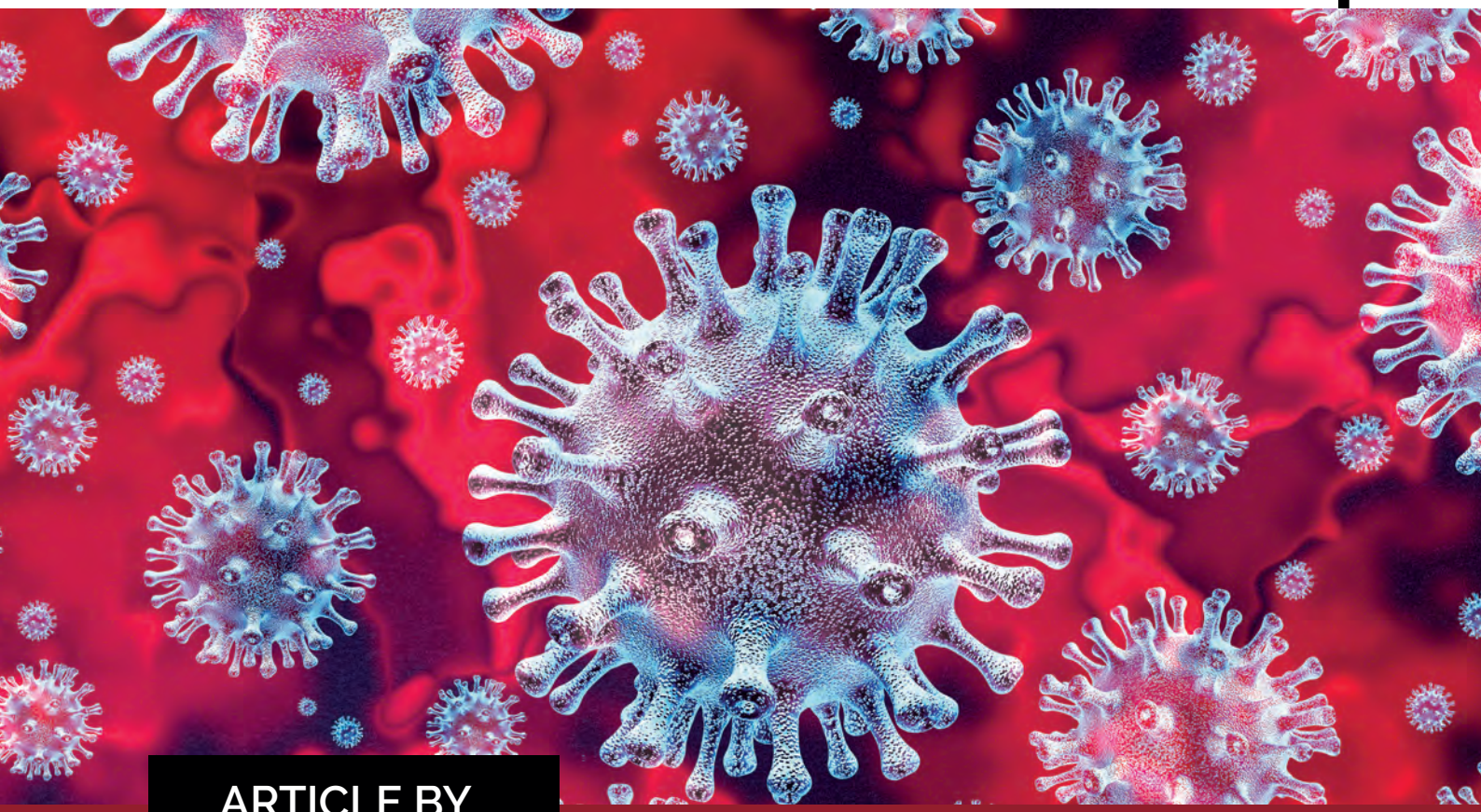
AIRsteril®

Coronavirus and AIRsteril



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CORONAVIRUS AND AIRSTERIL

AIRsteril units have been shown to kill a wide range of microbes that are more difficult to eradicate than viruses, including bacterial species that produce endospores *(Clostridium difficile, Geobacillus stearothermophilus)*, Gram-positive bacteria *(Staphylococcus aureus, MRSA, S. epidermidis, Listeria monocytogenes and L. innocua)*, Gram-negative bacteria *(Escherichia coli* and *Pseudomonas aeruginosa)*, and moulds *(Aspergillus fumigatus)* in both the air and/or on surfaces.

In September 2009, the Health Protection Agency's laboratories at Porton Down performed efficacy testing of an AirSteril unit and demonstrated a reduction of airborne bacteria and viruses of up to 98.11% within 5 minutes of exposure and a reduction of surface contamination up to 59.47% in one hour. The virus used in the test was MS-2 which is significantly more difficult to kill than coronaviruses so it is evident that the AirSteril technology will be more effective against SARS-CoV-2

SARS-CoV-2 belongs to the same group of viruses that cause colds and influenza. The use of AIRsteril units in call centres and offices at an NHS Trust has been shown to reduce the incidence of illness-related absences; particularly reported cases of colds, coughs and influenza, as well as reducing other chest and respiratory problems.

Recent testing of a AirSteril™ Multi-Flex at the HygCen GmbH Laboratory, Germany (Test Report SN 30794: 23/11/2020) was carried out using airborne coliphage Phi-X174 (aerosol size range: 2-12 µm) in a large (75m3) test chamber. Observations demonstrated an immediate 99% (2 log) reduction in viral loading upon exposure to AirSteril-treated air, which increased to > 99.99% (4.9 log) reduction within 10 minutes. Based on the recorded reduction rates for Phi-X174, comparable, if not better efficacy, will be evident for enveloped viruses including SARS-CoV-2.

These observations are important in controlling the transmission of COVID-19 in occupied spaces. At the start of the pandemic, measures to control transmission relied on mask wearing, hand-washing and social distancing and the role of aerosol transmission was largely underestimated. While the original control measures continue to be maintained the role of aerosol transmission of SARS-CoV-2 coronaviruses and mitigation using ventilation are now recognized as being equally important. Increased natural ventilation and reconfiguring HVAC systems are not always possible, and the use of air treatment devices such as the AirSteril™ Multi-flex is now under consideration to remove aerosolized coronaviruses and reduce the risk of COVID-19 transmission.