

“There are very few things ventilated as well as commercial airplanes,” said Jim Haas, director of product marketing at Boeing. “That is by design.”

He says airflow in commercial aircraft is designed to travel vertically from above passengers’ seats down to where walls meet the floor, thereby keeping air in one area from travelling throughout the cabin. The entire volume of cabin air is exchanged every two to three minutes with fresh air — a 50-50 mix of outside air sucked in through the engines and cabin air that has gone through high-efficiency particulate air (HEPA) filters.

“They’re the same type of stuff used in hospitals, isolation wards, operating rooms,” Haas said. “When the air comes in over your head, it’s clean.”

Haas also pointed to other design features in aircraft that he says make virus transmission in aircraft difficult.

“When you think about air travel, people are sitting in seats, they’re all facing forward, they’re high-back seats, the air flows, there’s not a lot of singing and dancing,” he said, adding that for these reasons Boeing does not see a need to block the middle seat.

Canada’s largest airlines, Air Canada and WestJet, both began selling adjacent or middle seats on aircraft July 1 after blocking them shortly after the pandemic began.

The airlines say they are taking layered approaches to passenger safety aimed at limiting the chances of any virus transmission. These include “touchless” check-ins, temperature checks and questionnaires before boarding, enhanced cleaning of high-touch areas, electrostatic spraying or fogging of aircraft interiors, mandatory mask wearing for passengers and crew, and changes to on-board service.

Canada’s chief public health officer, Dr. Theresa Tam, has said temperature-taking is “not effective at all.”

“Even if you are infected, we know that the likelihood of picking up someone who is symptomatic is sort of, relatively, inefficient,” she said on May 4.

Air Canada and WestJet say they are relying on data and evidence from a variety of sources, including researchers, medical experts and the International Air Transport Association.

Air Canada spokesperson Peter Fitzpatrick acknowledged there are few comprehensive COVID-19 studies, but said the aviation community is drawing on a range of preliminary reports on the virus and earlier studies of other contagious diseases.

“While studies vary in their focus and methodology, there is general agreement that the risk of contracting COVID-19 and other communicable diseases on board an aircraft is exceedingly small,” Fitzpatrick said.

He added that the airline has undertaken several medical collaborations to advance biosafety across its business, including with Cleveland Clinic Canada in Toronto; Ottawa-based Spartan Bioscience to explore rapid COVID-19 testing in an aviation environment; and Toronto-based BlueDot, a company that monitors infectious diseases globally.