

# Coronavirus impacts on Respiratory System and its Phases

Andrea Biscardi\*

Department of Emergency and Trauma Surgery Unit, Maggiore Hospital, Bologna, Italy

## Corresponding Author\*

Andrea Biscardi  
Department of Emergency and Trauma Surgery Unit,  
Maggiore Hospital,  
Bologna, Italy  
E-mail: andrea.biscardi@ausl.bologna.it

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## Abstract

While Covid-19 pandemic sweeps across the globe, it is important to understand the transmission and the effect of the virus which has made it a pandemic. Coronavirus has a place with the Covid family, which likewise incorporates the SARS infection Severe Acute Respiratory Syndrome and MERS Middle East Respiratory Symptoms infection. The infection causes illness ranging from common cold to extreme respiratory disease and death.

**Keywords:** Respiratory Syndrome • Novel coronavirus

## Short Communication

It has been found that Covid-19 is a close relative of SARS. SARS is a novel type of virus that was reported in 2007, and like most SARS viruses, Covid-19 affects the respiratory tract in humans [1]. The disease begins with mild flu influenza like indications or no manifestations, and further advancement to serious side effects.

Covid-19 primarily infects the lungs in the affected individuals and in severe cases causes' death due to ARDS and pneumonia [2]. It is important to remember that it does not lead to ARDS and pneumonia in all the cases, which is an occurrence in most severe cases.

The advent and spread of 2019 novel coronavirus (SARS-CoV-2) has posed a global health crisis with a sharp rise in cases and deaths since its first detection in Wuhan, China, in December 2019.

Coronavirus is a respiratory infection, one that particularly ventures into your respiratory pannel, which incorporates into lungs [3].

Coronavirus can cause a scope of breathing issues, from gentle to basic. More established grown-ups and individuals who have other wellbeing conditions like coronary illness, malignant growth, and diabetes may have more genuine manifestations. This is what the new Covid does to lungs. As the infection travels your respiratory tract, your immune system fights back. Your lungs and airways swell and become inflamed. This can start in one part of your lung and spread.

About 80% of people who have COVID-19 get mild to moderate symptoms. You may have a dry cough or a sore throat. Some people have pneumonia, a lung infection in which the alveoli are inflamed [4].

Doctors can see signs of respiratory inflammation on a chest X-ray or CT scan. On a chest CT, they may see something they call "Ground-glass opacity" because it looks like the frosted glass on a shower door.

However, in reality, the physiological processes underlying these phases overlap. People with COVID-19 may or may not show features of earlier or later phases.

Covid-19 contains the following phases:

Phase 1: Cell invasion and viral replication in the nose

Phase 2: Replication in the lung and immune system alerted

Phase 3: Pneumonia

Phase 4: Acute respiratory distress syndrome, the cytokine storm, and multiple organ failure

Furthermore, it is noteworthy that "The protective role of ACE2 in the respiratory system is supported by ample evidence, whereas the increased danger of infection is still a hypothesis" [5].

The Authors summed up the different multi-organ impacts of COVID-19, past the lungs:

Brain and nervous system e.g. brain disorders (encephalopathy), muscle weakness and paralysis, and symptoms such as headaches and loss of smell.

Blood clots (thromboembolic), e.g. deep vein thrombosis (DVT), pulmonary embolism and strokes (may also be included in the above neurological category).

Heart e.g. heart attack and heart rhythm problems.

Digestive system e.g. diarrhoea, vomiting and loss of appetite.

Kidney damage e.g. blood or protein in the urine.

Liver damage e.g. raised liver enzymes.

Hormonal e.g. raised blood sugar.

Skin e.g. rashes.

## Conclusion

As examples, studies have indicated that, of patients hospitalised with COVID, up to 40% have had signs of neurological involvement, 40% have had signs of kidney damage, 20%-30% have had blood clots and 20%-30% have had signs of heart muscle damage.

This is why more research is necessary to understand the physiology of this challenging new disease.

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