



# 8 Ways a Mask Stops COVID!

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On January 24<sup>th</sup>, Singapore became the first country to mandate mask wearing for all citizens. In February, The CDC and WHO advised “masks do not benefit average citizens.” April 24, the CDC advised wearing a mask to “protect *other* people.” In June, that changed to “wear a mask only if you cannot socially distance.” Singapore has 27 deaths; we have 163,000 as of this writing.

**One:** Masks protect *everyone*, even *hamsters*. In May 2020, scientists in Hong Kong circulated air from COVID-19 infected hamsters into cages holding healthy hamsters. 75% of the healthy hamsters developed COVID-19. The scientists then filtered the air through surgical mask material. The infection rate in these hamsters plummeted to 25%. They had milder illnesses, and their body burden of virus was a *thousand times less*. Masking led to less virus, fewer and less severe infections and fewer deaths. The practice of administering smaller doses (inoculations) of virus started in China under the Ming Dynasty in 1640 and reduced smallpox illnesses and deaths (apologies to Edward Jenner).

**Two:** In April 2020, there were COVID-19 outbreaks on two cruise ships. Cruise ships are hamster cages for people. The Diamond Princess, off Japan, did not have masks for all the passengers. Among passengers testing positive, 82% fell ill. The same month, COVID-19 also broke out on the Greg Mortimer cruise ship, off Argentina. Masks were distributed to all passengers when the first case was diagnosed. Among passengers testing positive, only 19% fell ill. Masks were responsible for a *75% decrease in illness*. What works for hamsters works for people. Masks decrease viral exposure in *both*.

**Three:** COVID-19 cannot be 100% contained. Neither can the flu. But risk of acquiring either one can be reduced by combining interventions. The medical term is *incremental risk reduction* (IRR). The following is an example of IRR calculation of the added effects of Social Distancing, which reduces transmission by approximately 75%, and mask wearing, which reduces transmission by 60%. Together they lower transmission by 90% ( $.25$  residual risk of social distancing  $\times$   $.4$  residual risk of mask wearing =  $.1$  residual risk, which translates into a 90% decrease in transmission).

**Four:** Social distancing breaks down based on other people’s behaviors, especially in places like bars, restaurants, and large numbers of drunken collegians outdoors. *Mask wearing is totally under your control*.

**Five:** The most effective mask is the one you will wear. It must be *comfortable*. An N95 mask, the most efficient, must fit your face. The semi-rigid edges make impressions in your skin and the mask must be rigidly attached with elastics that would choke your cat. I have worn N95’s on many occasions, and they are unpleasant. On the other hand, multilayer cloth masks can be worn for hours. You can find one in any style and size you desire. If 95% of Americans wore masks outside their houses, 33,000 fewer people would die between now and October 1. We would likely *crush* the epidemic. **Whatever politics floats your boat, wear a mask. It may save your life.**



**Six:** Masks can be made from 2 or 3 layers of tightly woven cotton, chiffon, flannel, silk, spandex, satin, and polyester. Old Navy sells five masks for \$12.50 and has adult and children sizes. Etsy.com has 20,000 styles. The multiple layers of material force airflow to take a turbulent course, which traps moisture and particles. Avoid fabrics that cause major resistance to breathing so you can fulfill Rule Five - *it must be comfortable*. Masks really work.

**Seven:** The mask must cover your nose *and* mouth, both of which are sources/landing zones for virus. The most common air leak is around the bridge of your nose (where it can fog your glasses). Look for masks that have a nose wire or stitch/glue a garbage tie to the top edge of the mask. A hard exhale or cough will force viral-laden air past the edges of the mask. A snug fitting mask means you will contribute less to the viral load around you. Cloth masks are utilitarian. One quick cycle in the washer/dryer and they are ready to use again. Cloth masks should be washed in between uses.

**Eight:** Valves that make it easier to exhale make it easier to exhale virus. Those tiny filters become ineffective rapidly. Great marketing, but useless in practice.

Last, if you are a healthcare worker and your facility is running low on N95 masks, they can be recharged in stovetop cooker. See the following YouTube:

<https://www.youtube.com/watch?v=o7-k0EIR0To>

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