

## The Role of SIGN in Panama

Lewis G. Zirkle Jr. M.D.

SIGN's vision is to Create Equality of Fracture Care throughout the World. In developing countries, SIGN has been enthusiastically welcomed. But what is the role of SIGN in Panama in which the level of economic development and medical service available to the population could be considered as a step up from a *developing* country? For that reason, the establishment of a SIGN hospital at the Hospital Santo Tomas (HST) in Panama City has been of particular interest.

HST has available conventional implants for fracture care. The government will partially subsidize these implants, depending on the patient's ability to pay. Thus, a Social Service consult to determine what the patient will pay, which takes at least 24 hours, must be done before the surgery can be undertaken. This often results in delays that exceed the "golden time" for optimum surgical care in open fractures. The availability of SIGN surgery could improve the quality of

staff many ways SIGN could fill a need in Panama. Our present plan largely hinges on the attitudes of the surgeons in Panama toward performing SIGN surgeries, and their willingness to teach others from outlying hospitals where the need for the attributes of SIGN surgery is felt most keenly.

We also learned that, if the surgeons at HST are favorably inclined toward SIGN surgery, Kiwanis may play a significant role in facilitating the training of doctors from the outlying hospitals. SIGN donated all the instruments and implants to Panama.

### Busy Days

Our host in Panama was **Miguel Clare** who had initiated our visit as the result of meeting Kiwanis members from Richland at the International Kiwanis Convention in Indianapolis in June. **Dr. Augusto Alvarado** was our sponsor at Hospital Santo Tomas. They met us and were gracious in getting our bags through Customs with very little delay.

Dr. Alvarado had arranged a preliminary meeting with seven orthopedic surgeons to discuss SIGN, the techniques and other technical aspects, the need for SIGN in Panama, and passing the recent FDA audit. I was reminded that the surgeons who initially question SIGN often become SIGN's best friends.

The three days of surgeries provided many opportunities for instruction, demonstration and discussion. The first day we operated on two tibias using SIGN nails. One, a four-day old fracture, was reduced closed. The second one was ten days old and was reduced by open reduction.

On the second day, two femurs were done. One was done in retrograde fashion and one was done in antegrade fashion. Enthusiasm for the SIGN Nail was growing and I especially enjoyed our discussions with the doctors. In fact, on the third day, Dr. Tomas Abrego, who will be the Chief of HST next year, insisted that the second case of the day be done closed (without opening the fracture). The patient was a very large man particularly in the width of his thigh. He had a lot of muscles, but we were able to reduce the fracture in supine position using an operating table and C-arm x-ray.



*Orthopedic ward in HST - Panama City*

care by reducing delay time. Of course, it would provide immediate care to those who live in outlying areas where conventional implants cannot be used because of the lack of sufficient x-ray equipment and funds.

During our time at HST we discussed with the

### SIGN

2950 George Washington Way, Richland, WA  
99352 Tel: (509) 371-1107  
Fax: (509) 371-1316  
Email: signcom@sign.org  
WEB SITE: www.sign-post.org  
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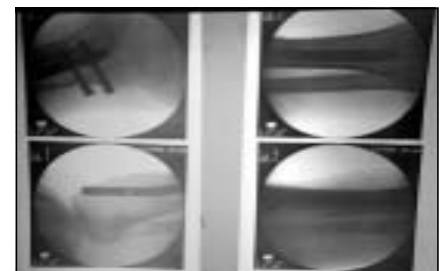
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*SIGN operation with Dr. Abrego*

### Something New Every Day

Frequently, these surgery sessions provide situations that lead us to consider changes to either the design of SIGN equipment or to the procedures that we recommend. The experience with the very large man the last day brought to mind some changes that we could make in our SIGN instruments. We have already worked on the longer T-handle as well as an extension to the T-handle so patients can be done supine without opening the fracture. This approach requires a C-arm, which most projects do not have. (See illustrations)



*C-arm images of SIGN operation*

## The Future

Throughout this visit, we discussed how SIGN would fit into the orthopedic situation in Panama. On the last evening we attended a conference of 65 orthopedic sur-

geons. I presented SIGN and the enthusiasm was contagious to the other orthopedic surgeons who had not had the opportunity to use SIGN nails. Some of these surgeons had driven eight hours to attend this conference. It was very gratifying because we

hope to extend the use of SIGN to these outlying areas where they do not have as many fracture treatment options.

I am very happy with this trip. I welcome Panama to the SIGN Family.

# Spreading the SIGN Network

## A Fruitful Trip to Dominican Republic

by Dr. John Staeheli

- A patient waits in a hospital bed while his family scrapes together the money to buy his orthopedic implant
- An orthopedic surgeon is frustrated that he has the experience and skills but not the tools to care for the patient injured after a motorcycle accident.
- A hospital administrator struggles with the reality of running a large public hospital, a teaching hospital with 13 residency programs and a medical school in a country where the peso has just been devalued by 100%. His hospital has not purchased new equipment since 1979.

This is the situation in Santiago, Dominican Republic. Similar situations are present throughout the third world. I had the privilege of bringing SIGN and SIGN equipment to the Jose Maria Cabral y Baez Hospital. It is the largest public hospital in the country and serves a region of about 700,000. It has 650 beds. The orthopedic department includes 8 staff and 13 residents. They treat operatively over 700 long bone fractures per year. There were 60 patients awaiting implants when I arrived.

... We stayed at ILAC (Institute for Latin American Concern – an overseas campus for Creighton University, Omaha, NE) center in Santiago. ILAC runs year round programs for undergraduates and graduate professional schools (dental, medical, law and physical therapy). Our accommodations were simple but very comfortable in a safe and secure environment. Utilizing ILAC opened many doors, making this a successful trip.



*The Dominican Republic's poor are plagued by a weak economy*

Dr. Frederico Bonnely was a great help. For several months prior to my arrival we communicated by e-mail for the necessary arrangements. He picked me up each day and we began with morning rounds and pre-operative conferences. Then we proceeded to the operating room where we had two orthopedic rooms and I was able to utilize both SIGN instrument sets. Conditions were basic but satisfactory. Many basic orthopedic tools are old and in disrepair. We did have an image intensifier but no fracture table. Most fractures were quite old and required open reduction. We did a few fresh fractures and were able to manage these in closed fashion. After spending 3 days participating with the staff and residents I felt comfortable that they had the knowledge and experience to continue as a SIGN project. . . . I stayed an additional 3 days. We did 17 cases while I was there and all of the staff and residents

**“... Who will go for us?**

**Then I said, ‘Here am I; send me’.”**

*At the SIGN Conference in July (see the September news letter), it was noted that SIGN was very encouraged by the increasing number of orthopedic doctors who are interested and willing to join in spreading the SIGN mission to people in need. The evidence was that sets of instruments, and instructions in their use, would be taken to six new hospitals. It is gratifying to include here reports from three of these doctors.*

were able to assist or do a SIGN nail. It was well received and appreciated. My hosts were fantastic both at ILAC and the orthopedic department.

For the first time, a patient with a femur fracture came in on a Saturday, was fixed with a SIGN nail, and went home on a Tuesday. The impact on the patient and his family was tremendous. The economic implication to the hospital was recognized. The orthopedic surgeons had the satisfaction of bringing their knowledge and experience to the operating room with SIGN equipment to provide “Equality of Fracture Care” to their patients.



*Jose Maria Cabral y Baez Hospital has not purchased new equipment since 1979*

## From Nepal

by Dr. Carla Smith To visit Nepal in August is to fully

appreciate its nature of extremes. Extremes of heat, of rain, of mountains, and jungle plains, extremes of poverty, and corruption, and intimidation, and perseverance. In the heat of summer, the air barely moves and the monsoon rains do little to cool the air but life goes on. Buildings go up, roads are constructed, goods carried to market and Kathmandu becomes busier and more crowded as more and more villagers move to the city for safety and a livelihood. The crowding is immediately noticeable, the roads are full, the houses overflowing and the number of accidents has increased markedly. Until just a few years ago, Nepal did not have its own residency program for orthopedic surgeons, hence all surgeons with subspecialty training have traveled to other countries for their training. After meeting with many of them, all intelligent, well-trained individuals, it is striking that they all choose to return to Nepal and to serve their own people when they could leave and accept lucrative jobs in other parts of the world.

The spirit of giving and serving their own countrymen is evident in all of the orthopedists I met in Nepal and certainly serves as an inspiration. I had the good fortune to become acquainted with a number of individuals who were exemplary in this. Dr. Chakra Pandey, at the Medicare Hospital in Kathmandu, is a wonderfully energetic and talented surgeon. He keeps an exceptionally busy practice and has a wonderful vision for the future of orthopedics in Nepal. He has set up and funded his own charity fund at Medicare Hospital and funds work

for indigent patients from it. His vision for



*Nepal is a country of extremes — in beauty and in poverty*

cooperation and provision of much needed work among the poor as well as for training future orthopedists is to be commended and I appreciated very much to be able to help him in part.

While I was in Nepal Dr. Pandey assisted in arranging visits to a number of different hospitals, including Nepal Orthopedic Hospital, Kathmandu University, Tribhuban University, Nepal Medical College, the Model Hospital and others. His own knowledge and ability made the SIGN nail an immediate asset to the Medicare hospital and we were able to get several nails done at the Nepal Orthopedic Hospital as well.



*Dr. Carla Smith with other surgeons in Nepal*

Drs. Shrestha and Soete at the Nepal Orthopedic Hospital also proved the immediate utility of the implants there. The construction that is recently funded at Nepal Orthopedic hospital should only serve to increase the number of people who can be served there.

During my stay I also had the opportunity to review the 60 cases of SIGN nails done at the Nepal Medical College, which has had the nail about 4 years. We had a wonderful time reviewing the cases and discussing pitfalls and pearls gleaned from their years of experience. It was truly wonderful to see the volume of patients helped and to be able to expand that to other sites in Nepal.

Overall, taking the SIGN nail to Nepal has been an overwhelming success. From the first visit in 1999, great progress has been

made at Nepal Medical College and I am sure that the unswerving dedication and devotion of the orthopedists I met at Nepal Orthopedic Hospital, Medicare and the other hospitals will soon exceed even that. Nearly as importantly, a newfound spirit of cooperation and collaboration is being realized and the importance of working together for the common good is now being realized to greater extent. Each of the individuals I met spoke admiringly and with awe of Dr. Zirkle and what he has achieved, and in each of them I could see the same sense of vision, devotion and the desire to make the world a better place.

In a land of extremes, where many young adults want only to escape from a future they fear is filled with uncertainty, poverty and hardship, it is an honor to work with and beside those orthopedists whose place is there, helping their own. Nepal is a desperately needy country and giving these dedicated individuals the tools they need has and will make a huge difference. Namaste.

### **From Siberia, Russia**

by Dr. Rob Schultz

Dr. Steve Fischer (my partner) and I went to Krasnoyarsk Russia in early September this year to deliver SIGN implants and instruments for use in the Emergency Hospital of Krasnoyarsk. I originally went to Krasnoyarsk about ten years ago as part of an exchange program between sister cities of Billings MT and Krasnoyarsk. There I met several orthopedic surgeons and established a relationship with one, Dr. Oleg Gendin. About seven years ago, I brought Dr. Gendin to Billings to see how we did procedures and have since that time sent him anything that our hospital disposed of that might be useful to him. I sent him an Arthrocare unit that ended up being one of five in Russia which he has used since with hand pieces that we dispose of after one time use. He has done well developing an arthroscopy center in his hospital with these hand-me-downs.

A year ago, I came to your conference and was impressed with your mission and your organization's fortitude. I remembered when I visited Krasnoyarsk that all their femur fractures seemed to be treated with traction and most of their tibia fractures were in Ilizarov type devices. I saw your IM nail and knew that it would be of great help to Dr. Gendin and his patients.

We went through Moscow and met a clinic manager for an Orthopedic and Neurosurgical private practice clinic. All that is very new to Russia and I was quite interested in seeing innovative free enterprise at work. We then traveled to Krasnoyarsk and were warmly received by our hosts. Krasnoyarsk is a city about 3000 miles east of Moscow Russia, about half way across Russia. It is in Siberia on the Yesinia River which is the fourth longest river in the world. It used to be a "closed" city until 1992 because the Russians manufactured

### **Email Excerpts From: Dr. Chakra Pandey Medicare Hospital, Kathmandu**

*This is just a small note to express our gratitude for your great mission to help people from the third world countries with tibia and femur fractures. Dr. Carla Smith has been a great surgeon to start with the SIGN program a second time in Nepal. At present, our plan is to start these nails in Tribhuban University Teaching Hospital, Nepal Orthopedic Hospital, and Medicare Hospital. As things go better in due course, SIGN can be started in many different centers in the country. . . Again I would like to thank you for your dedication to the people of the third world countries.*

nuclear bombs at plants in the city. Those are now dormant and the city is open for tourism (although there is very little). The city has a population of around 1.2 million people and the region which this city services has a population of 3-4 million. The "inner" city" hospital that we worked out of has 1000 beds. It hasn't changed much in the last ten years. Most of the infrastructure is deteriorating but the doctors do well with the resources at hand.

We did two cases while we were there. Unfortunately, the first case was a comminuted distal tibia/fibula fracture about ten days old in a young lady. About 20 physicians were in the operating room, as well as the local TV cameras, so the pressure was on. I insisted that Dr. Gendin do the case and, fortunately, we were able to close reduce the fracture and nail the tibia, including two distal interlocking screws, with no problems. Charlie Brown caught the fly ball and a new hero was born. The next day we did another young lady with a segmental midshaft femur fracture that we did with a retrograde nail. This one we had to open, but outside of a struggle with the proximal interlocking screw placement, it too went well. Needless to say, the doctors and the patients were impressed with the nail system. We were again on another TV station that night. "Famous American Orthopedic Surgeons."



*Krasnoyarsk is about half-way across the vast expanse of Russia*

What was most impressive was that the tibia fracture patient went home two days after her surgery. In the USA, that might be expected, but in Siberia that is unheard of. Most patients stay for months in the hospital with broken long bones. This nail system will revolutionize fracture care in

this region and it will spread to other areas of Siberia. They have had nails in the past but of very poor quality that have a breakage rate of 50% or more. They also use plates for femurs fractures but again they have a very high plate breakage and non-union rate. The SIGN nail is a MAJOR ad-

vancement for their patients.

We had a great time seeing new technology delivered from Richland WA to Krasnoyarsk Siberia. I look forward to a long relationship with my friends in Russia and at SIGN.

**Thank you to The Digital Image for the printing of this newsletter! Look for current donors in next edition.**

## **First Kiwanis Training Center in Guatemala assists in starting first SIGN project in Nicaragua.**

The Milt-Lewis project, established in Guatemala City at the Roosevelt Hospital and the Hospital San Juan de Dios in May 2003, has already assisted in starting a new project in a neighboring country, Nicaragua. As the result of a \$500 donation from **Rhoda Lewis**, SIGN was able to respond to a request for assistance from Project leader for Nicaragua, **Dr. Larry Hull** (USA) and to send **Dr. Manuel Aldana-Sáenz** from the Roosevelt Hospital in Guatemala. **Thank you Rhoda!** See the results of his visit below:

What a great time we had in Nicaragua! - and we were able, between Birchard, Anderson, Slattery and myself, to do a great deal of teaching and assisting them. **However, the greatest contribution was made by Manuel Aldana-Sáenz ... what a marvelous asset he was to everyone and especially to the Nicaragua orthopedists.... we all loved him and he was just great in every way. An amazing young man and thank you for getting us together and helping with his expenses.** He was so very helpful with his lectures, translation and overall orthopedic savvy. — **Larry (Dr. Larry Hull)**

Dear Dr. Zirkle -

Thank you very much for the economic help in the trip to Nicaragua. I do not have words to explain to you how wonderful the experience in Rivas, Nicaragua was for me. It was the first time I traveled with the goal of teaching, and I don't know how I can express myself to **Thank You** for giving me this opportunity.

It was a busy week. We did clinic-day on Monday in order to schedule the procedures of the week. About SIGN, we did 3 cases with the Nicaraguan doctors, as well as with Dr. Scott Slattery from Washington. I have to tell you that the first case we did was very difficult (femur fracture, 22 days old, no traction), and unfortunately we could not interlock the proximal screws (we used a standard retrograde). The fracture was well reduced, but the Nicaraguan doctors just had an old "hand drill" which made it very difficult and inexact in the calculation of the screws distal to the T-handle. The next day we operated on a 79 year old lady with a subtrochanteric fracture. It was the first time for me using the SIGN nail for this kind of fracture, and this time the case just went "perfect". The third day I gave a lecture about the SIGN program in Guatemala, with the cases we have done recently and giving more importance to our complications in order for them to avoid the step we have been giving, the impor-



*Dr. Xavier Pasos (left) Dr. Scott Slattery from Washington (center) Dr. Manuel Aldana-Saenz (right)*

tance of patient selection and planning the surgery. The last day we did a tibial fracture, treated closed with one distal screw and two proximal.

I had the pleasure to work with Dr. Hull in the clinic and making rounds, and had the pleasure to assist the surgeries with Dr. Slattery, as well as working with all the WOC group, who treated me so great that I felt as I was part of their group.

I'd like to tell you too that it seems that the workshops we did the week before in the Roosevelt hospital seems to work. During the week I was in Nicaragua, they did 3 SIGN cases, and this week are scheduled for 2 more. I am Happy for it.

Thank you very much!  
**Manuel Aldana-Saenz**

## **We Passed! - And Made Other Significant Gains**

### **FDA Audit**

While we were confident of eventual success, nevertheless we are very happy to announce that we passed our first FDA audit which was conducted in September. The auditor found no observations to report. Of course, she found a few areas where we could use more thorough training. Thankfully they did not differ from what we had already self-assessed. We extend a huge thank you to **Acumed** for their guidance, their documentation, their constant support, and for the training that they provided to us in early October.

The quality of our product begins with the integrity of our staff. The positive results from this audit confirm that our staff is manufacturing quality implants in a disciplined, systematic, safe and efficient manner. **Every one of our staff can claim responsibility for passing this audit and for making high quality implants that heal thousands of poor people around the world.**

### **SIGN Training Video/CD**

When the SARS epidemic came about, limiting our entrance to Vietnam and other Asian countries, we decided that it was time to provide an alternative to "in person" training. Other implant companies provide CD training videos to their customers, so we decided to give it a try. CTTS, who produced the recent Kiwanis/SIGN promotional video, specializes in multi-media training. Early in September, they delivered the first draft of the SIGN training video which will soon become an integral part of every SIGN set. They used video and animation to instruct on the proper technique to implant a SIGN nail for tibia, and retrograde and antegrade femur. **We are committed to providing ongoing training in SIGN technique, whether we can travel to the site or not.**

### **SIGN Surgical Database**

CTTS also designed our web-based surgical database which we rolled out to all projects in August. Just 45 days later, more than 350 entries have been made by our project managers. The database is a repository for SIGN surgical data and photos of x-rays. Daily, we receive real-time information about SIGN surgeries. Dr. Zirkle reviews each case and responds to comments made by the surgeons. **This database is an excellent tool for training and for orthopedic research.**