

# Kiwanis/SIGN Presenter's Resource Guide

Assembled by Kiwanis/SIGN Coordinating Committee of PNW Div. 54

**Max Kreiter**, Committee Chairman  
**Gary Busselman**, President, Kiwanis Club of Richland  
**Ralph Curran**, Past President, Kiwanis Club of Richland  
**Jeanne Dillner**, Executive Director, SIGN  
**Carolyn James**, Member Kiwanis Club of Tri-Cities Industry  
**Norman Olson**, Lt. Governor-elect, Div. 54  
**Joeseph Mosebar**, Lt. Governor, Div. 54  
**Henry Stevens**, Past Lt. Governor, Div. 54  
**Kathie Truax**, Member, Kiwanis Club of Richland  
**Ginger Vetrano**, President-elect, Kiwanis Club of Richland  
**John Yegge**, PNW District Chairman for Achievement

Please direct all project correspondence to:

**Ralph Curran**  
**Kiwanis/SIGN Coordinating Committee**  
**79 Willis**  
**Richland WA 99352**

(509)943-9751  
[r.curran@att.net](mailto:r.curran@att.net)

# Contents

Questions & Answers About the Kiwanis/SIGN Initiative	3
Appendix A: PNW District Board Resolution Regarding Kiwanis/SIGN	10
Appendix B: Builder Article Regarding Kiwanis/SIGN	11
Appendix C: Suggested Outline for a Kiwanis/SIGN Presentation	14

Questions & Answers  
About the Kiwanis/SIGN Initiative  
to *Save Families*  
by Working to Achieve  
*Equality of Fracture Care Worldwide*

By John Yegge, PNW District Chairman for Achievement  
(Contact: [jyegge@charter.net](mailto:jyegge@charter.net))

In June 2003, the PNW District Board approved a resolution endorsing Kiwanis Club/SIGN Partnerships in the PNW District and encouraging PNW Divisions and Clubs to provide funds as possible in support of the SIGN humanitarian effort.<sup>1</sup>

This document answers the questions Kiwanians commonly-ask about the Kiwanis/SIGN Initiative. It is intended primarily to provide a solid base of information for **Project Champions** of the Kiwanis/SIGN Initiative in Kiwanis clubs throughout the Pacific Northwest District.

**Q** What is SIGN?

**A** SIGN is the acronym for the **Surgical Implant Generation Network**. It is a non-profit [501(c)(3)] company based in Richland WA. Founded by Dr. Lewis G. Zirkle, Jr., MD, SIGN manufactures and *gives away* orthopedic implants exclusively for the purpose of healing severe orthopedic trauma sustained by the poor in developing countries throughout the world . . . at no cost to the recipients.

**Q** How severe is the problem of severe orthopedic trauma in developing countries?

**A** Twenty million people around the world are injured or disabled each year by road-traffic injuries.<sup>2</sup> This is approximately 55,000 serious injuries each day and 90% of the disabilities happen in low- and middle-income countries. The poorest people in those countries are the hardest hit.<sup>3</sup> A large fraction of the injuries are sustained by pedestrians;

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<sup>1</sup> See Appendix A for the full text of the resolution approved.

<sup>2</sup> *On the Road with Death*, published in **Harvard Magazine**, November-December 2002. The entire article may be downloaded from <http://www.harvard-magazine.com/online/1102197.html>.

<sup>3</sup> Ibid.

passengers on minibuses, buses, and trucks; and cyclists. Eighty percent of the world's severe trauma occurs in developing countries where healing implant surgical technology is generally unavailable – and, heretofore, *never* available to people without great financial resources.

## **Q Why did Dr. Zirkle start SIGN?**

**A** SIGN was founded in 1999 (funded in part by the \$10,000 prize Dr. Zirkle received from the Kiwanis International Foundation as part of his Kiwanis World Service Medal recognition).

Dr. Zirkle, when he was a young surgeon in a MASH unit in Vietnam in the 1960s, saw an enormous need for modern surgical treatment. After nearly 30 years of semi-annual trips to teach modern surgical techniques to surgeons in Southeast Asia, Indonesia and Latin America brought disappointing results because the newly-trained surgeons quickly exhausted the supplies of surgical implants that Dr. Zirkle was able to persuade American manufacturers to donate, he realized that progress would be limited until a way was found to provide the implants and associated surgical instruments as well as the training.

## **Q What does SIGN do to resolve trauma problems in developing countries?**

**A** SIGN addresses severe orthopedic trauma in developing countries by: (1) *developing technology* to permit implants to be installed without real-time imaging, (2) *manufacturing* the implants, (3) *training surgeons* to use the implants, and (4) *donating large quantities of implants* for use by the surgeons trained by SIGN. All of SIGN's services, implants and surgical instruments are provided free of charge to hospitals in developing countries.

## **Q What are the requirements for eligibility for SIGN surgery in developing countries?**

**A** SIGN's primary requirements are:

- (1) The beneficiaries of SIGN surgery (*i.e.* the victims) must have sustained severe trauma to the tibia and/or femur and be unable to afford optimal surgical intervention,
- (2) The surgeon(s) must be trained in the use of SIGN technology and have demonstrated competence in using it,  
and

- (3) Copies of surgical records and X-rays of each surgical intervention must be provided to SIGN for continuing analysis, research and further product development. SIGN is results-oriented; case reports from project hospitals are required as a pre-condition for SIGN to provide free replacement implants.

**Q** Where are SIGN implants being used and how many victims have been healed?

**A** These statistics change rapidly but, at the present time, there are approximately 60 hospitals providing SIGN surgeries in about 30 developing countries in Asia, Latin America, and Africa. To date, approximately 6,500 persons have been returned to productive lives from what could have otherwise been lives as permanent invalids.

**Q** How is SIGN funded?

**A** Since SIGN was founded in 1999, Dr. Zirkle and his family have been SIGN's primary source of funding. As more project sites are being continually added, however, SIGN's costs are outstripping those resources. Donations from private individuals, foundations and Kiwanis clubs are gratefully received.

**Q** What has Kiwanis done to date?

**A** Kiwanis actually had a hand in the formation of SIGN! Dr, Zirkle used the \$10,000 prize from the Kiwanis International Foundation that accompanied the World Service Medal (KI's highest recognition for service) that was presented to him at the Nashville Convention in 1997 as part of SIGN's original startup funds.

Individual Kiwanians have also made personal contributions and work as volunteers on a regular basis. Recently, PNW Div. 54 funded the startup of the *Milton Lewis Memorial Kiwanis/SIGN Surgery Center* in Roosevelt Hospital in Guatemala City, Guatemala. Other Kiwanis-sponsored sites are planned for hospitals in Panama City, Panama and Manila in The Philippines.

**Q What's the story behind the dedication of the *Milton Lewis Memorial Kiwanis/SIGN Surgery Center in Guatemala?***

**A** Milt Lewis, a past Lt. Governor of Div. 54, was tragically injured in an automobile accident and was left totally paralyzed for nearly 3 years before his recent death. Milt's deathbed request was that PNW Kiwanians would do everything possible to inspire Kiwanis International to adopt the support of SIGN as a Worldwide Service Project just as it adopted the increasingly successful Worldwide Service Project to eliminate IDD. Div. 54's initial response to Milt's wishes, in 2003, was the commitment of \$15,000 to dedicate the Guatemala City SIGN project in his name.

**Q What is the prospect for disseminating the support of SIGN to Clubs throughout the Pacific Northwest District?**

**A** The PNW Board passed a resolution at its meeting on June 22, 2003 in Indianapolis IN endorsing the formation of Kiwanis/SIGN Partnerships in the PNW District and encouraging PNW Divisions and Clubs to provide funds as possible in support of the SIGN humanitarian effort. With this endorsement, the Kiwanis/SIGN Coordinating Committee is aggressively promoting the projects to clubs throughout the District. Every club or personal contribution, of any size, will advance the important work of SIGN.

**Q How does SIGN's healing technology work?**

**A** The fragments of severely fractured leg bones are often so badly out of alignment that healing is impossible without surgical intervention. Surgical intervention entails the insertion of a stainless steel rod (called an "intermedullary nail") into the canal of the femur



or tibia to ensure proper alignment. The bone fragments and the implanted "nail" are held rigidly together by screws through the bone and "nail" above and below the fracture(s) (see x-rays). The fractured pieces are then able to heal into a single weight-bearing bone. Once the nail is in place, the victim is immediately able to stand on the injured leg with crutches and to return to a normal productive life in about twelve weeks.



**Q Are SIGN “nails” used in the US and Canada?**

**A** SIGN “nails” are approved by the FDA for use in the USA but, in practice, only a few SIGN implants have been performed in the US. SIGN’s mission (*Creating Equality of Fracture Care throughout the World*) is to provide implant technology free of charge exclusively in countries where economic conditions make the technology otherwise unavailable.

**Q Are SIGN “nails” removed from bones after healing is completed?**

**A** As is the case in the US and Canada, SIGN implants are normally left permanently in place. For use in countries where cultural traditions oppose foreign objects being permanently left in the human body, however, SIGN provides a “Nail Extractor” set that enables removal of the “nail” in a second surgical procedure after the bone is healed.

**Q How does SIGN monitor the effectiveness of SIGN “nail” surgeries?**

**A** As a condition of the free replacement of “nails” used in surgery, each SIGN “nail” implanted must be documented in pre- and post-surgery case reports. An integral part of the documentation is pre- and post- surgery X-rays. Dr. Zirkle personally reviews each documented case. With over 6,500 cases completed to date, an enormous database on the effectiveness of SIGN “nail” surgery has already been accumulated. The database (which has contributed to numerous design improvements) will continue to grow, of course.

**Q Are SIGN “nails” available for purchase?**

**A** SIGN “nails” are given away for use in developing countries where comparable technology is unavailable because of cost. SIGN “nails” and associated instruments are sold in the US only for use by SIGN surgeons in exceptional cases in Richland WA.

**Q** What about the Kiwanis focus on Children?

**A** SIGN nails benefit children because *healing families' breadwinners and primary caregivers saves families*. Most severe trauma impacts children because 45% of the population in developing countries is of childbearing age and an additional 40% are children. In addition, SIGN nails may be used to heal severe trauma in children 14 and above.

**Q** How much do SIGN “nails” cost?

**A** The cost of producing a SIGN “nail” and 4 especially-designed screws to hold the bone fragments rigidly in place is approximately \$100 per procedure.

**Q** What does it take to establish a Kiwanis/SIGN Surgery Training Center in a developing country?

**A** The cost of producing surgical instruments and implants sufficient for 100 implant surgeries in a newly established Kiwanis/SIGN project is \$10,000 for 100 implants and \$5,000 for two instrument sets. For its part, SIGN provides initial training of surgeons, continuing supervision (usually via e-mailed case reports and x-rays) and replacement implants as the “nails” in the initial starter set are consumed. To date, 60 SIGN projects have been established by SIGN in 30 developing countries. (The first Kiwanis/SIGN project is now operating in Guatemala City, Guatemala. Others are planned in Panama City, Panama and Manila in The Philippines – with many more Kiwanis/SIGN projects to come as Kiwanis funding becomes available.)

**Q** What recognition is available to organizations that fund the establishment of a Kiwanis/SIGN Surgery Training Center in the amount of \$15,000?

**A** The privilege of naming the SIGN Surgery Training Center. The *Milton Lewis Memorial Kiwanis/SIGN Surgery Center* in Roosevelt Hospital in Guatemala City, Guatemala, for example, was recently dedicated with funding from PNW Div. 54 Kiwanis clubs.

**Q** May individual Kiwanis clubs fund the establishment of, and name, Kiwanis/SIGN Surgery Training Centers?

**A** Of course! A single Kiwanian, Kiwanis club, any combination of clubs and individuals, a single Kiwanis division, or any combination of divisions may fund the establishment of, and name, a Kiwanis/SIGN Surgery Training Center.

**Q Must donations to the Kiwanis/SIGN project be in \$15,000 increments?**

**A** No. Donations may be in any amount. The Kiwanis/SIGN project coordinators maintain a record of each donation received, regardless of amount. Any combination of donors may designate groupings of donations as funding for a named Kiwanis/SIGN Surgery Training Center. Undesignated donations are welcome as well, of course.

**Q How should donations from Kiwanians, their clubs and divisions be transferred to the Kiwanis/SIGN project?**

**A** On an interim basis, the Tri-Cities Industry Kiwanis Foundation has agreed to serve as a conduit for donations to the Kiwanis/SIGN project and to maintain an accurate record of donations received. Donations may be sent to *Tri-Cities Industry Kiwanis Foundation, Attn: Julie Meek, Treasurer, 225 Orchard Way, Richland WA 99352*. Perhaps in the future, the Pacific Northwest Kiwanis Foundation may be invited to assume the role of conduit and record keeper for the project. In all cases, 100% of each donation received is given to SIGN.

**Q What percent of donations to SIGN are applied to providing implants and surgical instruments?**

**A** More than 90% of SIGN's funds are dedicated to the design and production of free implants and surgical instruments. The remainder is applied to administrative expenses.

**Q What fund-raising support does the Kiwanis/SIGN Coordinating Committee provide to clubs and their Kiwanis/SIGN project champions?**

**A** In addition to this document which is intended to help club and division Kiwanis/SIGN Project Leaders prepare to lead fund-raising efforts, the Kiwanis/SIGN Project Coordinating Committee will provide **a 20-minute video in either CD-ROM or VCR tape format, templates for the production of flyers, press releases and consultation** as needed. Basically, the Kiwanis/SIGN Project Coordinating Committee will provide all assistance possible in support of club and division efforts to raise Kiwanis/SIGN Project funds. Correspondence with the Kiwanis/SIGN Project Coordinating Committee is best directed to *Ralph Curran, Kiwanis/SIGN Project Coordinating Committee, 79 Willis, Richland WA 99352 ([r.curran@att.net](mailto:r.curran@att.net))*.

**Q** What is the Kiwanis/SIGN Committee's vision?

**A** The Project Committee's interim goal for the PNW District is the funding and dedication of 100 new Kiwanis/SIGN Surgery Centers in developing countries of the world before October 2005. As of this date, the *Milton Lewis Memorial Kiwanis/SIGN Surgery Center* at Roosevelt Hospital in Guatemala City has been funded and is operating. A second Kiwanis/SIGN Surgery Center will be dedicated in Santo Tomas Hospital in Panama City by September 2003 and a third at a University Teaching Hospital in Manila by November 2003.

## Appendix A

### *Resolution Approved by the PNW District Board at its June 22, 2003 Meeting in Indianapolis, Indiana*

**RESOLUTION** (for consideration by the PNW District Board at its June 2003 meeting)

**WHEREAS** Eighty percent of severe trauma worldwide occurs in developing countries, and

**WHEREAS** Hospitals in Developing Countries usually do not have access to expensive real-time imaging in surgical suites, and

**WHEREAS** the **Surgical Implant Generation Network**, designated hereinafter as "SIGN," (a humanitarian, non-profit program, founded by Lewis G. Zirkle, Jr., M.D., Kiwanis International's 1997 World Service Medal Laureate) has developed FDA-Approved and patented surgical implants and instruments that enable surgeons to set seriously fractured bones without real-time imaging, and

**WHEREAS** SIGN provides (1) the above-mentioned technology, (2) training in it's use, (3) continuing oversight and (4) replacement of implants and instruments as needed, all (a) free of charge and (b) exclusively for use in healing people in developing countries whose fractures would not otherwise heal and who could not otherwise afford surgical intervention, and

**WHEREAS** SIGN has since its inception in 1999 proved the viability of the concept by (1) establishing SIGN Surgery Programs and Training Centers in 50 hospitals in 16 developing nations benefiting to date over 6,200 severely injured people whose wounds would not have otherwise healed properly, and

**WHEREAS** a large fraction of the victims of severe trauma in developing countries are the sole breadwinners and caregivers of families with young children, and

**WHEREAS** the perceived benefits of implementation of SIGN surgery in the developing world include

- Restoration of trauma victims to gainful employment or family caregiving,
- Raised surgical standards and procedures, and
- A legacy of efficient and modern orthopedic practices for future generations,

**BE IT HEREBY RESOLVED THAT** the Board of Directors of the Pacific Northwest District (1) endorse the idea of Kiwanis Club/SIGN Partnerships in the PNW District and (2) encourage PNW Divisions and Clubs to provide funds as possible in support of the SIGN humanitarian effort.

## Appendix B

### *Kiwanians Working to Bring Equality of Fracture Care to the World*

By Gary Busselman, President, Kiwanis Club of Richland, WA  
(Reprinted from The PNW Builder, Vol. 76, No. 2, March 2003)

PNW Division 54, starting with a major commitment by the Kiwanis Club of Richland, is sponsoring the development of a surgical trauma center in Manila, in the Philippines.

In cooperation with Richland's Surgical Implant Generation Network (SIGN), headed by Kiwanis World Service Medal laureate (1997), Dr. Lewis Zirkle, Div. 54 is donating \$15,000 to provide training for surgeons and surgical implants to put 80 to 100 injured of the Philippines' poorest people back on their feet after severe traffic accidents.

In The Philippines, as in many of the developing countries of the world, small motorcycles are the primary form of transportation. Severe traffic accidents in such places account for an amazing 80% of severe trauma in the world. Bones, especially leg bones, are often so badly fractured that the only available treatment is a lifetime of hospitalization in traction – or amputation.



In response, Dr. Zirkle founded SIGN to provide state-of-the-art surgical implants for use exclusively to heal patients who could not otherwise afford them in developing countries of the world. Entirely free of charge. Also free is training of surgeons and after-surgery monitoring of the quality of care.

Within a few weeks after SIGN surgery, parents of young families are able to return to productive lives instead of living a life of total dependence.

**Background.** Past Lt. Governor Milt Lewis of the Richland club sustained a broken neck in a car crash in August 1998 and, in November 2001, perished with the following death bed request: That his club do everything possible to encourage Kiwanis International to adopt SIGN as a Worldwide Service Project following the completion of the IDD initiative. In response to Milt's deathbed wish, the Richland club, with the assistance of other Division 54 clubs, has committed to fund the first Kiwanis-sponsored SIGN Surgery Training Center. Nearly all of the \$15,000 needed is now in hand and the members of the Richland club are hoping that other



Before and after SIGN implant surgery. The stainless surgical steel implants and fixating screws are readily apparent in the second set of x-rays.  
Page 12 of 16

divisions – and other districts – will follow their lead in other developing countries around the world.

**More Background.** SIGN was founded in 1999 (funded in part by the \$10,000 Dr. Zirkle received from the Kiwanis International Foundation as part of his Kiwanis World Service Medal recognition) and recently celebrated the completion of the 5,000<sup>th</sup> successful SIGN implant surgery in 40 SIGN surgery centers throughout 15 countries around the developing world.

Dr. Zirkle, when he was a young surgeon in a MASH unit in Vietnam in the 1960s, saw an enormous need for modern surgical treatment. After nearly 30 years of semi-annual trips to teach modern surgical techniques to surgeons in Southeast Asia, Indonesia and Latin America brought disappointing results because the newly-trained surgeons quickly exhausted the supplies of surgical implants Dr. Zirkle was able to persuade American manufacturers to donate, he realized that progress would be limited until a way was found to provide the implants as well as the training.

He found a resolution to the problem by: (1) *developing technology* to permit implants to be installed without real-time imaging, (2) *manufacturing* the implants, (3) *training surgeons* to use the implants, and (4) *donating large quantities of implants* for use by the surgeons he trained. Dr. Zirkle’s primary requirements for SIGN:

- (1) The beneficiaries of SIGN surgery must be unable to afford conventional surgical intervention,
- (2) The surgeon(s) must be trained in the use of SIGN technology and have demonstrated competence in using it,  
and
- (3) Copies of surgical records and X-rays of each surgical intervention must be provided to SIGN for continuing analysis and research.

This was all accomplished through a company Dr. Zirkle named the *Surgical Implant Generation Network* (SIGN). Design Engineers and a Production and Support Staff were assembled and an ingenious alignment device was developed that permitted surgeons to “hit the slot” nearly every time, even without imaging equipment in the operating room.

Explaining briefly, a victim’s shattered bone fragments are held in proper position while they heal by a surgically implanted stainless steel “nail” installed in the bone canal. The “nail” and bone fragments are held rigidly together by screws that pass through the bone and through slots in the “nail.” Surgeons can’t see the slots without imaging equipment so SIGN engineers developed an apparatus (a kind of jig) that reliably aims the screws through the bone and the slot in the nail and into the bone on the other side of the canal.



Instead of being in traction for life, lucky victims are able to

take a few tentative steps the next day and . . . are walking on healed legs only a few weeks after SIGN surgery. **The victim's family has a healthy parent and wage-earner returned to it instead of a life-long invalid to care for.**

SIGN is a conventional manufacturer of medical equipment in all respects except that there are no sales . . . and no sales department. The product is given away for use in healing severe trauma in developing countries.

**For more information:**

- About SIGN: Go to [www.sign-post.org](http://www.sign-post.org).
- About the Div. 54 project: Contact Ralph Curran, ([r.curran@att.net](mailto:r.curran@att.net)). Ask about the Richland club's new project video! We'll send it to you completely free of charge.



This young Vietnamese girl is standing on her severely injured leg six weeks after SIGN surgery.

## Appendix C

### ***Suggested Outline for a Kiwanis/SIGN Presentation***

#### ***The Problem***

- 20 million people suffer serious trauma in traffic accidents
- 80% of serious orthopaedic trauma occurs in developing countries
- Primary causes (in descending order):
  - Pedestrians
  - Passengers on minibuses, buses, and trucks
  - Cyclists
- Many of the victims are primary wage earners and care-givers of young families
- 45% of population in developing countries is of child-bearing age; 35% are minors
- Barriers to modern surgical intervention in developing countries
  - Cost
  - Real-time imaging not available in surgery



#### ***Accomplishments to date***

- SIGN has developed surgical implant technology that can be installed without real-time imaging in surgery (a “jig” that allows surgeons to “hit the slot” without being able to see it)
- SIGN donates implants to heal the poor in developing countries
- 6,500 cases completed to date
- 60 SIGN projects in 30 developing countries in Asia, Latin America and Africa

#### ***The SIGN Vision***

- Creating Equality of Fracture Care Throughout the World

## ***The Kiwanis Vision***

- ***Saving Families*** by Healing Serious Trauma
- Strategy
  - Demonstrate feasibility at the Division level
  - Demonstrate feasibility at the District level
  - Petition Kiwanis International to adopt the formation of Kiwanis/SIGN Partnerships as a Kiwanis-wide project
- Strategy accomplishments to date
  - PNW Div. 54 sponsored the Milton Lewis Memorial Kiwanis/SIGN Surgery Center in Roosevelt Hospital in Guatemala City. Other Kiwanis/SIGN projects are being planned for Panama City (August 2003) and Manila (September 2003).
  - At its 6/22/03 meeting in Indianapolis, the PNW Board (1) endorsed the formation of Kiwanis/SIGN Partnerships in the PNW District and (2) encouraged PNW Divisions and Clubs to provide funds as possible in support of the SIGN humanitarian effort.
  - KI President Juan Torres requested that a Kiwanis/SIGN project be established in the Santo Tomas University Hospital (Manila in The Philippines) in which he is a Professor of Medicine.

## ***What is Needed to Realize the Vision***

- Assistance in “Proving the Concept” at the PNW District Level
- Broadly-based District-level involvement
  - \$100 funds a single SIGN Surgery
  - \$5,000 funds a set of SIGN surgical instruments
  - \$15,000 funds the formation of a Kiwanis/SIGN Surgery Center in a developing country (includes 2 sets of SIGN instruments, implants for 100 surgeries, and replacement implants as the original “nails” are consumed).

**The *Loser* is a part of the problem.  
The *Winner* is a part of the answer.**

**The *Loser* has an excuse.  
The *Winner* has a program.**

**The *Loser* says, “That’s not my job.”  
The *Winner* says, “Let me help you.”**

**The *Loser* sees problems in every answer.  
The *Winner* sees an answer for problems.**

**The *Loser* says, “It may be possible but it's too difficult.”  
The *Winner* says, “It may be difficult but it's possible.”**

**Kiwanis/SIGN surgery  
makes equality of fracture care worldwide *possible!***