

North Alabama Community Care Medical Management Meeting

4rd Quarter of ACHN

Northeast Region

Review of COVID and its
Pharmacological Treatment

2nd part

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August 19, August 27,

SARS 2 – COVID 19

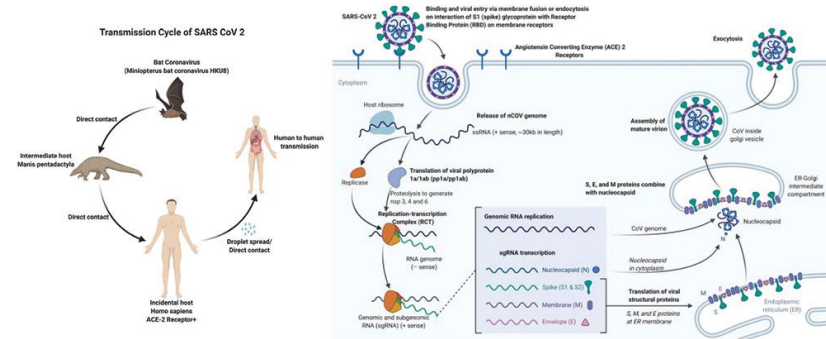


Coronaviruses are large enveloped single stranded RNA Viruses. SARS COV 2 is the third Coronavirus causing severe disease in Humans and it originated from Wuhan, China in 2019

The first Coronavirus that caused severe disease in Humans was SARS, originated in Fashan, China in 2002-2003.

The second was MERS in 2012, Middle East Respiratory Syndrome, originated in Middle East.

Transmission and Pathophysiology



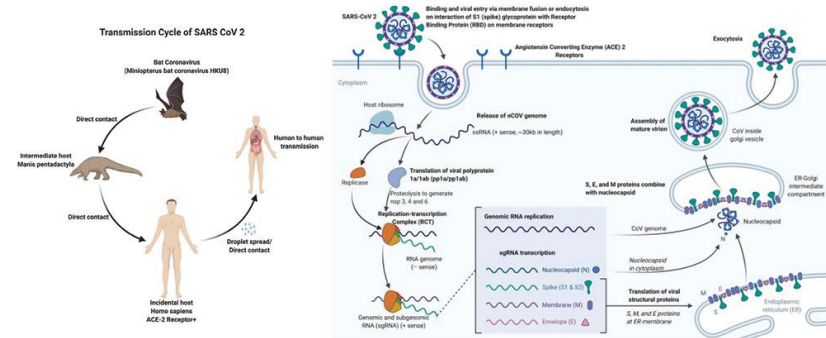
Transmission:

Droplets expelled from face to face exposure during talking, coughing or sneezing is the most common mode of transmission.

Prolonged exposure to an infected person (within 6 feet for at least 15 minutes) and briefer exposure to individuals who are symptomatic (coughing) are associated with higher risk of transmission.

Contact surface spread is another mode of transmission. Contact may occur from droplets suspended in the air.

Transmission and Pathophysiology



Transmission continued:

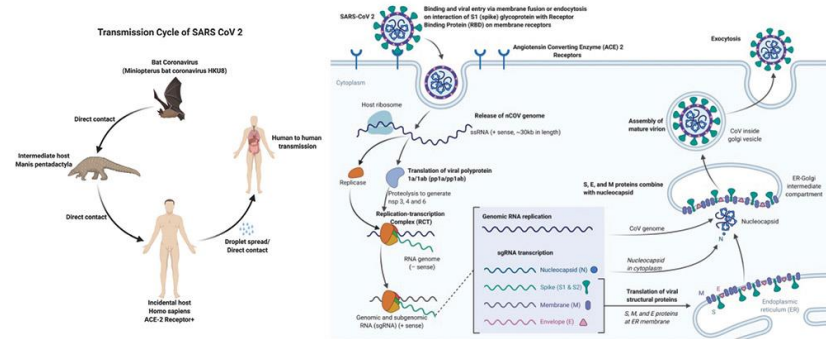
Maternal COVID-19 is currently believed to be low risk for vertical transmission.

It is thought that the amount of virus detected on the surface decays rapidly within 48-72 hrs.

Viral load appears to peak around the onset of the symptoms and the viral shedding begins 2-3 days before the symptom onset.

Asymptomatic and pre-symptomatic transmission has been described.

Transmission and Pathophysiology



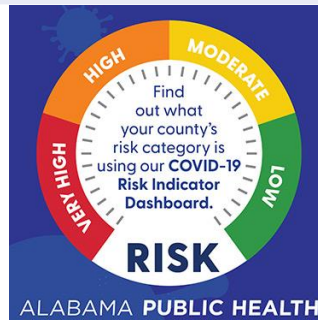
Pathophysiology:

When Viral replication accelerates, epithelial and endothelial barrier integrity is compromised causing impaired Oxygen diffusion. In severe cases, fulminant activation of coagulation and consumption of clotting factors occurs. Life threatening organ dysfunction follows from Viral Sepsis.

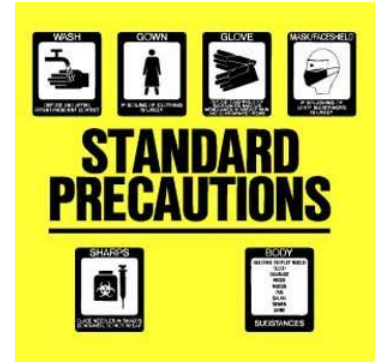
Coronavirus Cases and Deaths

	Coronavirus Confirmed Cases	Deaths
World	21,991,954	785,103
USA	5,498,384	169,870
Alabama	110,361	1,936
Madison County	5,914	43

North Alabama
CommunityCare



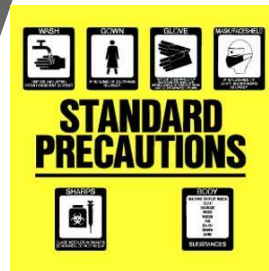
Precautions for HealthCare Professionals



- Adhere to the guidelines.
- Face Mask.
- Safe Physical distance.
- Hand Sanitizer.
- 20 sec Hand washing.
- Eye Protection.
- Screen to identify symptomatic patients and those that are exposed.

Precautions for HealthCare Professionals

- Separate entrance for sick and well.
- Bring straight into rooms. Keep the doors closed.
- Restrict visitors.
- HCP should wear N95 or equivalent.
- As climate permit, outdoor assessment and triage stations for suspected cases.
- Establish a written policy to handle exposures, contacts, patients or HCP if tested positive.
- Consider to consult ID when to return if HCP is positive as there are several variables.



Healthcare Personnel Testing



- Symptoms and signs consistent with COVID 19
- Asymptomatic with known or suspected exposure to SARS-COV 2
- Without known or suspected exposure for early ID in special situations like Nursing Homes.
- Testing those that have been diagnosed to determine that they are no longer infectious.

Lab Testing

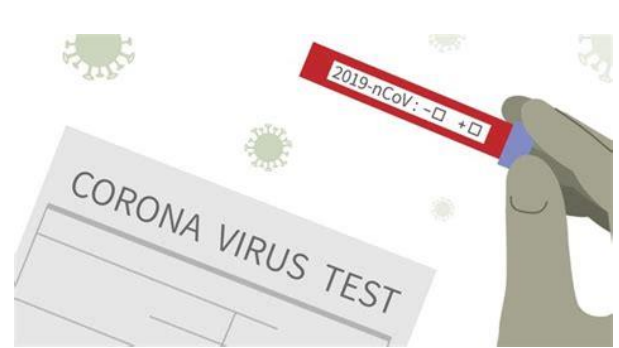


Viral tests (authorized nucleic acid or antigen detection assay) are recommended to diagnose acute infection.

Aim for rapid turn around, less than 24 hrs.

For initial diagnostic testing for SARS- COV 2, CDC recommends collecting and testing an upper respiratory specimen.

Lab Testing

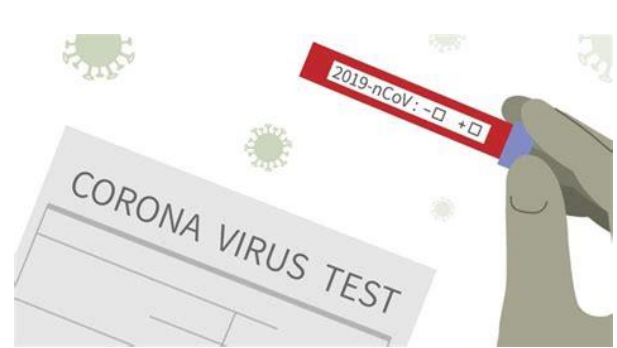


Acceptable specimens:

- NP specimen collected by HCP
- OP specimen collected by HCP
- Nasal Mid turbinate Swab
- NP swab anterior Nares
- NP wash or aspirate or Nasal wash or aspirate specimen collected by HCP

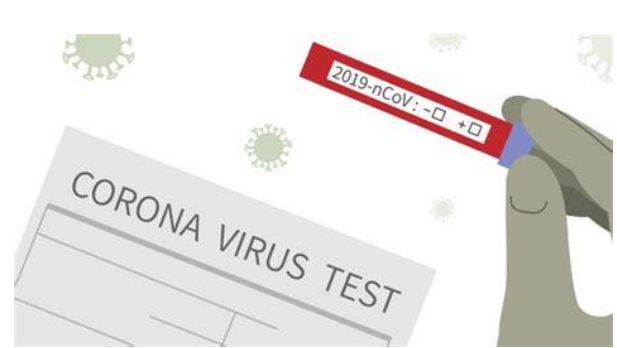
NP swabs are preferable

Lab Testing



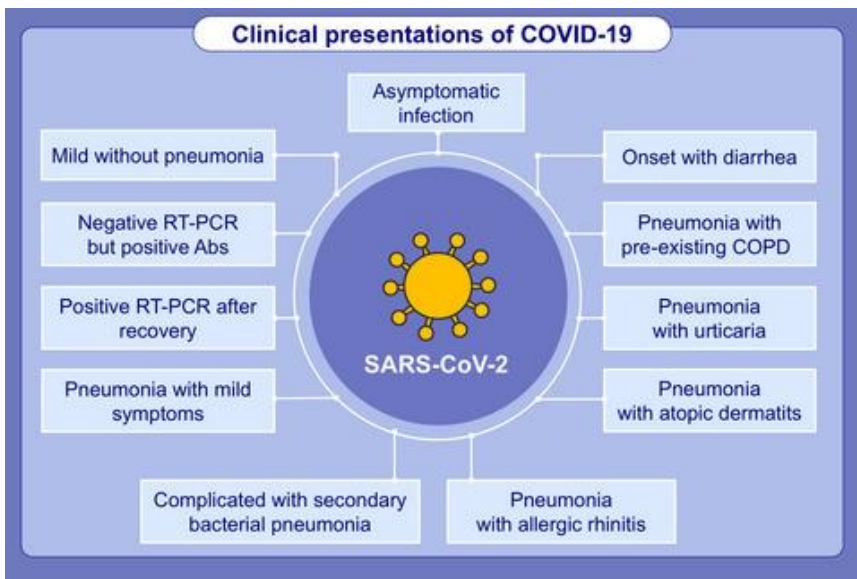
- Swabs should be placed in to sterile transport tube containing Viral transport medium or sterile saline.
- Providers doing specimen collection must use PPE
- PPE if in short supply, use can be minimized by having patient self collect with proper instructions from HCP and monitoring, keeping 6 ft safe distance.

Lab Testing



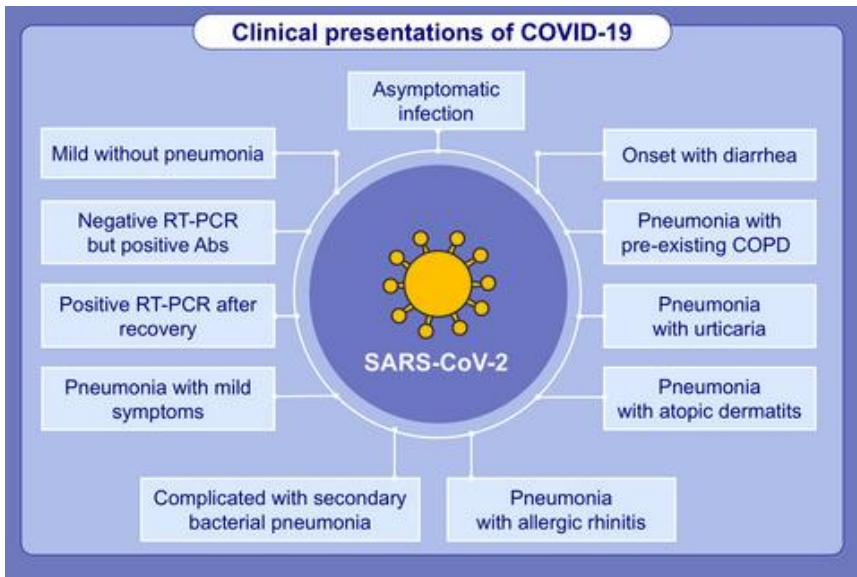
- Specimen improperly collected will lead to false negatives.
- Store specimen at 2-8 degree C for up to 72 hrs.
- Label each specimen container with proper ID, and date of collection and unique COV specimen ID.
- PCR diagnostic Panel detects SARS-COV-2 virus Real time Reverse Transcriptase (RT)

Clinical Presentation and Diagnosis



- Patients can have wide range of symptoms. from mild to severe, some asymptomatic.
- Symptoms may appear 2-14 days after exposure.

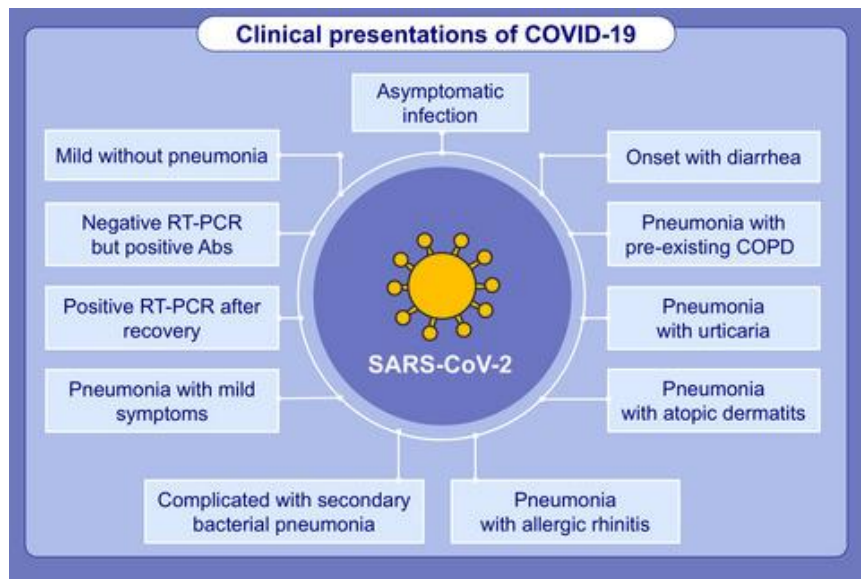
Clinical Presentation and Diagnosis



Presenting symptoms:

- Fever or Chills
- Cough
- Shortness of breath or difficulty in breathing
- Fatigue, Body and muscle aches
- Headache
- Loss of taste or smell
- Sore throat/ congestion/ runny nose
- Diarrhea, nausea/ vomiting

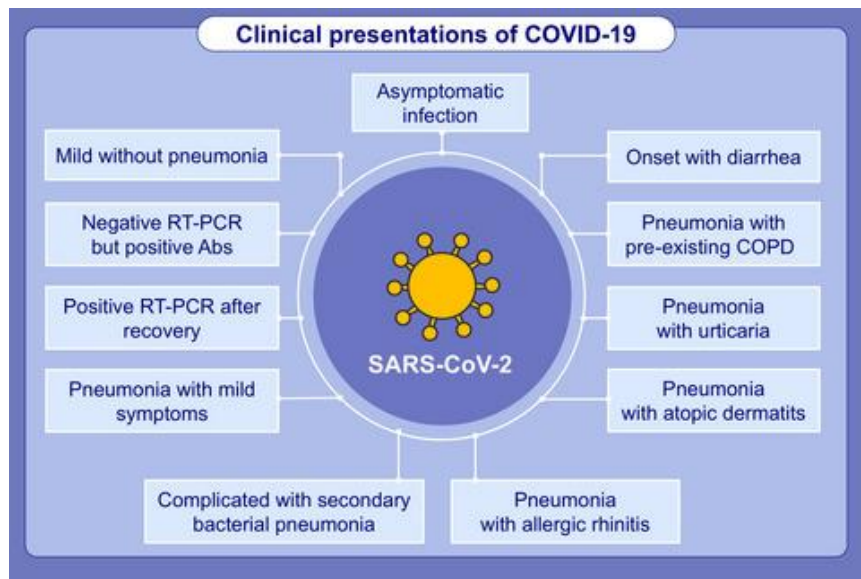
Clinical Presentation and Diagnosis



Older adults and people with severe underlying conditions like asthma, diabetes, immune compromised conditions, are at higher risk of severe disease. Only 2-5% of the affected patients are under 18 years old.

Should symptoms worsen like Shortness of breath, chest pain, blue lips, low O₂ saturations, drowsiness and inability to respond, needs to rush to the Hospital in Ambulance.

Clinical Presentation and Diagnosis



Diagnosis is based on clinical presentation, lab test and Characteristic chest CT findings of Pneumonitis with Peripheral Ground glass opacities in the lungs. Lab PCR is positive in:

- 33% 4 days after exposure,
- 62% on 1st day of symptom onset
- 80%, 3 days after symptom onset

Treatment



- Supportive Care and Respiratory Support, Oxygen, Ventilation
- Targeting the Virus and Host response
- Antivirals Ramdesivir
- Antibodies (convalescent serum, plasma and Immune globulins)

Treatment



- Anti-inflammatory Dexamethasone
- Immunomodulators
- Anticoagulants
- Hydroxychloroquine found not to be useful

Outcomes



Major Organ dysfunctions:

- Cardiac
- Neuro
- Renal

	Mortality
Under 18 years	0.04%
19 to 39	0.25%
40-49	0.8%
50-64	3%
65-74	10%
75-84	21%
Over 85	35%

Prevention



Strict adherence to the guidelines will help. Adherence depends on many factors:

- Education, implementation, economic factors, political commitment, geography
- Safety enforcements at work, school, Public places, recreation, travel, etc.
- Vaccine development is in high gear. Some are very promising.
- Hope to have one that is safe, effective, lasting and to be available