First ever artificially engineered vocal cords grown in lab

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For vocal cords, producing sound is no mean feat. They need to be flexible enough to vibrate, but tough enough to withstand smacking together over a hundred times per second. If our whole bodies were subjected to an equivalent force, we'd be ripped apart.

Now, for the first time, researchers at the University of Wisconsin-Madison have grown this superhero-like tissue in the lab, using human vocal cord cells as their raw ingredients. Their hope is to one day implant these engineered vocal cords into patients so they can recover their voices.

The new technology is nowhere near-ready for use in the clinic, but the idea might not be completely far-fetched: these tissues are both strong and stretchy enough to produce sound.

"It represents hope," said Dr. Ramon Franco, medical director of the Voice and Speech Laboratory at Massachusetts Eye and Ear, a speciality hospital in Boston, who was not involved in the study. "I have patients who are severely hoarse. There aren't a lot of options."

Other engineered organs of the throat have been tested in human clinical trials. These include tracheas, the tubes that lead into the lungs, and larynxes, which hold the vocal cords and allow for breath. But the vocal cords themselves are trickier to engineer because they need to vibrate under so much pressure.

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