

## The Difference Between Droplet and Airborne Transmission BC Ministry of Health

Humans produce droplets in various ways (e.g. sneezing, coughing, singing) and these droplets vary in size. Large droplets ( $> 5 \mu\text{m}$ ) comprise most of the volume of expelled respiratory droplets and they tend to fall rapidly to the ground. Droplets smaller than  $5 \mu\text{m}$  are referred to as droplet nuclei and may remain suspended in the air for significant periods of time and move with air currents.

Respiratory viruses, including COVID-19 viruses are usually transported in large particle droplets. As enveloped viruses, they are usually not viable in small droplet-nuclei.

Droplet transmission occurs when bacteria or viruses travel on relatively large respiratory droplets that people sneeze, cough, or exhale. They travel only short distances (usually less than 2 meters) before settling. These droplets may be loaded with infectious particles and can infect another person if the bacteria/viruses contact their eyes, nose or mouth. They may also fall on surfaces and then be transferred onto someone's hand who then rubs their eyes, nose or mouth.

Airborne transmission occurs when bacteria or viruses travel in droplet nuclei that become aerosolized. Healthy people can inhale the infectious droplet nuclei into their lungs.

Recent systematic reviews of over 70 studies have concluded that in the clinical environment there is no compelling evidence that N95 respirators were superior to surgical masks with eye protection for protecting HCWs against droplet borne respiratory infections. For these reasons and consistent to recommendations from the Public Health Agency of Canada and World Health Organization, health care workers are recommended to wear a surgical/procedure mask with eye protection (face shield or goggles) when providing care for a person suspected or confirmed with COVID-19.