Anti-gravity' treadmill designed for astronauts now helps injured athletes

By Pete Carey
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SAN JOSE, CALIF. — A treadmill developed at the NASA Ames Research Center for exercising in space has seen more athletes than astronauts lately.

AlterG, a California company, has sold more than 200 of the "anti-gravity" physical therapy and training treadmills, which are based on the NASA prototype, at $75,000 each. The buyers have mainly been sports teams, college athletic departments and hospitals. A new model, the M300, costs $24,500 and is starting to be acquired by physical therapy clinics and nursing homes, where they are used for exercise without the risk of falling.

The AlterG, the only machine of its kind on the market, is an exercise treadmill with a waist-high enclosure added on. Zip yourself in and, by inflating the enclosure, you can reduce the force of gravity on your legs from a few percent to 80 percent, which approximates what it would be like to walk or run on the moon.

Air pressure elevates the user's body, counteracting the force of gravity. Athletes use it to continue training after an injury, reducing the impact of running on injured muscles and tendons. It can also be used for low-impact training, especially useful for runners.

The Oakland Raiders football team has one; the Golden State Warriors basketball team has two, the University of California at Berkeley has several, and Stanford University has one. The University of California at San Francisco Medical Center has two, as does Walter Reed Army Medical Center. The military uses them to help patients learn to walk with prosthetics and relieve balance affected by traumatic brain injury, said Lars Barford, AlterG's chief executive.

The AlterG's forerunner was developed in the early 1990s at NASA Ames by researcher Robert Whalen and physician Alan Hargens as a space-suitable exercise machine and also to study the effects of weightlessness on humans. The original machines sucked air out of the waist-high chamber, creating a kind of artificial gravity. Later versions pump air in, countering gravity.

Whalen, who holds the original 1992 patent and who continues to be involved in the company, declined a request for an interview.

"We sort of went off on our own separate paths, and we did our own development starting in about 1998," said Hargens.

-- San Jose Mercury News

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