

Celebrating patient rehabilitation success at Dominican Hospital

Patient:

Bill Dvorak

Admitting Diagnosis:

Incomplete C4-6 Quadriplegia,
Traumatic Brain Injury

Injury Date:

Aug. 21, 2013



Bill is a sixty-year-old male who sustained traumatic injuries to his brain and spinal cord while mountain bike riding in August 2013. He was in and out of the hospital and skilled nursing facilities until February 2014, when he made the transition home after a stay on the Dignity Health Dominican Hospital Acute Rehabilitation Unit. At that time, Bill was dependent in all tasks and required use of a mechanical lift to move from bed to power wheelchair. He experienced extreme difficulty with balance, and was unable to stand or walk.

Since that time, Bill has worked with the outpatient occupational and physical therapists at Dominican Hospital to regain use of his arms and strengthen his legs, so that he can transfer from bed to wheelchair. Through hard work both in therapy and at home, Bill was able to stand with a walker in 2016. However, he was still unable to take steps due to weakness, poor body awareness, and severe tightness in his legs.

To address these lingering issues, Bill's Dominican Hospital therapy team suggested he begin sessions with the Ekso Gait Trainer (GT) device in February 2017. Inspired by similar technology in use within the military, this groundbreaking robotic exoskeleton helps Dominican patients who have suffered a stroke, or brain or spinal cord injuries, learn to walk again more efficiently. Dominican is the first hospital in the Monterey Bay area to offer this technology, which is FDA-approved for stroke and brain/spinal cord injury rehabilitation. The unit was funded entirely by private community donations to the Dominican Hospital Foundation.

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Intensive physical therapy has always been a part of recovery for stroke and brain/spinal cord injury patients in Dominican's Acute Rehabilitation Unit (ARU), but care is dependent on the physical endurance of therapists. Where a therapist alone can support a patient with limited mobility through 20-30 steps, the exoskeleton unit can help patients take hundreds of steps during session.

"The Ekso GT not only helps patients spend less time in wheel chairs and thus avoid 'learned non-use' of their limbs, it also provides an array of settings for walking assistance," says Dominican Hospital Physical Therapist Andrea Martin. "We can program it to give full or partial walking support to both legs or to just one leg. This is a first for this type of technology. And patients are reporting they are walking better on their own after using the machine, that their muscle memory is coming back more quickly."

Bill completed 12 Ekso GT training sessions, and was able to walk 700-1,000 steps per session with varying amounts of assistance from the robot. By April, Bill could walk up to 20 feet without the robot, using just a walker and minimal assistance from a therapist. This was the first time he was able to take controlled steps since his injury occurred. Now Bill is working with his therapists to incorporate walking into his daily routine with his caregiver at home. Bill's goal is to retire his power wheelchair for good and use only a walker and his own two legs daily within the next year.

"Being in the Ekso has brightened my day," Bill shared. "It was great to get up and just walk. It helped my attitude and it really motivated me to keep working. I think the Ekso definitely helped decrease the scissoring of my legs. It helped me to lift my right leg up better, too. In the Ekso I got to feel how to walk again, and then it made me do all the work."



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