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Why SIGN is Needed

By Jeanne Dillner, SIGN CEO

During my recent trip to Tanzania, we rode the A23 each morning and evening to get to and from Nkoaranga Lutheran Hospital in Meru. This busy road is used by trucks to transport commerce, by school buses to get kids to school and safely home again, and by family breadwinners who travel to work and back home again.

Every day there are multiple road traffic accidents, which cause death or serious injury that can lead to long term disability. It is vital to equip the hospitals in this region with the tools and the education so the surgeons who work there can provide immediate and effective surgical care.

SIGN Fracture Care was founded in 1999 to equip surgeons in regions like this with orthopaedic implants and education so that they can provide surgery for injured people. To date, more than 411,000 patients have been treated by surgeons who have been educated by SIGN to perform complex surgery to the legs and arms of injured and impoverished people.

Several times during this trip we have faced trucks, motorcycles, cars, and buses coming right at us — in our lane — as we drive to the hospital to work with the surgeons. Thankfully, every driver on the road has as much will to live and grace as we do, and so they

make room for those who are passing and getting too close to the oncoming traffic.

Please help equip SIGN Surgeons with the education and equipment they need to care for the people injured on the roads outside their hospitals. You can make a tangible and transformative impact for a person who has already suffered a traumatic accident. You can help them get back on their feet and back to work, keeping their family out of poverty.

Give today using the enclosed form or by visiting signfracturecare.org/donate.

SIGN Surgeons Training Surgeons

By Dr. Billy Haonga, Tanzania

Dr. Haonga is the SIGN Program Manager at Muhimbili Orthopaedic Institute, and his team organized and hosted the 8th MOI Trauma Course for surgeons from across Africa.

Muhimbili Orthopaedic Institute, in collaboration with IGOT, OTI-UCSF, and SIGN Fracture Care, has been hosting a trauma training course for surgeons from around Africa since 2013. The course has been consecutive with different themes and topics of interest every year until 2019 when we paused for three years due to travel restrictions caused by COVID 19.

Training Courses

The 8th course was divided into Basic and Advanced courses, each comprised of highly organized didactics, case discussions, and cadaver lab sessions from local, regional, and international faculty. The advanced course mainly covered areas of interest and need in our region, which included hip fractures, distal femoral fractures, upper extremity injuries, pelvis, and acetabulum. Lectures were based on available evidence for any approach taken to treat the discussed injury.

The faculty composed of surgeons from Africa and North America shared experience in treating the musculoskeletal trauma and pointing out what is available in the developed world and how can a surgeon apply what is available in LMICs, such as the SIGN Hip Constructs in treating subtrochanteric fractures in combination with side plate. International faculty from North America shared the new available techniques, advances, and implants.

The basic course was attended mainly by junior surgeons and residents in training and covered the same topics in general overview and more introductory content. In addition to basic trauma, emphasis was put on open fractures and soft tissue loss management.



SIGN Surgeons, including (left to right) Kebba Marenah, John Ekure, Joseph Mwanga, and Mapuor Mading, were the primary faculty for the Trauma Course.

SIGN Surgery Demonstrations

The third day had a time dedicated for SIGN Implant demonstrations and critical discussions. Participants in three groups rotated between case discussion, lab sessions, and SIGN Demonstrations. In SIGN demos there were two sites: Dr. Kebba Marenah and I demonstrated and supervised how to apply the SIGN Nail while Terry Smith, SIGN Engineer Manager, demonstrated new innovations that are happening at SIGN Headquarters.

Participants watched videos from Dr. Lewis Zirkle followed by demonstration of proper use of SIGN Instruments. Protection of SIGN Instruments is crucial, so we insisted on proper handling of instruments. There was great interest from all of participants to know the system and its proper use.



SIGN Engineer Terry Smith demonstrates proper technique with SIGN Instruments.

Global Collaboration

The SIGN Team also strengthened collaborations established in Tanzania, as the Vice President of SIGN Dr. David Shearer along with SIGN CEO Jeanne Dillner and SIGN Engineer Terry Smith visited MOI theatres and inventories to discern the reality on the ground of how the SIGN System has revolutionized fracture care in the country. MOI administration and surgeons also held bilateral talks that aimed to foster and nurture the established relations between SIGN and various centers in the country.

A total of 160 participants were from wide range of African countries covering East Africa (Tanzania, Kenya, Rwanda, Uganda, Ethiopia), Southern Africa (Zimbabwe, Zambia) and West Africa (Nigeria and Ghana). The most interesting part was on the faculty; in the first course we had almost all faculty from North America, but this year there were teachers from Tanzania, Zimbabwe, Gambia, South Sudan, Uganda and Ghana. This was possible because of a Faculty Education Program Course organized by AO Alliance and IGOT



Dr. Billy Haonga (center) guides junior surgeons and residents through SIGN Surgery.

in the past, which equipped regional faculty with teaching skills.

Overall, course participants were very happy with face-to-face course resumption with fulfilled expectations. Most attendees are ready to come back for the next course and propose to their friends to attend in future.



Dr. David Shearer leads a case discussion at the SMART Course.



Surgeons gained hands-on experience in bioskills lab sessions.

Partner Highlight: IGOT Leads SMART Courses

By Madeline MacKechnie, IGOT

IGOT is a longtime partner organization with SIGN who provides educational and research opportunities for SIGN Surgeons.

After a three-year pause due to the pandemic, the Institute for Global Orthopaedics and Traumatology (IGOT) partnered with SIGN and the Muhimbili Orthopaedic Institute (MOI) to hold the 8th MOI Trauma Course on June 5-8, 2023. The course attracted over 160 attendees from 14 countries across Sub-Saharan Africa and the faculty comprised 16 orthopaedic and plastic surgeons from Africa and North America, including 10 SIGN Surgeons. The four-day course covered a variety of topics including fractures of the pelvis, hip, and knee as well as open fracture treatment and soft-tissue flaps.

SMART Course

The concept of the Surgical Management and Reconstructive Training (SMART) Course originated more than 10 years ago when Dr. Lewis Zirkle recognized that SIGN Surgeons were able to fix the bone with donated implants, but there was a subset of severe cases with defects in the skin that could not be treated with implants alone.



IGOT team at the SMART Course in Tanzania: (back, left to right) Amir Matityahu, David Gendelberg, Michael Terry, Anthony Ding, David Shearer, and Ashraf El Naga; (front, left to right) Nicolas Lee, Madeline MacKechnie, John Rose, and Paul Toogood.

In the United States and other high-income countries, these injuries are treated by plastic surgeons who use techniques to move healthy tissue from a different part of the body to the injured area, known as a flap. Dr. Zirkle recognized that if orthopaedic surgeons could be trained to do these flap procedures, they could treat the fracture and soft-tissue wound to prevent severe infections and amputations. This realization led to the “Flap Course,” which has been held annually in the US for more than 10 years as a collaboration between SIGN and IGOT at the University of California, San Francisco.

Training in Tanzania

In 2013, leadership from MOI, one of the busiest SIGN sites, expressed interest in hosting a course that would be more accessible to the many surgeons in Africa who were unable to travel for the SIGN conference and “Flap Course”.

After the first successful course, it was the combination of teaching fracture treatment and soft-tissue flaps in Tanzania that led to the name “Surgical Management and Reconstructive Training” (SMART). Subsequently, both IGOT and SIGN have partnered with MOI to (continued on next page)



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2023 MOI Trauma Course Attendees

(continued from last page) deliver this course on an annual basis. The course involves a variety of topics and teaching formats, including didactics, case discussions, and hands-on workshops.

In the early years the course was predominantly taught by faculty from North America, but it has evolved to become a multi-disciplinary team of North American and African surgeon-leaders. This year's course included 10 SIGN Surgeons as faculty representing seven countries: Pak Baidoo (Ghana), Kebba Marenah (The Gambia), Daniel Sciuto (Kenya), Mapuor Mading (South Sudan), Joseph Mwangi (Tanzania), Billy Haonga (Tanzania), Felix Mrita (Tanzania), John Ekure (Uganda), Akimu Mageza (Zimbabwe), and Brian Paketh (Zimbabwe).

SMART Course at the 2023 SIGN Conference

This coming October, the SMART Course will be moving from San Francisco to Richland. The SMART Course starts the day after the annual SIGN Conference, so surgeons can attend without the need for any additional travel. This course amplifies the education at the SIGN Conference by providing hands-on learning to care for patients with difficult injuries and prevent amputation.

You can help surgeons attend the SIGN Conference and SMART Course! Donate today to provide a scholarship to help a surgeon from a low- or middle-income country take advantage of this remarkable opportunity! Use the form below or go to signfracturecare.org/scholarship

SMART Course Impact

1,100

Each SMART Course saves 1,100 patients from amputations every year

1,000+

The SMART Course has trained over 1,000 surgeons and counting in limb-saving techniques

93%

Success rate in surgery preventing amputation learned from the SMART Course

16,500

Amputations prevented by SMART Course attendees



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August 2023

- Yes!* I want to help with a scholarship!
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 - Full Conference Scholarship **\$800**
 - 1-Day Scholarship **\$200**
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See SIGN's privacy policy and state disclosures at signfracturecare.org/privacy

August

National Make a Will Month

Creating a will and estate plan is an important step in protecting your loved ones. When you choose to remember SIGN Fracture Care in your will, you are providing a lasting impact to the SIGN Family of surgeons and patients. Please notify us at info@signfracturecare.org if you choose to include SIGN in your estate plan.



Contact SIGN

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