



COVID-19: Surgical vs. Homemade Face Masks

In addition to social distancing and using proper hand hygiene, many health experts, including the [CDC](#), consider the use of face masks to be a key measure in helping to prevent the spread of COVID-19. Face masks help stop the spread of large droplets from the person wearing the mask to others. They provide some minimal protection for the person wearing the mask from splashes of bodily fluids.

What is the difference between a surgical mask and a homemade cotton mask?

Both surgical masks and homemade masks can reduce the spread of germs by helping to prevent the spray of aerosols from the wearer. Surgical masks are designed to specific standards for fit, breathability, and protection. Homemade masks differ significantly by their design, manufacture, and fit, and it is not possible to evaluate them as a group.

Homemade masks can give some degree of barrier protection from respiratory droplets resulting from coughing or sneezing. Early reports show that the COVID-19 virus can live in droplets in the air for one to three hours after an infected individual has left an area. Covering your face will help prevent these droplets from getting into the air and infecting others. Homemade masks may protect others from you but offer little protection for you from others.

Are there standards for surgical face masks?

Approved surgical face masks must meet the standards established by the American Society of Testing and Materials (ASTM). ASTM is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services—including those in healthcare.

The ASTM standards measure a variety of parameters, including bacterial filtering efficiency, particulate filtration efficiency, fluid resistance, breathability, flame spread, and skin sensitivity.





Are there different levels of protection with ASTM-rated medical masks?

Masks are assigned various levels from 1 to 3 based on their barrier protection. Level 1 is the lowest level of protection, and Level 3 is the highest. Level 1 masks provide greater breathability but a lower level of protection, whereas Level 3 masks provide more protection with less breathability. Level 1 to 3 masks are adequate to help prevent transmission of the virus from the wearer to other individuals.

ASTM specifies testing with a droplet size of 3.0 microns containing Staph. Aureus (average size 0.6-0.8 microns). To be classified as a medical/surgical mask, the device must provide a minimum of 95% filtration rate for the Level 1 masks. Moderate and high protection masks (Levels 2 and 3) must have bacterial filtration rates greater than 98%.

What is the difference between an N95 respirator and a surgical mask?

Although N95 respirators may look like surgical masks, they are certified by the National Institute of Occupational Health and Safety (NIOSH) to meet special standards. They meet rigorous requirements for filtering efficiency of particles that are 100-300 nanometers in size. They protect the wearer from bacteria and viruses because they trap particulates in a complex of tangled fibers. N95 respirators are designed to create a very tight seal between the face and the filtering material.

Respirators are designed to protect the wearer from being exposed to bacteria and viruses. Some of these respirators have valves that allow exhaled air to get out, making it easier for the user to breathe. The downside of this is that other people are susceptible to the particles and pathogens that are exhaled through these valves. The bottom line is that N95 respirators provide maximum protection for the wearer but may not provide a level of protection to those who are not wearing one.

N95 respirators should be reserved for frontline healthcare and other workers who need to use these masks as part of their job. Each person assigned to an N95 respirator is tested at least once a year to verify proper respirator size and fit. Those that are assigned N95 respirators also receive specialized training and are medically cleared to wear them.



How can we compare and use an N95 respirator, a surgical mask, and a homemade face mask?

The table below presents information on the proper use of N95 respirators, surgical masks, and homemade cotton masks.

	N95 Respirator	Surgical Mask	Homemade Mask or Paper Mask
Intended User	Healthcare Workers	Healthcare workers and patients in healthcare settings.	General Public
Risk Factor	High-Risk Situations	Moderate-Risk Situations	Low-Risk Situations
Design	Designed to protect the person wearing the mask from aerosols, splatter, sprays, or blood.	Designed for healthcare workers to stop droplets being spread by the wearer – NOT to protect the wearer from breathing in aerosols.	Designed to contain coughs and sneezes and prevent disease transmission to others – NOT to protect the wearer from breathing in aerosols.
When To Wear	Recommended for use when healthcare workers care for patients with COVID-19 and performing procedures that put them most at risk of virus exposure.	Recommended for healthcare providers during single or multiple patient interactions or routine health procedures. Surgical masks are also recommended when N95s are not available.	Recommended for use when a person cannot perform social distancing. <ul style="list-style-type: none"> – When coughing or sneezing. – Using public transportation. – Shopping and working at essential businesses like grocery stores and pharmacies.
Fit Testing Required	Yes. Due to the fit, the wearer may find it hard to breathe. These masks are designed only for healthcare workers who have been fit tested.	No	No, scarves and bandanas can be used if necessary.



Should I require my employees to wear a facemask?

As America begins to open for business, many states have specific regulations and guidelines for face coverings for those working in restaurants, shops, and manufacturing. In high-risk industries, such as meat and poultry processing, OSHA has very specific procedures for providing protective equipment and engineering controls to protect workers. It is important that your company abide by state and local public health requirements and OSHA standards.

The wearing of facemasks can help prevent the spread of the disease from the wearer to an uninfected person. An ATSM-approved surgical mask is likely to provide better comfort, fit, and protection than a homemade mask. A disposable surgical mask is likely to be more hygienic and offer the employee greater comfort.

Business owners should keep in mind that both surgical and homemade masks increase the physiological stress of the wearer. Employees are likely to tire more easily and may need additional rest periods. It is dangerous for employees with respiratory or cardiac conditions to wear face coverings. Please remember that masks are not a substitute for social distancing (maintaining at least six feet of distance from other people) and staying home.

What are the CDC recommendations for use of cloth face coverings in the workplace?

Employers who determine that cloth face coverings should be worn in the workplace, including to comply with state or local requirements for their use, should ensure the cloth face coverings:

- + Fit over the nose and mouth and fit snugly but comfortably against the side of the face.
- + Are secured with ties or ear loops.
- + Include multiple layers of fabric.
- + Allow for breathing without restriction.
- + Can be laundered using the warmest appropriate water setting and machine dried daily after the shift, without damage or change to shape (a clean cloth face covering should be used each day).
- + Are not used if they become wet or contaminated.
- + Are replaced with clean replacements, provided by the employer, as needed.
- + Are handled as little as possible to prevent transferring infectious materials to or from the cloth.
- + Are not worn with or instead of respiratory protection when respirators are needed.

Please be advised that any and all information, comments, analysis, and/or recommendations set forth above relative to the possible impact of COVID-19 on potential insurance coverage or other policy implications are intended solely for informational purposes and should not be relied upon as legal or medical advice. As an insurance broker, we have no authority to make coverage decisions as that ability rests solely with the issuing carrier. Therefore, all claims should be submitted to the carrier for evaluation. The positions expressed herein are opinions only and are not to be construed as any form of guarantee or warranty. Finally, given the extremely dynamic and rapidly evolving COVID-19 situation, comments above do not take into account any applicable pending or future legislation introduced with the intent to override, alter or amend current policy language.

