



COVID-19 Update Article (27th March 2020)

No matter where you go online these days, there is bound to be discussion of coronavirus disease 2019 (Covid-19). Few individuals are even making outrageous claims that the new coronavirus causing the pandemic was engineered in a lab and deliberately released to make people sick. A new study debunks such claims by providing scientific evidence that this coronavirus arose naturally.

The reassuring findings are the result of genomic analysis conducted by an international research team. Partly supported by NIH- In their study doctors and researchers used sophisticated bio-informatics tool to compare publicly available genomic data from several coronaviruses, including the new one that causes COVID-19.

What is 2019 Novel Coronavirus (COVID-19)?

A new (novel) respiratory virus first identified in Wuhan, Hubei Province, China.

What is COVID-19?

On February 11, 2020, the World Health Organization (WHO) announced COVID-19 as the official name of the disease responsible for causing the 2019 novel coronavirus outbreak. The breakdown of this new name COVID-19 is "CO" for Corona, "VI" for virus, "D" for disease, and "-19" for 2019.

How does the COVID-19 virus spread?

When the virus was first detected in Wuhan City, China, the people infected reported some link to a live animal market, suggesting animal-to-person spread, the virus is now spreading from person-to-person. Person-to-person spread is now the main way the COVID-19 virus is spreading, meaning through

close contact (within 6 feet/2 meters) with someone who is infected with the virus. The COVID-19 virus is thought to spread through respiratory droplets produced when a person infected with the virus coughs or sneezes. These droplets can land in mouth or noses of people nearby and possibly be inhaled into the lungs. These droplets can also land on surfaces that people touch; if people aren't washing their hands and frequently touched objects often, they can spread the virus when they touch their face (mouth, nose, or eyes) after touching these surfaces. It's important to note that person-to-person spread can happen on a continuum. Some viruses are highly contagious (like measles), while other viruses do not spread as easily. The COVID-19 virus seems to be spreading easily and sustainably in the areas or communities affected by the virus (community spread). Investigations are ongoing to learn more about the transmissibility, severity, and other features associated with the COVID-19 virus

How Coronavirus genomes are spread and analysed?

The researchers began by homing in on the parts of the coronavirus genomes that encode the spike proteins that give this family of viruses their distinctive crown-like appearance. All coronaviruses rely on spike proteins to infect other cells. But, over the time, each coronavirus has fashioned these proteins a little differently, and the evolutionary clues about these modifications are spelled out in genomes.

The genomic data of the new coronavirus responsible for COVID-19 show that its spike protein contains some unique adaptations provides special ability of this coronavirus to bind to a specific protein on human cells called angiotensin converting enzyme (ACE2). A related coronavirus that causes severe acute respiratory syndrome (SARS) in humans also seeks out ACE2.

Existing computer models predicted that the new coronavirus would not bind to ACE2 as well the SARS virus. However, to surprise, the researchers found that the spike protein of the new coronavirus actually bound far better than computer predictions, likely because of natural selection on ACE2 that enabled the virus to take advantage of a previously unidentified alternate binding site. Researchers said this provides strong evidence that the new virus was not the product purposeful manipulation in a lab. In fact, any bioengineer trying to

design a coronavirus that threatened human health probably would never have chosen this particular conformation for a spike protein.

The researchers went on to analyse genomic data related to the overall molecular structure, or backbone of the new coronaviruses' genome most closely resembles that of a bat coronavirus discovered after COVID-19 pandemic began. However, the region that binds ACE2 resembles a novel virus found in pangolins, a strange-looking animal sometimes called a scaly anteater. This provides additional evidence that the coronavirus that causes COVID-19 almost certainly originated in nature. If the new coronavirus that had been manufactured in a lab. Scientists most likely would have used the backbones of coronaviruses already known to cause serious diseases in humans.

So, what is the natural origin of the novel coronavirus responsible for the COVID-19 pandemic? The researchers do not yet have a precise answer. But they do offer two possible scenarios.

In the first scenario, as the new coronavirus evolved in its natural hosts, possibly bats or pangolins, its spike proteins mutated to bind to molecules similar in structure to the human ACE2 protein, thereby enabling it to infect human cells. This scenario seems to fit other recent outbreaks of coronavirus-caused disease in humans, such as SARS, which arose from cat-like civets: and middle east respiratory syndrome (MERS), which arose from camels.

In the second scenario, the new coronavirus crossed from animals into humans before it became capable of causing human disease. Then, as a result of gradual evolutionary changes over years or perhaps decades, the virus eventually gained the ability to spread from human-to-human and cause serious, often life-threatening disease.

Either way, this study leaves little room to refute a natural origin for COVID-19, and that's a good thing because it helps us keep focused on what really matters: observing good hygiene, practicing social distancing, and supporting the efforts of all the dedicated health-care professionals and researchers who are working so hard to address this major public health challenge.

Finally, next time you come across something about COVID-19 online that disturbs you. We suggest you to visit FEMA's new Coronavirus Rumour Control

Website. It may not have all the answers to your questions, but it is definitely a step in the right direction in helping to distinguish rumours from facts.

Reference: The proximal origin of SARS-Cov-2 Anderson KG. Rambaut A Lipkin WI, Holmes EC, Garry RF, Nat Med.

How serious is this threat to the public?

Any outbreak of a novel virus is always a public health concern. The risk to individuals however, depends on the characteristics of the virus, including how easily it spreads between people, the severity of illness that it causes, and the medical measures available to control the virus and its impact (such as vaccines or medications) and how effective these measures are. This virus is spreading quickly and has caused illness that has resulted in death in a small percentage of those who develop symptoms. As community spreading occurs in more and more countries, the potential public health threat posed by COVID-19 continues to grow both globally and in the United States. In fact, on March 11, 2020 the WHO characterized COVID-19 as a pandemic.

The risk from COVID-19 to Americans can be broken down into two main categories, risk of exposure and risk of serious illness and death.

1) Risk of exposure:

- The general American public is increasingly likely to be exposed to this virus at this time as the outbreak expands and community spreading occurs in more places.
- People living in places where ongoing community spread is occurring are at an elevated risk of exposure, with the level of risk dependent on location.
- Certain populations may have an increased risk of infection, including healthcare workers caring for patients with COVID-19, travelers returning from areas affected by COVID-19, and other close contacts of persons with COVID-19.
- Visit the [CDC website for the current risk assessment in the United States](#).

2) Risk of Severe Illness:

- Based on information from those effected by COVID-19 early on in China, some people are at a higher risk of getting very sick from this virus if they are infected. These higher risk groups include:
- **Older adults—the older a person is, the higher the risk.**

- **People who have serious chronic medical conditions, such as heart disease, diabetes, or lung disease.**

The CDC has developed **guidance to help in the risk assessment and management** of people with potential exposures to COVID-19.

What is the source of the COVID-19 virus?

Coronaviruses are a large family of viruses, some causing illness in people and others that circulate among animal species, including camels, cattle, cats, and bats. On rare occasions, animal coronaviruses can evolve and infect people and then spread between people. Genetic analysis of this virus indicates it originated in bats, but whether the virus jumped directly from bats to humans or whether there was an intermediary animal host is not, yet, known.

What is community spread?

Community spread means that people are becoming infected with a virus or illness in an area or community, but the source of the infection is not known. During community spread, the virus is spreading from person-to-person without newly infected people knowing how or where they were exposed to the virus.

What are the symptoms?

Patients infected with the COVID-19 virus have reported mild to severe respiratory illness with symptoms that include:

- Fever
- Cough
- Difficulty Breathing

How is COVID-19 diagnosed?

Patients are diagnosed by approved laboratories who test throat and nose swab samples sent in by healthcare providers. Currently the **County of San Diego Public Health Lab** as well as a growing number of **additional**

laboratories in San Diego county now have the ability to perform local testing for the COVID-19 virus.

At the onset of the outbreak, the only way to confirm the COVID-19 virus was to send specimens to the CDC to perform laboratory testing. The CDC has since developed laboratory testing kits for qualified state and local public health laboratories, Department of Defense laboratories, and international laboratories to detect the COVID-19 virus. The ability of more laboratories to perform testing greatly increases our capacity to detect the COVID-19 virus in the United States and reduce the time it takes to get test results.

Where can I get one of these COVID-19 test kits or where do I go to get tested for COVID-19?

The **County of San Diego Public Health Centers** **DO NOT** provide testing for COVID-19. Contact your healthcare provider if you have symptoms consistent with or concerns about COVID-19.

The “test kits” developed by the CDC are sent out to laboratories around the country and consist of a diagnostic panel with primers and probes designed to detect the COVID-19 virus. They are not individual “kits,” but the parts, equipment, mixtures, and instructions needed for laboratories to test hundreds of samples for this new virus using equipment they already have.

Testing for the COVID-19 virus is similar to getting a test for other illnesses. A healthcare provider takes a swab sample from the nose and/or throat and sends the sample to a laboratory that has the ability to test for COVID-19.

How is COVID-19 treated?

There is no specific antiviral treatment recommended for COVID-19 infection. People infected with the COVID-19 virus should receive supportive care to help relieve symptoms. For severe cases, treatment should include care to support vital organ functions.

What can I do to prevent getting COVID-19?

There is currently no vaccine available to protect against COVID-19. The best way to prevent getting sick is to avoid being exposed to the virus. Here are a few proactive steps everyone can take to help prevent the spread of respiratory illnesses, including the COVID-19 virus, and **protect yourself** and others:

- Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Practice social distancing if COVID-19 is spreading in your community, especially if you are at **high risk** for health complications if exposed.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, or your elbow, then throw the tissue in the trash.
- Wear a facemask **if you are sick** to prevent the virus from spreading—If you are not sick, you do not need to wear a facemask.
- **Clean and disinfect** frequently touched objects and surfaces often.

What is social distancing?

Social distancing is a practice recommended by public health officials to stop or slow down the spread of a contagious disease. It is a non-pharmaceutical intervention that requires the creation of physical space between individuals who may spread certain infections. The key is to minimize the number of gatherings as much as possible and to create space between individuals when events or activities cannot be modified, postponed, or canceled. To help prevent the spread of the COVID-19 virus, health officials recommend a distance of 6 feet (2 meters) between individuals. The following resources help explain what social distancing means in practice:

The San Diego County Public Health Officer has issued amended orders and emergency regulations in response to the COVID-19 situation in San Diego County. These orders will be in effect until March 31, 2020 and are intended to protect public health and slow the rate of transmission of COVID-19.

The California Department of Public Health (CDPH) has **issued recommendations for social distancing and postponing or canceling of large gatherings for the remainder of March.**

Should a trip to Knotts Berry Farm, Disneyland or a large event be postponed? If so, when is a recommended time to reschedule?

Generally, it depends on the status of the coronavirus outbreak in the community where the large event or mass gathering is taking place. The **CDPH has issued Guidance for the Prevention of COVID-19 Transmission in**

Entertainment Venues, including Gambling Venues, Theme Parks and Theaters. The County of San Diego has the following recommendations for citizens of San Diego County:

1. If you are sick, please stay home to prevent the spreading of illness to others.
2. If you at a higher risk of severe illness if infected by the COVID-19 virus such as older adults and anyone with active chronic medical conditions, such as cancer, heart disease, or other serious condition, please stay home to protect yourself.
3. Keep a distance of six feet between yourself and other individuals, avoid long lines, and wash your hands frequently.

What do travelers need to know about COVID-19?

In an effort to control the outbreak and slow the spread of the COVID-19 virus into the United States, new travel-related measures are being implemented.

- Several countries and territories throughout the world, including the United States, are implementing health screenings of travelers. Passengers undergo a health screening upon arrival in the United States and depending on their health and travel history may have some restrictions placed on their movement, such as, a federally mandated quarantine or home isolation and self-monitoring.
- A **Presidential Proclamation** has been issued outlining suspension of entry into the United States for Foreign Nationals who have visited China and Iran in the last 14 days.
- The CDC lists destinations where nonessential travel should be avoided and also lets people do a COVID-19 Risk Assessment search by country. Anyone considering international travel should visit the **CDC Coronavirus Disease 2019 Information for Travel** page.

Countries currently experiencing sustained community transmission of the novel coronavirus where travel health notices have been issued* include:

- **China**
- **Iran**
- **Most of Europe**
- **United Kingdom and Ireland**
- **South Korea**

**Since this is a rapidly evolving situation, visit the [CDC Travel Information](#) page for the current list of areas with widespread or ongoing community spread of COVID-19 where travel health notices have been issued.*

What is the difference between quarantine and isolation?

Isolation and quarantine are used to protect the public by preventing exposure to infected people or to people who may be infected.

Quarantine is used to separate and restrict the movement of people who are well but who may have been exposed to an infectious disease to see if they become ill. These people may have been exposed to a disease and do not know it, or they may have the disease but are not showing symptoms. A quarantine can help limit the spread of infectious diseases.

Isolation is used to separate sick people (who have or may have an infectious disease) from people who are healthy. Isolation restricts the movement of ill people to help stop the spread of certain diseases. Isolation typically occurs in a hospital setting but can be done at home (self/home-monitoring) or in a special facility. Usually individuals are isolated, but larger groups can be isolated as well.

Why are some people blaming or avoiding individuals and groups because of COVID-19 and creating stigma?

Stigma is discrimination against an identifiable group of people, a place, or a nation. As a result of this outbreak, stigma is associated with a lack of knowledge about the COVID-19 virus and how it spreads, usually as a result of fears about disease and death and a need to blame someone. This stigma creates rumors and myths and hurts others.

People can provide social support and counter stigma by learning and sharing the facts. Communicating the fact that viruses do not target specific racial or ethnic groups and how COVID-19 actually spreads can **help stop stigma**.

What should I do if I think I have COVID-19?

If you developed a fever and/or symptoms of respiratory illness, such as cough, difficulty breathing or shortness of breath **and** have traveled to an area affected by COVID-19* within the last 14 days **or** had close contact (within 6 feet/2 meters) with someone who is suspected to have or has been laboratory confirmed to have COVID-19, you should:

- **Stay home unless you are having a medical emergency**
- **Call** a healthcare provider and seek medical advice—It is important that you call ahead before going to a doctor’s office or emergency room and tell them about your recent travel or close contact and your symptoms, this will allow the healthcare facility staff to take steps to keep other people from getting infected.
- If you do not have a healthcare provider or health insurance, call 2-1-1 to see if you are eligible for Medi-Cal or be referred to a local Community Health Center.

Your healthcare provider will do a risk assessment, using [CDC testing criteria](#), to determine if you have signs and symptoms of COVID-19 and if you should get tested.

**Since this is a rapidly evolving situation, visit the [CDC Travel Information](#) page for the current list of areas with widespread or ongoing community spread of COVID-19 where travel health notices have been issued.*

What should I do if I think I have been exposed to the COVID-19 virus?

If you are feeling sick and think you have been exposed to the COVID-19 virus stay home and call your healthcare provider. A healthcare professional will do a risk assessment, using [CDC testing criteria](#), to determine if you have signs and symptoms of COVID-19 and if you should get tested and what care or monitoring measures are appropriate.

What will happen if I get sick?

Depending on the severity of the illness and symptoms, some people who are mildly ill with COVID-19 are not required to be admitted to a hospital and are able to do in-home isolation during their illness.

If you are sick with COVID-19 or think you are infected with the COVID-19 virus, you can help prevent the disease from spreading to people in your home and community:

- Stay home—Restrict activities outside your home, except for getting medical care.
- Avoid contact with others—Do not go to work, school, or other public areas.
- Avoid public transportation, this includes buses, trolleys, trains, ride-sharing services, and taxis.

- Separate yourself from others in your home, people and animals—Stay in a designated room and use a separate bathroom if possible.
- Wear a facemask if you are sick and will be around other people or pets (e.g. when in the same room or vehicle) and before entering a healthcare facility.
- Cover your mouth and nose with a tissue or your sleeve (not your hands) when coughing or sneezing, then throw the tissue away and wash your hands.
- Clean your hands often--Wash your hands with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Avoid sharing personal household items such as dishes, cups or glasses, eating utensils, towels, or bedding with people or pets in your home and thoroughly wash these items with soap and water after use.
- Clean and disinfect all frequently touched surfaces every day—These “high-touch” surfaces include counters, tabletops, doorknobs, bathroom fixtures, toilets, phones, tablets, keyboards, and bedside tables.
- Monitor your symptoms and seek medical attention as necessary or if symptoms worsen—Take precautions if possible, including notifying your healthcare provider before seeking care and wearing a facemask when around others.

Can someone catch COVID-19 twice (recover from COVID-19 and then catch it again)?

It is currently unclear whether a person can be infected with the COVID-19 virus, fully recover, and then be re-infected. Scenarios like this are still being closely studied.

Should I wear a face mask?

The CDC does not recommend the use of face masks for the **general public** to prevent the spread of the COVID-19 virus. Face masks are useful at preventing diseases from spreading when they are worn by people who have symptoms. Face masks can help reduce the spread of illness when a sick person coughs or sneezes, this is why people are asked to wear a face mask before entering a doctor’s office or hospital if they are coughing or sneezing. If you have COVID-19 or are feeling ill and think you might have COVID-19, a

facemask is recommended. Face masks are also recommended for people taking care of a sick person who is not able to wear a face mask.

Healthcare providers working with patients with confirmed COVID-19 or patients under investigation for COVID-19 in healthcare settings should take the **precautions outlined by the CDC**, with specific recommendations for personal protective equipment (PPE) including proper use of face masks, eye protection, and gloves.

Most **law enforcement, border protection officers and other workers** are unlikely to need PPE beyond what they would use to protect themselves during routine job tasks. If officers are entering rooms where travelers or others with suspected COVID-19 have been isolated, such as during augmented (i.e. secondary and tertiary) screening steps, face masks and gloves and eye protection may be required.

What happened to the individuals from the repatriation flights into Marine Corps Air Station (MCAS) Miramar?

The County of San Diego worked closely with our federal and state partners to coordinate care for the U.S. citizens that arrived on planes from the Hubei province of China at MCAS Miramar on 2/5/20 and 2/7/20. The federal government led this federally mandated quarantine effort and the County of San Diego supported their efforts to monitor and care for these repatriated citizens.

As of 2/24/20, all local quarantine efforts have discontinued. One of the two cases identified with COVID-19 was transferred to a military base in San Antonio, Texas to continue care and all persons have been cleared and released to travel to their final destinations and resume regular day-to-day life.

What is the County of San Diego Health and Human Services Agency (HHS) doing to care for and monitor cases and Patients Under Investigation (PUIs) for COVID-19 in San Diego County?

HHS is working with the CDC, the California Department of Public Health (CDPH) and the local medical community and is utilizing standard procedures already in place to isolate, test, and investigate PUIs, and monitor COVID-19 cases. For information on the current situation in San Diego county, visit www.coronavirus-sd.com.

Where can I learn more about the County of San Diego's COVID-19 Response Plan?

The **County of San Diego COVID-19 Response Plan** provides information for the public about the novel coronavirus and guidance on the public health impact on our community. The response plans outlines the county's efforts to respond to this global incident including information on what the public can do, and provides resources and references related to COVID-19.

What can I do to help prepare myself and my family in case COVID-19 starts spreading in our community?

- Talk with family members and loved ones about how they would like to be cared for if they got sick, or what would be needed to care for them in your home.
- Develop childcare plans in case local schools close, and work with your employer to explore options that enable you to telework and decrease face-to-face meetings.
- Store a two-week supply of food, beverages, and medications for all those living in your home, including your pets.
- Periodically check your regular prescription drugs to ensure a continuous supply in your home.
- Have any nonprescription drugs and other health supplies on hand, including pain relievers, stomach remedies, cough and cold medicines, fluids with electrolytes, and vitamins.
- Get copies and maintain electronic versions of health records from doctors, hospitals, pharmacies and other sources and store them, for personal reference.

Where can I find more information about COVID-19?

Please see the following resources for more information about the 2019 novel coronavirus outbreak:

- **County of San Diego Epidemiology Unit 2019 Novel Coronavirus (COVID-19) web page: www.coronavirus-sd.com**
- **California Department of Public Health Novel Coronavirus 2019 (n-CoV 2019) web page**
- **CDC Coronavirus Disease 2019 (COVID-19) web page**
- **World Health Organization Novel Coronavirus web page**

- If you have health-related questions or concerns, contact your healthcare provider. For general questions about COVID-19 or information about community resources, [call 2-1-1](#).