



University of Colorado **Anschutz Medical Campus**

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CU School of Dental Medicine Professor designs the “Mother of All RespiratorY” device

State-of-the-art backup ventilator can support 12 patients at once

AURORA, Colo. (Monday, April 20, 2020) – It’s unlike any other ventilator on the market.

A University of Colorado School of Dental Medicine faculty member designed a ventilator that can support 12 patients at once.

Thomas Greany, DDS, who received his undergraduate degree in aerospace engineering, was approached by a former CU Boulder roommate and engineering classmate William Whetstone, MD, professor of emergency medicine at the University of California San Francisco. Whetstone asked Greany whether he could build a field ventilator that would provide essential respiratory support for multiple patients simultaneously. Sure enough, **Greany came through, producing a unit that can support 12 patients at a time with different inhale-exhale rhythms.**

Within two weeks, Greany had designed and built a prototype model using a high flow commercial aquarium pump, which allowed for a continuous flow of air. He realized that other types of emergency ventilators known as bag-style vents have between one- and three-seconds delay for patients to exhale. Still, if a continuous flow system was used, then additional patients could be hooked up to the device.

“In my entire career, there’s been nothing more gratifying than the work that I’ve been involved with over the past four weeks,” Greany says. “It took a couple of dozen energetic, enthusiastic, and very special people to make it happen.”

Greany has been collaborating with another CU engineering alumnus, Ken Lambrecht, who created the project website, FieldVent.org. Steve VanNurden, MBA, CU Anschutz Associate Vice Chancellor and CEO of the Fitzsimmons Redevelopment Authority; connected the group to engineering design firm RK Mission Critical to building six of these emergency backup ventilators, which Greany dubbed, “Mother Mary, the Mother of All RespiratorY Devices.”

UCHealth has shown interest in this device and plans to test it.

Other info:

[Story written by CU SDM Communications](#)

Visuals:

- [Video of ventilator production](#)
- [Photos of team building ventilator can be downloaded here.](#) Please note, the link (via wetransfer.com) expires on Monday, April 27.
Photo credit: Thomas Greany, CU School of Dental Medicine

Other Visual/Important Interview:

- Virtual interview with CU School of Dental Medicine faculty member, [Tom Greany](#) (GRAY-knee), DDS

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