

Chairless Chair solution offered as leg exoskeleton for work

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Credit: noonee

We have read the medical news about exoskeletons developed to empower people to walk and leap but there is another pathway for the application of exoskeletons, this time being a wearable device that can help working people in settings such as factories experience better comfort. Some workers have tasks that make it difficult for them to avoid the stress and fatigue of having to stand, bend, and stoop for long periods, assuming postures that may cause physical, muscle-related

problems. The creators say the Chairolution is here, and they are referring to their product, the Chairless Chair. In this instance, researchers are promoting a wearable device that can help people at work maintain optimal posture. This is a wearable chair that could be worn by production-line workers; the wearable chair idea is to relieve the stress of tasks that can cause such problems and pain. Unhealthy postures also lead to fatigue. Whether the difficulty is pain or fatigue or both, the worker's issue becomes a productivity issue, which is not beneficial to employers. The company behind this wearable is Zurich-based noonee. The noonee website describes the product as a wearable ergonomic leg device; or a leg exoskeleton; or a powered, lightweight and energy-efficient lower limb posture-support device.

The product is also presented as a "mechatronic device" worn on the legs, which allows the user to walk or run when not activated. Once activated, the Chairless Chair uses a portable variable damper to engage and hold the person's [body weight](#), relieving the stress on [leg muscles](#) and joints. "The user just needs to move into the desired pose, activate the Chairless Chair and profit from the provided posture support." The Chairless Chair is based on research from the Bio-Inspired Robotics laboratory at ETH Zurich. A belt secures the wearable to the hips and its straps wrap around the thigh. Since it is the chair that can carry the person's body weight, the stress on leg muscles and joints is relieved.

Jacopo Prisco in CNN said the [device](#) runs for about 24 hours on a single 6V battery and "An aluminium and carbon fiber frame keeps the overall weight of the Chairless Chair at just two kilograms, so [it doesn't burden the wearer](#) with too much excess weight." Production-line trials are to start in Germany with BMW in September and with Audi later in the year, he added.

Keith Gunura, CEO and co-founder of noonee, said in CNN that, in moving forward, the company envisions the product in more than

factory settings—riding on a crowded train, for example, or having to stand behind a retail counter, or picking fruit.

More information: www.noonee.ch/

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