

<https://www.meehanmd.com/blog/2020-10-10-an-evidence-based-scientific-analysis-of-why-masks-are-ineffective-unnecessary-and-harmful/>

Masks are Harmful: 17 Ways That Masks Can Cause Harm

As a physician and former medical journal editor, I've carefully read the scientific literature regarding the use of facemasks to mitigate viral transmission. I believe the public health experts have community wearing of masks all wrong. Here are a few of the mechanisms by which medical masks can be harmful to their wearers and community wearing of facemasks is a very bad idea:

Wearing masks for extended periods increased incidences of headaches and negatively affected work performance.

See Jonathan J.Y. Ong, et al., **Headaches Associated With Personal Protective Equipment – A Cross-Sectional Study Among Frontline Healthcare Workers During COVID-19**, *Headache, the Journal of Head and Face Pain* (May 2020).

<https://headachejournal.onlinelibrary.wiley.com/doi/full/10.1111/head.13811>

1. Medical masks adversely affect respiratory physiology and function.

- **Masks inhibit airflow into and out of the lungs.**
 - For people with asthma, chronic obstructive pulmonary disease (COPD), and many other chronic lung diseases, face masks are intolerable to wear as they worsen breathlessness.[\[R\]](#)
- Medical masks lower blood oxygen and raise carbon dioxide such that respiratory rate and depth of breaths are increased.[\[R\]](#)
 - Decreasing oxygen and increasing carbon dioxide in the bloodstream stimulates a compensatory response in the respiratory centers of the brain. These changes in blood gases result in **increases in both frequency and depth of breaths.**
 - As masks increase both the frequency and depth of respirations (breaths), they increase the likelihood that each respiration will contain a larger amount of infectious viral particles. This may worsen the community transmission of CoVID-19 as infected people wearing masks exhale respiratory plumes loaded with greater levels of infectious viral particles. These infectious plumes readily move around the sides, bottom, and top of masks.
 - This may also increase the severity of CoVID-19 as the **increased tidal volume delivers the viral particles deeper into the lungs.**
 - These effects are amplified if facemasks are contaminated with the viruses, bacteria, or fungi that find their way or opportunistically grow in the warm, moist environment that medical masks quickly become.

2. Medical masks lower oxygen levels in the blood.[\[R\]](#)

Wearing a mask for more than a few minutes causes a significant reduction in a person's blood oxygen level.

- Beder, A., U. Büyükköçak, H. Sabuncuoğlu, Z. A. Keskil, and S. Keskil. 2008. "Preliminary Report on Surgical Mask Induced Deoxygenation during Major Surgery." *Neurocirugia* 19 (2): 121–26. DOI: [10.1016/s1130-1473\(08\)70235-5](https://doi.org/10.1016/s1130-1473(08)70235-5)
 - This study of 53 surgeons evaluated the effect of surgical masks on oxygen saturation of hemoglobin in surgeons performing surgery.
 - The study revealed the surgeons experienced a significant decrease in the oxygen saturation of arterial pulsations (SpO₂) and a slight increase in pulse rates after one hour. The decrease was more prominent in the surgeons over the age of 35.
 - Given that **a small decrease in SpO₂ reflects a large decrease in partial pressure of oxygen in the arterial blood (PaO₂)**[\[R\]](#), the findings of this study suggests that surgical masks worn more than one hour may lower arterial oxygen enough to induce physiologically detrimental effects.
- Here are two cases of the tragic consequences of forcing children to wear masks: Two Chinese boys drop dead while wearing face masks during physical exercise classes.[\[R\]](#)[\[R\]](#)

Two boys from two Chinese cities died of sudden cardiac arrest within a week. The first boy, 15, collapsed after jogging in PE class while wearing a face mask on April 24. The other boy, 14, reportedly died during a running exam while wearing a mask.

Why would healthy boys drop dead while wearing masks and running in gym class?! To answer this question, we must consider how mask induced deoxygenation and increased oxygen demands of heart muscle during exercise could have precipitated heart attacks in otherwise healthy teenagers:

- **Point #1:** Heart muscle needs oxygen to survive. And the harder the heart works, the more oxygen it requires. The American Heart Association says this about heart attacks:
 - "Your **heart muscle needs oxygen to survive**. A heart attack occurs when the blood flow that brings **oxygen to the heart muscle is severely reduced** or cut off completely."[\[R\]](#)
 - **Point #2:** Masks block air intake and decrease arterial oxygen.
- Studies of masked individuals have shown that mask wear decreases arterial oxygen. For example, the effects of surgical masks worn by surgeons in the operating room (an environment in which the oxygen blocking effects of masks are minimized by the high air flow, increased oxygen levels, and cool temperature of the operating suite) during major surgery showed a significant decrease in arterial oxygen.[\[R\]](#) The lesson here is that medical masks should not be worn during intense exercise. As described above and shown in the study of surgeons wearing surgical masks, medical masks block oxygen intake. Depriving the heart of oxygen while exercising, especially intense exercise, could precipitate an acute heart attack.

Any questions? Wait...there's more...

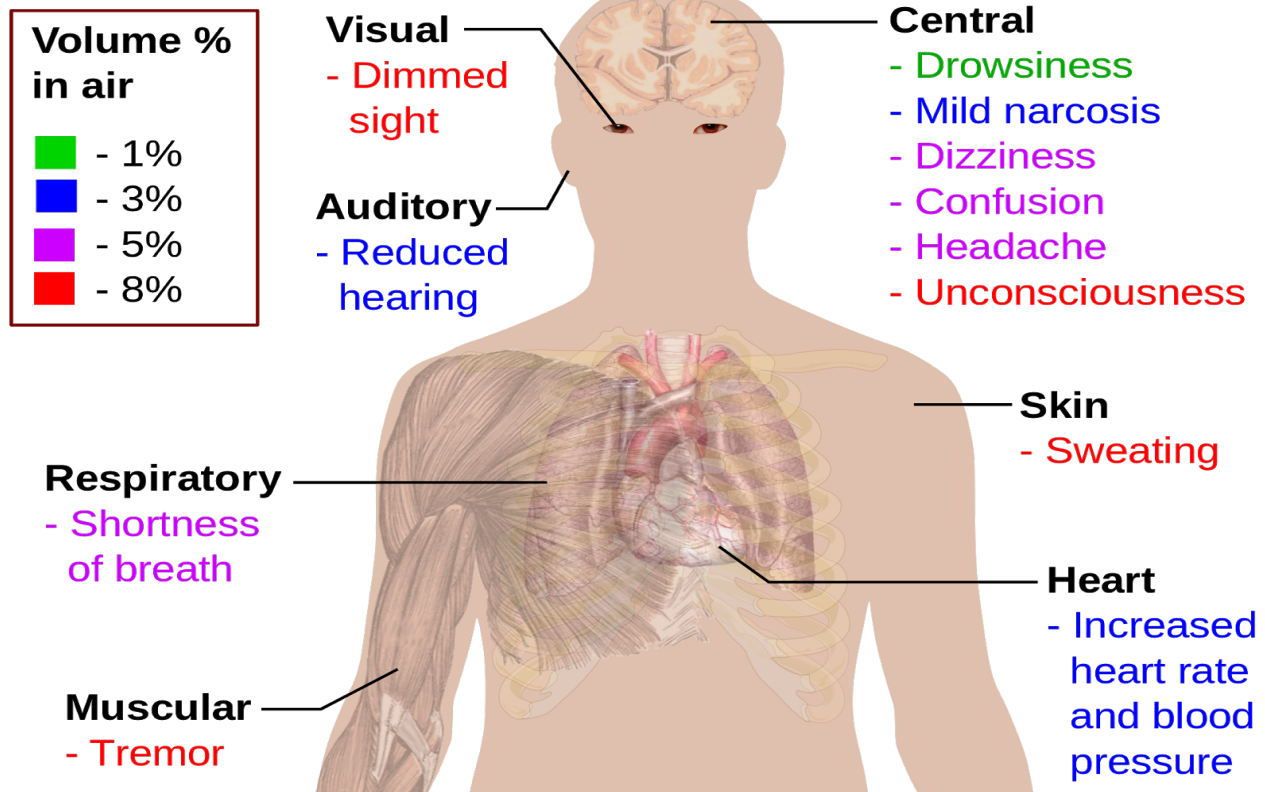
- [Jogger's lung collapses after he ran for 2.5 miles while wearing a face mask \[R\]](#) Mr Zhang's left lung was punctured due to high pressure caused by running. The 26-year-old became breathless while jogging with a mask on in China. Doctors said his punctured lung was caused by jogging with a face covering. He is now in stable condition after undergoing an operation, the hospital said.
- Hypoxia increases the risk of blood clot formation.[R]
- Lowering arterial oxygen suppresses the immune system, thus increasing the susceptibility of mask wearers to infectious disease.

3. Medical masks raise carbon dioxide levels in the blood.

Although the body has robust mechanisms for mitigating transient and minor elevations of CO₂ in the air we breathe, these mechanisms can easily be overwhelmed by chronic exposure to significant elevations in CO₂, such as occurs with prolonged wearing of a medical mask.

- The science clearly demonstrates that **face masks cause carbon dioxide rebreathing and hypercapnia [R]**
 - Fletcher, S. J., M. Clark, and P. J. Stanley. 2006. "Carbon Dioxide Re-Breathing with Close Fitting Face Respirator Masks." *Anaesthesia* 61 (9): 910.
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2044.2006.04767.x>
- Exhaled air is rich in [carbon dioxide](#), a waste product of [cellular respiration](#).
- A portion of carbon dioxide previously exhaled is inspired (breathed) at each respiratory cycle.
- **Masks trap CO₂ rich respiratory exhalations at the mask-mouth interface, force re-breathing of CO₂ rich exhalations, raise carbon di oxide blood (CO₂) levels. [R]**

Main symptoms of Carbon dioxide toxicity



- Objective evidence demonstrating how masks increase blood carbon dioxide levels and negatively impact health and function.
 - **Transcranial Ultrasound Doppler (TCUD)** is a noninvasive means of assessing blood flow in the cerebral vasculature. The increase in carbon dioxide partial pressures (PCO₂) caused by medical masks can be assessed by TCUD.[\[R\]](#)
 - Elevation of PCO₂ causes vasodilation of the arteriolar channels leading to a decrease in peripheral vascular resistance. The decrease in peripheral vascular resistance is responsible for the changes in cerebrovascular circulation time, CBF, and the velocity of flow (V) in cerebral arteries.
 - Medical masks force the wearer to inspire (re-breathe) air that is a mix of air from the local environment and the respiratory waste products from the mask wearer's previous exhalations.
- Respiratory exhalations contain significantly higher levels of carbon dioxide (CO₂), one of the waste products of respiration.
- The pulmonary system is designed to collect oxygen and remove CO₂ from the body. Masks trap CO₂ rich exhalations at the mask-mouth interface.
- Changes in arterial PCO₂ considerably influence cranial blood flow (CBF).[\[R\]](#)

- Transcranial Ultrasound Doppler (TCUD) studies on masked and unmasked individuals demonstrate the changes in blood flow in the brain the result from the arterial CO2 elevation that occurs within seconds of donning a mask.

This video demonstrates the use of TCUD and heart rate variability to measure the adverse effects of masking a healthy nine year old child: <https://bit.ly/2GGQWiZ>

4. SARS CoV-2 is armed with a "furin cleavage site" that makes it more pathogenic.

- The furin cleavage site makes the virus more capable of invading human cells.
- The furin cleavage site makes the virus even more capable of invading cells when arterial oxygen levels decline.[R]
- Therefore, wearing a medical mask may increase the severity of CoVID-19.

5. Medical masks trap exhaled viral (and other) pathogens in the mouth/mask interspace, increase viral/infectious load, and increase the severity of disease.

- Face masks trap exhaled viral particles in the mouth/mask interspace. The trapped viral particles are prevented from removal from the airways. The mask wearer is then forced to re-breathe the viral particles, thus increasing infectious viral particles in the airways and lungs.
- In this way, surgical masks cause self-inoculation, increase viral load, and increase the severity of disease.
- Neurosurgeon, Russell Blaylock, MD, raises additional concerns: "By wearing a mask, the exhaled viruses will not be able to escape and will concentrate in the nasal passages, enter the lungs, olfactory nerves, and travel into the brain." [R]
- Face masks **trap exhaled viral particles** in the mouth/mask interspace.[R] The trapped viral particles are prevented from removal from the airways. The mask wearer is thus forced to **re-breathe** the viral particles, increasing infectious viral particles in the airways and lungs. In this way, Medical masks cause self-inoculation, increase viral load, and increase the severity of disease.
- Asymptomatic or mild cases of CoVID-19 become more severe when the infected is masked, oxygen lowers, viral load increases from particle re-breathing, and the disease **overwhelms the innate immune system.**
 - The main purpose of the innate immune response is to immediately prevent the spread and movement of foreign pathogens throughout the body.[R]
 - The innate immune system plays a crucial role in destroying the virus, preventing infection, or decreasing the viral load to decrease the severity of infection.
 - The innate immunity's effectiveness is highly dependent on the viral load. If face

masks increase viral particle re-breathing at the same time they create a humid habitat where SARS-CoV-2 remains actively infectious, the mask increases the viral load and can overwhelm the innate immune system.

- This trapping, re-breathing, and increasing pathogen load delivered to the lungs becomes dramatically more dangerous when the medical mask becomes contaminated with the opportunistic viruses, bacteria, and fungi that can grow in the warm, moist environment of the mask.
- “By wearing a mask, the exhaled viruses will not be able to escape and will concentrate in the nasal passages, enter the olfactory nerves and travel into the brain.” - Russell Blaylock, MD

6. SARS CoV-2 Becomes More Dangerous When Blood Oxygen Levels Decline

- Arterial oxygen desaturation is a critical issue in CoVID-19. The virus' ability to infect cells is markedly enhanced by oxygen desaturation, which has been shown to occur even in the ideal operating room environment in which surgeons operate: high air flow/exchange systems, cool temperature, and higher room oxygen levels when wearing a surgical mask.[\[R\]](#)
- One of the features that make SARS CoV-2 uniquely infectious is the "furin" sequence in the virus that activates increased ACE2 receptor attack and cellular invasion in low oxygen environments.[\[R\]](#)

7. The furin cleavage site of SARS CoV-2 increases cellular invasion, especially during hypoxia (low blood oxygen levels)[\[R\]](#)

- The furin cleavage site found in SARS CoV-2 is the likely result of the bioengineering “gain of function” (which means increasing the virulence of a pathogen) research conducted at the Wuhan Institute of Virology. This unethical, dangerous, and illegal-in-most-countries research is alleged to have been [funded by Dr. Anthony Fauci \(with \\$7.4 million taxpayer dollars\)](#) and Bill Gates.
- Furin cleavage sites are found in some of the most pathogenic forms of influenza, which can be acted upon by furin and other cellular proteases. The ubiquitous expression of cellular proteases across cell types increases the potential for the virus to successfully infiltrate the host.
- Furin is a membrane-bound protease that is expressed in multiple tissues throughout the human body. Furin is expressed in significant concentrations in the lungs. Thus, viruses in the respiratory tract can make use of this enzyme to convert and activate their own surface glycoproteins. This makes their role in viral protein processing noteworthy.[\[R\]](#)
- Some of the most pathogenic forms of influenza and HIV have similar furin cleavage sites. It is not present in other bat beta coronaviruses. (By the way, Fauci built his career

researching and failing to create a vaccine for HIV). The furin cleavage site is NOT present in SARS CoV-1 or MERS, or any of the other known "bat coronaviruses."

- Let me say it again, the SARS-CoV (aka, SARS-CoV-1), which is closely related to the newest SARS-CoV-2 strain, does not bear the furin cleavage site.

So, the question we should all be asking is how did the genetic sequence that codes for this serious gain of function that increases the potential for the virus to successfully infiltrate the host find its way into SARS-CoV-2?

That's the trillion dollar question; it demands a real and honest answer.

8. Cloth masks may increase the risk of contracting Covid-19 and other respiratory infections.

See MacIntyre CR, Seale H, Dung TC, et al., A cluster randomised trial of cloth masks compared with medical masks in healthcare workers, *BMJ Open* 2015; 5: e006577, US National Library of Medicine, National Institutes of Health, doi: 10.1136/bmjopen-2014-006577, April 22, 2015. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/pdf/bmjopen-2014-006577.pdf>

- "This study is the first [Randomly Controlled Trial] of cloth masks, and the results caution against the use of cloth masks.
- This is an important finding to inform occupational health and safety. Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection."

9. Wearing a face mask may give a false sense of security

- People adopt a reduction in compliance with other infection control measures, including social distancing and hands washing.^[R]

10. Masks compromise communications and reduce social distancing

- The quality and volume of speech between two people wearing masks is considerably compromised and they may unconsciously move closer to improve communications.
- This increases the likelihood of becoming exposed to the infectious viral particles in the respiratory plumes of aerosolized droplet nuclei that escape the top, bottom, and sides of the masks.

11, Untrained and inappropriate management of face masks:

- The public is untrained and inadequately educated in the proper selection of masks (most are wrongly wearing cloth masks), proper wear, sterility management, and importance of not reusing single use masks.

- People must not touch their masks, must change their single-use masks frequently or wash them regularly, dispose of them correctly and adopt other management measures, otherwise their risks and those of others may increase.[\[R\]](#)[\[R\]](#)
- We can all observe the countless ways in which people in communities are mis-wearing, mishandling, and increasing their own and the communities risk of contracting infectious disease, including CoVID-19.

12. Masks Worn Imperfectly Are Dangerous

To fully appreciate the danger of improper wear and handling of face masks, all you have to do is observe how the public is managing them. Take a trip to Walmart or your local school and observe how mask wearers pull masks from their pocket or purse, drop the masks on the floor, cough and sneeze in them, move them below the nose, on their heads, or under their chin. I see it every day. I also see their soiled and stained surgical face masks and know that these people are dangerously reusing a mask that should never be reused.

You don't need a clinical trial to determine that even when mask-wearers manage to don a fresh, sterile mask properly, keep them on for more than a few minutes at a time, they very quickly contaminate the mask, their environment, and increase their risk of infection as the mask induces them to compulsively touch their faces and their masks.

- The World Health Organization, which has repeatedly changed its position on universal masking, is adamant that **if face masks are not worn carefully, correctly, and kept sanitary, they are worse than ineffective.**
- In other words, masks worn imperfectly are dangerous.
 - See Linda Lacina, WHO updates guidance on masks for health workers and the public - here's what you need to know, World Economic Forum (June 5, 2020). <https://www.weforum.org/agenda/2020/06/who-updates-guidance-on-masks-heres-what-to-know-now/>
- People can infect themselves if they use contaminated hands to adjust a mask or repeatedly take it on or off," explained WHO Director-General, Dr Tedros Adhanom Ghebreyesus. "I cannot say this clearly enough. Masks alone will not protect you from COVID-19."

Failing to follow strict medical standards for wearing protective equipment and specification of sterilizing and cleaning often leads to "skin and mucous membrane injury, which may cause acute and chronic dermatitis, secondary infection and aggravation of underlying skin diseases."

- Yan, et al., Consensus of Chinese Experts on Protection of Skin and Mucous Membrane Barrier for Health-Care Workers Fighting against Coronavirus Disease 2019. Dermatologic Therapy, March 2020, e13310. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7228211/pdf/DTH-9999-e13310.pdf>

13. Masks collect and colonize viruses, bacteria, and mold.

In Germany, where schools are open and masks are mostly optional, the association of "Kinder f. Weltfrieden eV" commissioned a laboratory analysis to investigate the level of microbial contamination that results after a fresh mask is worn by a child for 6-8 hours in school. What they found was alarming to all those recommending we mask our children for several hours every day. The masks were found to be contaminated with **82 bacterial colonies and 4 mold colonies**. Where do you think the bacteria, molds, and viruses progressively colonizing and growing on the warm moist mask-mouth interface end up?

Many of the microbes get transferred to surfaces the child (or adult) touches after they touch, fiddle, and mishandle their mask. This is one of the many reasons that masks are almost certainly INCREASING the transmission of infectious disease. More dangerously, these microbes are being inhaled and delivered deep into the lungs where respiratory disease far worse than CoVID-19 can result.

The oxygen lowering effects of masks forces the body to compensate by increasing heart rate and deepening inspirations (increasing tidal volumes). Increased tidal volumes drives the mask pathogens deep into the lungs where they can cause serious pneumonia, inflammation, and tissue damage.

Furthermore, these risks are compounded by the immune suppression (CD4+ T-cell suppression) that results from diminished arterial oxygenation. **Thus, the mask-wearing child is at imminent risk for harm caused by lung infections that are far more dangerous than a CoVID-19 infection.**

In fact, based on reports from my colleagues in emergency medicine, pulmonology, and infectious disease, an **alarming explosion in bacterial pneumonias** is being reported at ERs and urgent care centers across the country.

Evidence that supports the points above:

- Zhiqing, Liu, Chang Yongyun, Chu Wenxiang, Yan Mengning, Mao Yuanqing, Zhu Zhenan, Wu Haishan, et al. 2018. "Surgical Masks as Source of Bacterial Contamination during Operative Procedures." *Journal of Orthopaedic Translation* 14 (July): 57–62.
 - This study investigated whether surgical masks (SMs) could be a potential source of bacterial shedding leading to an increased risk of surgical site infection.
 - Results: **The longer the operating time the more bacterial colonization occurred.** A significant increase [in bacterial counts] was noted in the 2-hour group.
- Colleen Huber, NMD, "Masks Are Neither Effective nor Safe," [PrimaryDoctor.Org](https://www.primarydoctor.org/masks-not-effect), July 6, 2020. <https://www.primarydoctor.org/masks-not-effect>
 - "The foregoing data show that masks serve more as instruments of obstruction of normal breathing, rather than as effective barriers to pathogens. Therefore, masks should not be used by the general public, either by adults or children, and their limitations as prophylaxis against pathogens should also be considered in medical settings."

- Dr. Huber's article cites 42 supporting scientific studies.
- “Dr. Jenny Harries, England's deputy chief medical officer, has warned that it was not a good idea for the public to wear face masks as **the virus can get trapped in the material and causes infection when the wearer breathes in.**”
 - Angela Betsaida B. Laguipo, BSN, “Reusing Masks May Increase Your Risk of Coronavirus Infection, Expert Says,” News, Medical, Life Sciences, March 15, 2020. <https://www.news-medical.net/news/20200315/Reusing-masks-may-increase-your-risk-of-coronavirus-infection-expert-says.aspx>
- See also, Melkorka Licea, “Mask Mouth” Is a Seriously Stinky Side Effect of Wearing Masks. New York Post, August 5, 2020. <https://nypost.com/2020/08/05/mask-mouth-is-a-seriously-stinky-side-effect-of-wearing-masks/>
- Consider this: [Health department investigating after high number of strep throat cases reported at Shepherd schools.](#)
- The Central Michigan District Health Department is investigating after more than a **dozen cases of strep throat** were reported within Shepherd Public Schools **despite COVID-19 protocols.**

14. Wearing a face mask makes the exhaled air (respiratory plumes) go into the eyes.

- Masks may capture respiratory jets and large respiratory droplets, but they cannot prevent the respiratory plumes composed of aerosolizable respiratory droplet nuclei to escape the top, bottom, and sides of the masks.
- The respiratory plume wafts into the eyes and generates an uncomfortable feeling and compulsion to touch and rub the eyes. If your hands are contaminated and you touch or rub your eyes, you are transmitting and infecting yourself through the ocular mucosa.[R]

15. Contact tracing studies show that asymptomatic carrier transmission is very rare.

- Asymptomatic carriers are not a major driver of the disease.[R]
- Therefore, one of the key reasons the public was told to wear masks, asymptomatic spreaders, should not be used as a reason for community wearing of masks.

16. Face masks and stay at home orders prevent the development of herd immunity.

- Only herd immunity can prevent pandemics; it is the only thing that ever has.
- Only herd immunity will protect the vulnerable members of society.
- Sweden's example continues to prove this point.

17. Face masks are dangerous and contraindicated for a large number of people with pre-existing medical conditions and disabilities.

- Large percentages of the population have medical conditions that make wearing a mask dangerous. Individuals should be examined by a medical professional to ensure that mask wear will not further compromise their medical condition.
 - Children with asthma (7.5% of American children) and other respiratory disabilities are being harmed by mask mandates, they are being discriminated against by businesses, schools, and public spaces that require masks.
 - Children with autism and other neurodevelopmental disorders are extremely prone to agitation and severe anxiety that results from the adverse effects, e.g., oxygen lowering effects, of masks.
 - An ever increasing number of children and young adults with autism are sensitive to touch and texture.[\[R\]](#) Covering the nose and mouth with fabric can cause sensory overload, feelings of panic, and extreme anxiety.
- If a person with a disability is not able to wear a face mask, state and local government agencies and private businesses must consider reasonable modifications to a face mask policy so that the person with the disability can participate in, or benefit from, the programs offered or goods and services that are provided. A reasonable modification means changing policies, practices, and procedures, if needed, to provide goods, services, facilities, privileges, advantages, or accommodations to an individual with a disability.
- Examples of a person with a disability who might not be able to wear a face mask include individuals with asthma, chronic obstructive pulmonary disease (COPD), or other respiratory disabilities may not be able to wear a face mask because of difficulty in or impaired breathing. People with respiratory disabilities should consult their own medical professional for advice about using face masks.
- **The CDC also states that anyone who has trouble breathing should not wear a face mask.**[\[R\]](#)
- People with post-traumatic stress disorder (PTSD), severe anxiety, or claustrophobia (an abnormal fear of being in enclosed or narrow places), may feel afraid or terrified when wearing a face mask. These individuals may not be able to stay calm or function when wearing a face mask.
- A person who has cerebral palsy may have difficulty moving the small muscles in the hands, wrists, or fingers. Due to their limited mobility, they may not be able to tie the strings or put the elastic loops of a face mask over the ears. This means that the individual may not be able to put on or remove a face mask without assistance.
- A person who uses mouth control devices such as a sip and puff to operate a wheelchair or assistive technology, or uses their mouth or tongue to use assistive ventilators will be unable to wear a mask.