

What do food handlers need to know about coronavirus infectious disease 2019 (COVID-19) and the associated virus, SARS-CoV-2?

This document was developed to educate food handlers about SARS-CoV-2. Information was collected from state, national, and international agencies on food safety issues related to SARS-CoV-2. Additional scientific research studies have been used as the basis for the recommendations related to SARS-CoV-2 and food safety.

Coronavirus infectious disease 2019 (COVID-19) and food

There is currently no evidence to suggest that COVID-19 caused by infection with the novel coronavirus (now termed SARS-CoV-2) is associated with the consumption of food. A point of confusion is that the emergence of SARS-CoV-2 in China was associated with a fish market [1]. China has “wet markets” where live animals are housed and sold as food. In these wet markets there is a diversity of live domestic and wild animals housed where novel viruses (such as coronaviruses) can be transmitted directly from animals to humans. The emergence of Severe Acute Respiratory Syndrome (SARS) coronavirus in 2003 was traced back to animals (palm civets) sold at these wet markets [2]. Once the initial transmission of SARS coronavirus from palm civets to humans occurred, the virus then began spreading human to human through droplet transmission [2]. The transmission was not associated with eating the animals but was instead associated with being in the same location with infected animals where droplet transmission occurred. Humans who had visited a wet market in Wuhan China were the first cases of the COVID-19, suggesting a similar initial animal-to-human transmission event [1]. The animal reservoir is not yet known for SARS-CoV-2, but viral sequence data suggests it originated in bats [3]. SARS-CoV-2 is now transmitting human-to-human presumably by the droplet route.

Is there potential for the virus to be transmitted through food?

There is currently no evidence that the SARS-CoV-2 is spread through food. Research and experience with other coronaviruses causing acute respiratory diseases, such as Severe Acute Respiratory Syndrome (SARS) coronavirus and Middle East Respiratory Syndrome (MERS) coronavirus, suggests that people are unlikely to be infected with the virus through food, and there is no evidence to date of this happening with SARS-CoV-2.

Coronaviruses cannot grow (multiply) in food – they need a host (animal or human) for this to happen. Research with similar viruses has demonstrated that typical cooking temperatures will kill the virus in foods. Research has shown that heat treatment of at least 30 min at 60°C (140°F) kills the SARS coronavirus [4-6].

Coronaviruses are most commonly passed between animals and people and from person to person via droplet spread. These droplets are expelled from an infected individual by a sneeze or cough and can travel short distances through the air. If these droplets contact the mucus membranes (mouth, nose, eyes) of another person it can lead to infection. If the droplets end up on a surface and a person touches the surface and then their mucus membranes this can also lead to infection.

What can food handlers do?

Infected food handlers could introduce the virus to the food they are in contact with by coughing and sneezing or through hand contact. However, this is unlikely to occur if they follow standard good personal hygiene practices that reduce the risk of transmission of most foodborne illnesses. These practices include:

- Proper hand hygiene
- Cough/cold hygiene practices
- Avoiding close contact, when possible, with anyone showing symptoms of respiratory illness such as coughing and sneezing

Food handlers must wash hands:

- Before
 - Starting work
 - Handling cooked or ready-to-eat food
- After
 - Handling or preparing raw food
 - Handling waste
 - Cleaning duties
 - Using the toilet
 - Blowing nose, sneezing or coughing
 - Eating, drinking or smoking
 - Handling money

It is important that food handlers inform their employer, avoid preparing food for other people, and seek medical advice if they think they have symptoms of respiratory illness. Similarly, if they have been overseas to affected regions or in contact with persons who have, they should inform their employer and seek appropriate medical advice.

What can food business owners/managers do?

Usual good hygienic manufacturing or food preparation practices and thorough cooking will minimize the risk of transmission for any foodborne illness.

Notwithstanding, manufacturers (employers) still have an important role to play in preventing foodborne illness. They should:

- Ensure that staff are aware of SARS-CoV-2
- Staff that have been in affected regions or in contact with individuals who have recently travelled to these regions should seek medical advice
- Reinforce hygienic and good food handling practices
- Appropriate facilities must be provided for hand washing
- Ensure food handlers and external contractors are aware that they must report any signs/symptoms of respiratory illness before or during work
- Ensure that food handlers and other staff are not ill and are fit to work

- Support staff through access to medical advice and during convalescence

Disinfection strategies for non-health care settings.

Both SARS coronavirus and MERS coronavirus have been shown to be stable on surfaces and fomites for several days under ideal conditions [7-9]. Should you suspect that there is environmental contamination in your home or processing facility it is recommended that you use a 1.0% bleach solution (dilution 1:50 if household bleach at an initial concentration of 5% is used) to disinfect these surfaces following cleaning with a neutral detergent or soap [10, 11]. Individuals tasked with cleaning a suspected area of contamination need to ensure that they are utilizing appropriate personal protective equipment (PPE) to limit exposure (12).

- Properly fitted N-95 masks
- Goggles or face shield
- Disposable long-sleeved water-resistant gown
- Disposable gloves

Where to find more information about COVID-19.

Further information about COVID-19 including transmission, prevention and current status of the outbreak is available from multiple sources:

- U.S. Centers for Disease Control and Prevention (www.cdc.gov)
- California Department of Public Health (www.cdph.ca.gov)
- World Health Organization (WHO) (www.who.int)
- WHO Situation Reports ([COVID-19 situation reports](#))
- WHO COVID-19 Situation Report – 32 ([COVID-19 and food safety](#))
- Local county health departments

To learn more about the virology of SARS-CoV-2 the *This Week in Virology* podcast is hosted by a group of virologists and has several recent episodes on the topic (www.microbe.tv/twiv). The podcast is hosted by virologists including: Vincent Racaniello (Columbia University), Dickson Despommier (Columbia University – emeritus), Rich Condit (University of Florida – emeritus), and Kathy Spindler (University of Michigan).

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