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NUS team develops aerogels to control excessive bleeding

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The unique morphology of the cotton aerogels allows for a larger absorption capacity, while the compressible nature enables the material to expand faster to exert pressure on the wound.



A research team from the National University of Singapore (NUS) Faculty of Engineering has devised a fast, cheap and green method to convert cotton-based fabric waste into highly compressible and ultralight cotton aerogels.

In addition to characterizing the aerogels, the researchers also demonstrated how their invention could be used to control excessive bleeding.

Each cotton aerogel pellet can expand to 16 times its size in 4.5 seconds, larger and more than three times faster than existing cellulose based sponges while retaining their structural integrity. The unique morphology of the cotton aerogels allows for a larger absorption capacity, while the compressible nature enables the material to expand faster to exert pressure on the wound.

The cotton aerogel pellets are biocompatible, hence they can be safely administered for treatments.