the same topics as mentioned above. It was for us astonishing to be informed that osteoporosis has a strong impact in Malaysia.

The program of the meeting: in Kuala Lumpur

- **New technology in the treatment of fractures in porotic bone.**

The meeting offered the possibility to renew the ties I had established during our earlier contributions to the orthopedic doctors in Malaysia. The discussions helped to understand better the local needs of the surgeons and their Synthes support. The local Syn-

thes group under the direction of Danny Khor, and his assistant Semanta (Sam) cared in an excellent way for us.

After a short low level flight, this time according to visual flight rules, we arrived in Singapore.

The program of the meeting in Singapore

- **Fractures in porotic bone, a live threatening condition the potential of new technology.**

Once again we were met by Danny Khor and his team. The stay was short but revived in a cordial atmosphere the ties, which Stephan had built at the occasion of his extended stay a few years ago. The scientific topic of the presentation and discussion was again osteoporosis and the potential of new technology.



Meeting with Singapore's orthopaedic doctors:

Merng Koon Wong and Khee Sein Lam

**G On Tong, David Chua, Boon Keng Tay,
in the background Danny Khor**

It was not unexpected but still impressed us much, that also in highly developed countries the surgeons agree with the general figures of unfortunate prognosis of today's fracture treatment in for instance hip fractures in porotic bone. The meeting gave us a chance to meet the pioneer of AO technology Prof. G. Ontong and a very active and motivated crew. Unfortunately Prof. Pesi Chacha, also a pilot and his wife Pilou with whom we had a contact over many years were out of the country.

The leap to Jakarta took about four hours; in spite of crossing the equator southwards we were fortunate to avoid largely the tropical instability with rain and thunderstorms. Where we encountered thunderstorms the stormscope of the Mooney was a reliable help. Danny Khor had organized the meeting with the orthopedic surgeons that was chaired by Prof. Bambang Tiksnadi, president of the Indonesian Orthopedic Society, an old friend of Stephan.

The program of the meeting in Jakarta:

- **Locked internal fixators, promising a practical solution for the treatment of fractures in porotic bone.**

The following stops of the flight were of technical nature, to refuel and sleep. From Bali to Darwin via Dilli in East Timor a strong headwind prolonged the flight and gave us the time to reconsider the different meetings regarding the topic of osteoporosis with special reference to the problems of fracture stabilization in weak bone and in a setting of mostly elderly people for whom it is of primary importance to be mobilized based on stable internal fixation. The mobilization of elderly trauma patients is a prerequisite for minimizing respiratory and circulatory complications in a setting that requires stabilization which resists uncontrolled high loading. Internal fixation using up-to-date technology will allow a major breakthrough saving lives or minimizing suffering of patients with fractures in osteoporotic bone.

In Brisbane research in osteoporosis is a primary topic for Stephan's stay as an adjunct professor at the Queensland University of Technology (QUT). Prof. Michael Schütz chairman of trauma at QUT is building up a research group, which under the guidance of Roland Steck lists osteoporosis as an important item. My working period at QUT in April

/ May 2006 should allow following the different invitations of the Australian universities. Australia is a fascinating country with great scientific and clinical potential for improved fracture treatment in patients with porotic bones. The second part of the flight around the world in late spring 2006 should allow enhancing awareness and support in the fight against the consequences of osteoporosis especially improving fracture treatment to save lives in Asiatic and American countries.

Our goal is to improve awareness and stimulate support for the treatment of trauma in patients with osteoporosis. We hope that through the “Spirit-of-Davos” adventure stimulating scientific exchange and political awareness we have contributed to approaching this important goal. Today the outcome of fracture treatment in osteoporosis is depressing. The outlook offered by new treatment modalities based on research and development, to which the AO Foundation contributes essentially, is promising.