

Coronavirus Disease 2019 (COVID-19)

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Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus, which is now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) previously known as 2019-nCoV, it was first identified in an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. The WHO initially reported it on December 2019. And on January 30, 2020, it was declared that the COVID-19 is an outbreak and a global health emergency by the WHO. On March 11, 2020, the WHO announced COVID-19 a global pandemic, becoming the first such designation since the H1N1 influenza pandemic in 2009.

According to the CDC, individuals at high risk of infection include healthcare workers caring for patients with COVID-19, persons in areas with ongoing local transmission, travelers coming from locations where there has been spread of the virus and close contacts of infected persons, and.

The feasibility of strategies for limitation and mitigation have been thoroughly analyzed and are being promoted or enforced by many governments to slow down or hobble viral transmission. Population-wide social distancing of the entire population with other interventions (e.g., home self-isolation, business closures, and school stoppage) is strongly advised. These policies may be needed for long periods to avoid rebound viral transmission.

The spread of SARS-CoV-2 has been reported to be person-to-person in the United States. Individuals who think they may have been exposed to SARS-CoV-2 must immediately contact their local healthcare provider.

The research found that the daily mortality of COVID-19 is positively associated with diurnal temperature range and on the other hand is negatively with absolute humidity, suggesting that temperature variation and humidity might be important factors affecting the COVID-19 mortality [1]. The research also suggests an association between the ABO blood group and COVID-19 susceptibility,

suggesting the latter might be a biomarker differentiating the former. specially, people with blood group A have a higher risk while people with blood group O seems to have a lower risk for SARS-Cov-2 infection and COVID-19 severity [2]. There are also studies which report that SARS-CoV-2 is exacerbated my chronic medical conditions such as diabetes, hypertension... etc. [1,2].

Signs and symptoms

Presentations of COVID-19 ranges from no symptoms, 70 mild symptoms to severe illness and mortality. The symptoms could develop from 2 days to 2 weeks after exposure to the virus. A pooled analysis of 181 positively confirmed cases of COVID-19 outside Wuhan, China, concluded that the mean incubation period is 5.1 days and that 97.5% of patients who developed symptoms did so within the first 11.5 days of infection.

Wu and McGoogan did a study on 72,314 COVID-19 cases that was reported to the Chinese Center for disease Control and Prevention (CCDC), and found that of these cases 81% were mild (absent or mild pneumonia), 14% were severe (dyspnea, hypoxia, >50% lung involvement within 24-48 hours), another 5% were critical (respiratory failure, shock, multiorgan dysfunction), and 2.3% of them were fatal.

Cough, difficulty breathing shortness of breath and shortness of breath in addition to at least two of the following symptoms may suggest COVID-19:

- Headache
- Fever
- Sore throat
- Chills
- Repeated shaking with chills
- New loss of taste or smell
- Muscle pain

Other reports found symptoms which included the following:

- Fatigue
- Respiratory distress
- Sputum production
- Malaise
- Diarrhea.

The most common serious manifestation of COVID-19 seems to be pneumonia.

A complete or partial loss of the sense of smell (anosmia) was reported as a potential history in patients which were diagnosed with COVID-19 eventually. Researchers conducted a survey of outpatients who had mildly symptomatic COVID-19 and reported that 64.4% (130 of 202) notified some sort of altered sense of smell or taste.

Symptoms in children with infection seems to be uncommon, despite some children having severe COVID-19 been reported.

Diagnosis

COVID-19 should be considered a possibility in (1) in patients with severe lower respiratory tract symptoms with no clear cause or (2) patients with respiratory tract symptoms and newly onset fever. Suspicion is then increased if these patients have been to an area where the spread of SARS-CoV-2 has reached community transmission phase or have been in close contact with patients with confirmed or suspected COVID-19 in the proceeding 14 days.

Microbiologic testing is required for definitive diagnosis. At present, such testing is of limited availability.

Patients who do not require emergency care are encouraged to contact their healthcare provider over the phone. Patients with suspected COVID-19 who come to a healthcare facility should be integrated in infection-control measures promptly. They should also be examined in a private room with the door closed and instructed to wear a surgical mask (an airborne infection isolation room is ideal). All other standard contact and airborne precautions must be taken in consideration and the healthcare personnel/providers should always wear eye protection.

Management

The antiviral drug remdesivir has been authorized for emergency use authorization (EUA) from the FDA on May 1, 2020, based on initial data showing a faster time to recovery of hospitalized patients with severe disease. Numerous other antiviral agents, im-

munotherapies, and vaccines continue to be investigated and developed as potential therapies.

Furthermore, infected patients should have supportive care to help with the symptoms. With support to vital organ function in severe cases.

Vaccines

A COVID-19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19). As of 14 December 2021, 8.52 billion doses of COVID-19 vaccines have been administered worldwide.

Most common Vaccines

Oxford–AstraZeneca

The Oxford–AstraZeneca COVID-19 vaccine, sold under the brand names Vaxzevria and Covishield, is a viral vector vaccine produced by the British University of Oxford, British-Swedish company AstraZeneca, and the Coalition for Epidemic Preparedness Innovations.

Pfizer–BioNTech

The Pfizer–BioNTech COVID-19 vaccine, sold under the brand name Comirnaty, is an mRNA vaccine produced by the German company BioNTech and the American company Pfizer.

Sinopharm BIBP

The Sinopharm BIBP COVID-19 vaccine is an inactivated virus vaccine produced by the China National Pharmaceutical Group (Sinopharm) and its Beijing Institute of Biological Products.

Sputnik V

The Sputnik V COVID-19 vaccine is a viral vector vaccine produced by the Russian Gamaleya Research Institute of Epidemiology and Microbiology.

Other Vaccines include Janssen, Moderna, CoronaVac, Covaxin, Sputnik Light, Convidecia, Sinopharm WIBP, EpiVacCorona, Zifivax, Soberana 02, QazCovid-in, Novavax, Minhai, CoviVac, COVAX-19.

Specific Dental Treatment Recommendations

It is extremely important to manage patients who manifest any kind of Covid symptoms, and most of the symptoms are related to the respiratory system. So, patients who have active febrile and re-

spiratory illness most likely will not present to a dentist or dental practices. Based on the analysis of the of emergency questionnaire, clinicians can standardize the severity of the dental condition and make an informed decision to either provide or defer dental care [3-9].

In the unlikely event of providing dental care to patient suspected or confirmed of COVID-19 infection, dentists must be cognizant of the following recommendations:

- Dentists should follow standard, contact, and airborne precautions including the appropriate use of personal protective equipment and hand hygiene practices.
- Dentists should minimize the use of ultrasonic instruments, high-speed handpieces, and 3-way syringes to reduce the risk of generating contaminated aerosols.
- Preprocedural mouth rinse: previous studies have shown that SARS-CoV and MERS-CoV were highly susceptible to povidone mouth rinse²⁵. Therefore, preprocedural mouth rinse with 0.2% povidone-iodine might reduce the load of corona viruses in saliva.
- Use of disposable (single use) devices such as mouth mirror, syringes, and blood pressure cuff to prevent cross contamination is encouraged.
- Radiographs: extraoral imaging such as panoramic radiography or cone-beam computed tomographic imaging should be used to avoid gag or cough reflex that may occur with intraoral imaging.
- Dentists should use a rubber dam to minimize splatter generation (of course, this is the standard of care for nonsurgical endodontic treatment). It may be advantageous to place the rubber dam so that it covers the nose.
- SARS CoV-2 can remain viable in aerosol and survive up to 3 days on inanimate surfaces at room temperature, with a greater preference for humid conditions. Therefore, clinic staff should make sure to disinfect inanimate surfaces using chemicals recently approved for COVID-19 and maintain a dry environment to curb the spread of SARS-CoV-2
- In this time of public health crisis, endodontic practices can dilute the sodium hypochlorite irrigant solution to 1% concentration, to extend the supplies without compromising on treatment outcome.

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