

New drug could help stop the spread of disease during cough: research

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What if there was a drug that could completely eliminate airborne disease transmission that occurs when someone coughs? Researchers at the University of Alberta believe they have found a way to achieve this.

The idea behind this work came from Malcolm King and his research associate Gustavo Zayas, who work in the Division of Pulmonary Medicine at the U of A's Faculty of Medicine & Dentistry. King and Zayas developed a drug that, when inhaled, would reduce or eliminate the amount of droplets, called bioaerosol, coming out of the mouth when a disease-infected person [coughs](#). These airborne particles can stay in the air for minutes and sometimes even hours.

In order to help perfect this drug King and Zayas enlisted in the expertise of PhD student Anwarul Hasan and associate professor Carlos Lange, both from the Faculty of Engineering's mechanical engineering department. It was Hasan and Lange's role to find out how the size and amount of the cough-emitted droplets are affected by the new drug.

After five years of research, using a simulated cough machine, Hasan discovered how the new drug can manipulate the properties of the lung fluid to almost completely suppress the emission of droplets, a research first. This discovery provides a clear target for the new drug in its early phases of development.

King and Zayas are moving forward to develop the drug in the form of a spray and plan to perform clinical trials in hopes that one day this [drug](#)

could not only help stop the spread of a pandemic outbreak, but also protect nurses, doctors and other front-line health care professionals.

More information: This research was recently published in the journal *Non-Newtonian Fluid Mechanics* and can be found here:

[dx.doi.org/10.1016/j.jnnfm.2010.07.005](https://doi.org/10.1016/j.jnnfm.2010.07.005)

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