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SMART SOCKS TO TREAT CHRONIC VENOUS DISEASE

 SPORT & FITNESS

Using material technology, a startup has created a smart wearable with active compression to help treat chronic venous disease.

As blood circulates through the veins, it passes through a series of one-way valves. If these valves, or the veins, enlarge or swell, it reduces the blood flow. This in turn can lead to a wide variety of conditions, such as varicose veins, lymphedema and deep vein thrombosis. When not properly treated, some types of circulation problems can lead to amputation, pulmonary embolism, stroke and even death. To prevent this, doctors recommend the use of compression devices for people who have circulation problems. One common complaint, however, is that these are uncomfortable and difficult to put on and take off. As a result, many people who need them stop wearing them. Now, Israeli start-up **ElastiMed** has developed a smart compression device that can help improve circulation in the legs.

ElastiMed's device is designed for wear throughout the day. It is worn over the leg and rhythmically expands and contracts. This mimics the natural contractions of the calf muscles and helps blood flow from the legs to the heart. ElastiMed's technology uses electro-active polymers (EAP), a material which expands and contracts when stimulated by an electric field. The device is also IoT compatible. It contains integrated sensors for data collection and compliance monitoring.

Chronic venous diseases affect around an estimated 1 in 1,000 people in the Western world. The market in compression devices to treat these illnesses is about 2.2 billion annually. Furthermore, ElastiMed is betting that there is a big market for treatment solutions that are comfortable and technologically advanced. The company is currently undergoing clinical trials and applying for

regulatory approval in Europe and the United States. It hopes to have the devices available for sale by 2019. Medical devices are increasingly incorporating smart technology. We have seen this recently with a smart device that detects [hidden bacteria](#) and also an interactive [AR imaging](#) for doctors. Will the ElastiMed compression device help reduce the incidence of CVD-related complications?

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