

Video: Cotton candy machine used to regrow human tissue

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This cotton candy machine has a higher calling than satisfying a sweet tooth. It's whipping up polymer fibers that may one day be a key ingredient in life-saving medical technologies.

With support from the National Science Foundation (NSF), engineers Hak-Joon Sung and Leon Bellan, and their team at Vanderbilt University, are working to regrow [body tissue](#) that has been damaged by trauma or disease. But, regenerating tissue needs blood to survive. In living systems, that's done by capillaries, branching networks of tiny blood vessels—each ten times thinner than a human hair.

That's where the [cotton candy machine](#) comes in. The size of fibers it produces are very close to the size of capillaries. The researchers pour hydrogel over the fibers, harden the hydrogel in an incubator and then dissolve the fibers, leaving a network of tiny channels behind that works very much like a network of capillaries.

The researchers say there's much more to be done before this [artificial tissue](#) is ready for use in patients, but the team has high expectations that the field of regenerative medicine will eventually prove to be a game changer.

Provided by National Science Foundation

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