How Covid-19 spreads and how to prevent it from spreading

Summary Most Covid-19 infections are thought to be caused when the virus spreads directly from one person who is infected, but may not even have any symptoms, to another person who is not infected. A far smaller number of infections are thought to be caused by contact with a contaminated surface or object. This document provides many details on how to prevent Covid-19 spread in the workplace. But the risk for becoming infected in the workplace will be substantially lower if everyone in the workplace follows these seven rules, and the workplace manager strictly enforce them:

1. **Everyone who has any respiratory symptoms or fever stays away** from the workplace and self-isolates until they are determined by testing not to have Covid-19 or until they are no longer contagious per current CDC guidelines.
2. **Everyone who tests positive for Covid-19 but feels well and has no symptoms stays away** from the workplace and self-isolates according to current CDC guidelines.
3. **Everyone wears a face covering at all times when in the workplace**, except when eating or drinking, at which time they maintain a distance of at least six (6) feet between themselves and any other person.
4. **Everyone in the workplace frequently washes their hands with soap and water** for at least 20 seconds or sanitizes them with alcohol-based hand sanitizer (at least 60% alcohol).
5. **Everyone in the workplace practices physical distancing**, keeping at least six feet between themselves and other people as much as possible.
6. **Everyone in the workplace works together to be sure that frequently touched objects and surfaces are routinely cleaned and disinfected**.
7. The most important rule in infection control is: **control the source of infection!** That’s why it’s important to stay home if you have fever; feel any symptoms; or test positive for Covid-19, even if you feel fine.

Background Covid-19 spreads mainly through infectious respiratory droplets that enter the air when someone who is infected coughs, sneezes, or talks. Many people with Covid-19 have typical symptoms like fever, cough, shortness of breath, or difficulty breathing. Some people do not have those typical symptoms, but may have symptoms that are less common, like nausea, chills, muscle aches, headache, sore throat, or loss of taste or smell. Others may be “pre-symptomatic,” meaning they have just recently been infected and have not developed any symptoms yet. And some people are completely “asymptomatic,” meaning they never have any symptoms at all.

We now know that anyone infected with Covid-19, including those who are pre-symptomatic or asymptomatic, can spread the infection to others. In other words, the virus can spread between people who are near each other, even if none of them have any symptoms. We need to keep all these possibilities in mind to prevent the spread of Covid-19.
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Person-to-person spread
In the majority of cases, the Covid-19 virus is thought to spread directly between people who are in close contact with one another. Person-to-person spread happens when an infected person coughs, sneezes, or talks, and produces infectious droplets that land in the mouth, nose, or eyes of someone else nearby. Sometimes the person nearby may even inhale the droplets into their lungs.

The most effective way to prevent person-to-person spread is to have all people who have any symptoms that might be caused by Covid-19 isolate themselves until they are no longer contagious, or until evaluation by a healthcare provider determines that they do not have Covid-19. Others who are infected but are pre-symptomatic or asymptomatic can still spread their infection. The best way to stop this spread is to have everyone wear face coverings at all times so if they happen to have Covid-19, the face covering will catch infectious droplets before they are expelled into the air and land on nearby people.

Spread through contact
In a much smaller number of cases, Covid-19 can be spread by contact with surfaces or objects if a person infected with Covid-19 coughs into the air and infectious droplets land on a nearby surface or object, or if an infected person coughs into their hand and contaminates surfaces or objects by touching them with that hand. If a person who is not infected touches the contaminated surface or object and then touches their own mouth, nose, or eyes, they can become infected. This is not thought to be the main way the virus spreads, but it is likely the cause of some infections.

The most effective way to prevent spread by contact with contaminated surfaces or objects is for people to do the following:

1. **Frequently clean** and disinfect commonly touched surfaces and objects in their own homes, workplaces, and other spaces they can control

2. **Avoid contacting** commonly touched surfaces and objects in public spaces or other areas they do not control

3. **Wash their hands** with soap and water for at least 20 seconds (or sanitize them with alcohol-based hand sanitizer that’s at least 60% alcohol if soap and water are not available) as soon as possible after touching common surfaces and objects in public spaces when they cannot avoid doing so—carry hand sanitizer whenever outside the home

4. **Avoid touching** their face, mouth, nose, or eyes with unwashed hands in all situations. Again, everyone should wear face coverings so that if they happen to have Covid-19, the face covering will prevent infectious droplets from getting on nearby people, surfaces, or objects

Airborne transmission
Airborne transmission of Covid-19 by tiny infectious aerosol droplets that remain suspended in the air, rather than by person-to-person transmission, is currently thought to be very unlikely in most community settings, especially if everyone wears a face covering at all times. It may be more likely in health care settings, however, and for this reason, surgical and N95 masks, which are in short supply, should be reserved for health care workers or other medical first responders.