**AUGOYE OMESIRI**

**ANA 202**

**THE IMPLICATION OF CONVID 19 ON THE RESPIRATORY SYSTEM**

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**ANATOMY**

**THE IMPLICATION OF CONVID 19 ON THE RESPIRATION SYSTEM**

Convid is gotten from the protein spikes which are called crown and 19 from the year 2019. When it gets to the body it comes in contact with the mucos membrane that lines the nose, mouth and eyes.



The virus enters healthy cells and uses the cell to make new virus parts and multiples. The trunk and trachea or windpipe splits open into smaller and smaller branches in the lungs. At the end of each branch are tiny air sacs called alveoli where oxygen goes into the blood and carbon dioxide comes out. It travels down the airways, the lining becomes irritated and inflamed. A proteinaceous exuclates in alveolar space with granules, scattered large protein globule mononuclear inflammatory cells. Acute Respiratory Distress Syndrome (ards) begins a few days later which cause fast heart rate, dizziness and sweating. It damages the tissues and blood vessels in the alveoli, causing derbis to collect them making it harder or impossible to breathe. The inflammation in the lugs causing cough, sneezing and rough breathing. As fluids collects in the lungs they carry less oxygen to the blood stopping supply of blood and oxygen to organs with enough oxygen to survive. This causes the kidney, liver, and lungs to shut down. In the lung, the ACE2 receptor sits on top of lung cells called pneumocytes. These have an important role in producing surfactant — a compound that coats the air sacs (alveoli), thus helping maintain enough surface tension to [keep the sacs open](https://www.resmedjournal.com/article/S0954-6111%2810%2900297-0/fulltext) for the exchange of oxygen and carbon dioxide.

As soon as the body recognizes a foreign protein, it mounts the first response. One part of the body’s immune response — the lymphocytes — begin to produce the first defense IgM-type antibodies and then the longer term specific neutralizing antibodies (the IgG type). [Pneumonia in COVID-19 occurs](https://www.youtube.com/watch?v=8uYuNvh_b6c) when parts of the lung consolidate and collapse. Reduced surfactant in the alveoli from the viral destruction of pneumocytes makes it difficult for the lungs to keep the alveoli open.

As part of the immune response, white blood cells, such as neutrophils and macrophages, rush into the alveoli. Meanwhile, blood vessels around the air sacs become leaky in response to inflammatory chemicals that the white blood cells release.

This fluid puts pressure on the alveoli from outside and, in combination with the lack of surfactant, causes them to collapse.

**As a result, breathing becomes difficult, and the surface area in the lung where oxygen transfer usually takes place becomes reduced, leading to breathlessness.**