

Open Air Factor: A natural form of infection control?

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A leading infectious diseases expert from The Australian National University (ANU) suggests a forgotten but formidable protective agent that's been documented in medical journals for close to two centuries could be key to defending against airborne bacteria and viruses, including COVID-19.

Professor Peter Collignon AM said the fresh air we breathe outdoors has certain germicidal properties that can dilute and limit the spread of harmful bacteria and viruses outside.

He says outdoor air also has certain properties that can kill airborne viruses.

"This is why being outdoors helps protect people from contracting COVID-19," Professor Collignon said.

Professor Collignon is calling on medical authorities to urgently better investigate the beneficial qualities of this overlooked, pathogen-fighting agent, known as the Open Air Factor (OAF).

The infectious diseases physician and microbiologist says OAF continues to be neglected in [public health](#) as a form of infection control. This is despite documented evidence of "open-air therapy" being used to treat tuberculosis patients in sanatoria during the first decade of the 20th century, and to treat soldiers' infected wounds during the First World War.

"We know the best form of protection against COVID-19 is to get vaccinated and stay up-to-date with boosters," Professor Collignon, a co-author of the paper published in *Cureus*, said.

"But since the end of the 19th century through to the middle of the 20th century, there was a widely held belief that outdoor air had disinfecting and therapeutic properties."

"During the First World War a British surgeon found that putting patients outside and then leaving their infected wounds open to fresh air greatly improved recovery. In two or three days the wounds lost their odor and began to look clean again."

Professor Collignon said although it is unclear how best to preserve the health benefits of [outdoor air](#) in indoor spaces, such as hospitals and other public areas, he's calling on medical authorities to commission research into whether this is possible, and if so, how this could be best achieved.

"This could potentially include rediscovering open-air wards, such as during the First World War, to help patients and staff in hospitals, or finding new ways to improve indoor ventilation techniques with fresh air from outside," he said.

"The OAF will likely also help in reducing the transmission of many infections in schools, homes, offices and larger buildings."

"Several decades ago, hospitals and other building types were designed to prevent infections from spreading. Today they are not. For example, windows are smaller, ceilings are lower, cross ventilation can be difficult if not impossible, and balconies and verandas are not as common as they once were."

"Fresh air is no longer considered to be germicidal or therapeutic for [hospital patients](#) or, for that matter, anyone else. It is perhaps time to examine how we used to design and ventilate buildings for health. If this is ignored, just as the OAF continues to be, the costs to society could be large."

In the paper, Professor Collignon lays out a series of recommendations in order to further investigate the beneficial qualities of OAF. He's calling for:

- A program of testing both established and novel pathogens to determine the effects of the OAF on them.
- Experiments to determine whether, and for how long, the OAF

can be preserved indoors.

- A review of building design with regard to improved infection control and patient recovery, with a focus on increased exposure and access to outside air and to the OAF.

More information: Richard Hobday et al, An Old Defence Against New Infections: The Open-Air Factor and COVID-19, *Cureus* (2022). DOI: [10.7759/cureus.26133](https://doi.org/10.7759/cureus.26133)

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