

Inhalable nitric oxide shown safe as potential anti-microbial treatment

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Results from a clinical study by a UBC-Vancouver Coastal Health research team have increased hope for a new, effective and inexpensive anti-microbial treatment using inhalable nitric oxide.

Nitric oxide is produced naturally by the body's immune system and is a potent anti-microbial agent against bacteria, viruses, fungi, and parasites, but the safety of nitric oxide given to humans at microbe killing concentrations has not been studied until now.

In the new study, published in this month's edition of the *Journal of Cystic Fibrosis*, healthy adult volunteers show no adverse effects associated with therapeutic antimicrobial concentrations of nitric oxide. The study was conducted at UBC Hospital, where healthy volunteers were recruited and inhaled [nitric oxide](#) gas was administered over a period of one week.

“In retrospect, it's not surprising to find that a molecule naturally produced in our own body to fight invading pathogens is useful as an antimicrobial drug,” says lead author Prof. Chris Miller, assistant professor in UBC's Division of Respiratory Medicine and a member of the Immunity and Infection Research Centre at the Vancouver Coastal Health Research Institute. “This study confirms the safety aspect of an efficacious mode of delivery.”

This Phase I safety study was funded by the Lotte & John Hecht Memorial Foundation, and leads the way to efficacy studies targeting the

spread of resistant pulmonary infections – focusing first on Cystic Fibrosis and Tuberculosis, a deadly pulmonary infection that kill millions of people every year. The study results were licensed by the UBC Industry Liaison Office to AIT, an Israeli company.

Provided by University of British Columbia

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