

## May 2, 2020 Martin Dubravec, MD Do masks prevent the spread of Coronavirus (Sars-CoV-2, COVID-19)?

Recent recommendations by the CDC (April 3, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html>) include the use of cloth face coverings for prevention of the spread of Coronavirus (COVID-19). This flies in the face of earlier information from the CDC that cloth masks were not helpful.

Why the change? The CDC bases its recommendations on research showing that the virus can be present in those who may have no symptoms of the virus. Their recommendations include the following:

“the virus can spread between people interacting in close proximity—for example, speaking, coughing, or sneezing—even if those people are not exhibiting symptoms.”

“CDC is additionally advising the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others.”

But does wearing a cloth mask actually help? Does it prevent transmission of the virus? Could it be harmful? We can look at research to answer these questions.

### *Cloth Masks – Helpful or Harmful?*

A study done in 2015 looked at 1,607 healthcare workers (doctors, nurses) and put them into three groups. The first group wore disposable medical/surgical masks throughout their shift. The second group were not required to wear any masks but could wear masks if they wanted to. The third group wore cloth masks. The results of the study revealed that when compared to the other groups, those wearing cloth masks ended up with the following:

- Highest rates of clinical respiratory illness.
- Highest rates of influenza like illness.
- Highest rates of laboratory-confirmed viral illness. 17 different viruses were tested and those wearing cloth masks had higher rates of these viral infections.
- 97% of small particles passed through the cloth masks.

In summary, this study showed that wearing a cloth mask actually increases the risk of viral infection. It also shows strong evidence that cloth masks do not prevent small particles from passing through the mask. Possible reasons for increased infection with cloth masks include the following:

- Cloth masks are reused and may not be cleaned as often as they should.
- False sense of security that wearing a mask helps.
- Cloth masks do not prevent small particles from passing through them.
- The cloth may actually harbor infection. Collecting saliva and humidity as well as skin cells from around the mouth may provide for an environment that promotes infection.

Then why are some policy leaders pushing for us to wear masks? It is just not supported by science and data.

Source: (<https://bmjopen.bmj.com/content/bmjopen/5/4/e006577.full.pdf>)

### *How About Coronavirus and Masks?*

Now let's look at disposable surgical masks and reusable cotton masks and Coronavirus (COVID-19). An article published just last month reported on four patients who had active Coronavirus (COVID-19) and volunteered to participate in this study. They were asked to cough 5 times onto a petri dish when wearing no mask, cough 5

times onto a petri dish when wearing a surgical mask, and cough 5 times onto a petri dish when wearing a cotton mask. The petri dishes were then examined for the virus. Also, **and this is important**, the researchers swabbed the outside of the masks **and then** the inside of the masks for virus.

What they found was that NEITHER the surgical NOR the cotton masks filtered Coronavirus during the coughs of infected patients. What was also an important finding is that *the outside of the masks had more virus on them than the inside!* This is even though the outside of the mask was swabbed first and therefore they could not have pushed viral particles from the inside of the masks to the outside when they swabbed the inside of the masks. The researchers suggested that, possibly, air leaks around the masks allowed viral particles to settle on the outside of the masks. They also mentioned that perhaps the infected patients had viral particles on their hands when they put the masks on.

Source: (<file:///P:/Coronavirus/COVIDMaskStudy2020.pdf>)

#### *The World Health Organization's Take on Coronavirus and Wearing Masks*

The WHO shares the same concerns of mask ineffectiveness. "Non-medical or cloth masks could **increase** potential for COVID-19 to infect a person if the mask is contaminated by dirty hands and touched often, or kept on other parts of the face or head and then placed back over the mouth and nose." The WHO is also looking at the actual data in coming to these conclusions. "One good quality study showed that the risk of respiratory infection is increased (and not reduced) in health care workers using cotton cloth masks when compared to medical masks." For those who argue that the studies are not widespread enough to demonstrate harm with use of masks by the general public, consider that the opposite is true. "Currently there is not enough evidence for or against the use of masks (medical or other) for healthy individuals in the wider community." So, why wear a mask when studies show it can actually increase infection, and there is no evidence it actually stops the spread of COVID19? For similar reasons, the WHO also tells us "No, WHO does **not** recommend the regular use of gloves by people in the community."

Source: (<https://www.who.int/news-room/q-a-detail/q-a-on-covid-19-and-masks>, accessed May 3, 2020.)

#### Conclusion:

The use of masks can be helpful in certain circumstances. However, when it comes to the general public wearing a cloth mask, this could actually lead to more infection. Also, wearing masks to prevent spread of the Coronavirus is dependent on the type of mask used. For example, N95 surgical masks may be effective masks for preventing viral transmission. Disposable surgical masks, cotton masks, and homemade cloth masks, however, just won't cut it. When used by the general public, there is NO consistent scientific evidence that they help; there is scientific evidence that they increase infection in individuals wearing a cloth mask. Fortunately, the virus is decreasing in Michigan and other parts of the country as herd immunity, sunshine, and warm weather set in. These are the factors that are decreasing the rates of infection. Masks won't.

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