

Can the New Coronavirus Be Transmitted by Frozen Foods? Unlikely, Experts Say

Experts say viruses need a host to survive, so they don't live long in cold temperatures or in sunlight. Getty Images

Experts say it's unlikely that the novel coronavirus can be transmitted by frozen foods.

They say viruses need to be inside a host to survive, so they don't live long outside a body, especially in sunlight or cold temperatures.

They advise people still worried about transmission to wash food before putting it in the refrigerator.

All data and statistics are based on publicly available data at the time of publication. Some information may be out of date. Visit our coronavirus hub and follow our live updates page for the most recent information on the COVID-19 pandemic.

Salmon from Norway, chicken wings from Brazil, and an unidentified culprit in a New Zealand cold-storage facility are among the frozen food items that have been suspected of transmitting the novel coronavirus.

All have ultimately been exonerated. The latest acquittal came this week.

After officials in New Zealand declared the country COVID-free in June, a new outbreak began earlier this month.

One theory of how it started was via frozen food, since one of the people with COVID-19 worked in a cold-storage facility. According to the theory, the virus might have been frozen on packaging and imported into the country.

That theory was ruled out on Tuesday.

But not before new questions about transmission by frozen food packaging were reopened.

Those questions can be put to bed, experts say, because while the novel coronavirus can survive being frozen, it's highly unlikely to survive in a state that would be able to transmit an infection.

The reasons have to do with how fragile the virus is. But, to be extra careful, there are measures you can take that can reduce the risk even further.

A fragile virus

“As of now, there is no evidence of transmission from packaging, particularly frozen food packaging, to humans,” Amira Roess, PhD, MPH, a professor of global health and epidemiology at George Mason University in Virginia, told [name removed].

“In one report, over 200,000 frozen food samples were tested for COVID-19, and one came back positive. Based on current data, the amount of virus found on packaging is likely not enough to pose a risk for humans,” she added.

Chinese officials have been screening some frozen food packaging for signs of the virus following their scare with the since-exonerated frozen Norwegian salmon in June.

Recently, they found some of the virus’s genetic material on a package of chicken wings from Brazil and frozen seafood from Ecuador and elsewhere.

But that genetic material only means the virus was there, not necessarily that it was still viable and active on the packaging — or in sufficient quantities to cause infection.

Follow-up tests on people who may have been exposed to the chicken wings came back negative, according to officials.

Viruses are “obligate intracellular parasites,” said Rodney Rohde, PhD, an associate dean for research at Texas State University’s College of Health Professions who focuses on public health microbiology.

That means they can’t reproduce outside the cells of a host, such as a human. On packaging, they’re just sitting around waiting to die.

“Unlike bacteria, viruses may remain viable on a surface for hours or days, but they can’t reproduce and thus will eventually die or become nonviable to transmit any infection. Viruses are actually quite fragile outside of a host,” Rohde told [name removed].

He explained that outside, they’re vulnerable to drying out due to UV light from sunshine as well as temperature shifts, such as repeated thawing and refreezing.

“While it’s impossible to predict ‘zero risk’ for obtaining an infection via active virus on any particular surface, it is very unlikely and very low risk,” Rohde said.

The Centers for Disease Control and Prevention (CDC) Trusted Source says that, “currently, there is no evidence to suggest that handling food or consuming food is associated with COVID-19.”

And while it’s possible that touching an object, such as food packaging, and then touching your mouth or nose could transmit it, the virus is much more likely to be spread through the air.

The CDC also notes there’s no evidence of the virus spreading by eating food.

Cornell University’s Institute for Food Safety likewise reports that “it is extremely unlikely that any food or food packaging would be contaminated with COVID-19. The time needed to freeze and thaw food and food packaging makes contamination with COVID-19 even less likely.”

What to do if you’re worried

This reassurance likely doesn’t help officials in New Zealand find the source of their new outbreak.

But it can help focus your attention and worry on precautions that might make the most difference, such as wearing masks in public and staying physically distant.

For extra reassurance, Roess said people concerned about transmission via frozen food should wipe the items down as soon as they return from the grocery store, before putting them in the freezer.

Those handling the products before shipping or in transit should wear masks and gloves, she added.

Echoing the CDC’s advice, Rohde said to avoid touching your face while handling suspect products, and wash your hands or use hand sanitizer afterward.