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# Singapore deploys 3D printing to make knee brace for elderly

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**Braces are usually prescribed to the elderly patients to help alleviate the burden on their knee joints, as well as to assist patients who have undergone surgery on their knees**




A lighter, yet more robust knee brace for the elderly who suffer from knee problems has been developed locally by Singapore engineering firm Delsson, in a collaboration with 3D printing specialists from Nanyang Technological University, Singapore (NTU Singapore).

Using 3D printing techniques – also known as additive manufacturing - the team has managed to reduce the weight of a traditional exoskeleton knee brace, typically built using metal, by 30 percent, thanks to a new design that uses lightweight plastic and assistive springs.

Based on the prototype assistive orthopaedic brace 3D-printed by NTU researchers, Delsson and the Centre for Orthopaedics in Singapore have developed a unique product, named X-Brace, which looks similar to the sleek knee brace used by Batman in the movie, The Dark Knight Rises. It weighs about 720 grams, 30 percent lighter than the typical metal orthopaedic braces that weigh over 1 kg.

The X-Brace is expected to be available in the market now at a price of SGD$1,000 ($782) depending on the user's required configuration. The product is distributed by Wearable Kinetics, a subsidiary company of Delsson.