UT SOUTHWESTERN MEDICAL CENTER NEWS

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Ladder accident underscores critical nature of David M. Crowley Rehabilitation Lab at UT Southwestern

DALLAS – Oct. 1, 2010 – Jeremy Medders was atop a 10-foot ladder helping his neighbor trim a tree when a branch unexpectedly tumbled down.

"It hit the top of the ladder, which knocked me off balance. I had a chain saw in my hand, so the first thing that came to mind as I fell was to chuck the chain saw," he recalled. "I avoided the saw but landed on my right hip area and busted two vertebrae."

Dr. Michael Bolesta, associate professor of orthopaedic surgery at UT Southwestern Medical Center, successfully stabilized Mr. Medders' spine. But even with the surgery, the 29-year-old's prognosis gave him only a 30 percent chance of walking again. Mr. Medders researched his best options for recovery therapy, and eventually chose the UT Southwestern Spinal Cord Injury Laboratory, a service of the David M. Crowley Research and Rehabilitation Lab.

The recently dedicated Crowley Lab is a comprehensive facility designed to analyze and address motion problems in adults with a spinal cord injury and is part of the UT Southwestern School of Health Professions' Department of Physical Therapy. The lab, named this year in honor of the Dallas investor and philanthropist, has amassed specialized equipment such as robotic walkers and upper-extremity trainers that specialists use to treat people recovering from neurological and traumatic injuries as well as study how the injuries affect motion.

Mr. Medders, a resident of Point, a community located southeast of Greenville, said, "The doctors in my hometown, they're used to people having broken bones. They aren't trained specifically for spinal cord injuries, but UT Southwestern has doctors and therapists who understand what's going on and, of course, they've got state-of-the-state equipment, too."

After his initial therapy at UT Southwestern, Mr. Medders is starting to regain enough strength to move on his own using a special robotically assisted device called the Lokomat.

The robot provides "gait training" by teaching a patient's spinal cord and brain, with sensory information, to signal the body to step again. A harness supports the patient's body weight over a large treadmill. The person's legs and hips are strapped into the machine's robotic framework while a computer tracks the details and progress.

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"The David M. Crowley Foundation has provided crucial funding over the years to help establish this unique facility and to support our clinical and research work," said Dr. Patricia Smith, chair of physical therapy. "Their philanthropic support has given us the resources to explore new avenues to help people regain their functional independence. The true measure of this endowment is its ability to impact the quality of life for individuals living with neurological injuries."

The lab also is home to the Armeo, a therapeutic device that counterbalances gravity in the upper extremities for those trying to regain arm and shoulder movement. The mechanical arm is integrated with computer-based virtual reality scenarios that allow patients recovering from neurological injuries, such as stroke and traumatic brain injury, to practice tasks like grasping and sorting, providing a path to regain lost function.

"The Armeo is a wonderful therapeutic tool," said Dr. Smith. "Patients enjoy the games on the Armeo and get great benefits from the repetitive practice."

David M. Crowley, who died in 2003, established the Crowley Foundation in 1990. He was married to the late Mary Carter Crowley, founder of Home Interiors & Gifts.

In addition to studies of spinal-cord injury, the Crowley Foundation has supported UT Southwestern research into Alzheimer's disease, Parkinson's disease and peripheral nerve pain. The foundation contributed $900,000 to the medical center's *Innovations in Medicine* campaign that ended in 2007 and has continued its support thereafter.

Born and raised in Dallas, Mr. Crowley served as a captain in the Army during World War II and was awarded the Bronze Star for his actions in the Battle of the Bulge.

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