

## THE 'CROWNED" KING OF VIRUSES

### *Coronavirus Disease 2019*

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In an effort to prevent the seemingly unstoppable advance of COVID-19 (coronavirus disease 2019) to epidemic/pandemic proportions, the United States CDC/WHO (Center of Disease Control and Prevention/World Organization) has issued the following guidelines for implementation.

*The goals of this guidance are: (1) to protect people attending and working at the event and the local community from COVID-19 infection; and (2) to reduce community transmission and introduction of COVID-19 into new communities.*

*To organizers of mass gatherings (events including religious services where people are within an arm's length of each other, they do not include typical office environments or stores) and large community events attended by people from multiple communities getting in close contact with each other and have a potential to increase COVID-19 transmission, one method to slow the spread of respiratory virus infections, including COVID-19, IS BY INCREASING SOCIAL DISTANCING (reduce close contact at least by an arm's length).*

*Event organizers should collaborate and coordinate with community partners, including the local public health department; hotels where participants are staying; airlines; trains; and bus conveyances (mass transit); the event venue; and other event partners.*

Use event messaging or communication to update daily preventive health matters to participants and staff, to wit:

- ***Stay home when you are sick, except to get medical care, (clinics, doctor's offices, hospitals, ambulance services and fire fighters want you to call first so they have an idea of what type problem they are dealing with on 911 calls). They will want to know if one has a fever, cough, and/or respiratory distress.***
- ***Cover your coughs and sneezes with tissues or sleeves, then throw the tissues in the trash.***
- ***Wash your hands thoroughly and vigorously with soap and water, clearing each finger and thumbs for 20 seconds (the time lapse for singing Happy Birthday x 2, this is the most popular song sang world-wide), especially after using the bathroom; before eating; and after blowing your nose, cough or sneeze.***
- ***Avoid touching your eyes and mouth with unwashed hands.***
- ***Clean frequently touched surfaces and objects daily. This includes handles of grocery shopping carts.***

- ***Promote messages that discourage people, who are sick, from attending community and social events. Stay at home to avoid complications, especially for those with co-morbidity factors like diabetes; heart failure; hypertension kidney failure; and pulmonary problems.***
- ***Plan to have extra supplies, soaps, hand hygiene cleansers, face mask for the sick (not recommended for healthy asymptomatic people).***
- ***The California Department of Public Health (CDPH) does not recommend cancellation of community events if no COVID-19 exist within the community.***
- ***Participants or event staff should not attend gatherings if they have respiratory symptoms (cough, runny nose or fever regardless of presumed cause).***
- ***Participants and staff members should not attend if they have travelled within 14 days to an area identified by CDC as having reports of COVID-19 infection, they may need quarantine or be tested.***
- ***Make sure the venue is well ventilated and with adequate facility for hand washing and have supplies including hand sanitizers that contain at least 60% alcohol, tissues, and trash baskets/cans.***
- ***Maintain a registration list of participants and staff. This will assist local public health officials in contact-tracing in an event a COVID-19 case should later occur, as having attended the function.***
- ***Call the CDPH online web site for recent developments; news breaks; and guidelines at [CDPH.ca.gov](http://CDPH.ca.gov).***

#### **HISTORICAL NOTES:**

Coronaviruses are infectious microscopic organisms causing diseases, primarily respiratory. At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It spread rapidly resulting in an epidemic throughout China and sporadic cases reported globally. The epidemiologic investigation in Wuhan identified an initial association with the seafood market, where most patients had worked or visited, which subsequently closed for disinfection. The sea food market also sold other animals like live rabbits and snakes. As the outbreak progressed, human-to-human spread became the main mode of transmission. In February 2020, WHO designated the disease COVID-19, which stands for coronavirus disease 2019. The virus that causes COVID-19 is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) previously, it is now referred to as 2019-nCoV. Understanding of COVID-19 is evolving. Since the 1<sup>st</sup> reports of cases from Wuhan, a city of 11 million people, at the end of 2019, more than 80,757 COVID-19 cases have been reported in China. These include all laboratory confirmed cases, as well as, clinically

diagnosed cases (3,150 deaths). The case count in China continues to rise daily. The majority of reports come from Hubei and surrounding provinces and municipalities throughout China.

In the United States, COVID-19 was identified in several patients in the Pacific Northwest. The state of Washington leads the pack with 258; New York – 173; California has 144; and not to be forgotten, are those in the Princess cruise ships Diamond and Grand contributing 46 and 21, respectively. All states, including Puerto Rico, were not spared. There are 988 cases in the U.S., with 28 deaths and 8 recovered. In our area, Placer County, we have one confirmed death, a 71-year old Rocklin, California gentleman, who died in Kaiser Roseville Hospital just recently.

### **CLINICAL FEATURES:**

The initial complaints are like our seasonal flu, with muscle aches and pains; sore throat; and fever. But unlike the flu, there may be some difficulty of breathing; more cough; and higher temperatures and it's not in synch with the flu season. There may be a history of exposure to somebody with a diagnosed COVID-19 infection. The incubation period of COVID-19 is thought to be within 14 days following exposure, with most cases occurring approximately five (5) days after exposure in a family cluster of infections, the onset of fever and respiratory symptoms occur about three to six days after presumptive exposure. The most serious manifestation of the viral infection is a triad of fever, cough, and respiratory distress pointing to a pneumonia that is noted on X-ray of the chest as bilateral infiltrate. Most infections are not severe, the Chinese Center for Disease Control and Prevention reported in a study of 44,500 confirmed infections. There was an estimated severity of 81% with mild (no or mild pneumonia); 14% categorized with severe infection characterized by shortness of breath and cyanosis, or over 50% lung involvement on chest imaging taken within 24 to 48 hours following exposure; and 5% falling under the critical group with respiratory failure, shock or multi-organ system dysfunction. The overall case fatality rate was 2.3 %, no deaths were reported on the non-critical cases. A fact-finding mission, a joint endeavor of the WHO and Chinese scientists, noted a fatality rate of two to four percent in the Wuhan cases and 0.7% in the rest of China. Most fatal cases involve the advanced age patients, most of whom, have other underlying medical co-morbidities.

There are some reports of gastro-intestinal involvement (nausea and diarrhea) but these are relatively uncommon. The WHO reports that the recovery time appears to be around two weeks for mild cases and three to six weeks for severe cases. Other reports, outside of Wuhan, described similar finding but a much milder illness is common.

### **TREATMENT:**

Home care management and supportive measures may be appropriate for patients with mild infection, who can be easily isolated in an outpatient setting. The management in such cases centers on prevention of transmission to others and monitoring for clinical deterioration that will lead to hospitalization. WHO and CDC does not recommend use of glucocorticoid use for COVID-19 pneumonia due to increased risk of mortality in patients with the flu and delayed viral clearance.

Hospital care consist of controlling fever and acute respiratory distress syndrome (ventilator use in severe pneumonic presentations). In desperation cases, a life or death situation, the patient may be hooked up to an ECMO (Extra Corporeal Membrane Oxygenator) to administer the oxygen the patient needs. These are available in medical centers equipped with this machine for open-heart surgeries where blood is diverted to the machine while the heart is being repaired.

Investigational agents are being explored for antiviral treatment of COVID-19 pneumonia. Several randomized trials are on the way to evaluate the efficacy of *remdesivir* for moderate or severe cases. *Remdesivir* is a novel agent to treat coronaviruses. Any clinical impact of remdesivir on COVID-19 remains unknown.

### **PREVENTION:**

Infection control for suspected or confirmed cases is key to limit transmission of COVID-19. INDIVIDUALS, WITH SUSPECTED INFECTION, ARE ADVISED TO WEAR A MEDICAL MASK TO CONTAIN RESPIRATORY SECRETIONS.

### **Healthcare workers have GUIDELINES TO FOLLOW SET BY CDC.**

Discontinuance of precaution for patients with COVID-19 is made on a case-by-case basis, in consultation with experts in infection prevention and control and public health department officials. The resolution of clinical symptoms coupled with a negative result of reverse-transcription polymerase chain reaction (RT-PCR) testing from two separate sequential paired nasopharyngeal and throat specimen each taken more or less 24 hours apart, is the ticket. Other prevention guidelines are outlined in the beginning of this article.

Additionally, the American College of Obstetrics and Gynecology (ACOG) specifies that infants born to mothers with confirmed COVID-19, should be considered a patient under investigation and appropriately isolated and evacuated. It is unknown if the virus can be transmitted via breast milk and precaution to prevent transmission to infant during breastfeeding include vigorous hand washing; use of face mask; or consider a different individual to feed the baby with expressed breast milk from the mother. The local public health department is always available for consultation – CDPH.ca.gov.

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