

CORONAVIRUS 2020

SURVIVAL HANDBOOK:

Facts, Symptoms,
Modes of Transmission,
Prevention & Treatment



Easy to Read



Illustrated



55 pages



Protect yourself with science-backed information
from a US-Trained Physician. (**COVID19 Edition**)

DR. JERRY ABRAHAMSON

Coronavirus 2020 Survival Handbook:

Facts, Symptoms, Modes of Transmission, Prevention & Treatment.

DISCLAIMER

The content of this handbook is for informational purposes only; and is not meant to substitute medical advice provided by your personal physician.

By providing the information contained herein, the author does not intend to diagnose, treat or cure any disease or medical condition.

If you're in the United States and are experiencing a medical emergency, dial 911 or call for emergency medical assistance.

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Curis AI Inc.
600 California street,
San Francisco, CA 94108

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How it all started.

In December 2019, there had been an increase in pneumonia cases in China. Further investigations demonstrated it was due to an unknown virus now named the '**2019 novel coronavirus**' (2019-nCoV). There are other strains of 'coronaviruses'; more on that later.

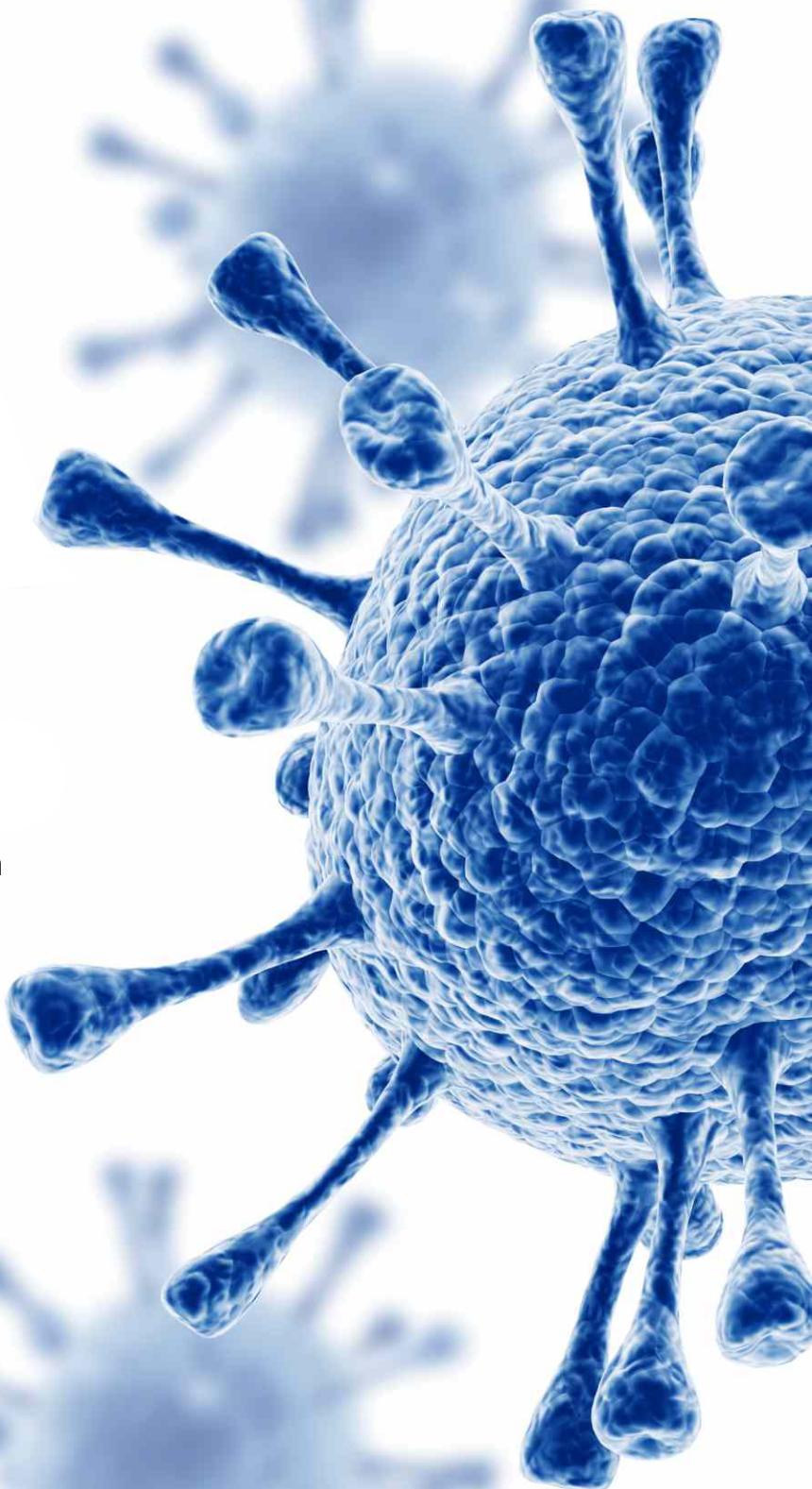


What is Known

We'll take a brief overview of what scientists and doctors know about the virus as at the time of writing this book (February 2019).

There is a good chance that more information will be uncovered about this virus, so I will continue to update this book.

The World Health Organization (WHO) announced that the coronavirus outbreak is now a 'global public-health emergency' on January 30. For the time being, the UN agency does not advise limiting travel or trade.

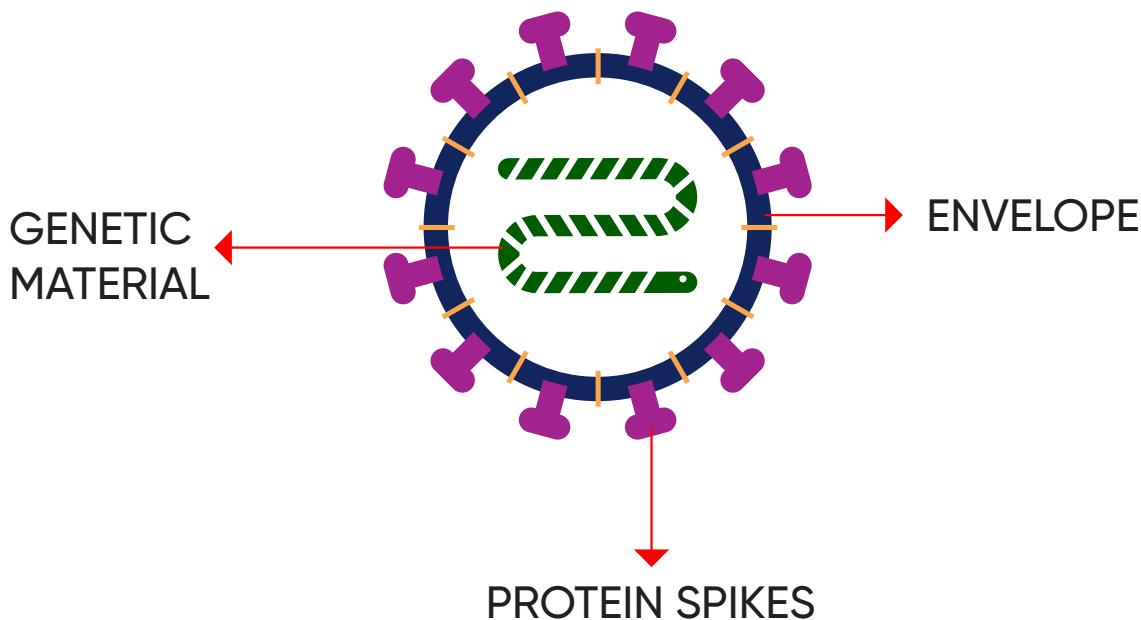


What is a Coronavirus?

Coronaviruses are a large group of viruses. They consist of a core of genetic material surrounded by an envelope with protein spikes which look like a crown. '**Corona**' is the Latin name for 'crown' and that's how these viruses get their name.

CORONA VIRUSES

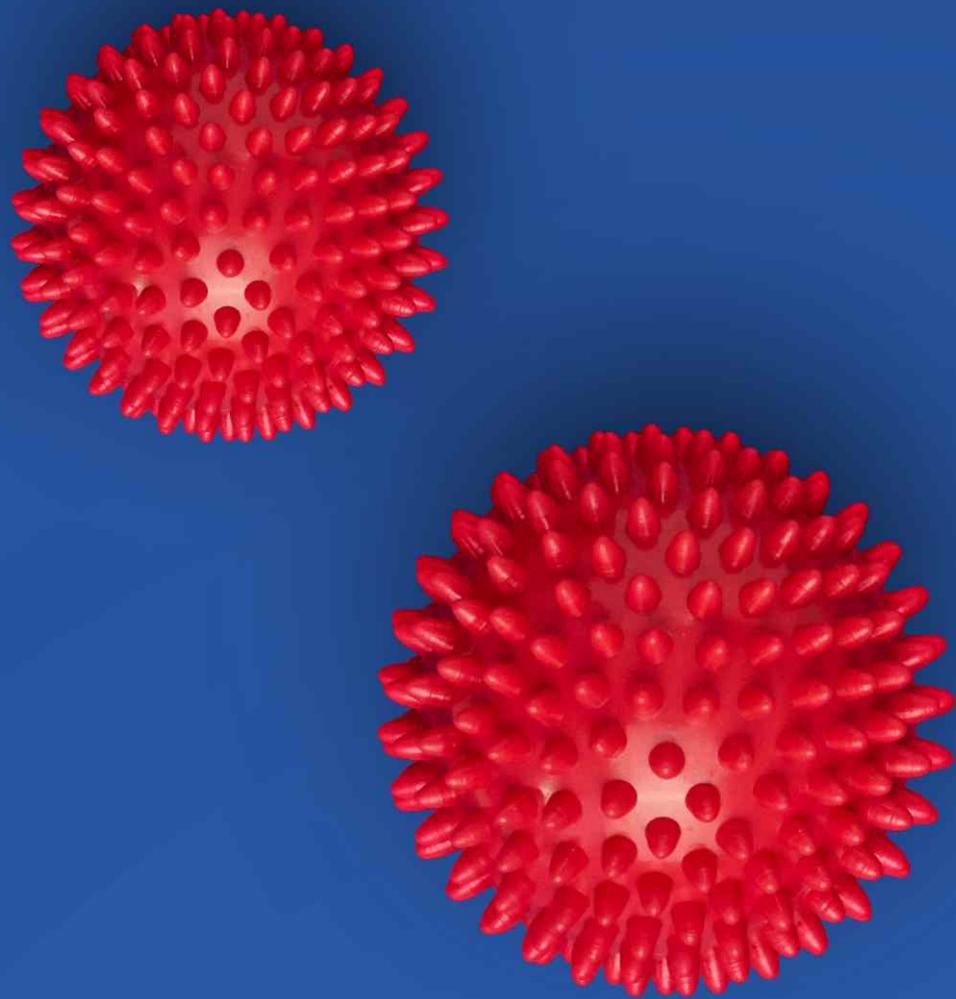
Large Group of Viruses



Types of Coronaviruses?

There are different types of coronaviruses such as severe acute respiratory syndrome coronavirus (SARS-CoV) first identified in China in 2003, and the middle eastern respiratory syndrome coronavirus (MERS-CoV) initially identified in Saudi Arabia in 2012.

Some cause respiratory (common cold, pneumonia) and or gastrointestinal diseases. In most cases, these symptoms are mild; however, some types of corona viruses cause severe infections.



The 2019 novel coronaviruses (2019-nCoV)

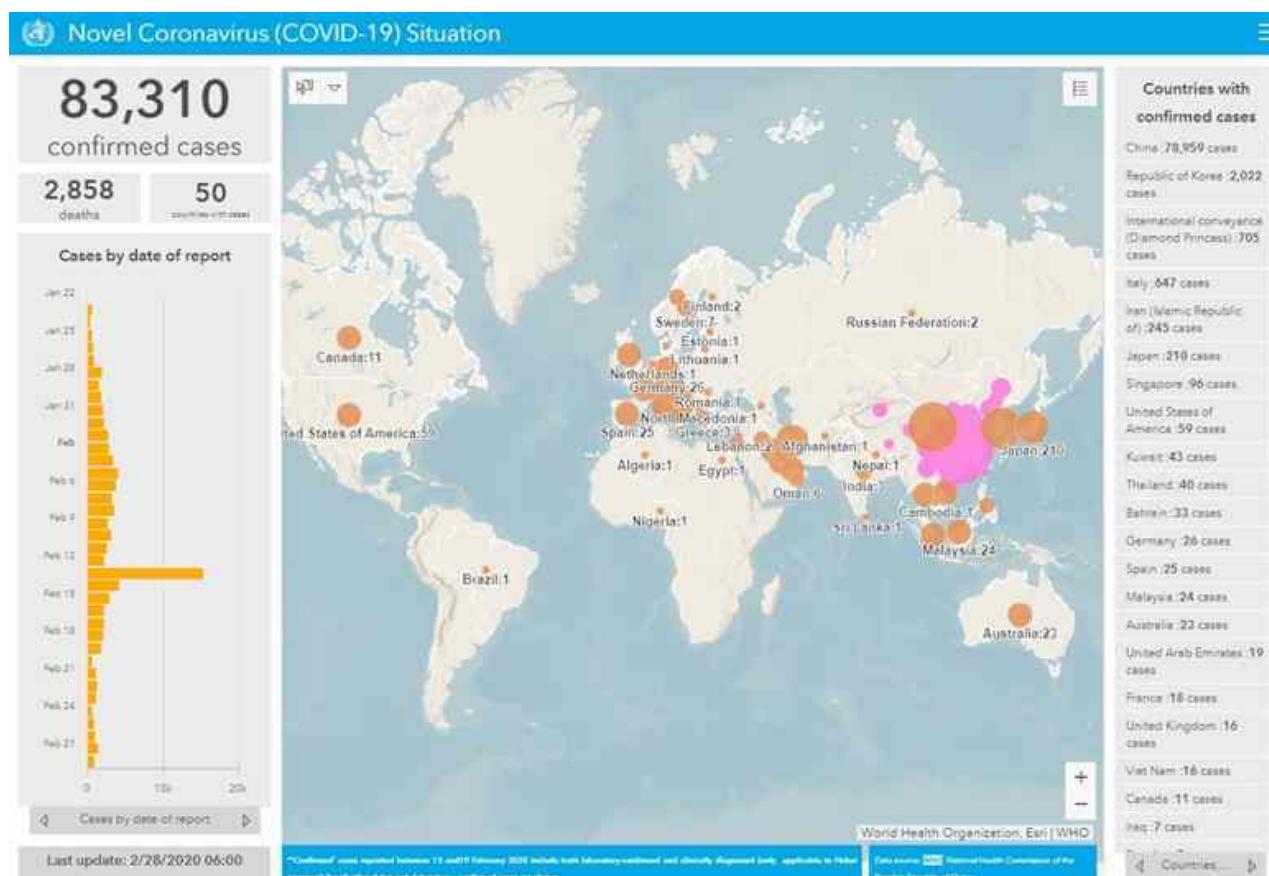
The 2019 novel coronavirus (2019-nCoV), which this book is all about, was first identified in China in December 2019.

It was initially discovered in pneumonia patients that had been associated with a seafood and live animals' market located in the city of Wuhan, the sprawling capital of Central China's Hubei province.

This strain of coronavirus has now spread to thousands of people in China and several countries around the world.



Right now, there are more than 83,000 reported cases of the 2019 novel coronavirus infection mostly in China; but also in the USA, Canada, Australia, Lebanon, Taiwan, the United Kingdom, Romania, Russia, Afghanistan, Brazil, Iran, Iraq Austria, Bahrain, Georgia, Spain, Singapore, Israel, Belgium, Egypt, South Korea, Cambodia, Lithuania, Sweden, Sri Lanka, Oman, India, Malaysia, Germany, Switzerland, Greece, Nigeria, Azerbaijan, Japan, Mexico, United Arab Emirates, Vietnam, Italy, Nepal, North Macedonia, Finland, Croatia, Algeria, Denmark, Thailand, Norway, The Philippines, Ireland, France, Pakistan, The Netherlands, Kuwait, New Zealand, Estonia, and Belarus.



What is COVID-19?

COVID-19 is an infectious disease caused by the most recently discovered coronavirus. This new virus and condition were unknown before the outbreak began in Wuhan, China, in December 2019.



Origin of the 2019 novel coronavirus (2019-nCoV)

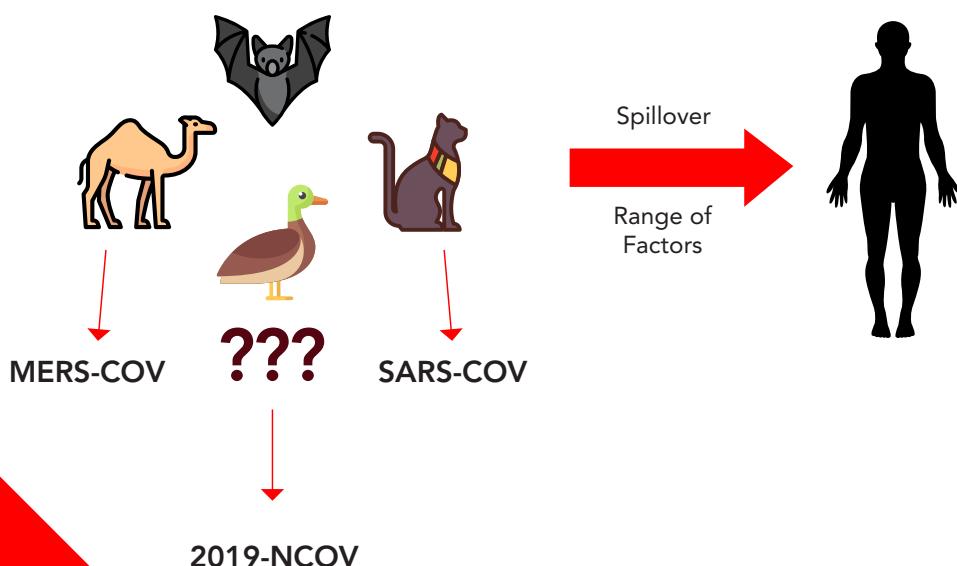
Coronaviruses circulate in certain animals - bats, camels, civet cats, and can occasionally infect people in a procedure called 'spillover' because of mutations in the virus; enhanced contact between animals and humans etc..

Even though the animal reservoir of this 2019 novel coronavirus is unknown, the most probable ecological reservoirs for 2019-nCoV are bats.

Nonetheless, it's thought that the virus jumped the species barrier to people from a different intermediate animal host. This intermediate animal host might be a domestic food animal, a wild creature, or even a domesticated wild animal that has not been identified.

ORIGIN OF THE VIRUS

Circulates in a range of animals



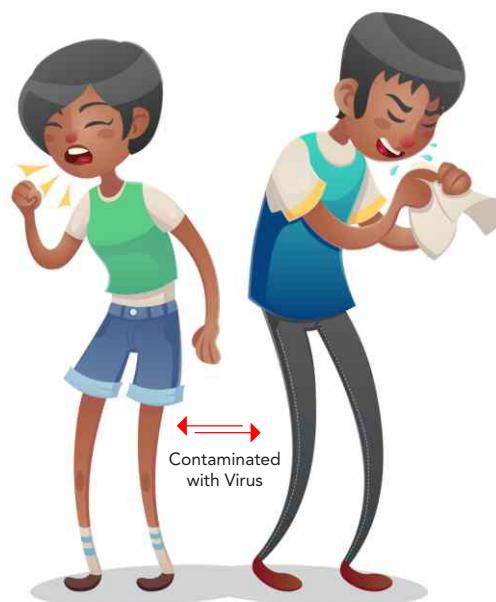
Transmission of 2019 novel coronavirus (2019-nCoV)

Scientists and physicians have not determined the exact mode of transmission of this strain of coronavirus; however, respiratory viruses are usually transmitted through droplets created when an infected person coughs or sneezes or through an object that has come in contact with an infected person.

Most people infected with the 2019 novel coronavirus will only experience mild symptoms; especially at the early stages of the infection. It's, therefore, possible to contract COVID-19 from somebody who has, by way of instance, only a mild cough and doesn't feel sick.

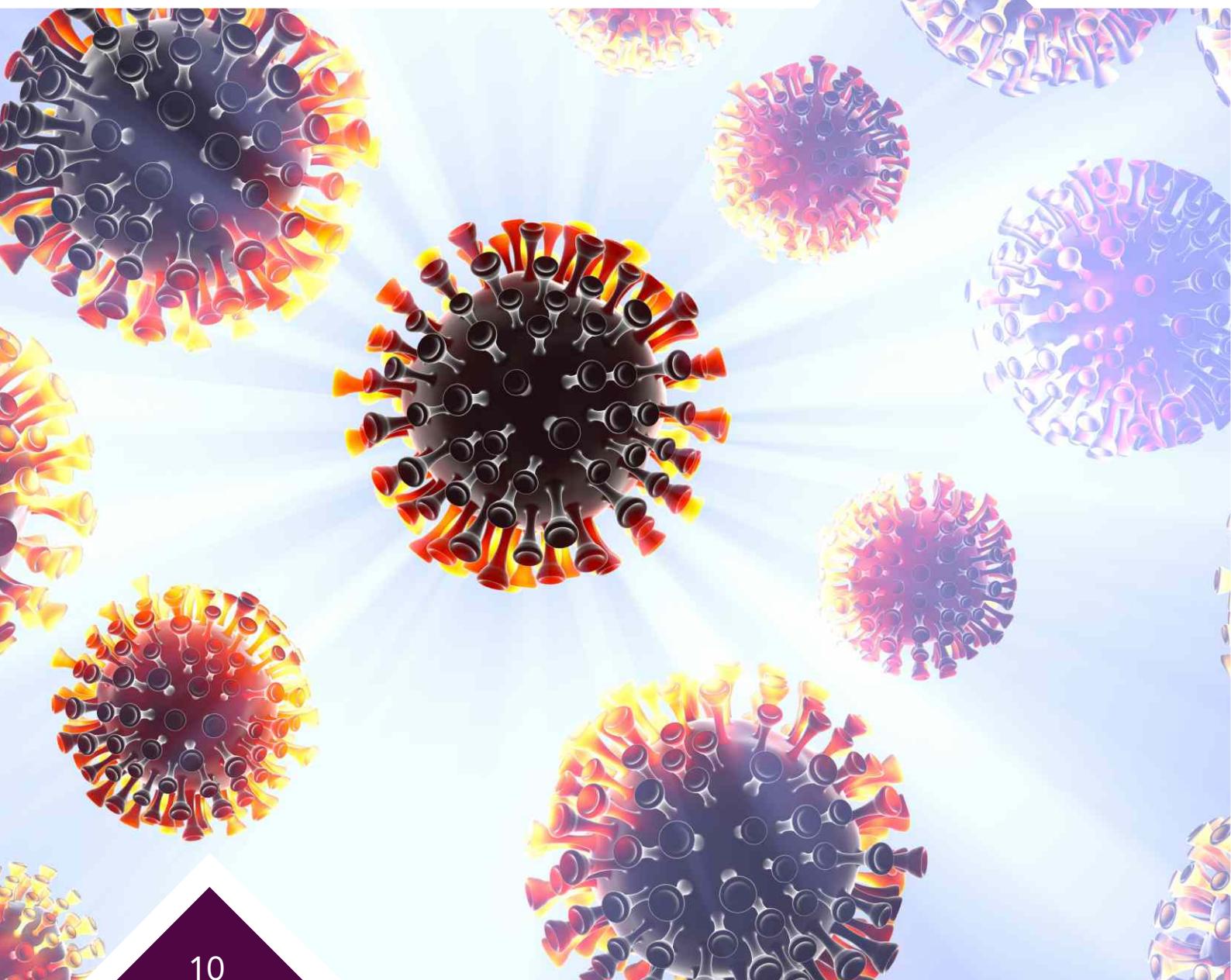
TRANSMISSION

Exact dynamics yet to be determined generally



How long is the incubation period for COVID-19

"Incubation period" refers to the time between catching the virus and starting to have symptoms of this illness—most estimates of the incubation period for COVID-19 range from 1-14 days, most commonly 5 days.



How long does the virus survive on surfaces?



It's not known just how long the 2019 novel coronavirus (2019-nCoV) survives on surfaces, but it appears to act the same as other coronaviruses.

Studies indicate that coronaviruses (such as preliminary findings on the 2019 novel coronavirus) may linger on surfaces for a couple of hours or up to several days. This survival period might vary under different conditions (e.g. kind of surface, temperature or humidity of the surroundings).

If you suspect a surface may be infected, wipe or spray it with a disinfectant (such as lysol, clorox etc) to kill the virus and protect yourself and others. Clean your hands up to your elbows with an alcohol-based hand sanitizer or wash them with soap and water. Avoid touching your eyes, mouth, or nose.



Groups at Risk

People most at risk of contracting the 2019 novel coronavirus include care providers for infected patients (family members, doctors, nurses, paramedics etc.), and individuals in close contact with animals like live animal market workers.



GROUPS MOST AT RISK

Close contact with animals



**Close contact
with animals**



**Live Animal
Market Workers**



**Caring for those
with infection**

How likely am I to get infected with 2019-nCoV?

The risk is dependent upon where you live or where you've travelled recently. The probability of infection is higher in locations where many people have been diagnosed with COVID-19. More than 95% of all COVID-19 instances are happening in China, with the vast majority of those at Hubei Province.

For people in most other parts of the world, your risk of getting COVID-19 is currently low, however, it's essential to be aware of the situation and preparedness efforts in your area.

Here in the United States, the city of San Francisco and Orange County have declared a state of emergency to ensure their cities are prepared to combat the spread of COVID19.



Can I get infected with 2019-nCoV from my pet?

No. There is no proof that pets such as dogs and cats have ever been infected with or could spread the 2019 novel coronavirus.

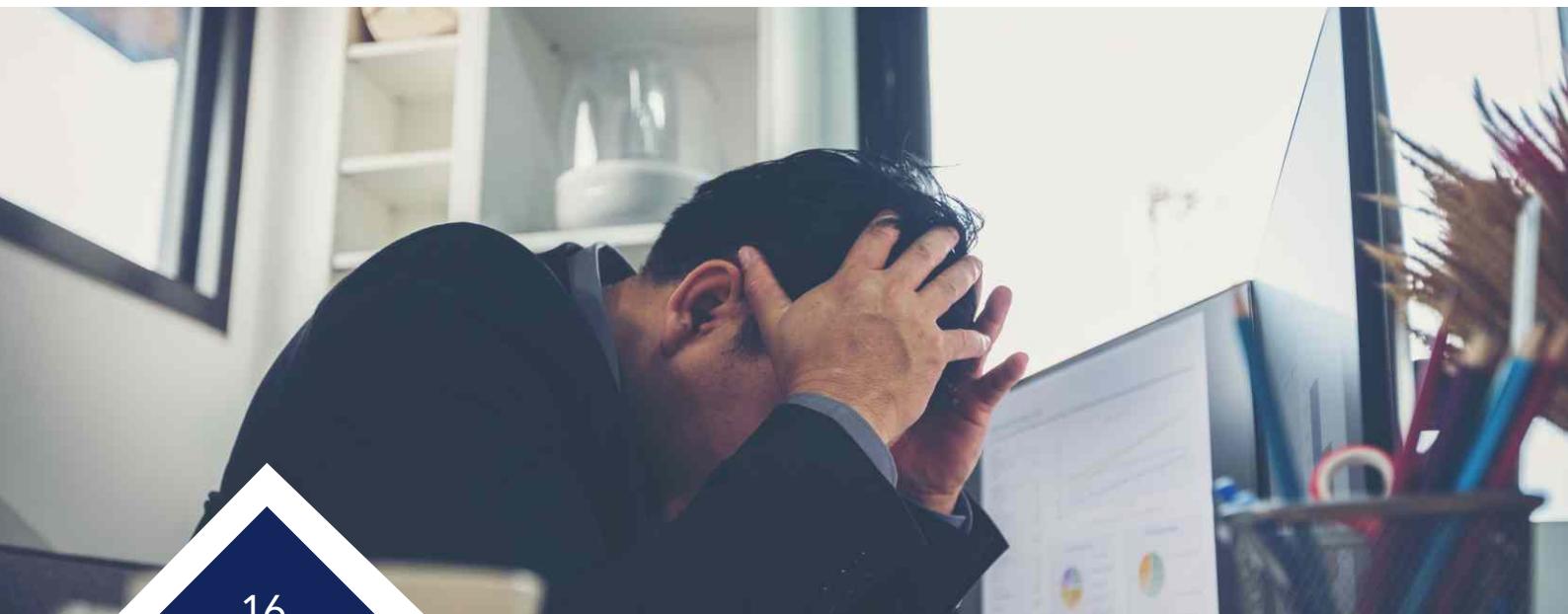


Symptoms of 2019 novel coronavirus (2019-nCoV)

People infected with the COVID19 virus develop lots of symptoms which range from mild to severe. Most common of these symptoms are fever, shortness of breath, fatigue, and dry cough. However, some individuals might experience body pains and aches, nasal congestion, runny nose, sore throat or nausea.

Many people today become infected but do not develop any symptoms and do not feel unwell. About 80 per cent will recover from the illness without receiving special treatment.

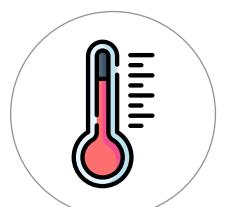
Approximately 1 out of every 6 people that get infected with the COVID-19 virus gets severely ill and develops trouble breathing, pneumonia, occasionally kidney failure and death. Older individuals, and people with underlying medical issues such as hypertension, heart issues or diabetes, are more likely to develop severe illness.



SYMPTOMS

What is known so far?

Mild —————→ Severe



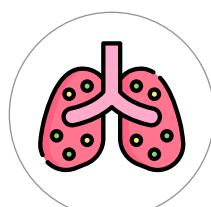
Fever



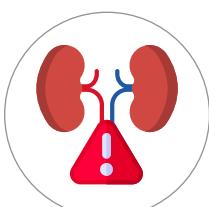
Cough



Shortness of Breath



Pneumonia

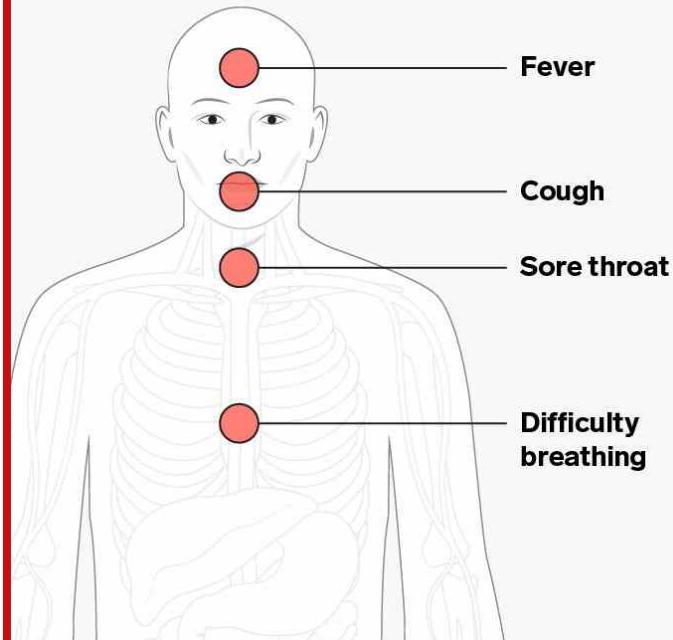


Kidney Failure



Death

Wuhan virus symptoms



ADVICE FROM THE CDC:

- Avoid contact with sick people, animal markets, and live or dead animals (including uncooked meat).
- Wash hands often with soap and water for at least 20 seconds.
- If you feel sick with fever, cough, or difficulty breathing, seek medical care right away.
- Do not travel while sick.
- Cover your mouth and nose with a tissue or your sleeve when coughing or sneezing.

Mortality rate - not yet known

Diagnosis

A test called PCR (polymerase chain reaction) or Real transcriptase Polymerase chain reaction(RT-PCR) Both are effective at identifying the virus based on its genetic fingerprint, but RT-PCR is faster and the preferred diagnostic test for the coronavirus.



In RT-PCR, The RNA population is converted to cDNA by reverse transcription (RT), and then the cDNA is amplified by the polymerase chain reaction .The cDNA amplification step provides opportunities to further study the original RNA species, even when they are limited in amount or expressed in low abundance. Common applications of RT-PCR include detection of expressed genes, examination of transcript variants, and generation of cDNA templates for cloning and sequencing.

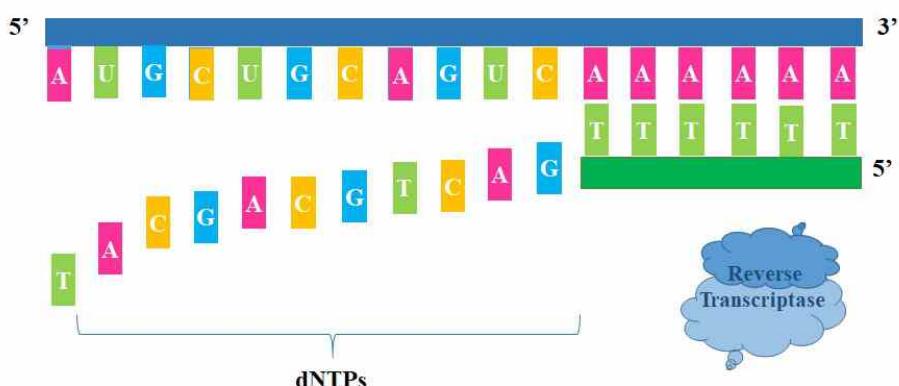
- 1 a. **RNA**
RNA consist of Start codon AUG and ends with poly A tail



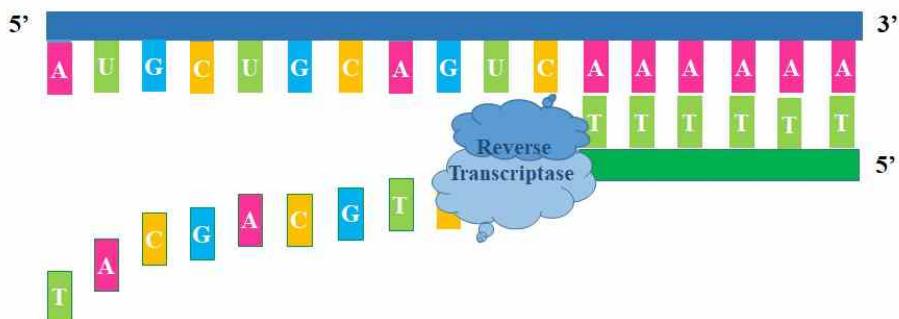
- b. **Oligo dT Primer**
Oligo dT Primer is binding to RNA poly A tail



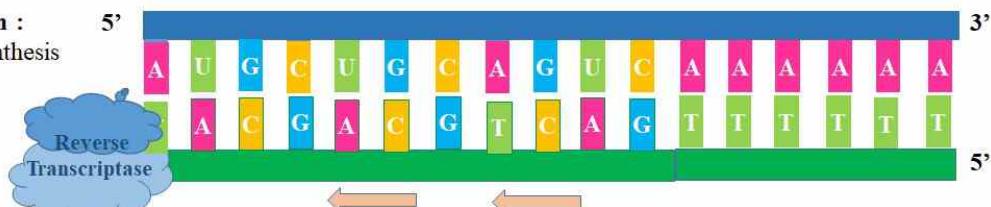
- c. Reverse Transcriptase
and
dNTPs



- d. **Reverse Transcriptase** is an enzymes binds to oligo dT primer and synthesises the cDNA by adding dNTPs



- e. **RNA hybrid formation :**
First - strand cDNA synthesis



f. complimentary DNA



2. a. **Amplification of cDNA**
with Specific Primers
and Taq Polymerase



©Lokesh Thimmana, under the guidance of Dr. G. Mallikarjuna, Assistant Professor, Molecular Biology, Agri Biotech Foundation.



Treatment

Right now, there are no known treatments or vaccines for the 2019 novel coronavirus (2019-nCOV). Supportive care is the official management protocol.

On the brighter side, potential vaccines and drugs are presently on clinical trials. The FDA and WHO are coordinating efforts to develop drugs and vaccines to prevent and cure COVID-19.

No specific medication | Supportive Care | No Vaccine

Treatment and Vaccines are in development



Are antibiotics effective in preventing or treating the COVID-19?

No. Antibiotics are not effective at treating viruses; they're only effective with bacterial infections.

A virus causes COVID-19, so antibiotics are ineffective at treating it. Antibiotics shouldn't be utilized as a way of treatment or prevention of COVID-19. Consult your doctor before taking any antibiotics.



Prevention of the 2019 novel coronavirus (2019-nCoV)

You can prevent getting infected and protect others by doing the following:

- *Wash your hands frequently and thoroughly with soap and water, or clean them with an alcohol-based gel sanitizer.*

Why is this important? Washing your hands will destroy the virus and cut the chain of infection.



- Keep a safe distance (3 feet) from anyone sneezing or coughing.

Why? When sneezing or coughing, the expelled air contains droplets that might contain particles of the virus. If this happens when you are close, you may breathe in these droplets and contract the COVID-19 virus, if that person is infected.



- Don't touch your eyes, nose, or mouth with unwashed hands.

Why? Our hands are the primary source of many infections. Because we use our hands to do almost everything, it is at a high risk of getting inoculated with viruses. Contaminated hands can carry the virus to your mouth, eyes, or nose, and could eventually infect the entire body.



- Make sure you and the people around you observe respiratory hygiene. This entails covering your nose and mouth with a tissue, paper towel or your elbow when coughing or sneezing. Always dispose of used tissue or paper towels.

Why? As discussed above, viruses spread through air droplets; and by doing this, you protect anyone around you from various viruses like Influenza, common cold, and the 2019 novel coronavirus.



- Don't leave home when you feel sick. If you develop a high fever, cough, and difficulty breathing, get medical attention immediately. It is essential to follow the directives of your local health agency.

Why? Your local health agency has the most up-to-date information available regarding the situation in your state or province.

Letting them know as soon as possible enables them to direct you to the best suitable health centre. This will help to protect everyone and stop the spread of the virus.



- Follow the latest reports on COVID-19.

Why? Your local health authorities' reports are the most up-to-date regarding the infection's spread in your location. They are in the best position to provide information on what you should do to protect yourself and your loved ones.



Prevention

Limited Geographic Spread

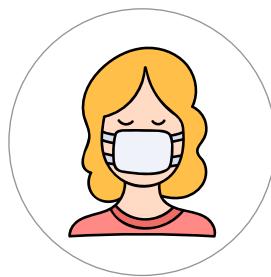
Standard Hygiene Measures



Covering Mouth & Nose



Avoiding Close contact with those who are sick



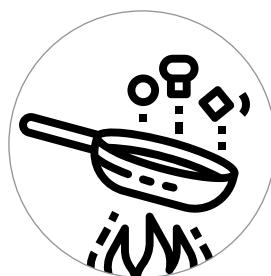
Masks and PPE Health care setting



Handwashing



Avoiding Unnecessary contact with animals



Through Cooking



Stay Home



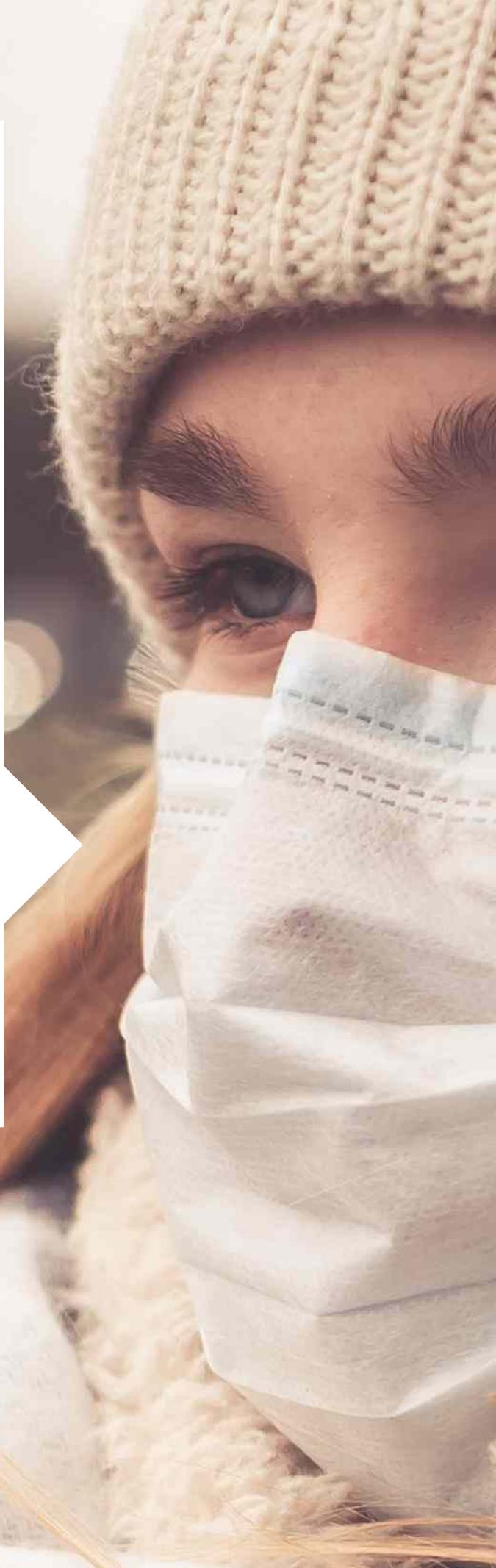
Seek Medical Care Early



Share Travel History

Is wearing a mask a must?

The mask is needed only in case of respiratory symptoms like cough; If not, there is no need for the use of a medical mask. The WHO says that the use of a medical mask by people suspected to have symptoms of COVID-19 or the people caring for them is a must. All health-workers attending to them must also use a mask.



The WHO advises against using medical masks unnecessarily; so as to avoid wastage of valuable resources and the misuse of masks.

Use a mask only if you have cough or are sneezing; suspect you're infected with the COVID-19 virus; or caring for a suspected case of COVID-19 infection.



The best ways to protect yourself are frequent hand washing; covering your mouth when coughing; and maintaining a safe(3 feet) distance from anyone coughing or sneezing.



How to use and dispose of a medical mask?

Only health-workers, caregivers, people with respiratory symptoms, and individuals living near infected areas must use the mask.





Clean your hands using alcohol hand rub or water and soap before handling the mask.



Inspect for holes or defects in the mask.



Put the metal strip side upward on your nose.





Make sure the coloured side faces outward.

Cover your mouth and press the metal-strip over the top of your nose, so it takes its shape.



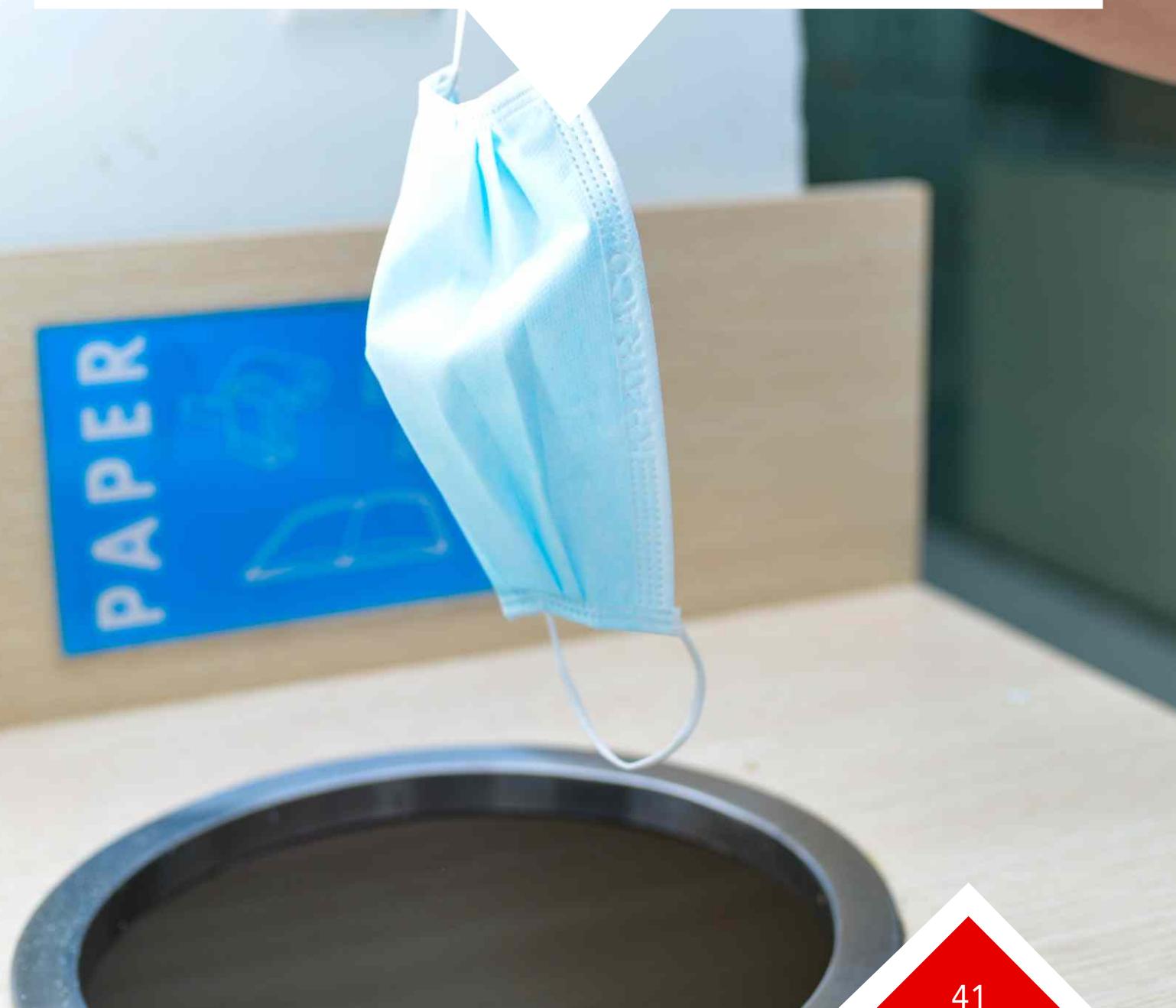
Make sure it covers your mouth and chin.



When taking off the mask, only touch the strips behind your ears. To avoid contaminating your hands, make sure you don't touch the part of the mask covering your mouth and nose.



Put the mask away in a covered bin.



Clean your hands again using an alcohol-based gel or soap and water after removing the mask.



Measures for individuals who visited, or live in an area where COVID-19 is spreading

Follow the measures listed above.

- Don't leave home when you feel sick, have a headache, or runny-nose until you feel well.

Why? Limiting contact with people and avoiding unwarranted visits to hospitals or clinics, will allow these facilities to work efficiently, and be better prepared to protect you from COVID-19 and other infections.



- If you have a fever, cough, or difficulty breathing; call your doctor, 911 or the coronavirus hotline in your location. This could be due to some respiratory infection or a severe illness.

When you speak to the first responder, make sure you inform them of any recent travel, or contact with anyone who recently travelled.

Why? Seeking medical attention as soon as possible ensures you're directed to the best health facility equipped to cater to your illness.



Is it safe to receive mail from a location where COVID-19 has been reported?

Yes, it is safe to receive mail from locations where COVID19 has been reported. The possibility of commercial packages being contaminated by the COVID19 virus is low; the virus cannot survive the hours and distance mail packages cover before they get to you.



US State Department & CDC Travel Advice.

The CDC, and the US State Department have released travel notices to inform American citizens and residents about health challenges that may affect their safety while outside the country.

The US State Department uses these safety guidance levels to classify different geographic locations based on the risk of getting infected with the COVID19 virus. Level 1: Apply standard precautions to Level 4: Cancel travel plans.

CDC COVID-19 warnings for US travelers

■ LEVEL 1:
Practice usual
precautions

■ LEVEL 2:
Practice enhanced
precautions

■ LEVEL 3:
Avoid nonessential
travel

■ LEVEL 4:
Do not travel



If travelling to a location where the COVID19 virus has been reported, the CDC recommends that you should:

- Stay away from sick individuals.
- Don't touch your mouth, eyes, or nose without washing your hands.
- Carry a hand sanitizer with you all the time, and use it frequently.

Here is a list of affected locations and the CDC's guidance as of February 25, 2020:

- China (Level 3)
- South Korea (Level 3)
- Japan (Level 2)
- Italy (Level 2)
- Iran (Level 2)
- Hong Kong (Level 1)



Are there things I should not do?

The following **ARE NOT** effective against the COVID-2019 virus and could harm you:

- Wearing multiple masks
- Taking traditional herbal remedies
- Smoking

If you have a fever, cough, or difficulty breathing; call your doctor, 911 or the coronavirus hotline in your location. This could be due to some respiratory infection or a severe illness. The sooner you get medical attention, the better for yourself and everyone.



If everyone does their part, we can put an end to the 2019 novel coronavirus, and make history together!

Thanks for reading this handbook! Cheer to health & prosperity!

2019 novel coronavirus compared to other major viruses

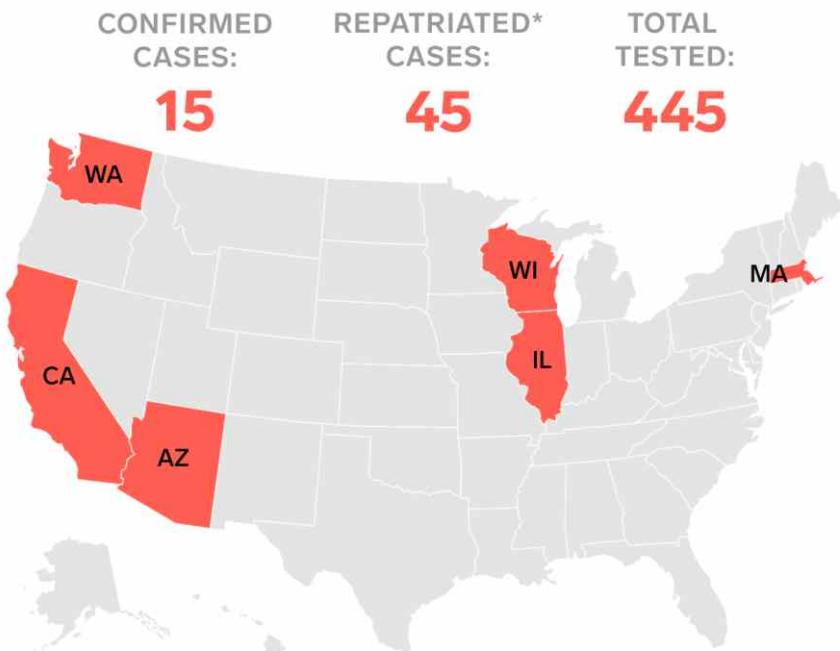
VIRUS	YEAR IDENTIFIED	CASES	DEATHS	FATALITY RATE	NUMBER OF COUNTRIES
Ebola**	1976	33,577	13,562	40.4%	9
Nipah	1998	513	398	77.6%	2
SARS	2002	8,096	774	9.6%	29
MERS*	2012	2,494	858	34.4%	28
COVID-19**	2020	82,548	2,810	3.4%	45

Sources: Johns Hopkins, CDC, World Health Organization, New England Journal of Medicine, Malaysian Journal of Pathology, CGTN

*As of November 2019 **As of February 27, 2020

The US has reported 60 coronavirus cases in total, including 45 repatriated citizens.

Spread of the COVID-19 in US



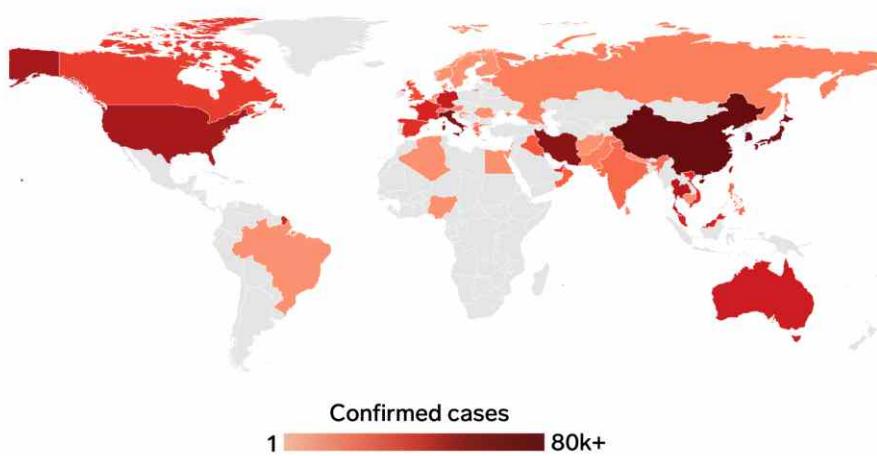
*Includes persons from Diamond Princess cruise ship and evacuees from Wuhan, China.

Source: CDC

Updated as of February 25, 2020.

Global spread of COVID-19

TOTAL DEATHS:	CONFIRMED CASES:	TOTAL RECOVERED:	COUNTRIES IMPACTED:
2,810	82,548	30,310	50



Updated as of February 27, 2020.

Glossary

2019-nCoV: An abbreviation for the 2019 novel coronavirus.

Antibiotics: Medicines used to treat diseases caused by bacteria.

CDC: An abbreviation for the centers for disease prevention and control, a US government agency.

COVID19: The disease caused by the 2019 novel coronavirus

Disinfectant: a chemical designed to inactivate or kill microorganisms.

Gastrointestinal: Relating to the stomach and intestines.

Incubation period: The period between exposure to a disease causing agent(virus, bacteria etc) and the appearance of symptoms.

Mutation: The changing of the structure of a gene, resulting in a variant form that may be transmitted to subsequent generations, caused by the alteration of single base units in DNA, or the deletion, insertion, or rearrangement of larger sections of genes or chromosomes.

Pneumonia: Inflammation of the lungs caused by bacteria or viruses, in which the lung's air sacs fill with pus and may become solid.

Polymerase chain reaction: A technique in molecular genetics that permits the analysis of any short sequence of DNA (or RNA) even in samples containing only minute quantities of DNA or RNA.

Reverse transcriptase Polymerase chain reaction: A laboratory technique combining reverse transcription of RNA into DNA (in this context called complementary DNA or cDNA) and amplification of specific DNA targets using polymerase chain reaction(PCR). It is primarily used to measure the amount of a specific RNA.

WHO: An abbreviate for the world health organization, a united nations agency.

References

Centers for disease prevention and control(CDC)
US State Department
World Health Organization(WHO).



I wrote this handbook to combat the rampant dissemination of false information about the coronavirus. In situations like these, one cannot overemphasize the importance of factual information.

I'm in the process of translating this handbook into as many languages as possible. If you speak a second language and would love to support, reach out via email to hello@curis.ai.

Thanks for purchasing this book; I hope you enjoyed it and learnt a thing or two. If you did, please kindly leave a nice review and share with your friends and loved ones so everyone can be prepared to combat the coronavirus.