

# TO YOUR HEALTH

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## Why Masks Matter

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Public health experts all agree that face coverings help prevent the spread of COVID-19. The primary goal of asking everyone to wear a face mask is not to protect the wearer, this public health measure is aimed more at protecting the public.

When we speak, small droplets are spread with our breath. Anyone infected with COVID-19, even if they have no symptoms, can spread the virus just by talking. Droplets generally fall to the ground in less than 6 feet (hence the social distancing guidelines). Talking loudly, coughing, sneezing or singing can project droplets farther than 6 feet. Wearing a face mask properly can significantly reduce the number of droplets.

We know that COVID-19 can be spread before a person has symptoms. Droplets are thought to be the predominant means of spreading the virus. Aerosolized particles are potentially more dangerous. They are smaller than droplets, can travel further and can linger in the air much longer. Two very infectious illnesses, measles and tuberculosis, are examples of viruses known to be spread by aerosol. Scientists are debating the role of droplets vs aerosols in the spread of COVID-19. Regardless of which mode of transmission is happening, if the people around you are wearing masks, the combination of your mask and theirs should be sufficient to filter out most viral particles.

Many other factors including airflow, ventilation and room size play a role in determining the risk of exposure. We don't always have as much control over these factors. Wearing a mask and distancing ourselves is in our control and is proven to decrease the spread of COVID-19. In the absence of a vaccine or antiviral medicine, wearing a mask and social distancing are

proven methods to protect others as well as yourself. There are many different types of face coverings available and some are better than others.

**N95 masks** offer the highest level of protection against droplets and aerosols. These are most appropriate for healthcare settings, especially in areas where procedures may increase aerosol particles.



**Standard surgical masks**, also quite effective, are used in many workplaces. In fact, the Massachusetts Department of Public Health requires all staff working in long term care settings to wear at least a surgical mask.



**Cloth face coverings** come in many different styles, some nearly as effective as surgical masks, others not so much. Cloth masks made with at least two layers of tightly woven fabric are better choices. Add a third layer of fabric or a filter and they come close to or may even match the protection of a surgical mask. Generally speaking, the tighter the weave of the fabric, the more effective the mask will be at blocking the spread of the virus.



Certain other cloth face coverings offer little to no protection. A recent study at Duke University found certain types of masks to be especially risky. Using lasers to track the particles coming from a person's mouth while speaking, researchers discovered that some neck gaiters tested even worse than not wearing a mask at all. The team found that hand-made cotton masks provide good coverage and eliminated a substantial

amount of the spray from normal speech, but bandanas and many balaclavas don't measure up. These styles of face coverings are often made of a very breathable material which makes them comfortable to wear but ineffective. With any face covering, if you hold the material up to the light and can see through it easily, it's probably not providing any protection.



Another type of mask to avoid are ones with exhalation ports or valves. These are great for protecting the wearer but offer no benefit to anyone else. It defeats the primary purpose of wearing a mask, to protect others. As soon as you exhale, the valve opens and there is no barrier to restrict the spread of droplets.



There are several studies demonstrating that simple face coverings can be effective at blocking droplets and maybe even aerosols. For any face mask to be truly effective, it must be worn properly. A face covering should cover you face from the top of your nose to underneath your chin. If you don't currently have a properly fitting face mask there are many options. If you don't sew yourself perhaps you know someone who does. There are also many options available online.

Lastly, a word about handling masks. The proper way to put a face mask on and take it off is by handling the ear loops or ties only. Try not to touch the outside of the mask itself. If you do, it's best to clean your hands afterwards. Cloth masks should also be washed regularly.

We all miss seeing each others faces but our eyes still show. May we all see the smile in each others eyes until the day we can see the smile on each others faces again.



### Some history about masks . . .

The wearing of masks has some interesting history. Over 100 years ago, during the 1918-1919 influenza pandemic, masks caused quite a bit of controversy. Not dissimilar to what we hear today, medical professionals urged the public to wear masks. Not everyone believed masks would make a difference and some objected and refused to wear one (again the similarity). Penalties for this were quite severe in some places, including stiff fines and even jail time!

Masks 100 years ago were made of cheesecloth or thin gauze. Anecdotal evidence suggests they were still somewhat effective in combination with other measures. When the mask mandate was lifted there was a resurgence in cases of flu requiring a reissuing of the mask laws. Phrases like *"Obey the laws and wear the gauze. Protect your jaws from septic paws"* circulated.

In the photo below is a group of Californians wearing masks, one is holding a sign that reads *"Wear a mask or go to jail"*. Not everyone wore masks properly either. If you look closely you can see the woman in the middle has a nose protruding out from the top of the mask.



Photograph: Raymond Coyne/Courtesy of Lucretia Little History Room, Mill Valley Public Library

We've learned a lot since 1918 but some things don't change much. Can we learn from history and avoid some of the same mistakes? It's up to each of us to wear the masks correctly and modify our behavior to control the spread of infectious illnesses.

*Stay well!*