

## Medical Professionals Wage A Battle to Help War's Victims

By Jeffrey R. Fredrick, M.S., C.O.

The military or technological threat of nuclear nightfall hypothesized since the mid-twentieth century has yet to occur. In its place a weapon scarcely considered beyond its limited tactical importance at the dawn of the nuclear age has become possibly this century's most destructive and costly in human lives and well-being.

The **land mine** in its vast number of evolutionary and technical variants has already claimed more lives than the atomic bombs dropped on Hiroshima and Nagasaki combined. The plague of land mines represents serious potential for demise both in the developed and undeveloped world in the century to come.

### Almost Entire World Affected

Sadly, North America and Australia remain the only two land masses in the world yet untouched by this conscienceless and indiscriminate killer. **European** farmers are killed and maimed every year by ordnance left over from the First and Second World Wars. In countries such as **Cambodia** and **Afghanistan**, amputees have become as commonplace as physically uncompromised human beings.

The economic effects—especially for victims who have not survived an active land-mine encounter—remain incalculable. In most undeveloped regions of the world welfare nets are nonexistent. The loss of a breadwinner often spells hardship—if not starvation—for an entire extended family unit.

### Cambodia

Cambodia is considered to be the largest mine field and most disabled society in the world. An active conflict still exists between the Cambodian government and the Khmer

Rouge. It is certain to encourage the continued use of land mines. Many consider this tiny nation to have the *highest population of disabled people in the world*. There remain as many as *10 million land mines* seeded and ready to explode when stepped on by a farmer, his child, or livestock, which amounts to the family fortune and means to feed itself.

### O & P Education Warmly Received

On March 29, 1996, a delegation of orthotists and prosthetists visited Vietnam and Cambodia on a continuing education mission to augment rehabilitation efforts already underway in these two countries. The delegation was led by Jeff Fredrick, M.S., C.O., Director of Orthopedic Programs for the Vietnam Veterans of America Foundation (VVAFF); Ken Gavin, spinal orthotist for Rehabilitation Engineering, Inc., Tallahassee, Florida; John Fredrick, C.P., who practices at the Institute for Prosthetic Advancement in Panama City, Florida; and Dr. David Kahn, a family practitioner also from Tallahassee. The purpose of the visit was to train physicians and technicians at the Institute for the Protection of Children's Health (ICPH) in Hanoi, Vietnam, in the nonoperative management of scoliosis.

### The Fight Against Land Mines

The Vietnam Veterans of America Foundation has maintained an articulate profile at the forefront of the land mine debate throughout the last decade. Under the enlightened leadership of Bobby Muller, its Executive Director, VVAFF has launched numerous initiatives to raise world consciousness in the hopes of limiting the development, production, and distribution of land mines.

Muller is a paraplegic as the result of Vietnam combat wounds and was the inspiration for Bruce Springsteen's song "Born in the USA." In conjunction with its international leadership toward a mandate to stop the production and use of land mines worldwide, the VVAFF has sponsored orthotic and prosthetic rehabilitation programs. Muller has led his organization in a program of rebuilding the lives of victims where the hope of negotiating a cessation of hostility has long since become a moot point. Cambodia sadly remains a world standard in evaluating the ongoing effects of land mines on people, family structure, agriculture and disability.

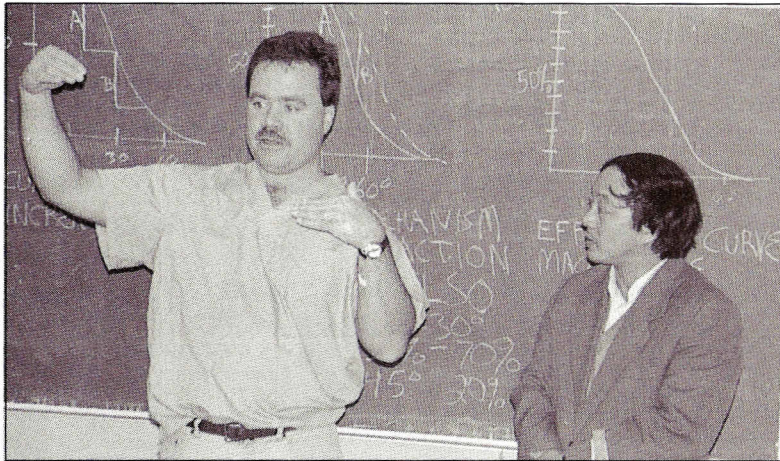
### Scoliosis Management Education

Gavin presented a comprehensive, two-week curriculum at ICPC. The course included 40 hours of academic and theoretical classroom instruction in the evaluation, identification, and orthotic management of scoliosis. An additional 40 hours was spent in laboratory instruction of casting techniques, mold modification, and manufacture of hybrid orthotic designs. The training took place at VVAFF's Thermoplastic Bracing project at the ICPC.

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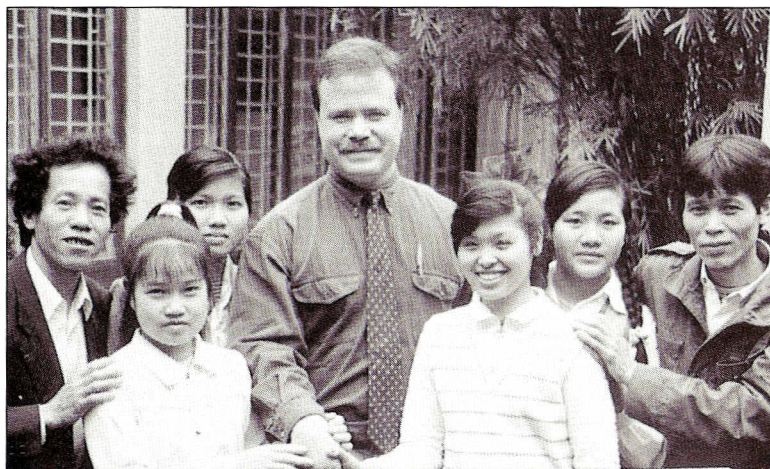
## New International Organization



Ken Gavin teaching theories of scoliosis at the Institute for the Protection of Children's Health, Hanoi, Vietnam.

VVAF's orthotic initiative is Vietnam's premier program of its type for children. Scoliosis remains a serious problem in Vietnam. Unfortunately, the lack of available technology and training has allowed this dreaded disease to ravage Vietnamese children with medieval levels of deformity.

The response to Gavin's instruction was overwhelmingly positive. The comprehensive nature of the curriculum was designed to produce an immediate upgrade in the competence of the 25 participants. This will have very positive and long overdue results for Vietnamese children stricken with this disease. At the conclusion of the program, Professor Nguyen Thu Nhan, Director of IPCH, sponsored an official ceremony in which certificates were presented. The level of appreciation expressed unanimously by the Vietnamese hosts was most unexpected and heartwarming.



Appreciative students at IPCH celebrate with Ken Gavin at the end of VVAF's two-week course.

The need for additional training and focus on scoliosis in Vietnam and other developing nations inspired the creation of a new international organization to promote higher standards of nonoperative treatment. Each attendee was awarded first membership in the **International Fellowship for Scoliosis Education (IFSE)**. This small body was founded to funnel resources into Third World clinical applications for state-of-the-art scoliotic research, technology, and management.

The organization will be co-chaired by Dr. Tran Trong Hai, Head of the Rehabilitation Department at the Institute for the Protection of Children's Health and General Secretary of VINAREHA (Vietnam Rehabilitation Association), representing Vietnam (Asia), and Mr. Ken Gavin, the American (European) delegate.

Anyone seeking information about or membership in IFSE may request this presently through IFSE, 1719 Mahan Drive, Tallahassee, Florida 32308. Telephone: 904-878-1108.

## O & P in Cambodia

During Gavin's second week of laboratory instruction, Jeff and John Fredrick accompanied Dr. David Kahn to Phnom Penh, Cambodia. John Fredrick presented a short but intense curriculum covering aspects of **contemporary ischial containment theory and design**. The curriculum spanned two full days of instruction at VVAF's orthotic and prosthetic project for land mine victims located just outside Phnom Penh in Kien Khleang. New evolutionary variants of ischial containment were presented as an alternative to the traditional quad socket presently utilized for above-the-knee mine incident amputations. Theoretical instruction was followed up by casting, mold modification, and fabrication of hybrid socket designs.

## Debating "Appropriate" and "Available"

John Fredrick's paper on ischial containment theories was requested as a result of information learned at the International Society for Prosthetics and Orthotics (ISPO) Meeting held in Phnom Penh in June, 1995. Among the many milestone achievements of this first-ever prosthetic consensus forum, it was learned that the **rejection rate of AK prostheses in Cambodia was critically high** among existing prosthetic rehabilitation programs. Stressed as well was the **need to maintain a steadfast commitment to "appropriate technology."** The debate on what is "appropriate" and "available" rages worldwide. The choice

*continued on page 58*



between hybrid components that may offer patients greater comfort and mobility must be weighed against what is economically feasible in an undeveloped nation.

## The VVAF Approach

The efforts of nongovernmental organizations in sponsoring orthotic and prosthetic projects based on Western designs have sometimes produced nebulous results. Competent transferability and maintenance of initiatives has rapidly deteriorated once Western money has been withdrawn. **VVAF's approach to the problem focuses on how existing "appropriate and available" technology might be more suitably modified to enhance overall prosthetic rehabilitation.** The curriculum presented by Fredrick was well received. Mr. Jo Nagels, the Chief Prosthetist at VVAF's Kien Khleang facility, incorporated the material in a training upgrade beginning in May of this year. VVAF's insight in presenting this type of training within the context of what is considered appropriate and available technology will no doubt net significant results for Cambodia's many above-the-knee amputees.



**John Fredrick, C.P., discussing aspects of ischial containment with VVAF's Chief Prosthetist in Cambodia, Jo Nagels.**

VVAF's approach to training indigenous orthotists-prosthetists and technicians has been innovative in other areas as well. The notion of removing trainees from their socio-cultural context has proved effective in imparting more than rote skills and technology. Unfortunately many underdeveloped nations lack a technologically adept work ethic. Ingrained misunderstandings of an "appropriate" context in which rehabilitation must be produced often hamper even the best localized training initiatives.

VVAF designed its Thermoplastic Bracing project in Hanoi to transport trainees to the United States to learn skills in the context of Western medicine and rehabilitation. It is accepted that undeveloped and underdeveloped

nations cannot duplicate this Western context. This approach nonetheless provides insight into how serious rehabilitation problems must ultimately be solved to the best possible patient benefit. Continuing to offer training locally only to have the production sorely limited due to socio-cultural patterns and behaviors remains destructive to any notion of transferring competent rehabilitation into the Third World.

Once trainees are returned to their home environment, VVAF remains determined to sponsor ongoing educational delegations to raise levels of competence and to prevent the slow loss of perishable skills. VVAF's recent delegation proved very successful in continuing to develop this model. Hopefully, the concept will promote a new and successful species of orthotic and prosthetic programs. These will be welcomed in many areas of the world overwhelmed by the need for orthotic and prosthetic services and yet distanced from the possibility that competency and resources toward meeting it will ever occur.

## Medical Relief Program Link

VVAF's rehabilitation initiatives are closely linked to a **separate program designed to provide medical relief.** This is in conjunction with the **REMEDY Program (Recovered Medical Equipment for the Developing World)**, initially utilized at Yale University. This program is sponsored in Tallahassee by Dr. Meredith McKinney, a plastic surgeon who works as a volunteer for VVAF. Drs. Kahn and McKinney work in concert directing VVAF efforts to collect medical supplies and equipment.

Supplies and equipment gathered are used in upgrading the medical conditions of patients who receive orthotic and prosthetic services. This represents an innovative approach to rehabilitation program development in Third World nations. It is the conceptual result of Jeff Fredrick's experience in providing orthotic and prosthetic care for villagers in Haiti. Mr. Fredrick's decade-long initiative was sponsored by the Adopt-A-Village Missions program in Tallahassee.

**Ignoring physical consequences of severe malnutrition and lack of medical care was found to be a short-sighted view of orthotic and prosthetic rehabilitation.** VVAF's orthotic and prosthetic program includes the provision of medical supplies and pharmaceuticals that can substantively remedy disease processes that are often the root cause of, or at least contributing adjectives to, physical disability. This uncommon approach to rehabilitation in developing nations is wholly consistent with the notion of the clinical team which envelops orthotics and prosthetics in developed nations.



*And the land mines keep taking their toll...*



An amputee and his family living on their cot at Phnom Penh Military Hospital (PPMH)



Phnom Penh Military Hospital was built by the French around the turn of the century.



A young soldier sweating from the pain of debridement at PPMH.



Debridement of land mine wounds, PPMH

*Story continues on page 60*



## Heartbreaking Conditions in Cambodia

During their visit to Cambodia, Dr. Kahn and Jeff Fredrick also evaluated conditions at the military hospital in Phnom Penh. The situation was found to be deplorable and heartbreaking.

Wards at the hospital are crowded with cots housing literally entire families. The sewage system—destroyed by the Khmer Rouge as a sign of Western decadence—remains in disrepair. Garbage and waste are discarded through open windows and doorways. The structure itself is a decaying remnant of French colonialism—filthy and fly-infested. Children who live in the wards with their amputee fathers present abdomens bloated from malnutrition. These children suffer from severe social neglect and the trauma of witnessing their families tortured by barbaric physical and hospitalization conditions. **This is the silent and unpublicized consequence of land mines.**



**Debridement of open wounds** takes place in an unhygienic treatment room where surgical instruments are chronically reused without sterilization. Bandages are rewashed and questionable peroxide is cut with unsterile water. Pain medication and antibiotics are unavailable. Debridement is an extremely painful process that no doubt infects tissues already replete with microbes. Jeff Fredrick and David Kahn watched the process in the small treatment room with horror and disgust. Young men were forced to bite on their shirts to cope with extreme agony.

**The outlook for the "healed amputee" is even more dismal.** The availability of prostheses is all but unheard of for military hospital patients. USAID money which funds many of the American initiatives in Phnom Penh is strictly restricted in its application. **In Cambodian society** even the rehabilitated amputee fares no better.

## Amputees Face Cultural Stigma

Cultural attitudes assume that it is the "karma" of the amputee to be punished for the sins of a previous life

through his or her disability. The stigma of other-life "crimes" isolates anyone with a physical disability from normal social interaction, employment, or relief of any kind, in the unlikely event that it is even available. The number of amputees resident at the military hospital varies, but amounts to hundreds, if not thousands, per year.

## Private Citizens Can Help

The horrific context, squalor, and needs of the amputees encountered were so immediate, Fredrick and Kahn sought local relief. They were able to purchase approximately 20 bundles of sterile gauze bandage, 200 bottles of Betadine, and a large supply of French-manufactured antibiotics. These were delivered to the hospital separate from VVAF functions. **Medical supplies are actually cheaper to purchase locally than to ship from the United States.** Consequently Fredrick and Kahn have founded the **Phnom Penh Military Hospital Relief Fund**, a separate initiative unrelated to VVAF. This is a grassroots organization composed of private citizens wishing to lend direct aid to the plight of the amputees and their families who must endure this barbaric form of hospitalization. One hundred percent of every donation is used to purchase medical supplies in Phnom Penh for the hospital. All administrative costs and other expenses are donated separately.



Nurses studying pharmaceuticals at Dr. Kahn's "trunk party" at the Institute for the Protection of Children's Health in Hanoi, Vietnam

## Another Danger

Land mines are not the only horror looming over the developing nations. Affecting the entire globe are increasingly virile strands of **microbes supercharged by the misuse of black-marketed antibiotics** hanging like

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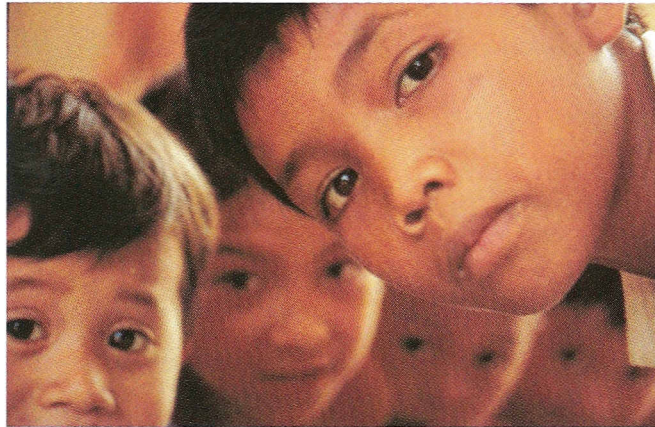


doomsday harbingers on the doorstep of the twenty-first century. The movie *Outbreak* is more documentary than fiction in its prophetic substance. The poverty and mismanagement of the vastly increasing numbers of "Third World" cities have become the urban context of a manmade biological plague. Rapid international transport married to microbe incubation spans of mere hours edges the human species closer to worldwide epidemics unimaginable even a few decades ago.

However, aiding the victims of land mines and their families is an area of humanitarian concern in which O & P can help.

Anyone wishing to participate in support of VVAF and its continuing endeavor to rehabilitate the orthotic and prosthetic needy worldwide should contact Jeff Fredrick, Director of Orthopedic Programs, VVAF, 1719 Mahan Drive, Tallahassee, Florida 32308. Telephone: 904-878-1108.

Persons wishing to learn more about the plight of amputees at the Phnom Penh Military Hospital or contribute to their welfare may do so through PPMHRF, c/o Rehabilitation Engineering, Inc., 1719 Mahan Drive, Tallahassee, Florida 32308. Telephone: 904-878-1108.

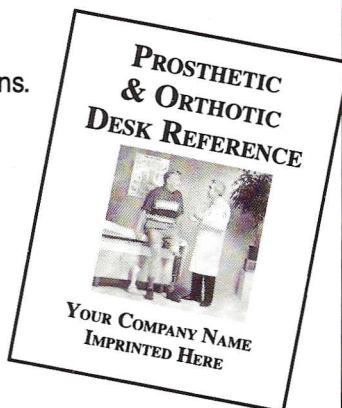


**Children of land mine victims at Phnom Penh Military Hospital**

*Editor's Note: Watch for future articles on the status of the various programs outlined in Jeff Fredrick's article.*

## **Finally! An O & P Desk Reference Written for Referral Sources**

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