

You may need a better mask. Here's how to find one

Tips on what to look for to upgrade your face covering to N95 standards

By Janelle Nanos Globe Staff, Updated January 27, 2021, 4:21 p.m.



An N95

masks at the Body Armor Outlet store, in Salem, N.H. The high-filtration masks are becoming easier to obtain. (Charles Krupa/Associated Press)

With COVID-19 cases still surging and new, highly contagious variants emerging worldwide, it's clear that it's time to [upgrade our masks](#), to protect ourselves and help slow the spread. A division of the Centers for Disease Control and Prevention has been [working on new labels](#) that should help consumers understand which masks meet minimum filter-efficiency standards. Those guidelines are supposed to be released this month.

But it remains [remarkably difficult for consumers](#) to know what kind of masks will provide the best protection, and many people are [doubling up their masks](#) as a result. Some experts argue that the best answer has been out there all along: N95 respirators.

"As a consumer, this has been an unbelievably frustrating situation with counterfeit masks on the market and people now being told to just 'double up' their surgical mask and cloth mask," said Dr. Abraar Karan, an internal medicine physician at Brigham and Women's Hospital who has been [advocating for better national masking policies](#). "We are 11 months into the worst pandemic of our lives. We know masks are among the most important interventions we have, and we are still trying to MacGyver our way out of this in the US? It's outrageous."

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At the outset of the pandemic, CDC guidelines said Americans should avoid wearing N95 masks, so they could be reserved for health care workers. But Karan and his colleagues say those guidelines have not been updated to reflect that N95 masks are now far more available, come in various shapes and sizes, and are often reusable.

Karan said that while he still prioritizes their use for health care workers and those most at risk, “N95-level protection is key for certain circumstances: indoors, crowding, close contact . . . ideally in grocery stores, public transit, and other indoor venues.”

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To learn more about what to look for, we spoke with Karan’s coauthor on a [series](#) of [recent publications](#) on the topic: Devabhaktuni Srikrishna has a master’s in electrical engineering and computer science from the Massachusetts Institute of Technology and has worked on public health strategies to control outbreaks of Ebola and Zika. He’s also the founder of [PatientKnowhow.com](#), which has been tracking the standards and efficacy of various masks.

Srikrishna and Karan, along with their colleague Dr. Ranu Dhillon, who works in the Division of Global Health Equity at Brigham and Women’s Hospital, have been advocating for a [national program to get more high-filtration masks distributed](#) throughout the country. In the meantime, they say, there are various “hi-fi” N95 masks on the market that consumers can buy from trusted sources.

Srikrishna hopped on a Zoom call from his home office in California, the floor of which was littered with masks. This conversation has been condensed and edited for clarity.

Q: I’ve been wearing a cloth face covering for 11 months, but found a few N95 masks in my basement. Is it time to wear them to the supermarket?

Srikrishna: Yes. If you’re using cloth masks, don’t stop wearing them, but there’s a much better way to do this, and [cloth masks] are not sufficient to block the infection in many cases — which Dr. Rochelle Walensky, our new CDC director, [has pointed out in her own research](#).

In some ways the answer has been with us all along, but there’s so much confusion about this topic: The N95 standard is the best standard the government has. It looks at filtration, fit, manufacturing, and durability of the masks. Yet people have been discouraged from using them.

Q: I had come to think of N95s as disposable gear for frontline workers. So what kind of N95 mask should I buy?

Srikrishna: The thing with the N95 is if you don’t have it fit to your face, it almost doesn’t work. A lot of people wear them under their nose; even if you wear it over your nose sometimes it can leak. But there are [reusable elastomeric versions](#) that provide a gel-like cushion around your face, and the filter material is a separate piece. These masks are available, they last longer, and they fit better. They are an option, so why isn’t everybody using this? It turns out there was lack of knowledge and understanding that this is a viable approach. These are

approved by the CDC and yet the CDC has been struggling to get people to use them. But hospitals in Pennsylvania and the [New York City Fire Department](#) are starting to.

Q: I think part of the problem is there are so many products online, it's hard to know what you can trust.

Srikrishna: It's kind of the Wild West out there, with all kinds of people claiming all kinds of things. I feel much more comfortable with the established standards. The thing I look for is [N95 certified approval by the federal government](#). The N95 disposable masks are coming back into supply, and it's possible to buy them online. Right now Amazon, Office Depot, and Costco have them. The thing to look for is the NIOSH [National Institute for Occupational Safety and Health] certification symbol.

For N95s with a valve, which pushes the air out without filtering it, it's recommended to cover the valve so you would not be infecting others, by wearing a second cloth or surgical mask over the [valve as recommended by CDC](#). Some masks now ship with covers for their valves. Notably, the [CDC did a thorough study released in December](#) on valved masks and found the particle emissions of N95 masks with valves (without countermeasures) were actually no worse than loose fitting surgical masks (unfitted) or many unregulated face coverings such as most cloth masks.

[The CDC also has a counterfeit list](#) and is trying to track companies that falsely label the NIOSH symbol on their products. For companies that are selling masks without NIOSH, it's good to check if they have published test results with an independent third party. Nelson Laboratories is a big organization that independently tests masks on particle filtration.

Q: Cloth masks are relatively inexpensive. How much do some of these upgrades cost?

Srikrishna: The [Envo mask](#), which I personally have been using quite a bit and fits like a sleep apnea mask, is \$79. It's reusable for three to four months and has replacement filters for \$2, and is now sold with a valve cover. [3M's Elastomeric mask](#) costs about \$30 and has filters for \$7 or \$8, and these may last up to a year. The Fire Department of New York is using them. [SoftSeal masks](#) have a gel seal but are still disposable, and they cost between \$7 and \$16. And [Fix The Mask](#) is a flexible brace or harness that you put over a regular surgical mask and it forms a tight seal and provides a really good fit throughout the face. They cost about \$15 each.

Elastomeric N95s are better for the user: They have a better fit, last longer, and are cheaper in the long run. This is the golden age of masks, and new masks are coming out every day. I hope we can shift the thinking around this and give people alternatives.

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