

A cluster of stylized virus particles, represented as grey circles with radiating lines, is positioned above the main title.

# General questions

COVID-19 Prevention and Control

Compiled and translated by Chinese Centre for Disease Control and Prevention

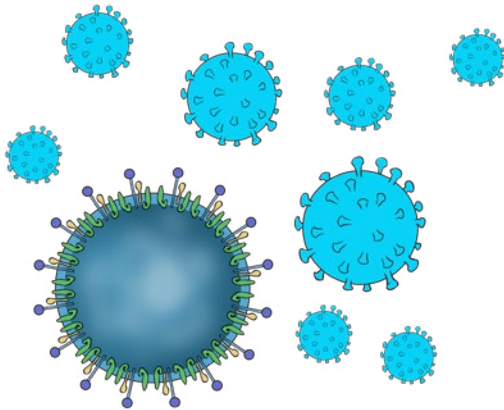
# General questions

## 1. What is the novel coronavirus (2019-nCoV)?

Viruses are non-cellular microorganisms, with small size, simple composition and one kind of nucleic acid, that can multiply only in living cells.

As a positive-sense single-stranded RNA virus, coronavirus is a large family of viruses that exist widely in nature. It is named after corona for the corona-looking spikes that protrude from the envelopes of the virus. Coronavirus can cause multiple diseases in humans and animals, including respiratory diseases, gastrointestinal diseases, neurological diseases such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

In the recent epidemic outbreak control, among the patients with pneumonia of an unknown cause first identified in Wuhan, the virus isolated from their lower respiratory tract is a new type of coronavirus, named as 2019-nCoV by the World Health Organization (WHO), which also named the disease caused by the virus COVID-19 (Coronavirus disease 2019).



As a Group Beta coronavirus, the 2019-nCoV has an envelope and round or oval particles with a diameter of 60-140nm, and is often polymorphic. 2019-nCoV is sensitive to ultraviolet rays and heat and be effectively inactivated by 56 ° C for 30 minutes and lipid solvents such as ether, 75% ethanol, chlorine-containing disinfectants,



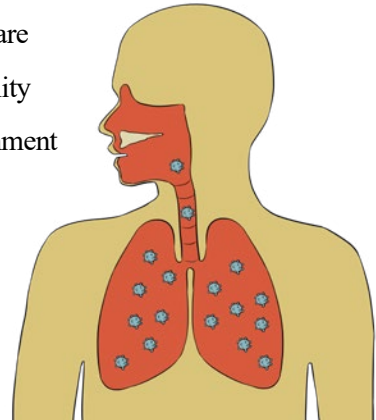
peracetic acid, and chloroform. However chlorhexidine cannot effectively inactivate the virus.

The genetic characteristics of the 2019-nCoV are significantly different from SARS-CoV and MERS-CoV. Current researches have shown that it has a homology of more than 85% with bat SARS-like coronavirus (bat-SL-CoVZC45).

(Reference: *Microbiology (Eighth Edition)*, National Prescribed Textbooks for the Undergraduate Programme between 2011 and 2015, *Health Education Manual for COVID-19 Control* issued by National Health Commission and China Health Education Center; *Diagnosis and Treatment Protocol for COVID-19 (Trial Version 7)* issued by National Health Commission and National Administration of Traditional Chinese Medicine; Press Conference of China-WHO Joint Mission on COVID-19 on February 24th, 2020)

## 2. What are the routes of transmission for 2019-nCoV?

Respiratory droplets and close contact transmission are the main routes of transmission. There is the possibility of aerosol transmission in a relatively closed environment for a long time exposure to high concentrations of aerosol. As novel coronavirus can be isolated from feces and urine, attention should be paid to aerosol or contact transmission by environmental pollution caused by feces and urine.



(Reference: *Diagnosis and Treatment Protocol for COVID-19 (Trial Version 7)* issued by National Health Commission and National Administration of Traditional Chinese Medicine)

## 3. Which population groups are more susceptible to the 2019-nCoV infection?

The whole population is susceptible. Whether or not individuals will be infected depends mainly on their contact with 2019-nCoV infected patients or other individuals

with asymptomatic infections. In the elderly and those with chronic underlying diseases, their conditions may progress faster, be more severe, and have a poorer prognosis after infection.

(Reference: *Health Education Manual for COVID-19 Control* issued by National Health Commission and China Health Education Center)

#### 4. What are the common symptoms after infection?

COVID-19 (Coronavirus disease 2019) refers to pneumonia caused by the 2019-nCoV infection, which is mainly manifested by fever, fatigue, and dry cough. A few patients have symptoms such as nasal congestion, runny nose, sore throat, myalgia and diarrhea. In many severe patients, breathing difficulty and/or hypoxemia occurs after one week, and those critical cases can quickly progress to acute respiratory distress syndrome, septic shock, and metabolic acidosis and coagulation dysfunction that are difficult to be corrected, and multiple organ dysfunction syndrome (MODS), etc. Notably, severe and critical patients may have moderate to low-grade fever or even no obvious fever during the course of the disease.

Some children and neonatal cases may have atypical symptoms, manifested as gastrointestinal symptoms such as vomiting and diarrhea, or only manifested as looking inactive and having shortness of breath.

Mild cases only show low-grade fever, mild fatigue, and no signs of pneumonia.

Most patients have good prognosis, and a few patients are critically ill. Deaths are more common in the elderly and those with chronic underlying conditions. The clinical course of pregnant women with COVID-19 is similar to that of patients of the same age. Symptoms in children are relatively mild



(Reference: *Diagnosis and Treatment Protocol for COVID-19 (Trial Version 7)* issued by National Health Commission and National Administration of Traditional Chinese Medicine)

## 5. How can we distinguish between common cold, influenza and 2019-nCoV infection?

First, the pathogens of these three diseases are different.

Second, the symptoms of the COVID-19

are different from those of the common cold and influenza.

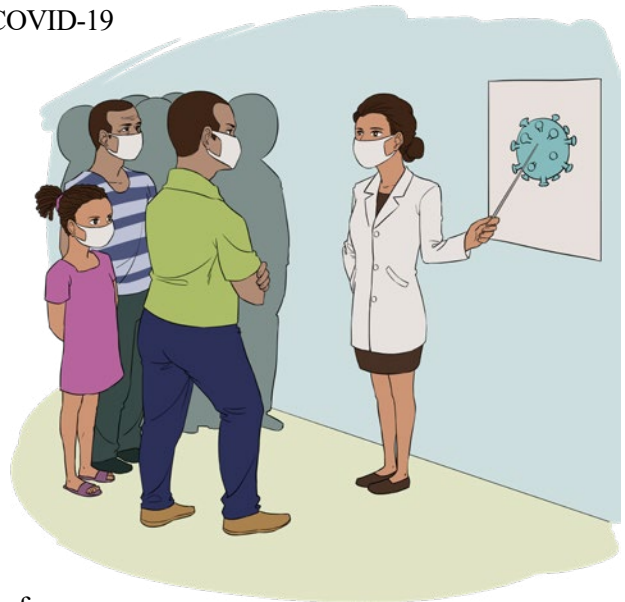
The common cold is usually manifested through upper respiratory symptoms, such as nasal congestion, runny nose, and sneezing. But there are no obvious fever, fatigue, headache, joint pain, aches and pains, or loss

of appetite. Generally speaking, for

patients of common cold, they have more severe upper respiratory symptoms, but mild constitutional symptoms.

Influenza is a contagious respiratory infection caused by influenza viruses, which is characterized by acute onset. Patients may develop symptoms such as high-grade fever, sore throat, headache, muscle aches, fatigue, and loss of appetite, etc.

The main symptoms of COVID-19 include fever, fatigue and dry cough, and a few patients also have symptoms of nasal congestion, runny nose, sore throat and diarrhea, etc. In mild cases, only low-grade fever and mild fatigue are observed, with no



symptoms of pneumonia. The diagnosis needs to be combined with epidemiological history and laboratory test results.

(Reference: *Health Education Manual for COVID-19 Control* issued by National Health Commission and China Health Education Center)

## 6. How long is the incubation period of 2019-nCoV infection?

Based on the current epidemiological investigation, the symptoms of COVID-19 may appear in as few as 1 day or as long as 14 days after exposure, mostly 3-7 days.

(Reference: *Diagnosis and Treatment Protocol for COVID-19 (Trial Version 7)* issued by National Health Commission and National Administration of Traditional Chinese Medicine)

## 7. Will the 2019-nCoV mutate?

As a novel infectious disease, the possibility of virus mutation over a period of time cannot be ruled out. Based on the knowledge of coronavirus or virology as a whole, no mutation has been found. The differences between the viruses detected are very small, less than 1%. These differences are still being identified and further monitoring is needed. (Press Conference of the State Council Information Office on January 26th, 2020)

The whole-genome sequencing of 104 2019-nCoV strains isolated from different locations confirmed that the homology reached 99.9%. Based on this result, the WHO investigation group concluded that no significant mutation had been found. (Press Conference of China-WHO Joint Mission on COVID-19 on February 24th, 2020)



