

Robotic Exoskeleton Helps Those Paralyzed Walk Again

University of California, Berkeley (UC Berkeley)



Paralyzed from the waist down after a BMX accident, Steven Sanchez rolled into SuitX's Berkeley, California, office in a wheelchair. A half-hour later he was standing and walking thanks to the a robotic exoskeleton.

The suit returns movement to wearers' hips and knees with small motors attached to standard orthotics. Wearers can control the movement of each leg and walk at up to 1.1 miles per hour by pushing buttons integrated into a pair of crutches.

At 27 pounds, it is among the lightest and cheapest medical exoskeletons. It also has unique abilities; the suit is modular and adjustable so it can adapt to, say, a relatively tall person who just needs mobility assistance for one knee.

The technology behind the industrial and medical exoskeleton originated at the Robotics and Human Engineering Laboratory at the University of California, Berkeley, which Homayoon Kazerooni leads.

“ The exoskeleton device is a step toward mobility for those who are paralyzed.

He said his major goal is to build a version of the exoskeleton for children. Children with neurological disorders sometimes need intensive walking training or can risk losing their mobility.

The device could also have therapeutic benefits for people who have experienced a stroke or other motor injury, but more research needs to be conducted.

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