



MASK MYTH-BUSTING

During COVID-19, myths surrounding the quality, efficacy and re-use of face masks have been a hot topic for discussion both inside the healthcare community and through the public eye as well. We've explored five mask myths, to help dispel common misinformation, at a time where education is paramount.



MYTH 1: Medical face masks can be re-sterilised and reused

We recommend against it. Many factors associated with resterilising could cause the product not to work as intended, mostly regarding the loss of filtration performance of the product.

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MYTH 2: Respirator masks act like strainers

To an extent masks act like a strainer, but only for large particles. A mask acts much more like fly paper when we are talking about smaller particles. It filters out the small particles, yet allows it to be breathable.

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MYTH 3: The smaller the particle size, the harder it is for the mask to capture

To a point, at 0.1-0.3 microns. 0.1-0.3 microns sizing is known as the most penetrating particle size, which is why respirator Standards focus on that micron sizing in the testing.

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MYTH 4: Surgical and respirator masks offering a BFE of 95% provide the same level of protection

Incorrect. The way in which the two tests are performed between respirator and surgical masks, means that they are not measuring the same thing.

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MYTH 5: I'm protected if I'm wearing a mask

Yes, however the extent of the protection provided depends on different factors. You must wear the mask correctly and it is recommended that you perform fit testing and fit checking routinely.

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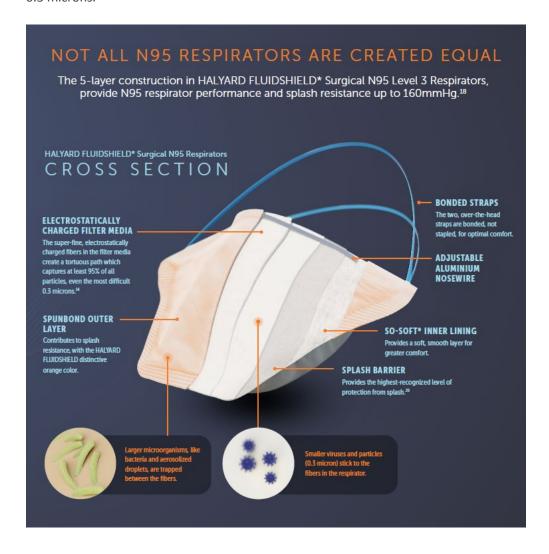
QUALITATIVE FIT TEST KITS

Halyard provides Qualitative Fit Test Kits, developed to conduct fit testing of clinicians wearing HALYARD* N95 Respirators. If you want to find out more, please register your interest to Communications_ANZ@hyh.com.

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HALYARD FLUIDSHIELD* SURGICAL N95 RESPIRATORS

Designed with a layer of electro statically charged filter media, HALYARD FLUIDSHIELD* Surgical N95 Respirators attract and secure at least 95% of all particles, even those at 0.3 microns.²



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HALYARD FLUIDSHIELD* Surgical Level 3 N95 Respirators



Meets Surgical Mask standard (ASTM Level 3), offering the highest level of fluid protection.¹



NIOSH Approved, exceeding standards for breathability and filtration.²



MORE THAN TWICE the breathing space, for comfort.³



Ideal for stockpiling. Folds flat requiring LESS overall storage space with a 5 year shelf life.⁴



20 years experience designing and optimising face masks.



Entered in ARTG 351812 as both Medical Respirators and Surgical Masks



MYTH 1: Medical face masks can be re-sterilised and re-used

We recommend against it.

Many factors associated with re-sterilising could cause the product not to work as intended, mostly regarding the loss of filtration performance of the product:

- The mask could begin to fall apart.
- Head straps could begin to fail.
- However, it is far less obvious when you begin to destroy the filtration media
 within the mask itself, so sometimes you cannot physically see the effects of
 re-sterilising on the mask.

The risks tend to outweigh the benefits.

Masks are usually designed to be single-use and not to be reprocessed.

BACK TO TOP

MYTH 2: Respirator masks act like strainers

Yes, to an extent.

Respirators do act like strainers to a certain point, but not in the way we would want them to act like strainers:

- For larger particles, these will get caught between the fibers of the filer media, that works down to around 0.10 microns in size
- However once you start to get smaller then that, the particles actually flow through the pores in the filter media.
- If you made the pores of the mask filter smaller than you wouldn't be able to breathe through the mask, so when you have small particles a different mechanism kicks in. The particles start to stick to the fibers themselves, kind of like flies on flypaper.
- So the key is to have a filter media that has a lot of fibers in it and provides a
 tortuous path through the filter media, so that the particles are going to hit a
 fiber and stick.
- The size range of 0.1-0.3 microns are most difficult to capture as the particles are big enough that they may tend to get dislodged, but are small enough to go through the pores.
- 0.1-0.3 microns is about the same size as many viruses, so it is a very important test to ensure we are testing particles in that size range.

Yes, masks acts like a strainer, but only for large particles. A mask acts much more like fly paper when we are talking about smaller particles. It filters out the small particles, yet allows it to be breathable.

BACK TO TOP

MYTH 3: The smaller the particle size, the harder it is for the mask to capture

To a point, at 0.1-0.3 microns.

When you get down to 0.1-0.3 microns, those particles are very hard to capture. They are big enough to be blown off the fibers in the mask when they stick, however they are small enough to go through the pores of the filter media:

- When we talk about microns smaller than 0.1-0.3, they're light enough that once they stick to a fiber, they get stuck and cannot get dislodged.
- Larger droplets (above 0.1-0.3 microns) hold a lot more organisms, so its great that the larger particles are captured more easily as they contain the most germs.

Therefore 0.1-0.3 microns sizing is known as the most penetrating particle size, which is why respirator standards focus on that micron sizing in the testing.

BACK TO TOP

MYTH 4: Surgical and respirator masks offering a BFE of 95% provide the same level of protection

Incorrect.

The way in which the two tests are performed between respirator and surgical masks, means that they are not measuring the same thing:

- Bacterial filtration efficiency (BFE) used to measure surgical masks, is measuring 3 microns particles at a fairly low flow rate.
- The respirator test measures 0.3 microns (smaller) particles at a much higher flow rate, so it is more stringent than the surgical mask test.
- A common error is when people compare a 95% BFE mask to an N95 respirator, they think they are getting the same filtration and will go with the easier to breathe mask.

However, if you take a 95% BFE mask and run through the same test used to measure an N95 filtration mask, it will usually only achieve a 40-60% efficiency, so you're not getting even close to the same level of protection that an N95 mask will provide.

BACK TO TOP

Yes, however the extent of the protection provided, depends on different factors.

Wearing a mask helps to protect the people around you and it also protects you, however you must wear it properly to help protect you from inhaled hazards (such as COVID-19):

- You need to achieve a good seal around the face, a good nose wire on a mask should help to achieve this. There should be no gaps around the edge.
- The better the filter of the mask, the harder it is to breathe through, and more air will form around the edges.
- The easier it is for a mask to breathe through, usually the fewer particles it is capturing.

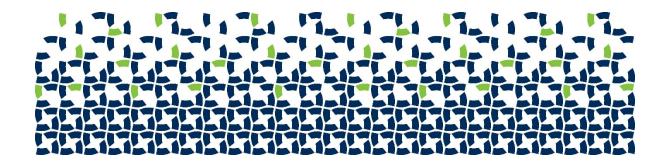
Perform fit tests routinely to ensure that an adequate face seal is achieved between the facepiece of the mask and the face of the wearer. This is a very important test for respirators to ensure the size and style of respirator is suitable and it is worn correctly.

It is also important to perform a fit check every single time you don a respirator to ensure a good fit.

If you want to find out more about Halyard's Qualitative Fit Test Kits, email Communications_ANZ@hyh.com.

BACK TO TOP

- 1. IPS Job # 46161 and 72843
- 2. NIOSH Test Report TN-22659
- 3. Claim-07826
- 4. Report DSR-SR-00203
- 5. NIOSH Test Report TN-22659



O&M Halyard Australia

Level 1, Suite 1, Triniti 3 | 39 Delhi Rd | North Ryde NSW 2113

AU: 1800 664 227 NZ: 0800 18 17 16 www.halyardhealth.com.au

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