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Surgeons attend the first Afghan-SIGN International Orthopaedics and Traumatology Conference.

Afghanistan Statistics

- 32.7 million population
- 71.9% illiterate
- Life expectancy: 44 years
- Labor force: 80% agricultural



The dichotomy of impoverished nations. Surgeons in the developing world are aware of modern technology however, financial constraints prevent them from having access to adequate equipment to properly treat their patients.



■ Active SIGN Programs

A Major Step For SIGN

SIGN took a major step last month with the first Afghan-SIGN International Orthopaedics and Traumatology Conference in Kabul, Afghanistan. Organized by Dr. Ismail Wardak, the two-day conference took place Nov. 29-30 during a visit to Afghanistan by Dr. Zirkle and Jeanne Dillner, SIGN CEO.

The conference, sponsored by the Afghanistan Armed Forces surgeons, was attended by the Afghanistan and United States military, civilian surgeons working with the Minister of Public Health, orthopaedic surgeons in private practice, and non-governmental organizations. Dr. Zirkle said he was impressed with the conference and the turnout.

"Surgeons from all over Afghanistan attended the conference," he said. "This was the first time they had come together. They were very pleased." During the breaks in the conference, Afghanistan surgeons got together and established the first Afghanistan Orthopaedic Association and elected provisional officers. They also plan to publish an Afghanistan Orthopaedic Journal for the first time.

"These two steps will provide more universal quality to orthopaedic care in Afghanistan," said Dr. Zirkle. "New techniques and implants can be discussed and orthopaedic surgery will be subject to more scrutiny, which will raise the quality." Another benefit stemming from the Afghanistan Orthopaedic Association and journal will be the publication of

orthopaedic papers that will be more evidence-based than they have been in the past, and residents will have a chance to learn different viewpoints about the treatment of different problems. "All of the conference participants were very enthusiastic about all of this," Dr. Zirkle said.

The focus of the conference was the SIGN workshop. Surgeons learned about the treatment of femur, tibia and humerus fractures using the SIGN nail. "This uses modern principles of fracture care, but adapts the implants in techniques so that it can be used in developing countries," said Dr. Zirkle. "Specifically, a C-arm is not necessary for implantation."

The conference made a positive impression on the Afghanistan surgeons who requested that SIGN programs be established in their respective hospitals. Dr. Zirkle said each surgeon demonstrated a commitment to learn the SIGN technique.

During the Afghanistan visit, Dr. Wardak and the surgeon general asked that Dr. Zirkle meet the chief of staff of Afghanistan President Hamid Karzai in his office to discuss SIGN and the future of orthopaedic care in that country. "He was very interested in finding commonality among all the groups providing orthopaedic care in Afghanistan," said Dr. Zirkle. "He was a very impressive man."

Afghanistan demonstrates leadership ...



Dr. Waziri and Dr. Zirkle perform a SIGN surgery at Wazir Akbar Khan Hospital in Kabul. Dr. Waziri recognizes the value of SIGN and is taking a leadership role in Afghanistan. He has agreed to train surgeons from different areas throughout Afghanistan in the SIGN technique.

... and cooperation

The United States and Afghanistan military work together. Here Lt. Col. Robert Detch, M.D., of the U.S. Army teaches the SIGN technique to Afghanistan military surgeons. Along with the two militaries, the Afghanistan conference brought together civilian surgeons who are under the minister of health, orthopaedic surgeons in private practice, as well as nongovernmental organizations such as Emergency.



Dr. Ismail Wardak, center, organized the first Afghan-SIGN International Orthopaedic and Traumatology Conference which included surgeons from different organizations throughout Afghanistan. The conference was the first time representatives from the various groups had come together. They formed the Afghanistan Orthopaedic Association and will publish an Afghanistan Orthopaedic Journal four times a year.



Orthopaedics takes teamwork



Orthopaedics requires a team with all members playing an important role. Physical therapy is necessary following surgery.

Family concerns

This man's face shows the concern he has for his son, whose femur was badly fractured. A severe fracture impacts the entire family as they must care for their loved ones in the hospital.



Patient receives first SHC



This man with the walker, supported by his two sons, was the first patient to receive the new SIGN Hip Construct. The surgery took place at the Wazir Akbar Khan Hospital in Kabul. Hip fractures are very difficult cases in developing countries, particularly when the hospitals do not have access to C-arms to provide real-time imaging in the operating room. The SIGN Hip Construct now gives orthopaedic surgeons the chance to repair fractured hips like the one this man suffered. He was up and walking three days after the surgery.

‘Life-long friends’



The 82-year-old man treated with 2 SIGN nails in January came to visit Dr. Zirkle and Jeanne Dillner in November to show off his renewed mobility. He hadn't been able to walk for eight years prior to the SIGN surgery. Dr. Zirkle said seeing the patient gave him something new to be grateful for during the Thanksgiving holiday.

Jeanne remembers the day back in January when the SIGN nails were implanted in the man's tibias. "He looked up at me and asked me how it was going," she recalled. "I told him that his surgery was going well. He gave me the thumbs up and said he loved Americans. Now that he can walk again, he thinks of us as his life-long friends."

You can read our first report on this patient in the April SIGN newsletter. Find it on our website, www.sign-post.org using the "Newsletters" link.



Growing capability

It is heartening to see residents eager to learn new orthopaedic skills. These Afghanistan surgeons are learning and discussing the technique of the SIGN Hip Construct. They asked many pertinent questions.



✚ Requested SIGN Programs



Dr. Ayub Haider, right, with the patient who received the first SIGN Hip Construct, following the surgery. SIGN empowers surgeons such as Dr. Ayub to provide their patients with renewed mobility.

Building Orthopaedic Capability

By Jeanne Dillner

SIGN's mission is to raise the standard of orthopaedic care in developing countries by opening an orthopaedic knowledge exchange and donating the SIGN IM Nail to the patients. The SIGN system is FDA cleared for use in the USA and is designed to obtain distal interlock without a C-arm. Functioning C-arms are a rarity in developing countries.

Due to constant internal conflict over the past 30 years, orthopaedic treatment has been stunted in Afghanistan. With the help of SIGN and local Afghan surgeons, however, the care of long-bone fractures is rapidly improving. One surgeon in particular has captured the vision of SIGN for his patients.

Dr. Ayub is a fourth-year resident at Wazir Akbar Kahan Hospital (WAKH). He is eager to bring Afghan orthopaedics into the 21st

century. His medical training was interrupted by the war when his family left Afghanistan to become refugees in Pakistan. When it became safe, Dr. Ayub and his family returned to Kabul where he continued his studies.

Prior to SIGN, WAKH treatment for long-bone femur fractures was traction or plating. These plates were prone to failure, but many doctors at WAKH did not trust that the SIGN IM Nail would have improved results over their current treatment, so Dr. Zirkle encouraged Dr. Ayub to conduct a study comparing the results of the SIGN Nail to the plates.

That study, and the resulting paper that Dr. Ayub presented at the first Afghan orthopaedic conference in November, showed that SIGN patients had faster healing and dramatically fewer complications. One story he told involved patients who were lying next to each other in

the ward. One patient received a SIGN nail and was discharged in a few days. The other patient was treated with a plate and left several days later. Over the next nine months, the SIGN patient's femur had healed. The plate patient, however, was re-admitted for implant failure. It was this comparison of the results of these two cases which convinced the senior surgeons that SIGN nail was safe for their patients.

SIGN is now the accepted treatment for severe long-bone fractures at WAKH. Since January 2008, the hospital has treated 125 patients with the SIGN IM Nail System.

This success story is repeated throughout the 51 developing countries and 165 hospitals that use the SIGN IM Nail System on a daily basis. SIGN has expanded by 40 new programs in 2008. To learn more about how you can support or volunteer for SIGN, visit our website at www.sign-post.org or write to us at signcom@sign-post.org.