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Haitians return to life with new prosthetics

Dennis Sadowski Catholic News Service | Mar. 21, 2011

PORT-AU-PRINCE, Haiti -- Lying in a hospital bed in May, his left leg amputated below the knee, Wagner Petit-Frerre could only think that, at 21, his dancing days were done.

No more cha-cha, no more samba, no more mambo. No more people showing up at performances of his dance team, cheering his every move.

"When my leg was amputated I felt helpless because I was thinking I could not work anymore," Petit-Frerre said, recalling the two-vehicle accident on a busy Port-au-Prince street that claimed the life of his cousin, the driver of the motorcycle they were riding.

Ten months later, Petit-Frerre is back to dancing.

Not quite the smooth step he once was, Petit-Frerre is slowly returning to form. In September, he was fitted with an artificial leg under the University of Miami's Project Medishare with assistance from the Knights of Columbus.

He has started dancing again with the help of physical therapist Jason Miller, a 33-year-old American who is rehabilitation director for Project Medishare. Petit-Frerre's prosthesis was produced by technicians at Project Medishare's new Ossur International Prosthetic and Orthotics Laboratory based at Bernard Mevs Hospital in the Haitian capital.

After being fitted with the prosthesis, Petit-Frerre quickly regained his independence, a necessity in a culture that traditionally has discriminated against amputees.

The lab was dedicated in ceremonies March 5, although patients have been outfitted with devices for several months. Ossur, an Icelandic-based multinational that specializes in developing noninvasive orthopedics, donated the lab structure while the Knights of Columbus provided $1 million for equipment under its Healing Haiti's Children program. The Knights of Columbus program also supports up to two years of physical therapy for children.

Founded by Ossur Kristinsson, an amputee, the company also provided 600 modular prosthetic systems to Project Medishare. The systems can be fitted within an hour, allowing a patient to walk out of the lab with minimal rehabilitation, Miller said.

The need for prosthetics, orthotics and braces in Haiti has long been great, but it became more apparent following the country's January 2010 earthquake. As many as 1,000 children and thousands more adults lost an arm or a leg in the disaster.

Miller said about 200 patients -- about 80-100 children and 100 adults -- have received a prosthesis under the program. Another 60 children are next in line. About half of the patients were injured in the earthquake while

the other half sustained serious injuries in various accidents, he said.

The lab provides a variety of components to patients. Those with above-knee amputations are fitted with a low-cost knee-joint device made of a polymer resin known as Delrin components that are bolted together. Each device costs about $20, Miller said.

Delrin is used in precision parts that require high strength, rigidity and hardness.

"This is perfect for someone doing everyday activities," he said.

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The low-cost device is an alternative to the far more complex prosthesis that costs thousands of dollars and is used routinely in other countries. It was developed by the LeTourneau Engineering Global Solutions -- LEGS -- at LeTourneau University in Longview, Texas. It was tested in Africa before being introduced to other countries where prosthetic resources and physical therapists are few.

Miller explained that the device also is practical for people in countries such as Haiti where high humidity and dusty conditions can combine to reduce the function of more complex and expensive prosthetics. The knee joint can be detached and washed in plain water, he said.

The prosthesis also can be fitted with a human-looking foot and a flesh-colored covering.

Technician Wilfrid Macena, an amputee, is one of three Haitians hired and being trained to produce, adjust and fit the prosthetics for patients. Demonstrating how the pieces fit together, Macena said the devices are easy to fabricate. He expressed hope that the device would eventually find its way to amputees across Haiti once people see how easy it can be fitted and used.

Macena, 24, is an amputee, having lost his right leg when a was pinned under a collapsed building during the earthquake. He managed to free himself but sustained a compound fracture that went untreated for a week until he managed to make his way -- with the help of a friend -- to the Dominican Republic for treatment. However, he was fitted with a more complex prosthesis made of other components that gives him more mobility. On the job he walked with only a slight limp.

He previously worked as a welder and said he thought that before the earthquake he should learn a new skill so that he could take advantage of emerging technologies. Little did he think he would enter the high-tech medical field.

"When I got the prosthesis I thought I now have a leg and can get back to my activities again," he said.

"When they gave me the opportunity to work here, I thought it would help me a lot," said Macena, who plays soccer on a team of amputee players. "If I get a problem with my leg, I can fix it myself and I'm so happy I can help others with the same problem.

"I'm proud to build these kinds of components."

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