

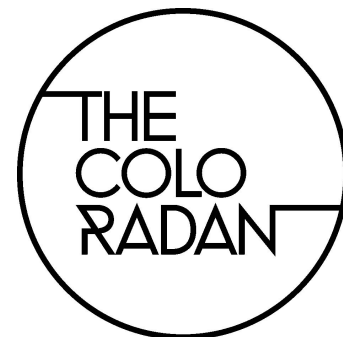
BUSINESS

Windsor company helps amputees find their footing



Pat Ferrier The Coloradoan

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Quorum Prosthetics is using new technology to improve the comfort and fit of prostheses. *Pat Ferrier*



Kim Hess works with trainer Rustin Hughes during a Rock Steady Boxing class for Parkinson's disease patients at Trials Martial Arts on Wednesday, August 2, 2017. Hughes, who lost his right leg three years ago, has been using a special socket on his prosthetic leg from Windsor-based Quorum Prosthetics. *Austin Humphreys/The Coloradoan*

"Two-one-two-two," Rustin Hughes shouts above blaring music and the sound of fists hitting leather punching bags.

He plants his right leg and holds up boxing mitts as Kim Hess jabs her fists into his palms. Hughes backs up as Hess follows him around the floor, punching two-one-two-two.

Hess and her husband are part of a boxing class for people with Parkinson's disease at Trials Martial Arts on Mulberry Street.

Hughes, a trainer at Trials, gets inspiration from the adults 20 and 30 years his senior facing the progressive disease of the nervous system that affects movement and can produce tremors.

Students are inspired right back.

Hughes, an Army veteran who served with Bravo Company 2-63 Armor Regiment, lost his right leg three years ago from a blood clot in his right femoral artery. Losing the leg was inevitable, so Hughes chose an above-the-knee amputation sooner rather than later.

"If I was going to lose it eventually, I would rather lose it now," he said. In a cruel twist of fate, the amputation came two years after his wife died of cancer.

"I thought, 'You gotta be kidding,'" he said. "I could do nothing, or I could do something. I wanted to do something but I didn't know what it would be."

Rustin Hughes trains a group during a Rock Steady Boxing class for people with Parkinson's at Trials Martial Arts on Wednesday, August 2, 2017. Hughes, who lost his right leg three years ago has been using a special socket on his prosthetic leg from Windsor-based Quorum Prosthetics. *Austin Humphreys/The Coloradoan*

He formed a non-profit B-Bold — named after his wife Brandy's favorite motto — that helps people with disabilities get into adaptive sports. But, getting around on his prosthetic leg "felt like I had a 5-gallon bucket on my leg."

The Veterans Administration referred Hughes to Quorum Prosthetics, a Windsor

company that had developed new technology that allows amputees to adjust the sockets that attach to their remaining arm or leg.

"He could barely walk and was frustrated with life," said Joe Johnson, CEO of Quorum Prosthetics.

Quorum's patent pending technology allows the socket to adjust to the size of the limb that expands and contracts throughout a day.

It works like the dial on a hard hat that allows wearers to adjust the helmet to the size of their head.

Studies have shown that the size of one's thigh is bigger in the morning than it is in the afternoon, leaving above-the-knee amputees with a too tight or too loose fitting throughout the day.

With Quorum's Quatro socket, amputees can adjust the fitting as their limb changes. "It empowers the patient to take charge of the fit."

Hughes said he was back boxing within a week of getting his new fitting.

His mobility "gradually increased to where I can kick from both sides." Quorum's socket "is an amazing game changer," he said. "If it weren't for Joe and the socket, I don't know where I would be at."

Quorum Prosthetics

Johnson knows a thing or two about prosthetic limbs. He lost his left leg when he was 12 in a motocross accident.

His mission as he grew up "was to help as many amputees as possible," he said.

In 1998, he founded Quorum Prosthetics, which makes prosthetic arms and legs, custom bracing and the Quatro sockets. The company is a licensed partner with Biodesigns, creator of the Hi-Fidelity Interface, which gets the socket closer to the bone by employing an alternating compression and release design.

The sockets are time consuming and expensive to make.

It takes about eight hours to manufacture one socket, three times what it might take for a traditional socket. That means one technician can do one socket per work day. Roughly 15 amputees currently wear the Quatro compression socket, which can cost the patient \$15,000. Most insurance companies will cover the cost, Johnson said.

Quorum Prosthetics employs a dozen workers throughout its offices in Windsor, Aurora and Cheyenne.