

‘I Can Do Everything Like Before’

Kitagenga is a midwife and mother of two children in Uganda. When she goes to work on the night shift, Kitagenga usually takes a taxi. One evening, the line for the taxis was too long, so she hired a motorcycle. On the trip, a large truck swerved across the road and into their lane. The motorcycle driver avoided colliding with the truck, but his maneuver threw Kitagenga to the ground. When she tried to stand, her lower leg crumpled.

She went to the local hospital for an x-ray and was advised to go to a traditional bone setter. He applied a plaster cast and told Kitagenga to return in two months. When the cast was removed, her leg was still bent and shortened. The bone setter told her not to worry and reapplied the cast. He said that the bone would straighten out with time. But when that cast was removed another two months later, her leg was still deformed.

Kitagenga returned home despondent that she would never walk again. She had been bedridden for four months and her leg was worse than ever. During a conversation with family, her sister recalled that someone she knew had been treated at Kumi Orthopaedic Center, with much different results.

She met with Dr. Ekure, who took an x-ray and said that her bone had healed with a malunion, and it would require surgery to correct. He could straighten the bones and stabilize them with a SIGN Implant. Kitagenga



didn't believe that would be possible until Dr. Ekure showed her photos of previous patients who had similar injuries and were now walking.

The next week, Kitagenga returned to Kumi Orthopaedic Center for surgery, which took just one hour. The next day, she was able to stand with a walker—her first time standing in nearly six months.

“The sharp pain I had miraculously disappeared,” Kitagenga recalls. “I could now go to the washroom on my own. I was again independent and free to live like a normal human being!”

She returned home a few days later, and at each checkup she has progressed from using the walker, then a single crutch, and now no support at all.

“I can do everything like before the accident. I can perform all my duties very well. My life has come back to normal. I can lift heavy things and walk long distances,” Kitagenga says. “Thank you for giving me back my dignity and ability.”



After SIGN Surgery, Kitagenga is able to walk, work, and even dance.

Pregnant Mom Heals after Traffic Accident

By Dr. Sami Hailu, Ethiopia

Fikrte was 20 years old when she sustained a road traffic accident. It was just a year after she got married and five months into her pregnancy with her first baby.

On one unfortunate morning, she made breakfast with her loving husband and went to the nearby shop. On her way back home crossing the road, a fast-moving motorcycle crashed into her. While on the ground, a minibus traveling beside the motorbike caught her leg and dragged her for a few meters.



Initially she went to a private hospital, then she was transferred to St. Paul Hospital in Addis Ababa, Ethiopia. She spent two nights there, and she was treated for a blood collection on her chest drained with a tube. Fortunately, the obstetric doctors did fetal wellbeing surveillance and made sure her pregnancy was going well.

Then, she got transferred to Tikur Anbessa Hospital for operative care of her broken bones. Both St. Paul and Tikur Anbessa partner with Black Lion Hospital for their residency programs, and fellows from the Black Lion pelvic fellowship treat patients at these hospitals.

She spent around two weeks waiting in the ER with traction and caring for her extensive wounds on both legs, her bones were exposed, and care was provided for her injuries until she was ready for her major operation. After a 5-hour long surgery, her broken femur was fixed with a SIGN Nail, and the acetabulum was

fixed with a SIGN Plate. The surgery was a success, and she underwent her rehabilitation and a close follow-up to her pregnancy.

Four months after her accident, she gave birth to a healthy boy. The day also marks the celebration of the Ethiopian Epiphany, which could only make it more memorable.

Fikrte has returned to the hospital many times for follow up appointments and shows increasing recovery and return to normal function. Her son turned three years old last month, and he is healthy. Fikrte said he will start school in the coming year, and she will look for a job at that time.

Her husband has been crucial in Fikrte's recovery, and he said the way he sees life has completely changed since that incident. They are both thankful for SIGN Fracture Care for what it has done throughout this challenging time and for letting her dream again, have a baby, and be a mother. "Only God can repay the favor," she said.



After SIGN Surgery and months of physical therapy, Fikrte shows that she has regained a full range of motion and has a healthy child.

New Bioskills Lab at SIGN Headquarters

We have recently remodeled a section of SIGN Headquarters to become a Procedural Learning Center. This includes a large classroom and bioskills lab facility. The classroom provides a place to meet, collaborate, and engage during SIGN Conferences and remote learning opportunities. But we are most excited about how the bioskills lab can push our education and engineering forward.

This new lab enables us to host hands-on learning using donated human tissue, or cadavers. In past SIGN Conferences, we have hosted a mobile bioskills facility to provide hands-on learning opportunities for surgeons from around the globe. This new facility will expand our ability to host those sessions and provide valuable education. SIGN Surgeons have told us that in many countries bioskills labs are not available, so surgeons go from the university classroom straight into the operating room. A bioskills lab provides an intermediate step, so surgeons can practice new procedures in a realistic surgical environment, but without any danger to patients.

Lab sessions also allow our engineers to learn from SIGN Surgeons. Our engineering team hosts the lab



In the Bioskills Lab, SIGN Engineers experiment with new and existing products, to create the best orthopaedic equipment possible.

sessions, and they observe surgeons using the SIGN Instruments and Implants, ask surgeons questions, and discover ways that instruments and procedures can be improved.

SIGN Engineers typically test implant designs on simulated foam bones, says SIGN Engineering Manager Terry Smith. Those bones are effective at giving proper dimensions and accuracy, but they lack the full picture of surgery. Observing how SIGN Surgeons use the instruments, manage working through the soft tissue

surrounding the bones, and listening to their comments during bioskills lab sessions helps SIGN Engineers gain invaluable insight into how products and procedures can be improved.

The bioskills lab also enables SIGN Engineers to test product designs, as they did in January with a skin graft system. Using the prototype system on human tissue would not have been possible without this new facility, and now the engineering team has valuable data and hands-on experience with the devices, so they can iterate rapidly and develop a better product for surgeons around the world.

We look forward to using the bioskills lab for hands-on teaching at SIGN Conferences as soon as we are able. Practical, hands-on experience in a setting like this is crucial to help surgeons improve their skill in the operating room.

Many partners helped us create this facility, including the M. J. Murdock Charitable Trust, Surgical Training Institute, Science Care, Acumed, and other foundations and individual supporters.



At SIGN Conferences, surgeons from around the world gain hands-on experience in the Bioskills Lab.

SIGN Supports Surgeons in Ukraine

SIGN responds in disaster situations. It's in our DNA to respond wherever people are injured, to help them quickly recover. From earthquakes in Haiti and Nepal, to the tsunami in Indonesia, to conflicts in Afghanistan, Ethiopia, and now in Ukraine, SIGN's global network of surgeons is trained and equipped to immediately respond.

The SIGN System of orthopaedic instruments and implants is designed to be used in austere operating environments, and it is ideal for use after a natural disaster or in a conflict situation. SIGN Surgeons are able to care for patients with broken bones without electricity in the operating room, tent, or whatever facility is available.

The system enables surgery to be performed quickly, enabling surgeons to care for many patients that flood their hospitals.

SIGN is responding to the ongoing invasion and conflict in Ukraine. We have prepared and sent shipments to two hospitals. We did not previously have **(Continued on the next page.)**



SIGN Board Member Randy Huebner (in dark blue) and SIGN Staff organize donated items and SIGN Sets for shipping to Ukraine.



Your gift

provides instruments and implants so surgeons can help injured patients heal.



Donate today!

Use this form or text SIGN to 91999 or go to signfracturecare.org/donate

SIGN Programs in the country, but through our global network we were able to connect with them. Through email we shared the range of products that SIGN has available, and they selected a SIGN Starter Set and donated external fixation devices.

The first shipment included a Set of SIGN Instruments and the implants to treat 100 patients. Also included was a Virtual Reality Headset with a module guiding the user through SIGN Surgery, which was developed and donated by PrecisionOS. We also included external fixators, which have been donated by hospitals around the US and collected by SIGN Board Members Carla Smith and Randy Huebner. The second shipment included another SIGN Instrument Set, SIGN Implants for 100 patients, and hundreds of external fixators.

The external fixator devices work hand-in-hand with SIGN Implants, and they are especially useful in conflict situations. They are used when a patient has a broken bone and significant skin or muscle injuries, as often occurs in blast or gunshot injuries. The external fixator stabilizes the limb and allows the soft tissue injuries to heal. Once that healing begins and the patient is stable, surgeons can use a SIGN Nail to provide definitive treatment.

Thank you to everyone who has donated to provide this healing care in

Ukraine. SIGN will continue to respond and resupply surgeons in Ukraine as long as needed. Your gifts have enabled us to quickly respond, and we are grateful that you are helping to alleviate suffering and enabling injured people to heal in the midst of this tragic conflict.

As the invasion wages on, we continue to need your support to help injured people. Your gifts will help SIGN send more implants to Ukraine and immediately respond to the next disaster.

[Please give today at signfracturecare.org/Ukraine-response](https://www.signfracturecare.org/Ukraine-response)

[If you have external fixator devices to donate, please email us at info@signfracturecare.org](mailto:info@signfracturecare.org)



External fixators, like in the photo below from Myanmar in 2018, are used to stabilize a broken bone and allow skin and muscle injuries to heal before definitive treatment with a SIGN Nail.



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4,156

Patients Healed

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105 Hospitals

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