Medical Xpress

# COVID-19: Schools urgently need guidelines on improving ventilation in classrooms

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There is an urgent need for guidelines on how schools can use ventilation to reduce the risk of COVID-19 transmission in the classroom, according to doctors at Imperial College London and the headteacher of

a secondary school in Pinner, Middlesex. In a commentary published by the *Journal of the Royal Society of Medicine*, the authors say that improving air quality in classroom spaces should be as important as following government advice regarding social distancing, mask-wearing and hand washing.

The authors point to lessons from the airline industry, where the risk of contracting COVID-19 on a flight is currently lower than from an office building or a classroom. Lead author Dr. Kaveh Asanati, Honorary Clinical Senior Lecturer in occupational lung disease at the National Heart & Lung Institute, Imperial College London, said: "The multi-layer risk reduction strategy used in the aviation industry seems to have been working efficiently. The strategy includes testing passengers, the use of face coverings or masks, hygiene measures and, more importantly, maintaining clean air by circulating a mix of fresh air and recycled air through High-Efficiency Particulate Air (HEPA) filters."

Few school buildings have HEPA filtration but a potential practical option for schools would, according to the authors, be the use of portable HEPA filtration units. They say that the US Centers for Disease Control and Prevention recommends for healthcare workers during COVID-19 pandemic to consider the addition of these units to augment air quality in areas when permanent air-handling systems are not a feasible option. The authors go on to describe a study in a hospital room of COVID-19 patients, where the researchers were able to detect SARS-CoV-2 in aerosols, only when they used the air samplers without a HEPA filter on the inlet tube.

Dr. Asanati said: "To keep schools open, there is an urgent need to implement more effective on-site mitigation strategies, with particular attention to ventilation and testing. In addition, it is essential that teachers and other school staff should be added to the priority list for vaccination."

The authors say a feasibility study of implementing better ventilation and filtration systems in schools is needed, as well as some pilot work and research involving indoor air quality and heating, ventilation and air conditioning (HVAC) experts. Until then, they write, keeping doors and windows open—for as much as is reasonably practicable—seems to be the best way forward.

**More information:** Kaveh Asanati et al, Healthier schools during the COVID-19 pandemic: ventilation, testing and vaccination, *Journal of the Royal Society of Medicine* (2021). DOI: 10.1177/0141076821992449

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