

Masks: why, who, when



by Indian Scientists Response to Covid

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Masks are on most people's minds and on many people's faces. The guidelines from the government (and World Health Organization) on when and what type of mask the general public should use has changed over time. There is growing evidence that mask use by everyone helps to control spread of the disease. Masks prevent you from spreading the virus if you have it, and also decrease the risk of you getting the virus from others. It is now compulsory to wear masks when outside. Here is some information about masks and how they can be effective.



Why should you wear a mask?

The virus is carried in respiratory droplets (1-10 micrometer in diameter) that could be invisible to the naked eye. These are released when you cough, speak or sneeze. Generally, larger droplets (that are thought to contain most of the viruses) only travel about 1-2 metres. If someone is standing within that distance, they could get infected if droplets with viruses get into their nose or mouth. These droplets can also land on surfaces, from which others may pick up the viruses by touch, transfer them to their mouth or nose, and so spread the disease.

Some droplets can travel up to 6-8 meters if you cough or sneeze or talk forcefully, even more than the appropriate physical distance that you would normally keep from others. If you are on a two wheeler or open vehicle the droplets in your breath could travel even farther. These droplets could land on someone whom you pass by or who is behind you.

Wearing a mask will reduce such spread of the disease. The Ministry of Health (Government of India) has made it compulsory to wear masks when outside your home. Even if you have no symptoms (cough, fever), you should wear a mask because:

- (1) You may not have any symptoms, but might carry the virus, so when you wear a mask you will protect others from droplets you release that might contain the virus.
- (2) You decrease the risk of getting the virus by physically protecting your nose and mouth from virus-containing droplets from other people who may be around you.
- (3) Masks can prevent you from touching your nose or mouth directly. This is an extra barrier to stop viruses from getting into you.

Who should wear a mask, and when?

If you have a fever and are coughing or under quarantine, wear a medical mask at all times (except when you go to sleep).

If you are taking care of someone who has a fever or is coughing, wear a medical mask when interacting with them. Also use the mask when you clean surfaces they have touched, or wash their used clothes or dishes.

If you are not showing any symptoms, wear a cloth mask or face cover when you are outside your house for work or to carry out other tasks.



How should you put on and take off a mask?

The whole point of a mask may be undone if you don't put it on, use it and remove it properly!

Before putting on a mask, wash your hands with soap and water. Hold your mask by the ties or ear loops, put it on, and make sure to cover your mouth and nose. The mask should fit firmly on your face. Tie your mask securely using the attached ribbons or ear loops. Make sure you can breathe easily.

Remove the mask by untying or removing the ear loops from behind. Try not to touch the front of the mask, your eyes, nose, or mouth. Wash your hands with soap and water.



Do's and don'ts while using a mask

Try to keep your mask on whenever you are outside your house.

Do not take off your mask to talk to customers / coworkers / shopkeepers / others. Definitely do not take off your mask to cough or sneeze or spit (do not spit). Try to keep your mask on even when you take phone calls or if possible use hands-free headsets.

Do not touch the front of your mask while wearing it. The front of your mask helps to stop virus-containing droplets exiting from or entering into your nose and mouth. If you touch the front of your mask, your fingers could pick up and transfer such viruses to other surfaces. Do clean your hands with soap and water (or hand sanitizer) any time you happen to touch the front of your mask.

If you wear glasses, they may get fogged up when you are wearing a mask. You can reduce this by tying the mask on tightly and as far up on the nose as possible. You can try placing your glasses on top of the mask or seal the mask in place over your nose using band-aids or sticking plaster. Try not to adjust your glasses or mask when you are outside. If you need to, try to use your shoulder, elbow or back of your wrist.

If you work long hours outside your house, try to change your mask every few hours (or when it gets wet). Clean your hands with soap (or alcohol-based hand sanitizer) before and after you change your mask. Change your mask carefully, without touching the front of the mask. Carry clean masks in a dry and clean container. Use another container to store used masks until you get home and can dispose of or wash them.

Make sure the mask is not preventing you from breathing easily, especially when you are physically exerting yourself. If you are asthmatic or prone to other breathing problems, when you have your mask on, stay alert for signs of any breathing difficulty, dizziness or lightheadedness. Children can be taught to be conscious of their breathing while running or playing while wearing a mask. If children are asthmatic, they should avoid strenuous activity while wearing a mask.

If you (or a child) experience any breathing difficulty while wearing a mask, immediately loosen the mask, or if necessary, remove it to breathe easily. Contact a healthcare professional if the problem persists or recurs.

What are cloth masks, medical masks and N95 masks?

(1) Cloth masks are reusable masks or face covers that you can make at home.

You can stitch these masks at home from various types of cloth. Cotton is one of the best materials. Material with a high thread count (e.g., good quality pillow covers) is good, as is T-shirt (baniyan) material, which is dense and can stretch to fit well on your face. Large pieces of cloth (scarves or dupattas) can be folded in different ways and tied to fit snugly on your face, covering your nose and mouth.

Whatever mask you choose to make, see that it has more than one layer, covers your nose and mouth, can be tied securely and can be easily washed and dried. The office of the Principal Scientific Advisor (GoI) has prepared a set of instructions in many Indian languages on how to make and use cloth masks.

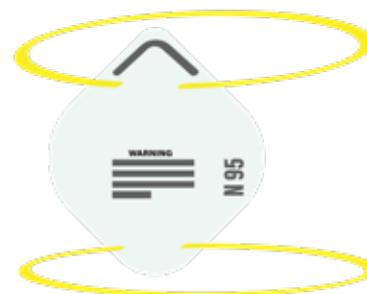
You can also purchase reusable cloth masks in some shops.

(2) Medical (or surgical) masks are available in medical shops. Make sure the medical mask you buy has pleats to cover your nose, mouth, and chin. It should also have either elastic loops or ribbons to hold the mask in place. These masks are made of various synthetic polymers and are available in most medical shops. They cost Rs 10-20/- each and cannot be reused.

(3) N95 masks (or respirators) are the most effective protectants.

These are tight-fitting face masks that can stop 95% of very small (0.3 micrometer and larger) droplets that may carry the coronavirus. These masks are already in short supply and it is best for the common public not to use them: only use them when you are sick or hospitalized, as advised by a doctor.

Masks can come with or without respirator valves. The valves are designed to make exhalation easier and so will not block droplets that could carry the virus into the environment. In general, it is best to use masks without valves.



Can you reuse the mask?

Your cloth mask can be reused if it is washed and heat-treated (sun-drying / sterilization in a pressure cooker / boiling water, ironing). Wash your mask with detergent regularly, depending on how frequently you use it, preferably after every use. Keep multiple masks, store one or two spare ones for use in a clean dry place. Do not share masks unless absolutely unavoidable. (If at all you do, make sure they are cleaned with detergent and properly dried between users and uses.)



Medical masks have to be replaced every 6-8 hours of use. Once you remove your mask, discard it in a container with 1% household bleach to disinfect. Wash your hands with soap and water. It is very important to disinfect masks that you discard. This is to ensure that you do not transfer the virus to sanitary workers who collect your garbage.

What about gloves?

In general, hand hygiene is crucial. Gloves are not required if you make sure to wash your hands regularly and try not to touch your face until you have washed them. Moreover, gloves mean little if you use them all the time and also touch surfaces that have viruses and your face. It is best to use gloves only in high risk settings like in the healthcare environment.

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Every attempt has been made for scientific accuracy; in case any inaccuracies are found, please bring it to our notice at indscicov@gmail.com.