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Human Physiology  
Assignment 2, Week 1

Just breathing or talking may be enough to spread COVID-19 after all  
Adapted from Science News, by Tina Hesman Saey, April 3, 2020



The coronavirus that causes COVID-19 may spread through the air in tiny particles that infected people exhale during normal breathing and speech.

Until now, experts have said that the virus, called SARS-CoV-2, doesn't spread through the air in that way, but rather through relatively large droplets released when people cough or sneeze. Those droplets can contaminate surfaces or objects and infect people who touch the surface and then touch their faces. Large droplets are still a means of infection, but researchers now say that tiny airborne particles may also carry infectious virus. "Currently available research supports the possibility that SARS-CoV-2 could be spread via bioaerosols (particles released into the atmosphere by organisms) generated directly by patients' exhalation (breathing out)," researchers from the U.S. National Academies of Science, Engineering and Medicine wrote in an April 1 report to the White House Office of Science and Technology Policy.

If the coronavirus is airborne, that could explain why it is so contagious, and can spread before people have symptoms.

Wearing surgical masks can cut down on the amount of virus that infected people spread, the expert panel says, citing an unpublished study from the University of Hong Kong. The letter does not address whether wearing a mask will protect the person wearing the mask from catching the illness. How much virus a person must breathe in to get infected isn't known.

The report also notes that genetic material from the virus was detected more than two meters (six feet) away from patients' hospital beds. That finding could indicate that physical distancing by at least two meters may not be enough to limit spread of the virus. Whether infectious virus could be carried that far or if the genetic material is from dead viruses isn't yet known.

Questions

1. What are the 2 ways that COVID-19 may spread through the air?
2. Why do scientists think coronavirus is so contagious?
3. Why is wearing surgical masks important?
4. What finding suggests that physical distancing by at least two meters may not be enough to limit the spread of the virus?