

# News Brief

## Mercer University Professor Provides Prostheses in Vietnam

According to the U.S. Department of State, innumerable explosive remnants of war (ERW) and landmines remain hidden in nearly every region of Vietnam.<sup>1</sup> The Vietnamese government approximates that 15 percent of the total surface area of Vietnam retains unexploded ordnance (UXO) contamination.<sup>2</sup> The *Landmine and Cluster Munition Monitor* reported 73 mine/ERW casualties in Vietnam in 2012 (53 injured/18 killed/2 unknown).<sup>3</sup> Moreover, there are over 100,000 amputees currently living in Vietnam and many find it difficult to afford decent prostheses.<sup>4</sup>

Dr. Ha Van Vo, medical doctor and professor in the biomedical engineering department at Mercer University in Georgia (U.S.), has provided nearly 1,000 Vietnamese with prosthetic legs.<sup>1</sup> As a native of Vietnam, Vo witnessed firsthand the devastating injuries caused by landmines in postwar Vietnam.

"I remembered my people in Vietnam with no legs, crawling. Children—a lot of them," he said, "I said, 'Oh, we have to do something for them. They cannot just crawl in the dust like that.'"<sup>5</sup>

Manufactured in the Mercer University laboratory, Vo designed a prosthesis with three components: a socket, a pylon that serves as a leg bone and a foot.<sup>5</sup> The innovative design features a "V-cut" in the back, allowing the patient to adjust the size of the socket opening as the size and shape of their stump changes. This is a paramount feature, as a standard prosthesis generally needs to be replaced every two to three years, which is difficult for many people in Vietnam who cannot afford to replace them.<sup>1</sup> The prosthetic sockets made in the Mercer University laboratory are cheaper to produce because they are made of polypropylene plastic instead of carbon fiber.<sup>5</sup>



Dr. Ha Van Vo fits a prosthesis on a patient in Vietnam.  
Photo courtesy of Mercer University/Burgess Brown.

At a cost of only US \$120 per prosthesis to manufacture, coupled with enough grants and donations to cover material costs, Vo is able to provide prostheses to Vietnamese amputees free of charge.<sup>5,6</sup> Since 2009, Vo has taken faculty and student volunteers from Mercer University to Ho Chi Minh City, Can Tho and Phung Hiep numerous times, bringing with them hundreds of these prostheses.<sup>5</sup> Vo and volunteers quickly custom-fit each prosthesis by molding the thin plastic with heat.<sup>1</sup>

In 2012, Mercer partnered with *Caritas Internationalis*, a local organization in Ho Chi Minh City, to manufacture Vo's design in Vietnam.<sup>6</sup> The partnership raised custom fittings in Vietnam from hundreds per year to thousands per year.<sup>1</sup>

There are over 18 million amputees in the world, of which 80 percent reside in developing countries.<sup>4</sup> Vo hopes to expand his program to Africa, the Middle East and the U.S. in coming years.<sup>1</sup> ©

~ Erica Qualliotine, CISR staff

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