

TECHNICAL SPECIFICATIONS:

Corona virus COVID-19 (SARS-2-CoV)

MICROBIOLOGY

Taxonomically, these enveloped, positive-sense RNA viruses belong in the genus Coronavirus of the family Coronaviridae in the order Nidovirales. The name Coronavirus derived from the Latin word corona, meaning crown. Viral envelope under electron microscopy appears crown-like due to small bulbar projections formed by the viral spike (S) peplomers.

Coronaviruses 229E and OC43 are recognized respiratory pathogens of humans. The causative agent of SARS (SARS-CoV), is considered to be very unique as it contains elements of both mammalian and avian ancestry, and the effect of this recombination has been disastrous for humans. In the first recorded outbreak in 2003, the virus caused 8,461 clinical cases and 804 recorded deaths globally.

This topic covers the novel coronavirus 2019 (2019-nCoV) now referred to as SARS-CoV-2. Coronaviruses also commonly infects birds and mammals causing gastroenteritis and respiratory infections. SARS-2-CoV appears to have been a zoonotic infection that has adapted to humans. Origin is uncertain although bats and pangolins currently implicated. Preliminary genetic analysis shows a great similarity to bat SARS-like coronavirus (genus Betacoronavirus, subgenus Sarbecovirus).

CLINICAL

COVID-19 is the disease; SARS-2-CoV is the virus.

Transmission

Respiratory and likely by fomite. Virus found in respiratory secretions and saliva. Stool shedding also described, but uncertain what role, if any, that plays.

Incubation period:

- Mean of 6.4 days, range 2-12. For people quarantined, 14d observation recommended to exclude infection, though 24d asymptomatic time from exposure described.
- Viral shedding occurs following recovery, but unclear what role this plays in transmission.
- Cause of upper respiratory tract disease and pneumonia.
- Most common symptoms include fever, fatigue and dry cough.
- Fever (83-98%)
- Cough (46-82%, usually dry)
- Myalgia or fatigue (11-44%)
- Shortness of breath at onset (31%)

Less common symptoms:

- Pharyngitis
- Headache
- Productive cough
- GI symptoms

NOVEL CARONAVIRUS GENERAL INFORMATION

This virus comes from the family of Caronavirus, which includes other viruses such as MERS and SARS. As well as the milder variance causing common cold. The medical consensus at this moment is that novel Caronavirus is more transmissible but appears less deadly than SARS. Evidences suggest that the rate of human to human transmission of this virus appears to be higher than that of SARS. For Now, the evidence also suggests that transmission is mostly via droplets. What this means is that the virus is carried within droplets emitted from an infected person over a short distance. Such as when a person coughs or sneezes. If these droplets come into contact with the eyes, nose or mouth of an individual directly or indirectly through hands that have come into contact with these droplets the individual may become infected. There is no evidence currently to suggest that the virus is airborne. The novel Caronavirus could also transmit through surface contact. When a person sneezes or coughs, the droplets fall onto the surfaces of tables and chairs and the virus may remain alive for up to a few days. When someone else touches the surfaces of these tables and chairs the virus can be transferred through his hands, and if he then rubs his eyes or nose without washing his/hands, he may become affected. So we should wash our hands.

TREATMENT METHODOLOGY:- (FOR INDOOR AREAS).

1. For indoor areas we shall use ULV (Ultra Low Volume) machines with 5 to 20 microns output.
2. The entire area shall be treated only once.
3. After the treatment 15 minutes gap should be given before occupying the space.
4. Additional services provided will be charged accordingly.

Advantages of Ultra Low Volume Spray:-

1. Ultra Low Volume spray drop size is between 0.5 microns - 20 microns.
2. It enables to treat air as well as surfaces. It reaches all nooks and corners and ceiling.
3. Electronic equipment like computers, key boards and others peripheral can safely treated. It is better than mist blowers for indoor areas.
4. It is useful to treat airborne viruses.
5. Can neutralize viruses more effectively.
6. No gaps in treatment.
7. Easy to treat carpets, curtains, sofas etc.
8. Corona virus stays in air for a substantial period of time. Hence ULV is suitable to treat airborne virus.

TREATMENT METHODOLOGY:- (FOR OUT DOOR AREAS).

1. For treating the common areas we shall use Knapsack sprayer for maximum output and faster coverage of area.
2. The entire area shall be treated only once.
3. Additional services provided will be charged accordingly.
4. Service efficacy is 24 hrs only .

