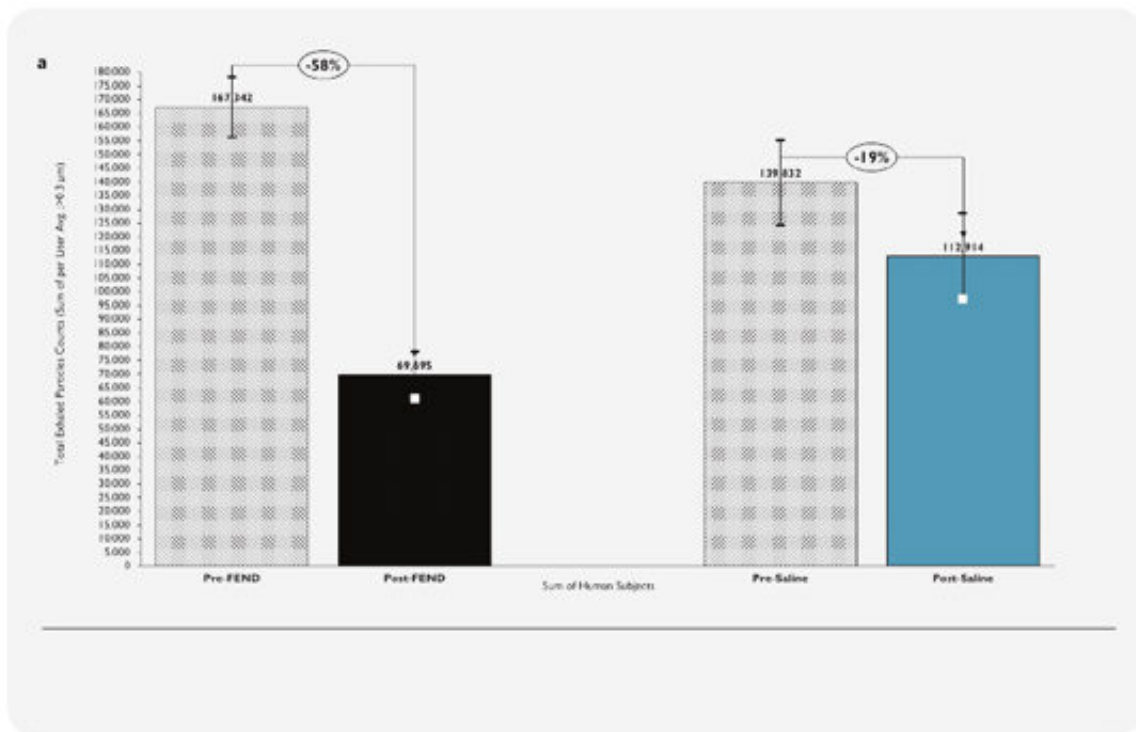
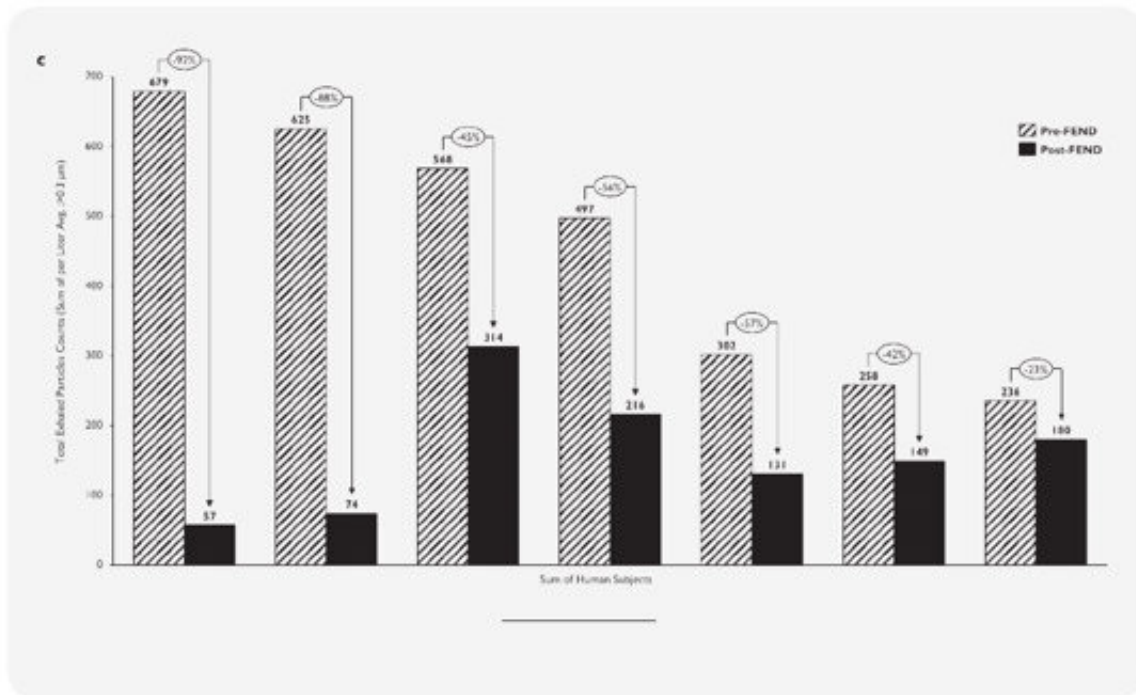


# **Three-site study highlight effectiveness of FEND nasal calcium rich salts**

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Total exhaled breath particles prior to and 15 to 20 minutes after administration of saline nasal spray control at: (a) Bangalore Baptist Hospital, (b) Grand Rapids Community College, and (c) Cape Cod Academy. Credit: World Scientific Publishing

In a paper published in *Molecular Frontiers Journal*, researchers from Cambridge, Massachusetts and Bangalore, India study the effectiveness of FEND product to significantly improve airway hygiene by reducing and suppressing respiratory droplets potentially containing airborne pathogens and other contaminants. The study's findings further highlight why the FEND product is an important new daily hygiene protocol that joins century-old hand washing, masking and distancing measures as a fourth protective layer of defense against aerosolized particles.

The new study examined two nasal salines: FEND, a drug-free nasal saline hygiene formulation comprised of calcium chloride and sodium chloride in distilled water, and Simply Saline by Arm & Hammer, a commercially available nasal spray of isotonic sodium chloride, as a control. The study involved 253 human volunteers, ranging from ages 10-70 years old from three different locations: Grand Rapids Community College in Grand Rapids Michigan, Cape Cod Academy in Cape Cod Massachusetts, and Bangalore Baptist Hospital in Bangalore, India (a location of relatively high airborne particulate burden). The geographic and demographic distributions were chosen to determine the impact of airway hygiene in highly polluted versus less polluted environments, including elementary, secondary and college learning environments.

The research examined the individual's respiratory droplets—particles generated in human airways during breathing that may contain contaminants, and that can evade masks and linger within indoor environments—and found a reduction in number on exhalation by up to 99% following airway hygiene using the FEND product. Reduction of exhaled particles following an isotonic nasal saline spray control was statistically insignificant. The research also found that exhaled particles were considerably higher and efficacy of airway hygiene greatest in

Bangalore India, where particulate levels of air pollution exceeded those at the other sites of the study by at least ten-fold. . "It was incredible to see how FEND reduced exhaled aerosols in our participants," said Dr. Carolin Elizabeth George of Bangalore Baptist Hospital in India, another co-author of the FEND study. "In countries like India, where public health measures for COVID-19 have serious livelihood implications, FEND is a practical alternative. It is worthwhile to investigate its effect further on viral and bacterial burden in low and [middle income countries](#) where pollution is high—as the success can have farfetched positive implications."

Since launch of the FEND product in late October 2020, airway hygiene has begun to be used in work, home, and educational settings threatened by COVID-19, and other lower-airway respiratory threats. Both Grand Rapids Community College and Cape Cod Academy have integrated FEND into the schools' hygiene protocols for students and staff for 2021. At Bangalore Baptist Hospital in India, follow-on human trials are underway evaluating the efficacy of FEND in COVID positive patients. Further research in India will explore the use of FEND in low-income neighborhoods where access to existing hygiene protocols is limited.

"We are encouraged by these latest data," said co-author Dr. David Edwards, whose research at Harvard and within Harvard spinout technology companies has, since the first SARS outbreak, explored the action of physiological salts for reducing respiratory drops as a safe and inexpensive means to reduce exposure to airborne pathogens. "Bringing to over 300 human volunteers evaluated this year at six sites in the U.S. and India, the results of this study underline the value of a fourth human hygiene for assuring hygienic safety during and after the pandemic—daily [airway hygiene](#) as an efficacious and inexpensive complement to hand sanitizing, masks and social distancing."

**More information:** Carolin Elizabeth George et al, Airway Hygiene in

Children and Adults for Lowering Respiratory Droplet Exposure in Clean and Dirty Air, *Molecular Frontiers Journal* (2020). [DOI: 10.1142/S2529732520400076](https://doi.org/10.1142/S2529732520400076)

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