



Ebongeek



3D printing leads to lightweight knee brace for the elderly

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A Singapore-based engineering company with the help of specialists from Nanyang Technological University, Singapore created a new lightweight knee brace using 3D printing technology.

According to engineering firm Delsson, the designers used lightweight plastic and assist springs to help create the new brace, called the X-Brace, which weighs about 30 percent less than a traditional metal knee brace. . according to a press release.

Delsson believes that X-Brace will revolutionize the way doctors and physiotherapists treat different knee conditions because the amount of support the brace can provide to a patient can be personalized and ranges from six kilograms to 32 kilograms of force.

“During my 25 years of experience in orthopedic surgery, I have met many patients with knee pain. Young and elderly patients with knee problems often have weakened muscles as they adapt their walking style to reduce the load on the knee,” said Jeffery Chew, president and CEO of the Center for Orthopedics in Singapore.

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“The lives of patients with weak muscles continue to be severely limited by knee pain despite treatment. The X-Brace reduces the load on the knee, helping patients walk with less pain on their journey to full recovery.

Knee pain is common in older people, with about a third of Americans over 65 reporting some form of knee pain, a study found. And in 2017, around 20% of people over 60 living in Singapore suffered from chronic knee pain, according to TODAY.

“With a rapidly aging global population, lightweight assistive orthotics made possible by 3D printing – such as personalized knee pads, will increasingly become an essential tool in geriatrics, for better patient care and outcomes. aged,” said Ho Chaw Sing, co-founder and general manager of the National innovation cluster in additive manufacturing which supported the collaboration.