Is My Cloth Mask Good Enough to Face the Coronavirus Delta Variant?

Mask guidance has been mixed since the dawn of the pandemic, and new research has altered conventional thinking.

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In recent months, some European airlines have banned the use of cloth face coverings to control the spread of the coronavirus during air travel, instead favoring surgical masks — sometimes referred to as medical or disposable — and N95 respirators.

It's another salvo in the debate over the effectiveness of the ubiquitous cloth mask, which sprang into fashion when surgical masks and N95s were harder to find in the pandemic's early days. The Centers for Disease Control and Prevention still promotes cloth face coverings in its guidance about masks.

And masks remain a critical mitigation tool because people primarily become infected with SARS-CoV-2, the virus that causes COVID-19, by inhaling small aerosol particles that linger in the air or large respiratory droplets produced in coughs and sneezes.

But the science is changing. Delta, currently the primary variant in the United States, is far more contagious than the original coronavirus, so the density of virus in the air is greater.

Some experts have adjusted their advice proportionally. "Given the delta variant that's out there, you probably need to upgrade your mask," Dr. Ashish Jha, a leading COVID expert and dean of the Brown University School of Public Health, said on "Fox News Sunday" earlier this month.

What Type of Mask Should You Wear?

Don't worry if you are confused. Mask guidance has been mixed since the dawn of the pandemic, and new research has altered conventional thinking. We decided to dig in and sort out the latest developments.

First, people were told masking wasn't necessary. Soon after, this recommendation changed, but the public was advised against purchasing surgical-style masks used by health professionals because of dire shortages of such protective gear. Americans instead were told to spring for cloth masks or make do-it-yourself versions. Shortages do not appear to be as big a problem now,

though the CDC still advises against choosing N95 respirators.

As recently as late August, the nation's top infectious-disease doctor, Dr. Anthony Fauci, declined to recommend higher-quality masks. "Instead of worrying about what kind of mask, just wear a mask," he told "The Mehdi Hasan Show" on MSNBC.

So, what gives? Dr. Peter Chin-Hong, an expert on infectious diseases at the University of California-San Francisco, said Fauci was taking a harm-reduction approach. "It probably is more important to wear something that you feel comfortable with, and you can wear for long periods of time if you're going into a particular environment…rather than saying you need to wear the gold standard thing at all times," he said.

"A baseline should be a surgical mask," added Chin-Hong. "It's easier to implement. It's cheap, albeit not always environmentally friendly." Personally, he wears only N95s when wildfires are blazing. "Even in the hospital, I'm mainly wearing a surgical mask," he said.

While he thinks government and public health officials should emphasize wearing surgical masks, Chin-Hong said cloth masks can offer enough protection in certain circumstances. For example, a fully vaccinated person, he said, would likely get adequate protection by wearing a cloth face covering for brief periods indoors when the venue is not at capacity. A lot depends on the context, so he provided these questions to help the decision-making process: If you are going indoors, will the building be especially crowded? How long will you be inside? Will everyone most likely be masked? Are you and others around you fully vaccinated? Are you immunocompromised?

The riskier the situation, the more likely the higher-quality mask is the best option. "Nothing is zero risk, so it's just a matter of risk reduction," Chin-Hong said.

"So definitely, masks need to be stepped up to fight delta, but it does not mean those who cannot afford N95s have no options," said Raina MacIntyre, head of the biosecurity research program at the University of New South Wales in Sydney, Australia, who has conducted many studies on masks.

MacIntyre said it is "possible to design a high-performing cloth mask." An experimental lab study she co-authored found a layered cloth mask can effectively block droplets. The study, published in May in the journal ACS Biomaterials Science & Engineering, recommends using a minimum of three layers — a combination of cotton/linen and polyester/nylon — to resemble the droplet-blocking performance of surgical masks.

Not only is layering important to improve filtration but so is fit. A CDC-recommended technique for improving the fit of either a cloth or surgical mask is knotting the straps and tucking the sides. A mask is generally a good fit if you feel warm air coming through the front of the mask as you inhale and exhale.

What Does the Research Say?

A large-scale, real-world study published this month found surgical masks especially effective at reducing symptomatic infections. These types of masks prevented one in three infections among people 60 and older.

Researchers from Yale, Stanford and the nonprofit GreenVoice monitored more than 340,000 adults in rural Bangladesh for at least eight weeks. Roughly half the Bangladeshis received interventions like free mask distribution and promotion. Villages that received interventions saw mask use jump from 13% to 42%. The same villages reported fewer confirmed COVID infections and a lower incidence of related symptoms.

Villages where cloth masks were given out reported an 8.5% reduction in symptoms, while villages that received surgical masks reported a 13.6% reduction. When a third of adults with symptoms commonly associated with COVID agreed to get their blood tested for the virus, researchers discovered an 11% reduction among those who wore surgical masks. Researchers observed a 5% reduction in infections among those who wore cloth masks.

This study was conducted before the delta variant was circulating widely in the country. The study has not yet undergone peer review, but some experts have already heralded its methodology and results.

“When I saw those results, I threw away my cloth mask,” said Stephen Luby, a co-author of the study and professor of infectious disease at Stanford University. “If delta is circulating and if you’re going to wear a mask, why don’t you wear one that the data tell you is good?”

“We find very strong evidence that surgical masks are effective,” added Jason Abaluck, an economist at Yale who helped lead the study. “My read of that is that cloth masks are probably somewhat effective. They are probably better than nothing.”

Abaluck suspects his study offers mixed evidence for cloth masks because only about a third of those who reported symptoms consented to blood testing for covid. In other words, the sample size was too small to observe anything significant. “The most likely interpretation of this whole constellation of results is that [cloth masks] actually do help. They actually do make you less likely to get COVID. That’s why we saw fewer symptoms,” he said. A second possibility is that cloth masks prevent other respiratory diseases that have similar symptoms, he said.

Multiple observational studies and trend analyses found community masking, which includes the use of cloth masks, reduces the spread of COVID. The researchers of the Bangladesh study said those studies had drawbacks, which is why they conducted a randomized clinical trial. For example, some of those studies could not observe the independent effect of masks in real-world settings because they looked at the aftermath of mask mandates, which were often coupled with other COVID mitigation steps such as physical distancing. However, they agreed with those studies’ overall assessment: People who wear masks are less likely to get infected than people who don’t.

“This is the nature of science. Science evolves,” Luby said. “We had evidence that we get some

protection from cloth masks, and we now have newer evidence that we get better protection from surgical masks."

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