Face Masks

Simple And Effective Ways To Protect
You And Your Family.

TRS SURVIVAL

Disclaimer

Please read and understand this.

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We emphasize that the homemade devices have not been assessed for its comparative efficacy to prevent nosocomial infection in health care workers compared with the standard-of-care, the N-95 (KN-95) mask. We conducted only a limited proof-of-concept in a non-clinical environment.

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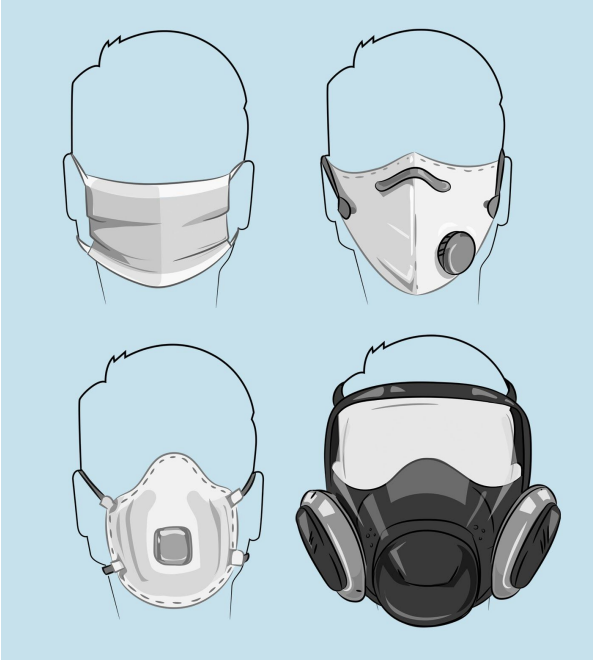


Introduction:

The Great Mask Controversy.

What a tangled web they weave:

Do face masks work or don't they?

People are confused because for some time now our government has been contradicting itself about whether or not face masks block the coronavirus.

The situation is in flux at the time of this writing. Some government officials are now admitting that "covering your face" is a good idea. Others are sticking to the old story and advising the public not to wear masks.

Just recently the Surgeon General of the United States, Dr. Jerome Adams tweeted, *“Seriously people, STOP BUYING MASKS! They are NOT effective... ”*

But he went on to say, *“If healthcare workers can’t get them to care for sick patients, it puts them and our communities at risk.”*

This leads us to a couple of questions:

Do face masks really only work for a select few?

Does the coronavirus somehow know the difference between healthcare workers and the general public?

Meanwhile, The Center for Disease Control (CDC) and the World Health Organization only added to the confusion (and now considered misinformation) with astonishing announcements like this from their website:

“Face masks do not provide adequate protection from COVID-19. The CDC does NOT currently recommend the general public use face masks. Instead, CDC recommends following preventative actions such as washing your hands, covering your cough, and staying home….”

At the same time, the CDC also urged healthcare workers and those who think they may have contracted the virus to wear the facemasks.

“CDC strongly recommends N95 face masks for healthcare workers who may be in contact with those who show symptoms of coronavirus... Wearing a mask can help prevent spreading the virus by protecting others nearby when one coughs or sneezes….”

Experts in the field are beginning to speak up about this contradiction.

“The CDC, it's like they're talking out of both sides of their mouth," said Dr. Otto Yang. *"One side of their mouth is telling the general public, 'Hey, you don't need masks, forget about it.' The other side is, 'Health care workers need to wear N95 respirators.'"*

Dr. Yang is a professor in the Department of Medicine and the Department of Microbiology, Immunology and Molecular Genetics at the David Geffen School of Medicine at the University of California, Los Angeles.

He and other immunologists are questioning why the CDC and other government agencies have been, in effect, playing favorites.

"Are they valuing some people more than others?" asked Dr. Yang. *"Is that a double standard?"*

Double standard or not, many experts feel the CDC’s recommendations against wearing facemasks have actually helped to spread the virus.

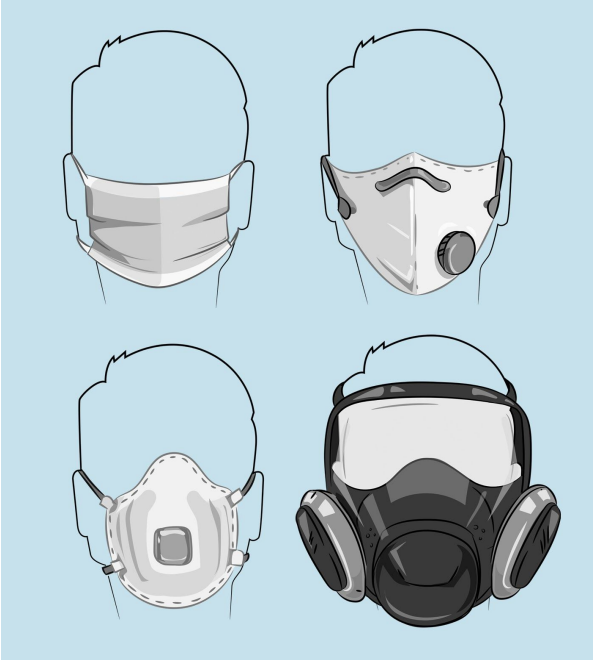
“The government agencies like the CDC need to be more upfront. We need straight talk about facemasks or more people will die,” said virus researcher, Dr. Frederick Banacke. *“The public needs real information they can use about where, when, and how to use these things.”*

That is the purpose of this report.

It first provides you with the most up-to-date research and information about how and why facemasks can help you fight off the coronavirus. It then helps you determine precisely what type of face masks and personal protective equipment (PPE) you need to keep you and your loved ones safe.

In this report, we cover:

- How face masks and other personal protective equipment (PPE) prevent you from getting infected with the coronavirus.
- How and why government agencies are misleading the public about facemasks.
- The types of protective masks on the market and how they work.
- How to wear masks so they give you the best possible protection.
- How to make an effective facemask out of common household items.



Chapter One:

How And Why Face Masks Work.

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The overwhelming consensus among medical professionals and microbiologists is that face masks really do work to protect you from getting infected with the coronavirus.

To a greater or lesser degree, most types of face masks will provide you with at least some protection from the coronavirus and other airborne pathogens.

These masks, also known as surgical masks or respirators, work by putting up a barrier between your airway and airborne particles that contain the coronavirus.

Depending on the type of face masks and how they are worn, they will stop all, most, or at least some viruses from landing in your mouth, nose, or throat -- places where the virus is best able to spread its disease.

Theories and analysis about just why the WHO, CDC and the Surgeon General have been misleading Americans and warning them not to use face masks will be covered in greater detail in the next chapter.

For now, we'll cover the basics about how and why face masks can prevent the coronavirus from reaching critical infection zones in the human body.

Virus Transmission 101:

To understand how face masks help keep coronavirus infections down, let's start by reviewing the current research on how this virus spreads in the first place.

While much of the information about the coronavirus is becoming common knowledge, humans have never been exposed to this "novel coronavirus" before -- so new research continues to emerge.

By now most of us know the "six-foot rule". We're keeping six feet away from each other because we understand that the new coronavirus spreads mostly through person-to-person contact within about a 6-foot radius.

Why is that? According to the Harvard Medical School, the coronavirus is primarily carried through the air in "respiratory droplets". These droplets are propelled up to around 6 feet and then invade our bodies through our mouth, nose, and eyes.

Once the coronavirus infects our respiratory system it causes the disease known as COVID-19. The symptoms of this disease range from a mild cough and sore throat to a deadly form of pneumonia.

While the coronavirus primarily attacks through the air, it can also survive on our hands, our shoes, and on surfaces such as tables and chairs.

The virus manages to survive in respiratory droplets outside of a human host for up to three hours -- and perhaps longer -- according to recent research. If you touch one of these surfaces and then touch your nose or mouth or eyes, the virus could get into your respiratory system and spread.

Experts say that blocking these “respiratory droplets” from your mouth and nose is the most effective way to avoid infection. To do this they recommend following what are called *“standard precautions”.*

For decades, health agencies have recommended the following standard precautions when there’s a strong chance of encountering infectious diseases:

Washing hands thoroughly, sterilizing infected surfaces, wearing safety glasses, disposable gloves and, yes, *a face mask*.

This report focuses on face masks. So let’s look at why face masks have long been considered a standard precaution in the fight against infectious disease.

Face masks work as a barrier to disease in three ways:

1. They prevent “respiratory droplets” from entering your airway.
2. They seal off viruses and other pathogens that travel through the air as aerosols.
3. They remind people wearing them not to touch their faces with potentially germ-covered hands.

The last point about not touching one's face is vital, but also rather self-explanatory. But when scientists talk about the spread of the coronavirus what exactly do they mean by "respiratory droplets" and "aerosols"?

Droplets:

Much scientific research strongly indicates coronavirus is primarily spread in respiratory droplets of 10 to 100 microns in size.

Respiratory droplets are defined by the National Institutes for Health as *"droplets of saliva and other secretions from respiratory activities".* These droplets are constantly being projected from people's mouths and noses when they cough, sneeze, talk, or even breathe.

Droplet transmission is extremely common.

"In normal times, we are constantly breathing in other people's spit and snot. Sounds gross, but it's usually no big deal," says RN Anne Jacobson. "But these aren't normal times -- so now it is a big deal."

Because the coronavirus is carried by respiratory droplets that humans are unwittingly sharing on a constant basis, it can spread easily from person to person unless preventative measures are taken.

Fortunately, droplet transmission requires close proximity. Gravity usually pulls the droplets to the ground pretty quickly.

That's why the "keep 6 feet of distance rule" has been in place -- that's generally how far these tiny, infected droplets can travel.

“Thank goodness the coronavirus does not spread like the measles virus,” says virus researcher Dr. Frederick Banacke. “The measles virus is more contagious than any virus known to science”:

That’s because measles is transmitted as an aerosol.

Aerosols:

“Aerosol” is a physics term meaning a liquid or solid (like a virus) suspended in a gas (like air).

Aerosol transmission of a virus is considered more dangerous and contagious than droplet transmission. Droplets are spewed from people’s mouths and then fall to the ground within a few feet -- while aerosols can travel across far greater distances and hang in the air for far longer time periods than droplets.

The virus that causes measles, for example, can travel hundreds of feet from an infected person.

“The reason the measles is so, well, viral, is that the microbe is so small and hardy,” says Dr. Banacke. “It is able to survive and stay suspended in the air where an infected person coughs or sneezes for up to two hours. Thankfully, the coronavirus is bigger and weaker than the measles virus.”

But Dr. Banacke does not have the last word on this.

Conflicting reports are now emerging on whether or not the new coronavirus can, in fact, travel and infect as a more contagious aerosol like measles or chickenpox.

A recent study suggests that the new coronavirus can be aerosolized. But this laboratory study is somewhat controversial

because it used a batch of the virus that was much more concentrated than anything found under real-world conditions.

Other “real-world” research contradicts this study.

In these studies, scientists searched the hospital rooms of COVID-19 patients looking for aerosolized coronavirus particles. In every room they searched, they came up empty-handed. They concluded that under real-world conditions, ***it is highly unlikely that the coronavirus could travel and survive as an aerosol.***

Based on this research, most medical experts are concluding that the new coronavirus can exist as an aerosol only under very limited conditions -- and that the aerosol transmission route is NOT what’s propelling this pandemic.

“I think the answer will be aerosolization occurs rarely, but not never,” said microbiologist and physician Stanley Perlman of the University of Iowa. “You have to distinguish between what’s possible and what’s actually happening.”

Why is this research important for you to know about?

Because it will help you make real-world decisions about how to protect yourself and your loved ones from the coronavirus. It gives you options to consider -- especially when it comes to face masks.

Face Mask Facts:

There is a dizzying array of face masks in every shape and form. In fact, there are so many types of face masks that we devote an entire chapter to them later in this report.

Different face masks are designed to offer different types and degrees of protection. Some are made to protect you from

hazardous fumes, some from dust, some from respiratory droplets, some from aerosolized microbes, some from all of the above.

Our focus here is on face masks that can shield us from the coronavirus. The N95 respirator is probably the mask you've heard about the most.

It's all over the news because it's the face mask that the CDC recommends healthcare workers use in hospitals and nursing homes to keep the virus in check.

What exactly is an N95 respirator and why is it so special?

According to the NIH, "The N95 is the most common of the seven types of particulate filtering facepiece respirators. This product filters at least 95% of airborne particles."

The N95 is considered a *"medical-grade respirator"* by the CDC. The "N" in N95 stands for "Not resistant to oil", (which has to do with industrial purposes not necessarily relevant to this report).

The "95" means the mask filters out 95% of particles 0.3 microns in diameter or larger. There are respirators like the N99 that are even better filters, but they are less comfortable and more expensive than the N95. (We'll get into more detail about filter percentages and mask ratings later in this report.)

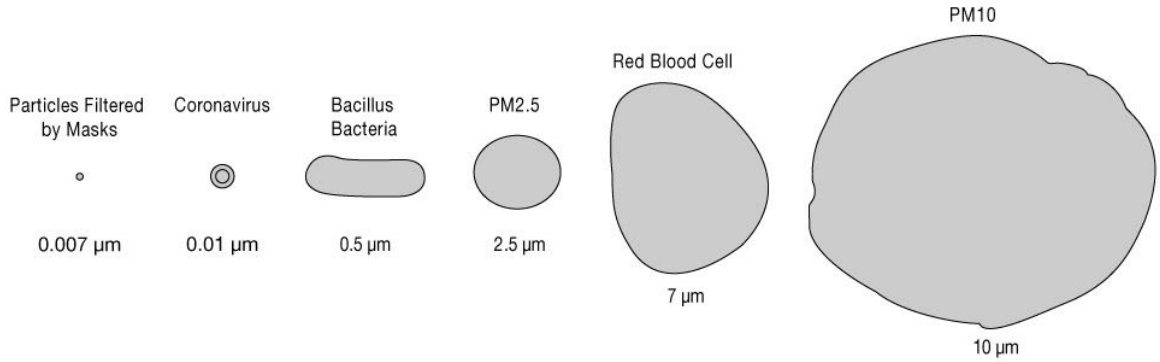
Microns:

The "N" class of masks are designed specifically to block micron-sized pathogens from entering your airway. But what exactly is a micron?

One micron is an extremely tiny unit of measurement. It's equal to 1/1,000,000 of a meter -- which is .00003937 of an inch.

Most humans cannot see anything smaller than 40 microns with the unaided eye.

Here's some perspective on the size of a micron.



Graphic showing the relative sizes of things as measured in microns.

- An average human hair has a diameter of 100 microns.
- A human red blood cell is 7 microns.
- Coronaviruses are an average of 0.1 microns in diameter.

Now that we know how big coronavirus particles are, the question is how can a mask filter out such tiny particles? Even the famous N95 respirator is not rated to filter out particles as minuscule as the coronavirus.

One reason has to do with *droplet size.*

The coronavirus is being spread primarily through respiratory droplets. According to the NIH, **these droplets range in sizes between <u>10 and 100 microns</u> in diameter.**

Relatively speaking, that's BIG. Which is good news because there is a wide range of masks that can block particles 10 to 100 microns in size.

However, when it comes to blocking aerosol transmission of a virus, most masks haven't been officially rated.

The size of virus-carrying aerosols ranges from .15 to .8 microns according to NIOSH (National Institute for Occupational Safety and Health) and the CDC. These aerosols are much smaller than droplets -- so the theory is that tiny aerosols can penetrate even sophisticated masks.

While the verdict is still out on whether or not the coronavirus travels as an aerosol -- the consensus among scientists is that ***aerosol transmission of the new coronavirus is possible…***

...but very rare.

That leaves people with a choice to make when it comes to masks. Do you want a respirator that completely filters out every possible germ-carrying particle? Or will a mask that catches most respiratory droplets work for most practical purposes?

Types of Mask and Their Effectiveness.

A recent study on masks done by the University of Edinburgh in Scotland shows how even the most basic type of mask is far better than nothing.

In fact, researchers were surprised to discover how well even inexpensive dust masks and surgical masks performed in capturing tiny nanoparticles.

In this study, researchers ran a diesel generator to mimic car exhaust. They piped the exhaust through different masks.

Using a tool called a “particle counter”, scientists were able to accurately count how many particles were able to penetrate the mask. With this tool, they were also able to measure these particles down to .007 microns.

That’s incredibly small. Even the tiny coronavirus is about 10 times larger than .007 microns.

For the first test, they tried a simple cotton handkerchief, the classic cowboy bandana. It was able to block 28% of the particles down to .007 microns.

Next, they tried a typical and inexpensive surgical mask. It did surprisingly well, blocking 80% of the particles down to .007 microns.

Then they tried several bicycle masks that are popular in Scotland. Most were around 80%.

And finally, they tested several cheap 3M dust respirators, all of which scored over 95%.

So despite what skeptics may be saying, the University Of Edinburgh tests show that even simple and inexpensive dust masks are indeed capable of capturing a high percentage of virus-sized particles.

Of course, using nothing stopped 0% of the particles.

Keep in mind that this study was measuring how these different types of masks protected against the very tiniest of particles -- *.007 microns* -- even smaller than the most minuscule virus.

When it came to a 1-micron particle, the conclusion was that virtually all commercially available masks tested were at least 97% effective in blocking particles 1 micron in diameter or larger.

Now, 1 micron is obviously much larger than .007 microns. But remember, the coronavirus -- though only about .1 micron in size -- ***travels in respiratory droplets that are 10 to 100 microns wide.***

Ok. A lot of factoids and decimals and percentages have been thrown around here. But, bottom line, the natural conclusion we can draw from all this is that any one of these types of masks is better than nothing.

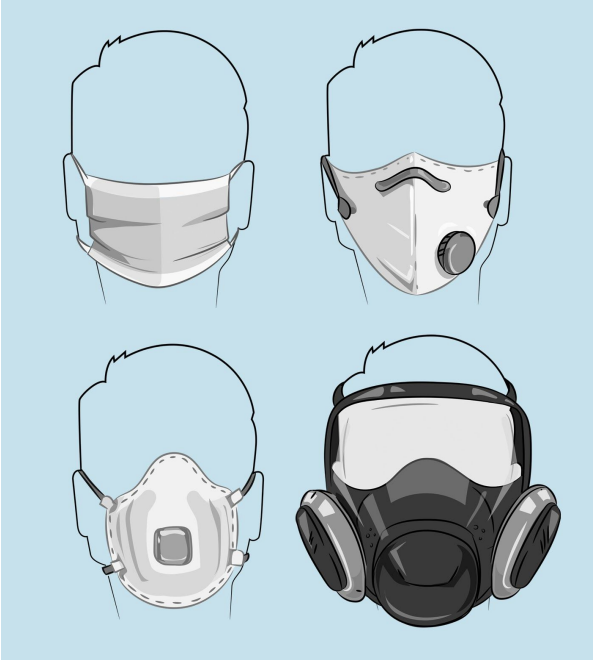
And, when it comes to commercially available masks, even the cheapest dust masks will block out nearly all particles the size of the droplets in which the coronavirus is spread.

There are other factors in play here -- mainly, the way the mask fits on your face. If the mask doesn't have a decent seal against your skin, air can leak in the sides, making the mask a less effective barrier than those test results indicated.

We'll cover how to properly fit masks later in this report. For now, the takeaways are that you can choose from a variety of masks. Some (like "95" type masks) are rated specifically for their ability to block pathogens like the coronavirus.

But we can't stress enough that any type of mask, even a cowboy bandana or a mask made at home from a cotton t-shirt, (which we will show you how to make later-on in this guide), provides better protection than no mask.

In the next chapter, we'll examine why the CDC and other government agencies have been telling us, contrary to all evidence, that we shouldn't wear face masks.



Chapter Two:

The Government Has Been <u>LYING</u> To You About Facemasks.

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The Government Has Been Lying To You About Face Masks.

Just as this report was being prepared for release the dam started to crack and individuals inside the federal government (and in states around the country) began to sheepishly admit that perhaps *“covering your face”* is not such a bad idea after all.

This was after months of misinformation. Misinformation that is surely going to cost a lot of people their lives.

The Surgeon General of the United States, Dr. Jerome Adams, has been telling us that masks aren’t necessary for protecting the general public -- while at the same time telling us that health care workers need the dwindling supply.

It doesn’t take a microbiologist to deduce that this statement is complete gibberish.

How could these masks magically protect only certain wearers from being infected with the coronavirus?

Simple common sense tells us Dr. Adams' pronouncement is double-talk.

Beyond that, there is a whole slew of hard evidence, (much of which is presented in this guide), backed by years of research, showing that wearing a mask will protect you from catching the coronavirus much better than no mask.

But the Surgeon General has not been alone in perpetuating this hoax upon the American public.

The World Health Organization (WHO) and the Centers for Disease Control (CDC) also led the charge, spreading misinformation about masks to media outlets like TIME magazine and CBS -- who cluelessly jumped on the bandwagon in their hurry to regurgitate what the government health agencies feed them.

So why have they been lying so blatantly to us?

Why the Lie?

There are a couple of interesting conspiracy theories out there about this -- though, admittedly, evidence to support these claims is lacking.

Perhaps the one gaining the most traction is that this whole coronavirus thing is a form of “population control”. To get the most bang for the buck, brainwash the public not to wear masks -- that way even more people will catch this disease and die.

COVID-19 almost exclusively kills older people -- a rather convenient, albeit harsh, method of knocking down that glut of aging baby boomers and resolving that tricky Social Security issue.

Sounds frighteningly plausible -- but we have an obligation to tell you that our research team has found no hard proof to support the theory that this pandemic was a planned event designed to kill off the old people.

Less dramatic, but perhaps more likely, is that the “masks don’t work” fable started as a sort of white lie that soon-after spun out of control.

We found a good deal of evidence that backs this up:

When the virus first started spreading in China, many health agencies in the US tried to be proactive and stock-up on protective equipment like surgical masks.

Ironically, mainland China, the place the coronavirus spawned from, happens to be the same place where most of the masks and respirators are now made.

The Chinese needed these supplies for themselves -- and at the same time they began to institute quarantines and shut down the factories that produced them in an effort to contain the new coronavirus.

Since the U.S. and Chinese governments are “frenemies” to say the least, it was no great leap for US officials to imagine that the communists would unilaterally ban their companies from exporting masks to the US.

The result was that American health agencies were staring at a possible shortage and got nervous. Many health experts in the US became motivated by an urgent goal to preserve the remaining masks for healthcare workers.

So they started spreading the tale that the general public didn’t need masks.

At that time, January 2020, this was more or less true. The disease had only shown up in a handful of isolated cases in America. The general public didn’t really need masks at that time.

Now we do.

But government health agencies double-downed to keep the “masks are useless” fable alive. Like a second-grader caught in a lie, they continued to add fishy details to bolster what started out as a minor fib.

Mask Fitting Foolery:

They started telling the public that masks, especially medical-grade respirator masks (such as the N95 masks), needed precise expert fitting and that ordinary people who didn't know how to do this fitting wouldn't benefit.

Anyone who knows a little about these masks knows they aren't all that complicated to fit. But really -- telling people they can't possibly figure out how to wear a mask, so they shouldn't even bother?

That turns the fib into a whopper.

Even if the mask does not fit precisely, it's plain to see that some protection, even if not perfect, is better than none.

To clarify, many people were not washing their hands correctly when the coronavirus started spreading, but the Surgeon General didn't respond to that by telling the public not to bother washing their hands at all.

Instead, health agencies provided instructions. We worked together on this and posted signs in bathrooms; demonstrated the proper technique to our kids, and even helped people sing songs to time their hand-washing to twenty seconds.

In short, the American people got the message and figured it out.

To tell us we're not capable of figuring out how to wear a face mask is an insult to our intelligence.

To tell us that's a reason not to wear face masks is downright balderdash.

The disturbing thing is health officials at the top knew perfectly well that this was a bald-faced lie.

Fact vs. Fiction:

Until January 2020, masks had always been advised as one of the standard precautions to prevent the spread of infection.

Before the new coronavirus outbreak, the CDC and the World Health Organization (WHO) routinely advised the use of masks as part of the standard response to being around infected people, especially for people who may be vulnerable.

Check out this link from 2009:
https://www.cdc.gov/h1n1flu/masks.htm

In this bulletin the CDC specifically tells people to wear masks as a precaution against viruses -- in 2009, it was the H1N1 virus that we were fighting.

And back in 2007 researchers from the National Institutes of Health (NIH) conducted a systematic review of a variety of interventions used during the SARS outbreak in 2003.

You can find it here:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2190272/

In this study, they found that wearing a mask was actually 12% more effective at stopping the coronavirus than washing hands 10 times daily and wearing gloves.

This research comes from the very health organizations which perpetuated the hoax that masks are not effective for the public.

It directly contradicts what they have been recently telling us.

Granted, this information was buried pretty deep, but, as you can see, it's still out there.

Other evidence from around the world is easier to find:

- In WHO health briefings on cable news, you'll often see the World Health Organization officials wearing masks.
- In countries that have an abundance of masks, governments are urging everyone to wear them.
- In the Czech Republic, a country without a large supply of masks, nose and mouth coverings have still become mandatory in public spaces -- prompting a grassroots drive to hand-make masks.
- In some parts of China, you could be arrested and punished for not wearing a mask.
- In Japan, Hong Kong, Thailand, Taiwan, and mainland China nearly everyone wears a mask.
- In these countries, they say that, since anyone could be a carrier of the coronavirus, even healthy people, it is safer and more considerate to wear a mask.
- In these countries, the rate of transmission of the spread of the coronavirus has stabilized and the pandemic has been brought under much greater control.
- In Hong Kong, health officials credit universal mask-wearing as part of the solution to stopping the spread of the virus.

Meanwhile, the United States now has the most cases of coronavirus in the world -- and the numbers continue to multiply daily.

And yet in the face of the obvious, US health officials just recently pronounced to the public, *"Don't wear masks. You don't need them".*

Growing Lack of Trust:

Our government doesn't trust us enough not to lie to us.

It's like Jack Nicholson in that movie "A Few Good Men":

"You want the truth - you can't handle the truth!"

Yes, we can.

And when health officials lie to us, it just makes us trust authorities even less.

Many of us these days have a healthy skepticism of government in the first place; this mask hoax is just adding fuel to the fire.

When people hear government officials telling obvious lies, they lose trust in their government. Health officials become like the "boy who cried wolf".

Whether the officials are right or wrong, truthful or dishonest, it stops mattering -- when the public keeps catching them in lies, the public stops listening and just focuses on taking care of themselves and their loved ones as best as they can.

Trying to guide us through this pandemic with deceit and obvious contradictions is beginning to backfire badly. Lack of trust is precisely what fuels things like hoarding toilet paper and spinning conspiracy theories.

In the old Soviet Union, people said, “If there’s a line, first get in line and then figure out what the line is for.”

The Russian people knew that there were going to be shortages. They knew that the Soviet authorities often lied. So the people hoarded what they could.

Let’s look at the basic facts here:

Wearing masks prevents the spread of the coronavirus. But there is a shortage of masks -- and medical workers really need them.

In the face of these facts, what should the authorities have been telling us from the beginning?

How about…

The Full and Painful Truth:

- The truth is we were not at all prepared for this pandemic.
- The truth is, that despite warnings from experts since the near misses of the SARS and MERS viruses, we did not ramp up homeland production of protective equipment.
- The truth is, that because of poor planning, there is now a shortage of the hospital-rated medical respirator masks.
- The truth is there are many types of masks out there that work well.
- The truth is any sort of mask is far better than no mask.
- The truth is there are means for citizens to get a reasonable amount of effective masks for themselves.
- The truth is there are simple ways to make decent homemade masks from common household items.

The Solution:

If health officials would have simply shared this information honestly with us it would have solved a couple of big problems.

First and foremost, it would have saved lives and slowed down the pace of the pandemic. As we've seen, the evidence is overwhelming that the more people wear masks, the less this disease spreads.

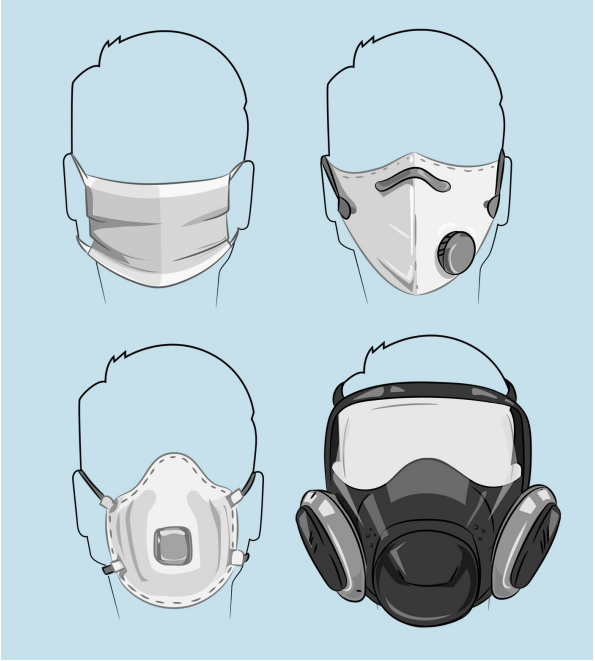
Second, it would have restored some lost faith in our government. While the coronavirus is spreading fast, the epidemic of losing trust in government support threatens to spread even faster.

Rather than spinning lies and wringing their hands while all hell broke loose, government health officials needed to 'fess up a long time ago, then roll up their sleeves and get to work.

Rather than treating us like fools to be tricked, they need to treat us as sovereign citizens to be trusted.

Trust us, and we will return that trust.

Respect us and treat us as equals, and we will step up and work hard to get through this pandemic together.



Chapter Three:

Types Of Protective Masks.

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We've gone over how the coronavirus spreads, how face masks can protect you from this virus, and why government health officials have been lying and telling people not to wear them.

In this chapter, we'll delve more into the nitty-gritty about different types and styles of commercially-made face masks and respirators.

Trade-offs:

When it comes to masks there's a trade-off. Generally, the more they filter small particles, the harder they are to breathe through and the less comfortable they are. In contrast, the less a mask filters particles, the easier it is to breathe through and the more comfortable it is.

For example, a NASA spacesuit, though it protects you from virtually every contaminant, is pretty cumbersome and would be rather uncomfortable to wear for a stroll in the park.

On the other extreme, a cowboy bandana is convenient and easy to wear, but it offers only the most basic protection.

But one thing to remember about both these extremes and everything in between is that bottom line, any type of mask will protect you from the coronavirus better than no mask.

Let's take a look at some of the more common types of masks and examine the pros and cons:

N95 and KN95 Mask:

Are the N95 and KN95 the same thing?

Yes, for all practical purposes they are.

We'll start with the N95 mask. We won't be treating the N95 and the KN95 masks differently because by any reasonable standard they are nearly identical.

In fact, according to 3M's own Personal Safety Jan 2020 Technical Bulletin comparing, (among other masks), the N95 to the KN95:

"It is reasonable to consider China's KN95 as 'equivalent' to US NIOSH N95 for filtering non-oil-based particles such as those resulting from wildfires, PM 2.5 air pollution, volcanic eruptions, or bioaerosols (e.g. viruses)."

As clearly stated by 3M themselves, the N95 and KN95 are essentially the same masks.

And so, since the N95 and KN95 are virtually identical, anytime "N95" or the "95-type" is referred to in this report it applies to the KN95 as well.

The 95-type is the mask that everyone is talking about now. It's all over the news and has almost become a symbol of the coronavirus and of the challenges our country is now facing.

But that's not only because healthcare workers are facing a shortage of them in America as this pandemic spreads -- it's also because the 3M N95 has long been one the most popular types of respirators on the market.

Respirators vs. Surgical Face Masks:

You may have noticed we used the word "respirator" here when talking about this mask.

For most of this report, we generally use the terms "face mask" or "mask" to describe anything that people wear over their face to protect themselves from toxic substances.

But health officials like to make a distinction between the terms "respirator" and "face mask"

They describe a *respirator* as a "*tight-fitting mask that creates a facial seal".*

3M N95 respirator, (equivalent to KN95).

The respirator class ranges from disposable masks like the 95-type to multi-use facepieces that cover the entire head and are used for hazardous materials responses, to block tear gas, or to fight forest fires.

Here's how NIOSH (National Institute for Occupational Safety and Health) defines a respirator:

"A respirator is personal protective equipment that prevents the wearer from inhaling aerosols (dust, smoke, mist) as well as vapors or gases (disinfectants, anesthetic gases) that are health hazards.

It is fitted to seal against the face and protects the wearer from airborne infectious agents i.e. against contamination by a virus such as coronavirus, SARS, H1N1."

A *face mask*, or "surgical mask" is described as a *"loose-fitting mask that covers the nose and mouth area".*

Surgical Face Mask

Here's the official definition of a surgical face mask:

"A disposable medical device that protects against infectious agents transmitted by 'droplets.' These droplets can be droplets of saliva or secretions from the upper respiratory tract."

What does all this mean in practical terms?

Is one type better than the other at blocking the coronavirus from invading your respiratory system?

Yes and No.

Let's break it down.

Respirators such as the N95 and other "90 series" masks undergo rigorous government testing to determine their ability to filter contaminants.

In fact, the very name of the mask -- "N95" -- is a result of these tests. The 95 number is given because tests prove the mask filters 95% of particles 0.3 microns or larger.

This means it can filter out super tiny particles known as aerosols. Some tiny viruses such as measles and chickenpox travel in aerosol form. According to the testing, a 95 rated mask should be able to block most of them and anything larger.

But, as we covered in Chapter 1, the coronavirus *almost* exclusively travels in droplets in the much larger 10-micron to 100-micron range.

We say "almost" because one study (which is still under debate) found that the coronavirus was sometimes able to travel as an aerosol -- but only when the scientists tested a super-concentrated batch of viruses under laboratory conditions.

The thing is, surgical face masks are designed to block droplets -- and the coronavirus travels mostly in droplets. So, it stands to reason that surgical masks could be very effective at stopping the virus.

But respirators like the 90 series masks (N95, KN95, P95, N99, etc.) have been rigorously tested and approved by official agencies for their ability to help us not *inhale* or breathe-in toxins. Surgical masks are not tested like this.

Surgical face masks are tested for their ability at preventing the respiratory droplets we *exhale* or breath-out from getting through the mask.

That's because surgical face masks were developed for doctors and nurses to wear during surgery. Surgical teams wear these types of face masks mainly to provide a sterile environment for their patients.

These masks were designed to block the germs the doctors and nurses might be exhaling from reaching and infecting their patients' open wounds and exposed internal organs.

But surgical face masks are not sophisticated one-way devices that only prevent droplets from getting out.

It stands to reason that if they work as a barrier to stop the droplets that you exhale, they will work as a barrier to the respiratory droplets coming in from the other side of the mask as well.

A video link we share later in this guide will show how by explaining the layers of material most of these masks are made of.

But surgical face masks have not been officially tested by government agencies for the specific purpose of blocking droplets from getting *in* through the mask.

They have, however, been tested for this by reputable University research teams. You can find details of some of these tests in chapter 1 and chapter 5 of this report.

In summary, the tests found that surgical face masks were, on average, 97% effective at blocking particles 1 micron in diameter or larger.

Again, it bears repeating: The coronaviruses are mostly contained in droplets much larger than 1 micron -- in fact, these respiratory droplets are 10 to 100 microns on average.

So a logical conclusion would be that surgical face masks look like a pretty good choice when it comes to wearing something that will protect you from coronavirus infection.

But are they the best choice?

That will be your decision to make. We will make some recommendations, but this report is meant to provide you with enough solid information so you can make your own well-informed choices.

Airflow:

Another thing about masks you want to consider when choosing a mask is airflow.

As we said earlier, the better a mask is at filtering small particles, the harder it generally is to breathe through.

When mask material is thicker and more tightly woven it is able to trap more unwanted particles. But a super tight weave can make breathing difficult -- and that could be dangerous.

For example, think of trying to breathe through a plastic bag.

Or imagine yourself in a grocery store wearing an industrial-grade, tightly-sealed, 100% guaranteed germ-catching mask.

The mask would be pointless if it caused you to gasp for air, hyperventilate, and pass out in the produce aisle because that mask was too hard to breathe through.

A good mask is one that will stop the dangerous germs, but also allow the wearer to breathe fairly normally.

One reason the N95 type of mask is popular in the healthcare field is that it offers a somewhat happy medium between decent airflow, superior germ-catching ability, and cost.

As we've said, the "95" designates that a mask is officially rated to filter out 95% of particles 0.3 microns or larger.

Manufacturers also produce "99" and "100" masks that are even more effective (99% and 99.97% respectively) at catching tiny particles.

But these masks are also made of material that is harder to breathe through. This posed a problem -- first noted on the battleground during intense military assaults.

Soldiers fighting the enemy in contaminated environments were finding it difficult to pull enough air into their lungs when wearing these masks.

As a solution manufacturers installed carbon-filtered exhalation valves in the face masks.

These valves made the respirators easier to breathe through, but they also made the masks heavier and much more expensive.

The UK based Cambridge Mask Co., makes the N99 mask in three varieties -- no valve, one valve, and two valves. 3M also makes these masks.

Like most other masks, as of this writing, they are currently out-of-stock everywhere. These are nice products, but, if you can find them, expect to pay a hefty premium.

To summarize, masks rated in the 95 to 100 range provide excellent filtration of small particles. NIOSH and the CDC recommend them for healthcare workers on the front lines of the coronavirus pandemic.

But these dense masks can be difficult to breathe through -- some wearers report that these types of respirators are uncomfortable and make them feel claustrophobic, especially when exerting themselves.

Also, the 95 to 100 series respirators are nearly impossible to find right now -- and some styles can be pricey.

Which brings us back to surgical face masks.

As we said earlier, surgical face masks are not rated by NIOSH or the CDC to filter the coronavirus, but University research teams have tested them and found them to be 97% effective.

When it comes to airflow, surgical face masks have the advantage over respirators. They are easier to breathe through than most respirators. They are also lighter and more comfortable.

Another plus for facemasks -- they are a lot cheaper than respirators, depending on the brand and the vendor.

Just like 95 rated respirators though, surgical face masks are becoming harder and harder to find.

The major drawback with surgical face masks has to do with mask seal and fit.

Mask Seal:

Another factor to consider is how well the mask “seals” against the face.

One reason why a 95 type respirator is considered to be a superior mask is that it “fits” to the face better.

These types of respirators are specifically designed to form seals against the face to prevent contaminants from leaking in around the sides of the mask.

They come in different sizes for different faces. And there are size charts that help you determine which size is right for you.

The manufacturers of these masks even go so far as to recommend that wearers shave off their facial hair in order to get an effective seal.

These masks also have bendable metal seals so you can mold the mask around the structure of your nose.

It’s not too complicated -- and we’ll give you step-by-step instructions on how to fit your mask in the next chapter.

When all is said and done, however, mask fitting may not be such a critical factor after all.

Random studies that track infection rates suggest that while surgical masks may be more “leaky” than 95 type respirators, they are just as effective at preventing the transmission of viruses.

It’s not clear why. Researchers think that maybe it’s because masks have less to do with “filtering” and more to do with preventing folks from touching their faces and transporting the virus into the mouth, nose, and eyes.

But the jury is still out on why the more leaky surgical mask appears to be just as effective in the real world as the 95 type respirator.

Recommendations:

The various types of masks on the market all have their pros and cons, and we recommend weighing these pros and cons when you have some choices on which masks to buy.

- Right now there aren’t many choices out there, so we recommend using whatever kind of mask (including homemade) you can get your hands on as long as you can breathe through it.
- Remember, any mask will filter viruses from your airway better than no mask. (More to come on this and what kind of materials work best for homemade masks).
- For your bug-out bag, we recommend getting a reusable 99 respirator with two valves.

  It’s pricey, but when SHTF you’ll want something that is able to filter out a whole bunch of other nasty stuff besides the coronavirus.

Plus, the double valves will make it easier to breathe if you have to move fast on foot.

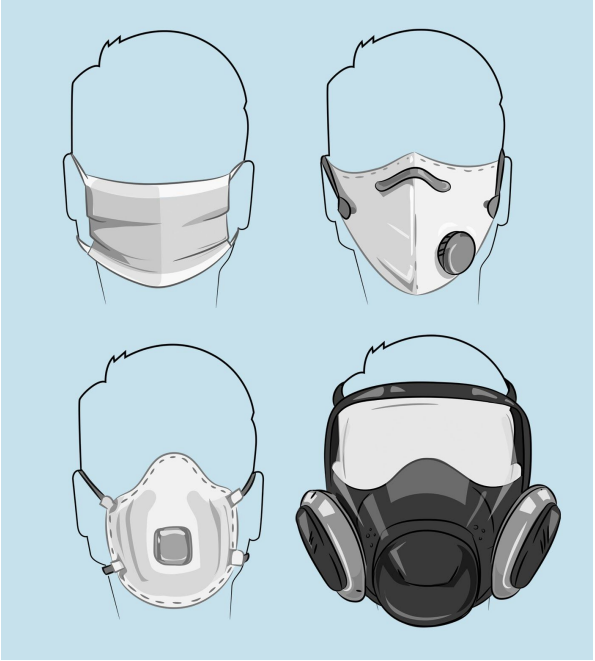
- For shorter visits to the hospital, nursing home, or other potentially highly infected areas full of people, we recommend disposable 95 type masks.

  A 95 respirator mask might be more uncomfortable to wear than a surgical facemask, but it does have that reassuring tight seal and high official filter rating.

- For trips to the grocery store, walks in the park, or other longer excursions in lower-risk environments (considering the coronavirus is almost exclusively transmitted in relatively large droplets) we feel surgical facemasks provide excellent protection.

  Based on our research, surgical face masks are proving to be surprisingly effective at preventing coronavirus infection.

  Surgical facemasks are cheap and disposable. And you can wear them for a long time while on the move without getting as out-of-breath or as uncomfortable as you would wearing something like a 95 rated respirator.



Chapter Four:

How To Properly Wear Protective Masks.

Chapter Four:

How To Properly Wear Protective Masks.

Seems like a no brainer, doesn't it?

You just throw it on and it covers your mouth and nose, right? Even a four-year-old knows how to put on a mask -- c'mon, look at Halloween….

Actually, putting a protective face mask on and taking it off properly to prevent infection is a bit more complicated than that.

This is not rocket science, but there are a few steps to follow. We'll walk you through them.

Speaking of rocket science, that's exactly what the CDC has wanted people to believe -- that putting on a mask is like launching the space shuttle, a task best left to the experts and far too dangerous for the average citizen to mess with.

"People without medical training do not know how to properly don and doff disposable respirators without potentially spreading contamination, nor are they aware of proper techniques of fitting respirators to ensure a secure seal," claims CDC officials. "Therefore, to better contain the novel coronavirus outbreak, the general public should forgo use of such devices."

Let's put this hoax to rest once and for all and do a break down of the relatively simple procedures related to wearing a mask to prevent infection.

First, here's a little vocabulary review to clear up some of the jargon:

Doff -- Removing a mask, taking it off your face.

Don -- Putting a mask on your face, tightening it down and adjusting it to ensure a proper seal.

Fit test -- Official assessment of how well a mask seals against a user's face.

PPE -- Personal protective equipment, such as masks, gloves, face shields, and other gear that keeps health care workers from catching an infection.

Positive pressure -- When the air pressure inside the mask is greater than the air pressure outside the mask. When a mask has positive pressure (for example, while exhaling) it's more difficult for contaminants to get past it -- even when there is a less than perfect seal.

Respirator -- A face mask that seals around the mouth and nose to filter out particles from the air before they are breathed in. An N95 respirator, for example, filters out "95 percent of very small (0.3 microns) test particles,"

SCBA -- Self-Contained Breathing Apparatus. Has an air tank and full facepiece with positive pressure. Typically used for short periods in highly contaminated environments. For example, an SCBA mask is what firefighters wear when going into burning buildings.

Seal Check -- Different than a "fit test". This is done by mask wearers putting their hands around the mask seal to check for air leakage.

Surgical mask or face mask -- Loose-fitting masks that block respiratory droplets. They are not designed to form a tight seal against the face and are generally not fit tested.

Ventilator -- As opposed to surgical masks and respirators, this is an actual machine that moves air in and out of the lungs when a patient has serious struggles with breathing -- or literally cannot breathe on their own.

How to Doff and Don Masks That Have a Seal:

The following two YouTube videos show you how to properly don, doff, and fit a mask. In them, they use some of this terminology. Both videos focus on the cone-shaped masks like the 3M N95, but the instructions can apply to most masts with two straps that are meant to seal against the face.

This first video is brief and to the point.

https://www.youtube.com/watch?v=HluIkTbTBIw

This second YouTube video goes into more detail.

https://www.youtube.com/watch?v=XPOzCG4DrgQ

As you can see, either way, this mask-wearing stuff is not all that complicated.

Step-by-Step Guide:
Donning and Doffing A Respirator:

Here are written instructions with illustrations that explain step-by-step how to don and doff a mask that seals like an N95 respirator or similar mask.

Donning procedures:

1. Wash your hands well.

2. Cup the outside of the mask in one hand, allowing the straps to dangle freely.

3. Place the mask over your nose and mouth. Firmly press the nose clip on the mask over the nose, mold it around the bridge of your nose, and tuck the bottom of the mask securely over the chin to ensure a tight seal.

4. Then pull the top strap around the top of your head.

5. Next, stretch the bottom strap over your head and pull it to the bottom of the back of your head until it rests against the nape of your neck. (Don't let the strap rest on your hair, put it against the base of your neck).

6. Last, perform a seal check by breathing in and out forcefully and feeling for air leakage around the mask.

Doffing Procedures:

NOTE: **DO NOT** touch the front on the mask -- assume it is contaminated. However, the straps are “clean” and can be touched.

1. Wash your hands.

2. Tilt the head slightly forward.

3. Then use your two index fingers to remove the bottom strap first. Slowly pull the bottom strap over your head.

*4. Next, remove the top strap. Be very careful **not** to touch the front of the mask.*

5. Discard the mask carefully as medical waste.

6. Wash your hands.

Those are the steps and procedures for putting on and taking off the respirator style of masks like the N95.

As you can see, the main takeaways about using these masks safely and effectively are:

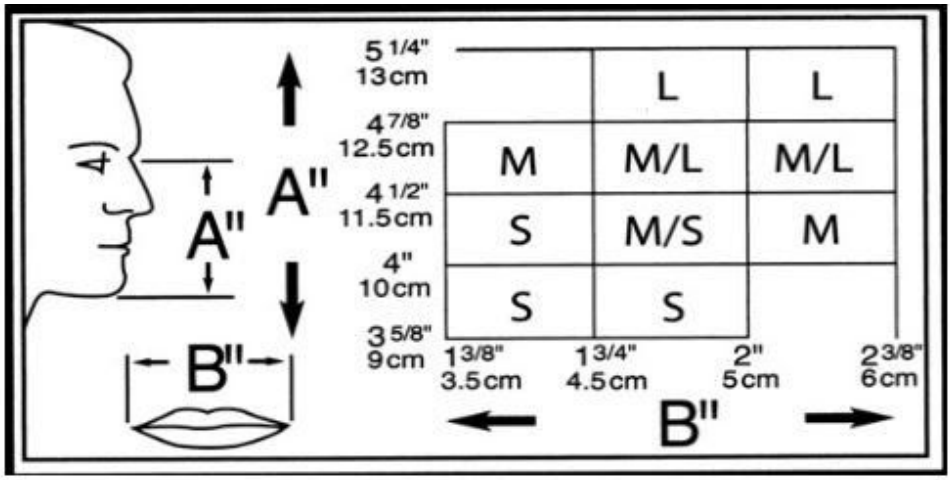
1. Get a good fit and tight seal

2. Do not touch the front of the mask after you’ve worn it.

These types of masks come in several different sizes to fit a variety of faces. Most brands generally have masks that run in at least the basic Small, Medium, and Large sizes.

Choosing the right size for yourself basically involves measuring the distance from the bridge of your nose to the bottom of your chin. As a secondary measurement, they recommend measuring the width of your mouth.

Respirator measurement guide



The chart above illustrates how to measure to determine the mask size of an N95 and KN95 style respirator mask that has the best fit for your face.

Surgical Face Masks:

Putting on and taking off a surgical face mask is not as complex a routine as it is with a respirator.

That's because surgical face masks don't have a hard edge meant to seal against your face like a respirator does. This means they don't have as many fit and sizing issues.

But there are a few steps to take to make sure you get the best possible protection from this type of face mask.

Here are links to a couple of YouTube videos that cover the best methods of putting these things on (donning) and taking them off (doffing).

This first video shows you how to doff and don the type of surgical face masks that are put on using ear loops.

Facemask procedures --YouTube video

This next video goes through doffing and donning procedures for varieties of surgical face masks that are tied on. It also discusses the filtering material these masks are made of.

https://www.youtube.com/watch?v=9VbojLOQe94

There is one common thread between how you doff and don any kind of mask. Always wash your hands before putting on and after taking off *any* sort of protective mask.

Step-by-Step Guide:
Donning and Doffing Surgical Face Masks.

Here are step-by-step instructions that cover the fine points of putting on and taking off surgical-type face masks. Facemasks are secured with either ear loops, ties, or elastic bands. These instructions will guide you through all of these styles of masks.

How to put on a face mask:

1. Clean your hands with soap and water or hand sanitizer before touching the mask.
2. Make sure there are no obvious tears or holes in either side of the mask.
3. Determine which side of the mask is the top. The side of the mask that has a stiff bendable edge is the top and is meant to mold to the shape of your nose.
4. Determine which side of the mask is the front. The colored side of the mask is usually the front and should face away from you, while the white side touches your face.
5. Follow the instructions below for the type of mask you are using.
    - *Face Mask with Earloops:* Hold the mask by the ear loops. Place a loop around each ear.
    - *Face Mask with Ties:* Bring the mask to your nose level and place the ties over the crown of your head and secure with a bow.
    - *Face Mask with Bands:* Hold the mask in your hand with the nosepiece or top of the mask at fingertips, allowing the headbands to hang freely below hands. Bring the mask to your nose level

and pull the top strap over your head so that it rests over the crown of your head. Pull the bottom strap over your head so that it rests at the nape of your neck.

6. Mold or pinch the stiff edge to the shape of your nose.
7. If using a face mask with ties: Then take the bottom ties, one in each hand, and secure with a bow at the nape of your neck.
8. Pull the bottom of the mask over your mouth and chin.

How to remove a face mask:

1. Clean your hands with soap and water or hand sanitizer before touching the mask. Avoid touching the front of the mask. The front of the mask is contaminated. Only touch the ear loops/ties/band. Follow the instructions below for the type of mask you are using.
2. *Face Mask with Earloops:* Hold both of the ear loops and gently lift and remove the mask.
3. *Face Mask with Ties:* Untie the bottom bow first then untie the top bow and pull the mask away from you as the ties are loosened.
4. *Face Mask with Bands:* Lift the bottom strap over your head first then pull the top strap over your head.
5. Throw the mask in the trash. Clean your hands with soap and water or hand sanitizer.

In this chapter, we believe we have thoroughly covered just about everything you need to know about how to safely and effectively put on and take off the primary types of protective masks on the market.

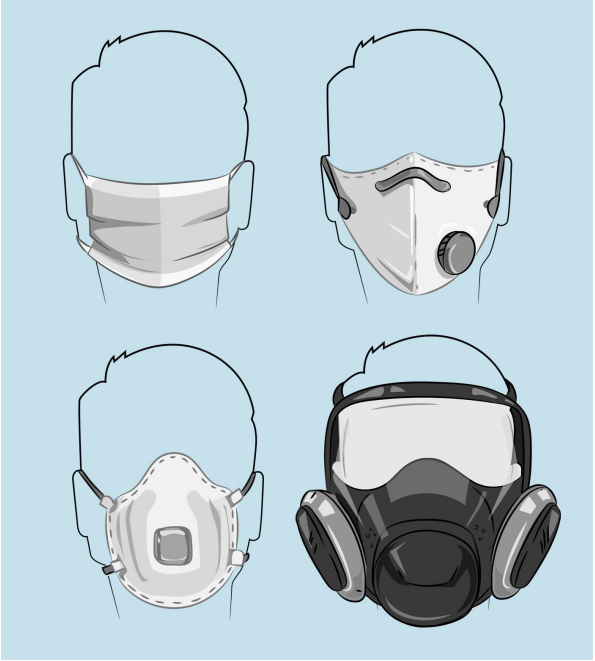
Unlike the CDC and other government health agencies, we believe you are more than intelligent enough to learn these skills, follow these steps, and use these masks in a way that will not be a danger to you or others.

While there is a good deal of specific instructions for each type of face mask, you may have noticed a couple of common safety rules that are followed when handling any kind of mask. These are:

- *Don't touch the front of the mask after you have worn it. It may be loaded with trapped droplets chock-full of coronavirus.*
- *Always wash your hands before putting on and after taking off any sort of protective mask.*

Both these "must-do's" also apply to the homemade, do-it-yourself masks discussed in the next chapter.

In this next chapter, we cover home-made masks and how to make them, we share research about which common household mask-making materials are most effective at blocking the coronavirus, and we show how to clean and disinfect both home-made masks and disposable masks so they can be safely used again.



Chapter Five:

How To Make Your Own Protective Masks.

Chapter 5:

How To Make Your Own Protective Mask.

With the extremely high demand for masks, along with hoarding, and some of the biggest purchasing platforms, (like Facebook), not allowing masks to be advertised and sold to the general public… it's becoming very difficult (to say the least) for an average "man on the street" to get his hands on a reliable supply of masks.

Very soon it could be next to impossible.

If you're somehow lucky enough to have a reliable supply of Personal Protective Equipment ("PPE") produced by an authorized manufacturer, that's your best choice and what we strongly recommend. Homemade masks are a last resort option.

If you cannot get a professionally manufactured and tested mask, the good news is that you CAN create your own masks from materials you already have around the house.

The Research:

Again, even something as simple as a bandana across your mouth and nose is much better than no mask at all. But what materials are proven to work best?

Well, citizens across China were creating masks with kitchen towels, tissue paper, cotton fabrics from shirts and pants... and even oranges.

Thankfully some researchers at Cambridge University decided to get to the bottom of what kinds of things could actually function as a mask. So they gathered together some typical household materials (not including an orange, which probably isn't a good choice), to determine their effectiveness.

The test involved shooting bacteria -- approx 1 micron in size -- at these various household materials and then measuring and comparing their effectiveness to a common surgical mask.

Here's what they discovered:

Materials Effectiveness
At Capturing 1-Micron Bacteria:

Surgical mask (Control)-- 97%

Vacuum Cleaner Bag ---- 95%

Dish Towel ---------- 83%

Cotton Blend t-Shirt ------ 74%

100% cotton t-Shirt ------- 69%

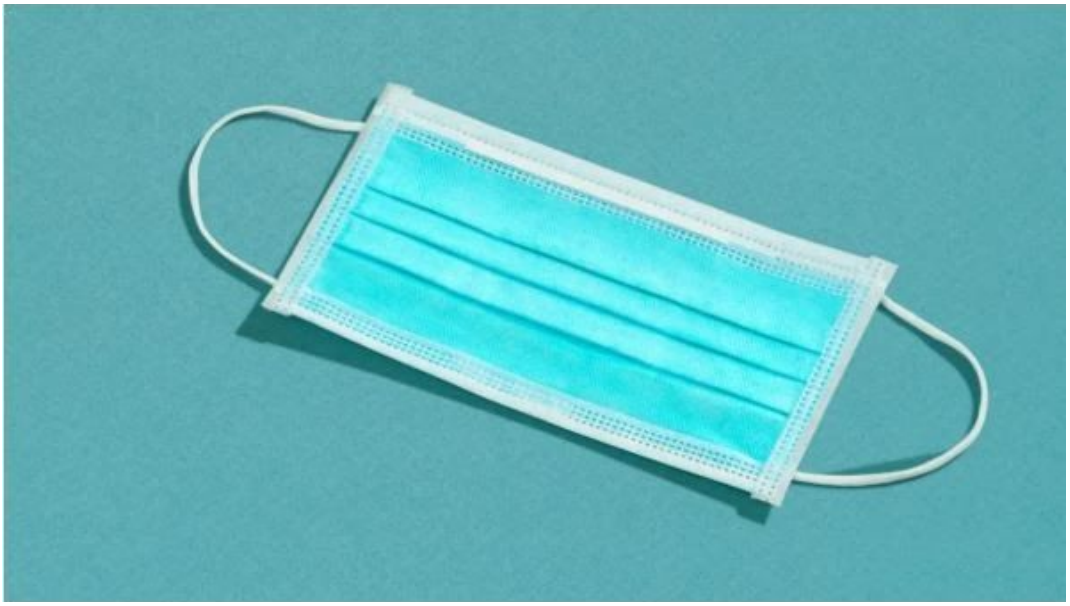
Antimicrobial Pillowcase- 65%

Scarf ---------- 62%

Standard Pillowcase ----- 62%

Linen ---------- 60%

Silk ---------- 58%



(Surgical Mask)

End result was that the surgical mask outperformed any typical household materials -- capturing 97% of the 1-micron bacteria.

But the good news was that readily available household materials were capable of filtering out 58% to 95% of the 1-micron particles.

The vacuum cleaner bag performed best at 95%... a dishcloth (or “tea towel” as it’s called in the UK) came in at 83%... a cotton blend t-shirt was 74% effective... and a pure cotton t-shirt was able to filter 69% of the 1-micron bacteria.

And recall from a Chapter One that research strongly suggested that the droplets most responsible for transporting and infecting people with the new coronavirus virus were at the very least 10-times larger, (in the 10 to 100 microns range), meaning that these ***home materials can indeed be useful in creating masks that are VERY effective at protecting you from the new coronavirus.***

But researchers didn't stop there. Further testing was conducted using a much smaller particle (Bacteriophage MS2) which is just .02 microns in size -- or 50-times smaller, (about the same as comparing a green pea to a basketball), than the previous 1-micron bacteria test.

The result was that, on average, all of the homemade materials were able to capture at least half of these ultra-tiny particles.

Double-Layered Material:

The next experiment had to do with doubling up the material. Would two layers perform better than one?

Scientists double-layered the dishtowel, pillowcase, and the pure cotton shirt fabrics and then tested the penetration of virus-size particles.

Surprisingly, doubling-up the layers didn't help much, with the pillowcase capturing just 1% more particles and the double-layer cotton t-shirt fabric catching just 2% more particles.

The double-layered dishcloth, on the other hand, had a significant 14% improvement -- making it as effective as a surgical mask.

In the end, the vacuum cleaner bag and the dishcloth were the top-performing materials for filtering out small particles.

Despite this, however, researchers did NOT choose either of these materials for creating the best homemade masks and instead concluded that the ***pillowcase*** **and the** ***pure cotton t-shirt*** **were the best choices.**

Why? It came down to functionality. More precisely: Airflow and breathability.

As discussed in chapter 3 of this report airflow is an important consideration. Being able to comfortably breathe through the mask is a huge factor in how long a person can actually wear the mask.

So a double-layered dishcloth may function as a better filter, but it's a moot point if the subject feels as if they are "suffocating" and has to remove the mask, (and perhaps expose themselves to droplets).

The dishtowel and a vacuum bag were both better at capturing small particles, but they were proven to be much more difficult to breathe through -- up to twice as hard to breathe through as the surgical mask.

On the other hand, the pillowcase and t-shirt were actually *easier* to breathe through than the surgical mask.

So based on particle capture and breathability, the researchers concluded that cotton t-shirts and pillowcases were the best choices for homemade masks.

Paper Towel:

Alright… what about **paper towel?**

For whatever reason, the Cambridge testing did not include paper towels, so we turned to another study that did. The tests showed that paper towels were not as good as one would hope for.

A single layer of paper towel captured just 23% of the 1-micron particles. The double-layer test only increased particle capture to 33%.

For particles, 2.5 microns and larger the paper towel performed better. The single layer of paper towel captured 52% of these larger particles.

But again, considering that current research strongly suggests that coronavirus infection is spread in droplets of 10 to 100 microns, even paper towels could be effective at preventing the virus from entering your nose, mouth, and lungs.

So while the paper towel may not be as adept at blocking particles as the other homemade mask material -- it is still much better than nothing.

In fact, even though we don't have access to scientific tests that can validate the effectiveness of coffee filters and napkins and underwear and the like… it's probably safe to say that ANY mask covering the nose and mouth is better than no mask at all, (although an orange may prove to be the exception).

Mask Creation:

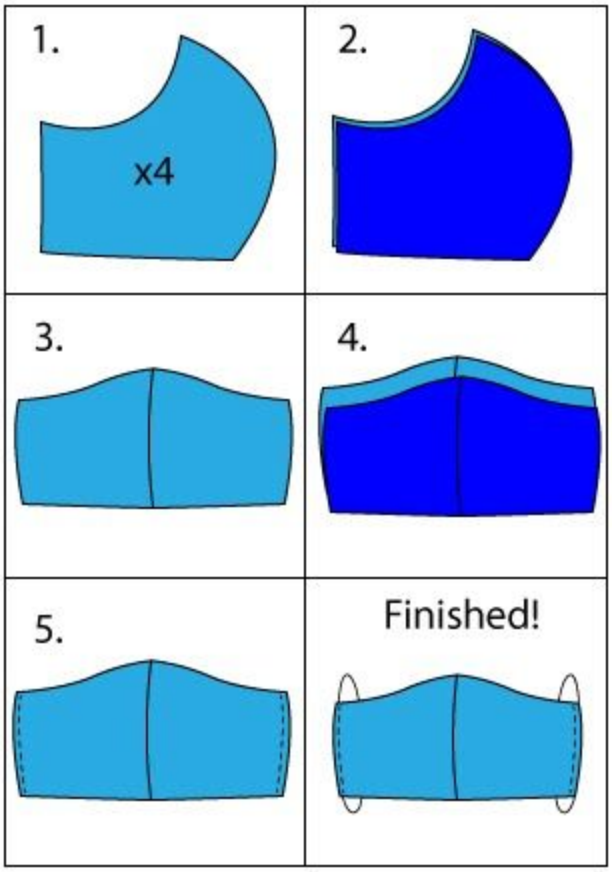
So now that you know what materials work best, here's how you can construct a mask at home.

Because even double-layered paper towels over your mouth and nose with a couple of rubber bands stretched over your head to hold them in place will work in a pinch.

But here is a simple template to create something a little more sophisticated. Let's go through it:

Step 1: Get two pieces of fabric -- cotton or a pillowcase for example. Fold each piece of fabric in half and cut them into the shape that you see in **Figure 1.** We aren't providing you exact dimensions here as you'll want to match the size to the intended user.

In general, the center of the mask should measure from between the eyes down to just under the chin. The horizontal width should measure roughly the width of the mouth, or from the outside edge of one eye to the outside edge of the other. After



cutting, you should end up with 4 pieces of fabric that match the shape of Figure 1.

Step 2: Take two of the pieces and flip them so that they are symmetrical -- or mirror images of each other. Place one on top of the other as you see in **Figure 2.** Sew together the sections that look like the blade of an ax. Repeat this process with the remaining two pieces of fabric. You should end up with two pieces of fabric that match the shape of **Figure 3.**

Step 3: Next is to create a 2-layered mask. Place the two sections you've completed in Step 2, one on top of the other (Figure 4) and exactly line them up together. Sew the two sections together. You've just created a 2-layered mask.

Step 4. Staple or sew strings that tie behind the head or elastic bands that can be pulled around your ears. Use pre-cut elastic bands or rubber bands or even thin-cut strips from elastic underwear bands if need be. You now have a double-layered homemade facemask that research shows are effective at blocking the droplets that spread coronavirus infection. Congratulations!

There are a LOT more options.

If you don't want to sew, here's a video that shows you a "no-sew" way to create a mask.

Creating 'No-Sew Masks'.

How-To Videos:

Click the links below for two videos showing ways to make "no-sew" homemade masks.

(Click HERE Or On The Image To Play Video)

As you'll see, creating a mask is not all that difficult. One of the biggest factors of effectiveness is the type of material you'll use to filter the particles.

If you've been careful to disinfect your home and decontaminate everything that enters into your safe haven -- and assuming you aren't living with people who randomly come and go throughout the day -- you shouldn't have to wear a mask 24/7.

But anytime you, (or any loved one who lives with you), leave the house, you should wear a mask.

(Click HERE Or On The Image To Play Video)

But what about when you return home?

Well, if you're using a disposable surgical mask or an N95 mask and you have a good supply, you should immediately discard them in a safe place under the assumption that they have been contaminated.

But what if you've got a limited supply? Is there any way to decontaminate a mask to reuse it?

Yes, there is.

Mask Decontamination:

Even though reusing surgical masks is not normally recommended, medical workers manning the frontlines have little other choice due to the difficulty in obtaining masks.

Faced with either reusing contaminated masks or simply going without, a number of creative solutions to decontaminate and re-use masks have emerged.

According to a team of Stanford researchers, masks can be decontaminated for reuse by...

...soaking them in isopropyl alcohol, or…

...exposing them to hot water vapor for 10 minutes, or...

...baking the masks in an oven at around 160 degrees Fahrenheit for 30 minutes.

The problem with soaking a mask in alcohol is that isopropyl alcohol can break down the material and directly affect its ability to filter particles.

The other challenge is, of course, having enough isopropyl alcohol on hand to “soak down” masks.

To a lesser extent, the same is true for using hot water vapor. That is: the hot water vapor marginalizes the mask’s filtration properties. There’s also a problem obtaining the correct equipment to create the suitable hot water vapor.

But thankfully, (according to the research paper written by Dr. Amy Price and Dr. Larry Chu), a mask can be decontaminated multiple times using a standard kitchen oven set to a temperature of 160-degree Fahrenheit, (70C), for a bake-time of 30 minutes.

The research also indicates that the “baking” method does not harm the effectiveness of the mask.

What about a homemade mask created from a cotton t-shirt, for example?

Well, the only readily available professional advice has to with laundering clothing that’s been exposed to patients with COVID-19.

Considering that your homemade mask is made from clothing fabric, it’s reasonable to assume that this advice will translate well to your mask.

The idea is to simply launder the fabric just as you would any other clothing articles. Coronavirus is sensitive to higher temperatures.

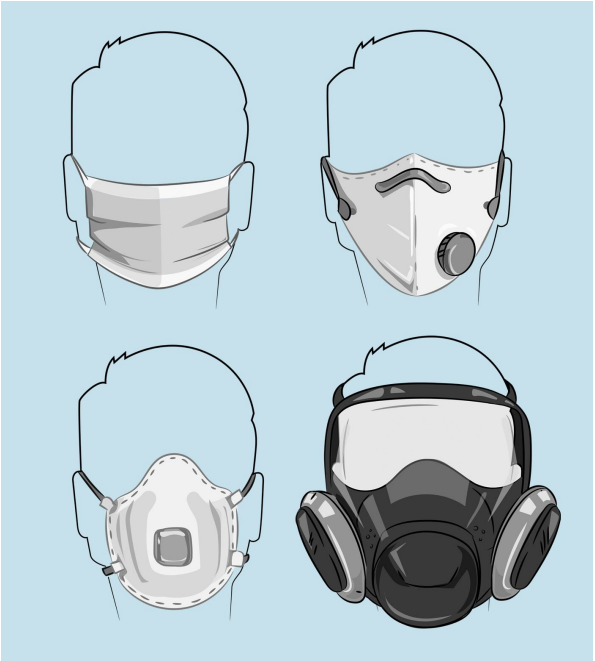
“Hot water is better than cold,” said Juan Dumois, a pediatric infectious-diseases physician at Johns Hopkins All Children’s Hospital in St. Petersburg, Florida.

Gabriela Andujar Vazquez, an infectious-disease physician at Tufts Medical Center in Boston added that: “The heat of a dryer also helps kill coronaviruses”.

And since the coronavirus protects itself inside of a “lipid”, anything that breaks up fat and grease (like soap) will essentially destroy the virus.

Added together -- the hot water... the detergent used in your washing machine... the high heat of the dryer -- should certainly be sufficient to effectively clean your mask and render it safe to reuse.

You can of course boil cotton cloth for 30 minutes in a small pot of water to effectively disinfect a homemade mask. This is the surest way to decontaminate a homemade cloth mask.



Conclusion:

As we put the final touches on this report and get ready to release it to the public, we are finding more and more top researchers and scientists are backing up our research.

“Despite messages from some health officials to the contrary, it’s likely that a mask can help protect a healthy wearer from infection,” says leading epidemiologist Dr. Benjamin Cowling.

While Cowling and other top experts are starting to speak out against restricting mask use, the CDC is quietly starting to backpedal from its “Don’t wear masks” line.

“CDC guidance on masks remains under development,” Federal officials are now saying. Mask usage is now “an ongoing matter of internal CDC discussion and nothing has been finalized.”

Although these weasel words are better than previous outright lies, it would be even better to read the headlines:

“CDC ADMITS IT WAS LYING ABOUT MASKS APOLOGIZES FOR NEEDLESS COVID-19 DEATHS!!”

Don’t expect to see that headline anytime soon. But the word on the street (and in the Washington Post) is that the CDC is about to recommend that people *“cover their faces”.*

It’s good to know we’re starting to get some back-up.

Because we dug pretty deep here -- done a ton of research... talked to a lot of experts... weighed the evidence -- and the overwhelming conclusion is that wearing any sort of face mask will protect you better than no face mask.

We’ve also closely examined the government’s lies and tried to get to the reasoning behind their lies. As near as we can tell the lies started as a misguided attempt to prevent shortages among frontline healthcare workers.

There’s probably more to that story and we have a hunch that we’ll learn more about it soon. We’ll keep you posted.

In the meantime, we are not telling you to hoard supplies that could otherwise be used to help the frontline healthcare workers battling this pandemic.

They are the heroes in this fight and they can use all the help we can give them.

But a big part of that help means keeping ourselves safe. If we can keep the coronavirus from spreading by wearing masks -- especially if those masks are made at home with materials proven to work -- we can keep our healthcare systems from being overwhelmed.

To keep this pandemic in check, the “general public” -- you, us, our families, our friends -- needs to hear the truth and needs solid information.

That’s the purpose of this report.

Thanks for reading it and stay safe out there.

Regards to you and your family,

The TRS Survival Research Team.
