

SIGN Conference 2023

By Lewis G. Zirkle, MD

The 2023 SIGN Conference was a success in many ways. There were many teaching and learning points, as well as fostering and renewing friendships among SIGN Surgeons from around the world.

SIGN is a family of surgeons tied together by a common goal of providing the best care possible for patients in low- and middle-income countries.

Learning and teaching ideas have continued to evolve. We've optimized the teaching experience by making it a two-way process, so the knowledge flows back to each presenting surgeon from all of us.

After the conference, a leader and teacher of orthopaedic surgery in the largest hospital in Pakistan stated that he had come to the SIGN Conference for many years and felt this was the best conference he had ever attended.

We combined the SIGN Conference with the SMART Course led by our partners at the Institute for Global Orthopaedics and Traumatology (IGOT). The subjects included moving muscle flaps around to cover wounds, using special devices to stabilize and correct limb deformities, and many more ideas.



We all went home exhilarated by this conference and look forward to the next conference.



SIGN Conference
2023 Group Photo

Lectures, Bioskills & More

Lectures

Nearly 60 SIGN Surgeons from 23 countries participated in the SIGN Conference, along with orthopaedic specialists from the United States and Canada. Most of the attendees were also faculty, making a 20-minute presentation of the work and research they are conducting at their hospitals. This model brings knowledge from a wide range of experts and experiences to the whole network of SIGN Surgeons, empowering them to learn and grow together.

Each presentation was followed by discussion to clarify information, talk about alternative approaches, and thank the presenter.



Dr. Kebba Marenah and Dr. Daniel Sciuto received scholarships from the AO Alliance Foundation to travel and attend the SIGN Conference.



Surgeons practiced using the SIGN Target Arm and Slot Finder to stabilize a fractured femur.

Dedicated volunteers kept the group fed and caffeinated.



Surgeons purchased, scrubs, sweatpants, t-shirts and more in the SIGN Store.

Lectures, Bioskills & More



Bioskills

The Bioskills Lab sessions enabled surgeons to practice new procedures on human tissue—an opportunity not available in many of their home countries. Specialists from around the world led trainings to care for fractures of the ankle, pelvis, femur, and tibial plateau.

The Bioskills Lab facility at SIGN HQ allows us to provide hands-on training that surgeons need to develop their skills and put what they have learned in lectures into action. With this knowledge and practical application, these surgeons are prepared to help their patients and train their colleagues when they arrive home.



Volunteers helped surgeons gown up for Bioskills Lab sessions.



Dr. Norgrove Penny led a training on the Ponseti Method, a non-surgical technique for correcting clubfoot in young children.



In bioskills sessions, orthopaedic specialists like Dr. Bob Dunbar (right) demonstrated a procedure, then the surgeons were able to practice it in small groups.

SIGN Spine Day

By Dr. Sariah Khormae, Hospital for Special Surgery, New York

October 11, 2023, marked a successful second-annual SIGN Spine Day. As SIGN works to serve even more individuals with life-altering injuries, we are partnering with spine surgeons across the world to improve care. In the SIGN Model, this involves training surgeons on core surgical techniques, sharing best practices, discussing innovative care options, and moving toward identifying high-quality/low-cost implants.

Highlights of the day included a Bioskills Lab where SIGN Surgeons were able to hone surgical techniques allowing spinal stabilization and opening up areas around nerves/spinal cord. These critical techniques help preserve and restore strength, sensation, and function after traumatic spine injuries. Surgeons had individualized instruction by SIGN Spine partner surgeons experienced in these techniques.

This hands-on training was augmented by lectures focusing on spine trauma principles of treatment and talks about surgical techniques currently being used at SIGN Programs, including innovative techniques like the use of Ilizarov frames for scoliosis treatment. Research presentations on quality evaluation and limitations of current spine implants were also covered—as this is one of the primary barriers to accessing spine care for patients in LMIC. Goals for further SIGN Spine interventions, including formalized programs in Tanzania, Kenya and others, were reviewed.

Beyond the formal program, this day also created new friendships, conversations, and collaborations in education, research, and clinical practice for SIGN's continued impact on improving spine trauma care for all patients.

Right: Dr. Michael Coscia leads a lecture and discussion.
Below: 2023 SIGN Spine participants and faculty.

Top Right and Below: Spine surgeons practiced procedures on simulated bones, before refining their technique on human tissue, led by experts including Dr. Sariah Khormae (top photo, center) and Dr. Parham Rasoulinejad (below photo, center).



Engineering Workshops

SIGN Engineers demonstrated their latest designs and gathered feedback from surgeons about their usefulness, as well as notes on potential improvements and what would be helpful in LMIC hospital environments. This bi-directional learning is a key element of SIGN's collaborative culture and of the conference.

Right: SIGN Surgeons and an Engineer discuss improvements in the SIGN Technique. **Below Left:** A new 3D printed device helps surgeons train on the difficult procedure of placing compression screws in the femoral neck. **Below Center:** A surgeon and an engineer confer about SIGN Plates for pelvic fractures.



Demonstrators from partner organizations showed their products for infection control and negative pressure wound therapy.



SIGN Engineers teach tips and tricks for SIGN Surgery, including sharpening instruments and using the Slot Finder to ensure correct screw placement.

12th Annual SMART Course (Richland, WA)

By Madeline Mackechnie and Dr. David Shearer

For the first time, SIGN and the Institute for Global Orthopaedics and Traumatology (IGOT) collaborated to hold the Surgical Management and Reconstructive Training (SMART) Course in Richland, immediately following the SIGN Conference. Fifty SIGN Surgeons from 19 countries participated in the two-day course. The course focused on limb-saving techniques for open fractures and correction of debilitating deformities. These limb-saving techniques included procedures used to treat severe soft-tissue and bone defects. The course progressed from didactics to case discussions to hands-on workshops in the SIGN Bioskills Lab.

On the second day, participants engaged in a “real-life” surgical simulation comprising 12 cases requiring surgeons to use the skills learned on the first day. Each team presented their pre-operative plan and the procedure executed in the lab. The presentations highlighted their newly gained skills and allowed the learners to become the teachers.

The course was led by SIGN Board Members, Drs. Richard Gellman and David Shearer, along with Drs. Michael Terry (UCSF), Anthony Ding (UCSF), Kari Keys (UW), and Ken Thomas (Anchorage, Alaska). SIGN Surgeons, Drs. Emeka Izuagba (Lagos, Nigeria) and Daniel Sciuto (Samburu, Kenya) also led teaching sessions. IGOT is grateful for the longstanding partnership with SIGN and the support from the SIGN Staff and volunteers who helped make the course possible.



Surgeons practiced using Taylor Spatial Frames to stabilize bones and correct limb deformities.



Surgeons made observations on 12 simulated injuries, then worked in groups to present their approach to treating a complicated case.



In the Bioskills Lab, surgeons practiced using muscle flaps to cover severe injuries.

Below: Attendees and faculty at the 2023 SMART Course.



Thank you!
SIGN Homecoming Gala
A Night to
Inspire Healing

On October 12, SIGN Supporters and Surgeons gathered for the **SIGN Homecoming Gala: A Night to Inspire Healing**. This fundraising event gave the opportunity for donors and surgeons to get to know each other and form bonds that cross borders.

We had a lot of fun, and **supporters raised more than \$131,000** — which is being matched to provide more than **\$262,000** worth of education, instruments, and implants for surgeons in LMIC.

Thank you for your generous support!



Attendees got to hear from Dr. Zirkle, Dr. Oleksandr Rikhter from Ukraine, Dr. Kebba Marenah from The Gambia, and Dr. Daniel Sciuto from Kenya.



Dr. Jocelyn Mutwiri (right) demonstrated the SIGN Technique to supporters.



SIGN Supporters viewed the SIGN 25th Anniversary Timeline while others bid on silent auction items.



Dr. Samson Tule met with Kiwanians who support his program in Ethiopia.

SIGN Donors had the opportunity to meet and engage with SIGN Surgeons from 23 different countries.





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**How You've
Helped This
Year Through...
September 2023**

20,366
Patients Healed

17 SIGN
Programs Started

223 Hospitals
received implants

50 Countries
have been sent
shipments

Contact SIGN

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SIGN
Meets all 20
BBB Charity
Standards

give.org

See SIGN's privacy policy and state disclosures at signfracturecare.org/privacy

Thank you...

SIGN Surgeons, Volunteers, Supporters, and Staff for making the 2023 Conference and the Homecoming Gala so amazing and successful! We look forward to 2024 with great anticipation! Wishing you all peace and joy!



Above: Volunteers took a break to watch the partial eclipse.

Surgeons headed back to their hotel on local Ben Franklin Transit busses.