

# 2021 Achievements & Highlights

## SIGN by the *Numbers*

**36** New SIGN Programs

**34,283** Patients Healed in 2021

**369,219** Patients Healed  
since 1999

## Programs reporting the most SIGN Surgeries in **2021**

**652 Tanzania:** Dodoma Regional Referral Hospital

**631 Cambodia:** Kossamak Hospital

**576 Tanzania:** Muhimbili Orthopaedic Institute

**372 Malawi:** Kamuzu Central Hospital

**358 Kenya:** St. Orsola Hospital Matiri

**337 Ethiopia:** Soddo Christian Hospital

**298 Ethiopia:** Black Lion Hospital

**297 Tanzania:** Nkoaranga Lutheran Hospital

**291 Afghanistan:** Central ANA Hospital

**287 Burundi:** Kibuye Hope Hospital



Jean, left, is able to stand and walk after SIGN Surgery at Compassion Evangelical Hospital in Guinea — a new SIGN Program in 2021.

# SIGN 2021

## *Achievements & Highlights*



### HQ Improvements

Throughout the year, SIGN Staff have been making changes to increase efficiency and innovation.

#### Development Cell

Engineers and Machinists worked together to set up a Development Cell, so that engineers can refine prototypes without interrupting production of instruments and implants.

#### New Machines

We added two new screw-making machines to increase productivity. Our new Autobagger machine quickly packages implants and ensures we continue to meet regulatory guidelines.

#### Procedural Learning Center

We completed the Procedural Learning Center, where we can host hands-on training for surgeons. All these improvements work together, enabling SIGN Staff to meet the growing need for fracture care in low-income countries.



*Above: Autobagger in the Shipping Department. Below: Star machine for making screws. Below-left: Bioskills lab in Procedural Learning Center.*



### Trauma Healers

In May, *Trauma Healers* began airing on PBS stations across the United States. This documentary highlights the need for trauma care in low-income countries. To date, *Trauma Healers* has

been aired nearly 2,000 times on more than 185 PBS stations nationwide. The documentary is now available on-demand on YouTube. Please view the documentary and share it with your

family and friends to hear the stories of SIGN Surgeons and learn how you can support trauma patients in need.

**Watch now at [signfracturecare.org/traumahealers](https://signfracturecare.org/traumahealers)**



# Constant Innovation

We are always looking for ways to improve products, procedures, and training to help surgeons in low-income countries.



Dr. Duong Bunn in Cambodia tests the VR training system.

## Stewardship

Through all our work, we diligently steward the donations the SIGN Family provides us. For the ninth year in a row, we received a 4-star rating from Charity Navigator—their highest rating for financial health, accountability, and transparency. We also received accreditation from the Better Business Bureau and received a Top-Rated Charity award from GreatNonProfits.

### Education

To improve education opportunities, we upgraded The Hub with 21 eLearning courses and knowledge pages on SIGN Techniques and Products.

Thanks to PrecisionOS and an Epic Games Megagrant, we received virtual reality headsets and a SIGN Surgery training simulation, which is currently being tested by surgeons.

### Engineering

SIGN Engineers tested a skin graft system developed by Randy Huebner, a SIGN Board Member, and Joel Gillard, a SIGN Engineer. This system is designed to help SIGN Surgeons cover open wounds.



The skin graft system will help surgeons treat patients with open wounds.

## Record-Setting Healing

SIGN is expanding faster than ever before. We started 36 SIGN Programs in 2021—more than any other year in our history. We delivered 34,283 SIGN Nails to help patients recover from bone fractures. We now support more than 7,000 SIGN Surgeons at

388 hospitals in 54 countries. Since 1999, those surgeons have helped heal 369,219 patients.





# Responding to Haiti Earthquake



Dr. Pierre Woolley

On August 14, 2021, a 7.2 magnitude earthquake struck south of Port-au-Prince, Haiti. Immediately, SIGN Surgeons at the 15 SIGN Programs in the country quickly

responded to care for people injured by collapsing buildings, falling debris, car accidents and more.

Dr. Pierre Woolley, who oversees SIGN Programs in Haiti, recalls the tragedy and shares a message to SIGN Supporters in this letter.

Dear SIGN Family,

I want to take this opportunity to thank you from the bottom of my heart for the support that you all did for us here in Haiti in providing implants and support during the past months. Your impact has been phenomenal for the benefit of our patients who suffered so much during this earthquake.

As you all know we had a devastating earthquake with over 650,000 people in need of humanitarian assistance. More than 200,000 children were affected, more than 52,000 homes destroyed, over 12,000 people injured, and 2,207 people were killed. This

was devastating for all of us involved but many good things came out of it.

The most important thing was how we all got together this time around, better prepared in a way to tackle this disaster head on. Because of the covid pandemic and major restrictions due to gang-related activities and a level 4 do-not-travel policy from the US, we as Haitians had to really step up and take care of our own better than we ever had before. We could not have done that without the educational and implant support over the past decade.

As an orthopaedic trauma surgeon specialized in complex trauma and



reconstruction and as a SIGN Surgeon and an attending physician at HUP La Paix University Hospital in Port-au-Prince, my task was to receive



the most severely injured patients for the south. My team stayed in Port-au-Prince and was composed mostly of orthopaedic residents that are in training. We did over 110 cases in 3 ½ weeks. 49 of these injuries were really unstable and complex. Many of the patients arrived from the south by helicopter in the early days of the crisis. These were severe injuries that could not have been treated in the rural hospitals of the south and needed fast stabilization, evacuation, and treatment.

Most of the patients we received came with one parent and no money. (Continued on back.)



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(Continued from other side.) Their home had been destroyed in the quake, and they had no food, no money, nothing. The shock was really devastating for them, as you can imagine. We managed to treat most of them, and now we only have a handful of patients still at our hospital (mostly pelvic and complex hip fractures) that should be discharged in the coming days and going home soon.

The presence of SIGN in Haiti has been strong for over a decade now and the results and sustainability of the SIGN Model — Education + Implants = Healing — has been tremendous for those who cannot afford anything. Our patients thank you, our surgeons thank you, our nation thanks you and all the donors for such fantastic support.

Orthopaedics around the world is changing because of SIGN.

Thank you.

Dr. Pierre Marie Woolley  
SIGN Surgeon  
La Paix University Hospital

# SIGN Surgery Saves Limbs

At 15 hospitals with SIGN Programs, like Hôpital Adventiste d'Haiti in Port-au-Prince, people injured by falling debris, crushed buildings, car accidents, and more quickly arrived. Because the SIGN Surgeons there are already trained in trauma surgery and have the instruments and implants they need to operate, they were able to provide definitive treatment for patients right away.

When the earthquake struck, Carlande was inside a market and attempted to run outside. But

the roof collapsed, and she was trapped under the debris. She suffered bilateral femur fractures and her right hip was dislocated.

When she arrived at Hôpital Adventiste, the surgeons used SIGN Nails to stabilize both of her femurs. She suffered complications after the surgery, but fortunately a volunteer nurse was able to donate a pint of blood that Carlande needed. After one week of care from the hospital staff, she was able to return home, and she is well on her way to a complete recovery.



Carlande recovers under the care of her surgeons, Dr. Cho and Dr. Nelson.



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January 2022

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Honoree Name: \_\_\_\_\_

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*Training*

## SIGN Trauma Sessions

**February 1**  
**Pediatric Femur Fractures**

**February 18**  
**Patella Fractures**

SIGN Trauma Sessions are webinars where SIGN Surgeons continue learning new techniques and procedures.

SIGN Surgeons can participate in the live session or watch recordings of past webinars on The Hub.

### Contact SIGN

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**Feb 1-14**



All gifts received through  
**Feb. 1-14, 2022**  
will be **matched, up to a total of \$35,000.**