

Guidelines for Prevention of SARS-CoV-2 Infection

Introduction

Coronaviruses are enveloped RNA viruses that are spherical in shape and characterized by crown-like spikes on the surface under an electron microscope, hence the name.

Coronaviruses can infect animals, including bats, pigs, cattle, turkeys, cats, dogs and ferrets. Certain coronavirus strains are also transmissible to humans and cause illnesses. Thus, coronaviruses can cause zoonotic diseases. Detailed investigations found that Severe Acute Respiratory Syndrome (SARS-CoV) was transmitted from animals to humans through contact with infected civet cats or bats; and Middle East Respiratory Syndrome (MERS-CoV) to humans through contact with dromedary camels or drinking camel milk.

In humans, symptoms common to respiratory ailments including stuffy nose, runny nose, cough, and fever. The clinical expression of SARS-CoV, MERS-CoV and SARS-CoV-2 is more serious than those of other strains of coronavirus. In some cases, more serious condition can follow, including pneumonia and respiratory failure.

Since 2020, COVID-19 cases have been reported in Chinese provinces and cities outside Wuhan, Hubei province of China, including Beijing, Tianjin, Shanghai and Guangdong. Cases also have been confirmed in other countries and regions such as Hong Kong, Macau, Japan, Thailand, South Korea and the United States. Most of the patients had been to Wuhan or Hubei Province. More patients were diagnosed with COVID-19 in Taiwan from January 21, and the patients had either history of travel or close contact with confirmed cases. Even though sporadic cases contracted the novel coronavirus in the community were reported, based on the current record, the risk of community-acquired infection is very low for the public.

There isn't a complete understanding of how SARS-CoV-2 spreads. At the early stage of the unexplained pneumonia outbreak in Wuhan in December 2019, most of the patients had some link to Huanan Seafood Market, a seafood and live animal market in Wuhan. Even though

environmental samples from the market tested positive for SARS-CoV-2, further literature suggested that infection didn't originate from the market only and the real source of infection remains unknown. Additionally, based on epidemiological data related to cases, cases linked to family clusters and identified among healthcare workers suggested that the virus is spread through droplets, direct or indirect contact with secretions of mouth or nose or fluids from an infected person.

According to the WHO and Chinese officials, the incubation period of the novel coronavirus between disease exposure to the onset of symptoms ranges from 2 to 12 days (7 days on average). However, based on the general view, the incubation period of COVID-19 could be up to 14 days.

Based on the current literature related to COVID-19, the clinical expression of COVID-19 can include fever, weakness, respiratory symptoms (mainly dry cough) and in some cases, breathing difficulties can follow. About 1 to 2 percent of the patients might develop severe pneumonia, adult respiratory distress syndrome (ARDS), multiple organ failure or shock, leading to death. Most of the deceased patients had concurrent chronic disease such as diabetes, liver disease, kidney disease or cardiovascular disease.

Prevention

There is no vaccine to prevent coronavirus infections. Daily preventative steps to take include avoiding affected regions, avoiding local hospitals or clinics unless necessary, avoiding eating uncooked meat or eggs, avoiding being in contact with animals and dead animals, and maintain good health habits.

Steps to practice good health habits are as follows:

1. Please keep your hands clean and wash your hands with soap frequently. If soap and water are not available, use an alcohol-based hand sanitizers. However, soap and water should be used preferentially if hands are visibly dirty. You should wash your hands immediately after coughing or sneezing; after using the toilet; and if your hands touch any secretions from your respiratory tract, stool or

body fluids such as urine. In addition, please refrain from touching your eyes, nose and mouth with your hands.

2. Pay attention to respiratory tract hygiene and cough etiquette
 - a. If you have respiratory symptoms, please wear a medical-grade face mask and keep at least 1 meter away from others while talking to them.
 - b. If your hands touch any secretions from your respiratory tract, please wash your hands with soap and water thoroughly.
 - c. If you develop a cough or other respiratory symptoms, you should wear a medical face mask. When your mask is contaminated by secretions of nose or mouth, please fold it, throw it into the trash immediately, and wear a new one.
 - d. You should cover your mouth and nose with a tissue or handkerchief when coughing or sneezing. If you don't have a tissue or handkerchief, cough or sneeze into your upper sleeve.
3. Use of masks
 - a. Medical-grade face masks are mainly used for preventing the spread of disease and protect people around you. People are advised to wear medical masks when you go to see a doctor or accompany a patient; when you have symptoms of respiratory infections; and if you go out with people with weak immune systems or chronic disease. You should wash your hands frequently to protect yourself from catching illness in other situations.
 - b. To wear a medical mask properly, you should ensure that the water-repellent side (usually green) faces outwards. You should not remove your mask when talking, coughing or sneezing to prevent the spread of disease. You should replace your face mask if it is visibly soiled.
 - c. Steps to put on a medical face mask:
 - i. Open the package and examine if the mask is damaged.
 - ii. Put the elastic bands around both ears, fit the metallic strip over the nose bridge and extend the mask to cover your chin.
 - iii. Press firmly down on the metallic strip so that it fits around your nose
 - iv. Ensure that there are no gaps
 - d. You don't need a face mask in open spaces, including walking

on the streets or doing outdoor exercises.

What to do while sick

If you have flu-like symptoms, including fever, headache, runny nose, sore throat, cough, muscle aches, fatigue/tiredness, and sometimes diarrhea. After your symptoms develop, you should rest, take and record your temperature regularly, drink water and eating nourishing food, observe your condition and take symptom-relieving drugs such as pain relievers/fever reducers to observe if they work. You should rest at home for at least 24 hours after the symptoms improve.

You should seek medical attention if your fever lasts longer than 24 hours or is accompanied by other symptoms, such as purulent nasal discharge and purulent sputum, severe vomiting or shortness of breath. You should inform the doctor of any history of travel, occupation, contact, and cluster (TOCC) when seeking medical attention. You should follow the triage arrangement at the hospital if you have a fever to ensure efficient medical care and the health of medical personnel.

You should avoid going to school or work, attending gatherings and visiting crowded or poorly-ventilated public spaces while sick. You should avoid using public transportation to prevent the spread of disease if you need to go outside.

While staying at home, you should stay in a specific room, keep good airflow in the house, and avoid close contact with other people in your home, such as eating at the same table, kissing, hugging or sexual contact. People living with the sick person should also pay attention to personal hygiene, wash hands frequently and refrain from touching eyes, nose and mouth with hands. Babies, children and the elderly or people with compromised immune system in the same household must keep at least 1 meter away from the sick person.

If the living environment requires disinfection, you can apply 1:100 diluted bleach (500 ppm). That is, household chlorine bleach (a 5-6% sodium hypochlorite solution, providing 50,000–60,000ppm available chlorine) is diluted in water at 1:100 to clean object surfaces, such as doorknobs, desks and switches. You can use disposable teaspoons (one teaspoon is about 20 cc), small Yakult bottles (one bottle is about 100

cc) and large plastic bottles (one bottle is about 1,250 cc) and follow the instructions below to make diluted bleach:

- a. Large amount: mix 100 cc of bleach (5 teaspoons or 1 small Yakult bottle) in 10 liters of water (8 large plastic bottles) and fully stir the solution before using.
- b. Small amount: pour 10 cc of bleach into 1 liter of water and fully stir the solution before using.

If public health staff informs you that you are identified as a contact of COVID-19 confirmed cases, you are required to adhere to home (self) isolation rules, not to go outside, and not to leave Taiwan. If any symptoms develop such as fever or respiratory symptoms during the active monitoring period, please make sure to wear a surgical mask and notify the local health authority to help you seek medical attention or call the toll-free Communicable Disease Reporting and Consultation Hotline, 1922 (or 0800-001922) or notify the responsible agency who issued a Home (Self) Isolation Notice for Contacts of 2019 Novel Coronavirus (2019-nCoV) Confirmed Cases to you to help seek medical attention. When seeking medical care, please inform the doctor of travel history, occupational exposure, and whether anyone else has similar symptoms.

Specific Group

Certain groups of people are advised to avoid gatherings during the COVID-19 outbreak, including those with chronic lung (including asthma), cardiovascular, kidney, liver, neurological, blood, or digestive (including diabetes) diseases; those with compromised immune systems requiring long-term treatment; and pregnant women.

Travel

Travelers are advised to arrange your travel plans as usual, avoid crowded places and remain attentive to the domestic disease situation and travel notices. Travelers are advised to avoid visiting areas under travel notice Level 3: Warning. For information on COVID-19 situation in Taiwan, please click this link (<http://at.cdc.tw/1d505Z>). For travel notice, please visit the Taiwan CDC website (<http://at.cdc.tw/X4B565>). If respiratory symptoms or fever develop within 14 days after returning to Taiwan, please inform the healthcare personnel of travel history and occupational exposure when seeking medical care.