



The coronavirus causing the current global pandemic is genetically related to the virus that caused SARS (Severe Acute Respiratory Syndrome) in 2003.

The COVID-19 virus invades healthy cells, particularly those that line the respiratory system.

The coronavirus particles have protein spikes on their surface that latch onto “ACE2 receptors” on these cells, allowing the virus to penetrate them and replicate.

### Upper Respiratory Infection

The virus spreads from an infected person in respiratory droplets (from sneezing, coughing or spitting) or aerosolized vapor\* (from breathing), and is inhaled into the upper respiratory area (nose/mouth/throat) of the recipient. Alternatively, it can enter the body via the mucous membranes of the mouth or nose (and possibly the eyes) – after touching one’s face. Within 14 days, early symptoms of the immune system’s response may be triggered – causing mild symptoms such as sore throat, dry cough or fever.

### Lower Respiratory Infection

But unlike viruses that cause the common cold, COVID-19 viruses can infect deeper into the lower respiratory tract (trachea, bronchial tubes and lungs) where there are more ACE2 receptors. The infection can then trigger more severe

symptoms, including shortness of breath (known as dyspnea) or Acute Respiratory Distress Syndrome (ARDS), with rapid breathing, elevated heart rate, sweating or dizziness.

### Prevention

Due to respiratory, airborne and contact surface transmission, experts believe physical distancing and hand washing remain the best options to limit the chances of contracting and spreading COVID-19.

*\*Research is examining aerosolized transfer in ‘real-world’ scenarios. It was a potential contributor at a 2hr choir rehearsal in Mount Vernon, Washington in March 2020, where asymptomatic singers kept their distance, but nevertheless two people died and 45 were infected.*

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