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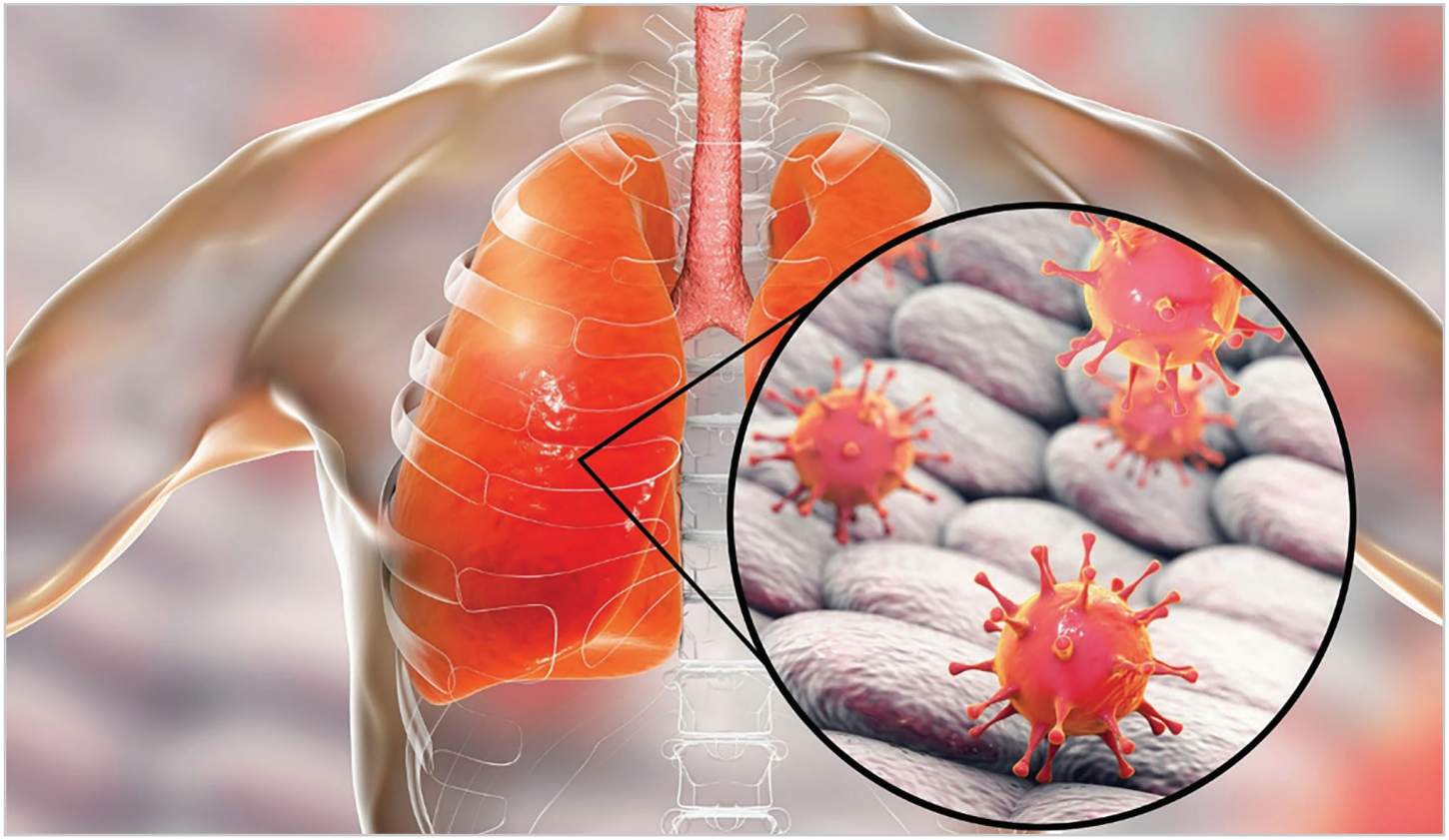
How can IQAir help in the fight against the coronavirus?

Since the outbreak of the novel coronavirus (named COVID-19) and the World Health Organization's (WHO) classification of the virus as a Public Health Emergency of International Concern, the air quality experts at IQAir have received a large number of inquiries about the role that IQAir can play to help protect people against the coronavirus and other infections. The main question IQAir has been asked is this: "Can IQAir help in the fight against the coronavirus?". See our official answers and positions for this and other frequently asked questions below.



Can IQAir high-efficiency air purifiers capture the coronavirus?

Yes. Every IQAir Cleanroom Series and HealthPro® Series air purifier is equipped with a hospital-grade HyperHEPA® filter that guarantees a minimum removal efficiency of 99.5% even for the tiniest airborne microorganisms, and more than 99.97% effectiveness at 0.3 µm. This includes even particles the size of the coronavirus, which has a diameter between 0.08 and 0.12 microns. The efficiency was independently verified by a leading German aerosol test laboratory.

Can ordinary air purifiers capture the coronavirus with a guaranteed efficiency?

No. Most ordinary air purifiers are not designed for use in critical healthcare environments and cannot guarantee reliable high-efficiency removal of the smallest microorganisms. The efficiency claims of ordinary air purifiers using synthetic (polypropylene) filters are often theoretical marketing claims that have not been independently verified in accordance with standardized filter test norms (such as EN 1822) and that do not hold true in challenging real-life situations. Furthermore, efficiency claims are often made only for particles down to 0.3 microns (approx. 3 times larger than the coronavirus) or refer to "best case" results that were achieved only at the lowest fan speed or with a brand-new filter, especially in the case of synthetic HEPA filters that can lose more than 50% of their initial efficiency after just a few months of use, resulting in unreliable protection and a false sense of security.

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Are IQAir systems actually being used by healthcare institution in the fight against the coronavirus?

Yes. IQAir air purifiers are already assisting healthcare institutions across Asia and in many other parts of the world to protect their staff and patients against infections, including hospital-acquired infections with high mortality rates. Several hundred IQAir HealthPro and IQAir Cleanroom systems are currently being deployed in healthcare institutions in Hong Kong and China in the fight against SARS-CoV and COVID-19.
https://www.iqair.com/us/blog/press-releases/iqair-takes-action-against-deadly-coronavirus-outbreak

What were the most recent deployments of IQAir systems in hospitals?

In January and February 2020, IQAir arranged a number of emergency air freight shipments to Hong Kong that included IQAir high-efficiency air purifiers with special FlexVac™ source-capture kit and OutFlow™ exhaust attachments. Several hundred of these specialized systems with suction and exhaust ducts have been in use in over 150 Hong Kong hospitals and clinics since the SARS coronavirus outbreak in 2003. Hospitalized patients with COVID-19 symptoms are instructed to cough and sneeze into the flexible suction duct opening positioned next to the patient's head. The air containing the infectious droplet nuclei is then sucked into the system and filtered with high efficiency. Virtually microorganism-free air is then expelled through the exhaust duct. The flexible duct at the top of the air purifier can be directed away from the patient to reduce turbulent airflow near the patient.

IQAir high-efficiency air purifier with FlexVac mobile source-capture kit.

What types of medical environments are these IQAir systems being used in?

Healthcare workers are particularly at risk of becoming infected with the coronavirus. For that reason, the Hong Kong Hospital Authority deploys the specialized IQAir systems primarily in rooms where patients under investigation (PUI) are being cared for. The main purpose of the system is to minimize the risk of healthcare workers caring for infected patients from becoming infected themselves. Although the use of personal protective equipment (PPE) like high-efficiency respirators must always be the first line of defense when entering a room with suspected infected patients, keeping the number of airborne microorganisms in ambient air as low as possible can help further reduce the risk of infectious matter being inhaled or spreading to nearby areas.

How is the coronavirus transmitted?

The routes of transmission of the coronavirus are not yet fully understood. Here is the latest information from the CDC (Centers for Disease Control and Prevention):

Person-to-person spread

The virus is thought to spread mainly from person to person:

- Between people who are in close contact with one another (within about 6 feet)
- Via respiratory droplets produced when an infected person coughs or sneezes.
- These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

Spread from contact with infected surfaces or objects

It may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or eyes, but this is not thought to be the main way the virus spreads.

When does spread happen?

- People are thought to be most contagious when they are most symptomatic (the sickest).
- Some spread might be possible before people show symptoms; there have been reports of this with this new coronavirus, but this is not thought to be the main way the virus spreads.

https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html

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Can the coronavirus be transmitted through the air?

Whether the tiny coronavirus may readily attach to airborne (pollution) particles floating in the air, thus remaining airborne and respirable for longer periods of time, has not yet been proven, but cannot be counted out as a possibility. Leading health protection agencies, including the European Centre for Disease Prevention and Control (ECDC), don't rule airborne transmission out. The ECDC recommends "a cautious approach due to lack of studies excluding this mode of transmission".
https://www.ecdc.europa.eu/sites/default/files/documents/nove-coronavirus-infection-prevention-control-patients-healthcare-settings.pdf

What infection control measures are recommended in healthcare settings for rooms with infected patients?

The CDC has issued interim recommendations for hospital rooms occupied by infected patients and persons under investigation (PUI). In addition to Standard and Contact Precautions, the CDC recommends Airborne Precautions, which include placement of the patient in an Airborne Infection Isolation Room (AIIR). AIIRs are single patient rooms at negative pressure relative to the surrounding areas and with a minimum of 6 air changes per hour (ACH). Potentially contaminated air from these rooms should ideally be filtered through a high-efficiency particulate air (HEPA) or HyperHEPA filter before recirculation. The CDC defines "HEPA" as filters capable of removing particles 0.3 micron in diameter with a minimum efficiency of 99.97%.
https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html

Which IQAir models are most suitable for airborne infection control in critical medical environments?

Any IQAir high-efficiency room air purifier model that offers a minimum filtration efficiency ≥ 99.97% for airborne particulates ≥ 0.3 µm or ≥ 99.5% efficiency at MPPS (most penetrating particle size) is suitable for airborne infection control in critical medical environments.

Which IQAir models are suitable for airborne infection control in normal home and office environments?

Most IQAir room air purifier models offer high-efficiency filtration of airborne particulates and microorganisms with a minimum efficiency of 99% at 0.3 microns.

Which IQAir models are suitable for airborne infection control in cars, vans, and taxis?

In confined spaces like car cabins, the effective removal of airborne pathogens and droplets can be achieved with the Atem Car air purifier, which can recirculate cabin air through its HyperHEPA filter up to 20 times per hour.

Where does the deployment of IQAir high-efficiency air purifiers make most sense?

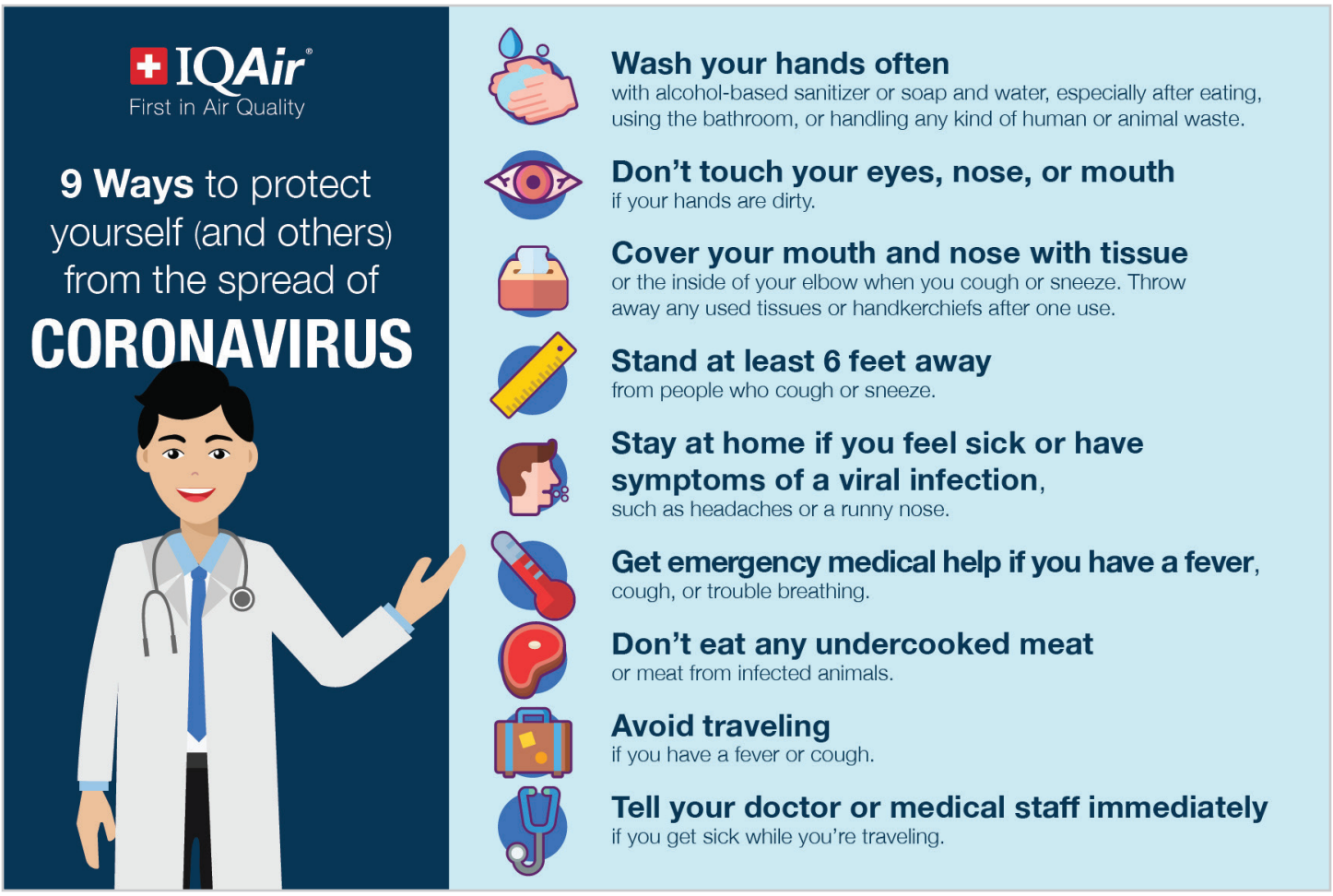
As long as there is no evidence that COVID-19 spreads through the air, IQAir recommends the deployment of IQAir systems in the following environments:

Quarantine & Containment Isolation Rooms
for patients under investigation and infected patients: IQAir Cleanroom H13 or IQAir HealthPro (optional accessories: FlexVac source-capture kit, OutFlow ducting adaptor kit (to generate negative pressure in isolation rooms).

Homes & Offices
IQAir Atem® Desk (for desktop use), IQAir HealthPro, and IQAir GC™ MultiGas (for small and medium-sized rooms).

Waiting Rooms, Nurseries, Meeting-, Conference - & Classrooms
IQAir CleanZone® SL (for medium-sized rooms), IQAir CleanZone® 5100 (for larger rooms), IQAir Cleanroom or IQAir HealthPro (for small and medium-sized rooms).

Cars, Vans and Taxis
IQAir Atem® Car



Further Information:

As more studies are conducted in connection with COVID-19, more information is becoming available on an almost daily basis. Here are some resources from leading health organizations around the world that regularly publish updates on the COVID-19 situation:

CDC Summary of coronavirus disease (COVID-2019):
https://www.cdc.gov/coronavirus/2019-nCoV/summary.html

Public Health England: Guidance to educational settings about COVID-19
https://www.gov.uk/government/publications/guidance-to-educational-settings-about-covid-19/guidance-to-educational- settings-about-covid-19

CCDC (Chinese Centre for Disease Control and Prevention) study on the coronavirus based on the analyzed of over 70'000 patient records (published February 18, 2020):
http://weekly.chinacdc.cn/en/article/id/e53946e2-c6c4-41e9-9a9b-fea8db1a8f51

WHO Homepage on COVID-2019 outbreak:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

WHO COVID-19 situation reports:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

WHO COVID-19 advice for the public:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

About IQAir:
IQAir is a Swiss-based air quality technology group that since 1963, empowers individuals, organizations and communities to breathe cleaner air through information, collaboration and technology solutions. IQAir also collaborates in international environmental projects, such as the United Nation's Environment Programme (UNEP), to raise awareness about air pollution and its health effects.