

Back on their Feet

Three young men refused to take “no” for an answer. Ardie, Glenn, and Paul, once in wheelchairs, are now walking. How did this happen? They all participated in the locomotor training program, part of the [NeuroRecovery Network \(NRN\)](#), at [Kessler Foundation](#) and [Kessler Institute for Rehabilitation](#).

During locomotor training, participants are harnessed over a treadmill while therapists move their legs in a walking motion. This therapy was developed by a national team of scientists, including researchers at [Kessler Foundation](#). By simulating walking on a treadmill, for repeated, intensive sessions, spinal nerves can be reactivated, helping the body relearn the mechanics of walking. Kessler, which is one of only seven centers across the country testing this locomotor training, has a remarkable success rate. The NRN is funded through the [CDC](#) and the [Christopher and Dana Reeve Foundation](#). [Kessler Foundation](#) also supports the center located on its campus.

Ardie

On February 17, 2008, Ardie C. had a rupture of an arteriovenous malformation—a congenital tangling of blood vessels around the spinal cord. Paralyzed below the waist, he needed a wheelchair to get around. Ardie was just 13 years old.

His mom, Gjyste, was determined to find a way to help her son and learned about the [NRN](#). Ardie applied for the program at [Kessler Institute](#), where [Kessler Foundation](#) researchers were analyzing data to determine the optimal ways to apply the training for the best results. Ardie, the youngest patient to be accepted in the Kessler program soon began the intensive routine.



Ardie’s day begins at 8 am. A teacher comes at 9 am for two-and-a-half hours of home instruction. By noon, a family member picks him up for the hour-long drive to Kessler. He is quickly harnessed over a treadmill and therapists move his legs at a high walking speed for more an hour. Off the treadmill, Ardie does walking, balancing and strengthening exercises.

When Ardie began the training in 2009, he could not stand or support himself even with assistance. His hard work in the program paid off.

Ardie was soon able to stand and take a few steps with leg braces and crutches. He soon developed the strength so that he no longer needed the braces and could walk longer distances with crutches. Because he continued to improve at each assessment point, Ardie was approved for additional therapy—he has participated in more than 200 sessions of [NRN](#) therapy.

Now age 16, Ardie walks around his house without assistance and uses crutches in public. He only needs a wheelchair for long distances. He continues to thrive in the [NRN](#) program, working on improving his strength and balance. His next goal is to be able to walk with crutches, without ever having to use a wheelchair. Ultimately, he aims to be able to walk everywhere without assistance.

Like any high school junior, he is busy looking at colleges and determining what his next step will be. “It has been hard; there are some days when I don’t want to come; I am tired. The therapy team keeps pushing me and I am glad they do! It is great to be able to stand upright again and walk at home.”

In the true spirit of paying it forward, Ardie hopes to become a scientist so that he can help others like him “get back on their feet.” Ardie and Gjyste have no doubt that he can accomplish all of his goals.



Glenn

Glenn P. is, by most people’s standards, the perfect teenager. He is smart, athletic, committed to his family, and dedicated to serving God. On Valentine’s Day 2010, however, his life changed. While vacationing with his family, he rode his snow mobile on the same course he traveled hundreds of times. This time, however, Glenn hit a bump and was thrown from the snow mobile. The impact of him landing on the ground was so severe that it fractured his vertebrae.

Glenn woke up in excruciating pain in his back and legs. He told himself to stand up and walk it off but his legs wouldn’t move. His mom, Dawn, came just as the ambulance arrived. Calling out to her, before they took him to the hospital, Glenn asked her to pray with him. Dawn prayed for the use of his legs.

After enduring multiple surgeries, doctors said that a 25 percent chance of walking



again. To Glenn, this was hope. Because his spinal cord injury was incomplete, he still had feeling and movement in his big toe. That was all the motivation he needed.

He transferred to [Kessler Institute for Rehabilitation](#). The first time therapists tried to stand him up, his legs shook. Glenn couldn’t support his own weight. But he had a goal—to walk into church on Easter. His next goal was to return to the soccer field to finish out his

senior year in high school. As co-captain of his soccer team, who started every game, he was eager to resume playing.

He began standing and walking with leg braces and a walker and then a cane. Glenn was then accepted to the [NRN](#)'s locomotor training program, where he relearned to run. On Easter, only 49 days after his accident, he walked into church using a walker. Soon, he stopped needing braces or any other assistive devices. On his last day of the program, Glenn played soccer with the therapists.



In July, his doctor cleared him to play soccer. Glenn rejoined his team but his balance and coordination weren't the same. While he was no longer a starting player, Glenn supported and encouraged his team from the bench. On senior night, however, he started the game. He played for only five minutes, but it was symbolic of how far he had come in only five months. In the following months, he graduated high school and is looking forward to college in September.

Glenn had the determination, drive, ability and faith to overcome all of his struggles. But in his heart, he knows God created a miracle.

Paul

Paul M. may look tough, but his spirit is even tougher. On June 26, 2010, he called his mom from inside the back of an overturned car with a message that every parent dreads: "I'm paralyzed." On June 26, 2010, he and his friends were on their way to the diner when a truck hit the side of their car. The scared 18-year-old watched his friends get out of the car, but he was stuck, wedged between the mangled car frame and a fire hydrant.



It took firefighters 45 minutes to get him out. To Paul, it felt like hours. A million thoughts raced through his head. One thing he knew—life would never be the same. Before they removed him from the car, Paul asked the firefighters to put his hands together so he could pray.

As he was rushed to the hospital, doctors told his mom, Carol, to prepare herself. He emerged from the operating room several hours later to be told that while surgery had saved his life, he would never walk again.

Paul had lost all feeling below his chest. After extensive surgeries, he began rehabilitation. He was extremely frustrated and angry. Carol would rub his feet, but Paul could not feel a thing. At night, they listened to music. She tapped her foot to the beat, an action that Paul desperately missed. One night, however, Paul experienced something that changed his entire outlook—he was able to move his big toe to the beat. And he felt it!

As he gained mobility, his spirits improved. He became an ambassador at the hospital, greeting new patients and helping them feel comfortable in their new space. Paul even sat and talked to the individuals who were unconscious in the hopes of stimulating their minds. He never lost his desire for fun and adventure. As the self-proclaimed “master of wheelies” in his manual wheelchair, he quickly acquired the skill to fly down the hallway on two wheels.



He then enrolled in the [NRN](#)'s locomotor training program as an outpatient at Kessler. Paul was so determined to walk again, he told his mom not to change the house or the location of his room. He wanted home to feel like home and wanted the motivation to get better. All that was added was a ramp so he could get in the house. To get up the stairs to his room, Paul sat on the first step and using the strength in his arms scooted himself up every step.

In the beginning, he couldn't support the weight of his body. Five months later, he was running on the treadmill. Carol cannot believe how well he is doing. “We were told he would not walk again, and now, not only is he walking, he just passed his driving test! I cannot thank Kessler enough for what they have done for Paul.”



Paul notices that he is more flexible following the sessions. So after resting a few hours, he goes to the gym for more exercise. Paul does the extra work because after every 20 sessions, he is evaluated, and showing improvement means staying in the program. He hopes to stay in the [NRN](#) program for as long as possible. His ultimate goal is to be stronger than he was before the accident. “I still have some weakness, but I work out every day to develop those muscles.”

As a result of the [NRN](#) program, Paul can walk without assistance for short distances; he uses crutches for long distances. He can climb stairs and drive. Paul doesn't take anything for granted. He treasures every ability. He is also inspired to volunteer at rehab hospitals and speak to young people who are just starting the process. He will soon become a VIP (Voice for Injury Prevention) for [Kessler Foundation's ThinkFirst injury prevention program](#), an educational program for school children.

Paul's passion for living a full life has only grown deeper. In line with his love for monster trucks, he hopes to open a shop specializing in customizing trucks, cars, motorcycles and yes, wheelchairs.

Kentucky Derby Mini-Marathon

In April 2011, Ardie, Glenn, and Paul participated in the Kentucky Derby Mini-Marathon for participants, physicians, scientists, and therapists of the [NRN](#). Together, they walked one mile and crossed the finish line. Their faces said it all—joy and pride.

They get stronger every day and will continue to work hard to regain everything they once lost. As Paul said, “I don’t just want to recover a hundred percent. I want to be better than I was before my injury.” There is no doubt that their determination will carry them through everything that they work to accomplish in life.



For the latest on how [Kessler Foundation](#) is exploring new ways to get people back on their feet, click [here](#).

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