

Science showing the fallacy and inaccuracies of public health mandates to wear face masks

Compiled by Dr. Alan Palmer

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Major Medical Groups and Journals do NOT support the wearing of face masks by the public

From the *World Health Organization (WHO)*:

- “There is limited evidence that wearing a medical mask by healthy individuals in the households or among contacts of a sick patient, or among attendees of mass gatherings may be beneficial as a preventive measure.¹⁴⁻²³ However, there is currently no evidence that wearing a mask (whether medical or other types) by healthy persons in the wider community setting, including universal community masking, can prevent them from infection with respiratory viruses, including COVID-19.”
- “Many countries have recommended the use of fabric masks/face coverings for the general public. At the present time, the widespread use of masks by healthy people in the community setting is not yet supported by high quality or direct scientific evidence and there are potential benefits and harms to consider.”
- potential increased risk of self-contamination due to the manipulation of a face mask and subsequently touching eyes with contaminated hands
- potential self-contamination that can occur if non-medical masks are not changed when wet or soiled. This can create favourable conditions for microorganism to amplify

- potential headache and/or breathing difficulties, depending on type of mask used.
- a false sense of security, leading to potentially lower adherence to other critical preventive measures such as physical distancing and hand hygiene;

On April 21, 2020, the **American Medical Association** released a position paper on masks. It made several point that bring the issue of the public wearing face masks into question, including...

- “Face masks should be used only by individuals who have symptoms of respiratory infection such as coughing, sneezing, or, in some cases, fever. Face masks should also be worn by healthcare workers, by individuals who are taking care of or are in close contact with people who have respiratory infections, or otherwise as directed by a doctor. Face masks should not be worn by healthy individuals to protect themselves from acquiring respiratory infection because there is no evidence to suggest that face masks worn by healthy individuals are effective in preventing people from becoming ill.” <https://jamanetwork.com/journals/jama/fullarticle/2762694>

Journal of Paediatrics and Child Health: June 2020

- “There is no good evidence that facemasks protect the public against infection with respiratory viruses, including COVID-19.”
- “During the 2009 pandemic of H1N1 influenza (swine flu),encouraging the public to wash their hands reduced the incidence of infection significantly whereas wearing facemasks didnot.5There is no good evidence that facemasks protect the public against infection with respiratory viruses, including COVID-19.” <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jpc.14936>

New England Journal of Medicine- May 2020- Universal Masking in Hospitals in the Covid-19 Era

“We know that wearing a mask outside health care facilities offers little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic.”

<https://pubmed.ncbi.nlm.nih.gov/32237672/>

A review of highly rated studies:

A meta-analysis of 17 of the best studies determined the following: “None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection.” *bin-Reza F et al. **The use of mask and respirators to prevent transmission of influenza: A systematic review of the scientific evidence. Resp Viruses** 2012;6(4):257-67.* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5779801/>

Face masks restrict the elimination of virus, recirculating the virus into the nasal/sinus and upper respiratory passages and can infect the brain.

“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.”....“We know that people who have the worst reactions to the coronavirus have the highest concentrations of the virus early on.” Face masks will contribute to this. Article by **Russel Blaylock M.D., published May 14,2020 in Technocracy News & Trends / <https://www.technocracy.news/blaylock-face-masks-pose-serious-risks-to-the-healthy/>**

Additional articles supporting this danger:

- **Evidence of the COVID-19 virus targeting the CNS: Tissue distribution, host-virus interaction, and proposed neurotropic mechanisms.** *ACS Chem Neurosci* 2020;11:7:995-998. <https://pubmed.ncbi.nlm.nih.gov/32167747/>
- **Nervous system involvement after infection with COVID-19 and other coronaviruses.** *Brain Behavior, and Immunity.* <https://pubmed.ncbi.nlm.nih.gov/32240762/>
- **Spread of a neurotropic murine coronavirus into the CNS via the trigeminal and olfactory nerves.** *Virology* 1989;170:556-560. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7130896/>

Wearing masks can increase the chance of infection

Most people do not even know how to wear or use them.

<https://www.news-medical.net/news/20200315/Wearing-masks-may-increase-your-risk-of-coronavirus-infection-expert-says.aspx>

US surgeon general warns against wearing face coverings.

<https://www.businessinsider.com/americans-dont-need-masks-pence-says-as-demand-increases-2020-2>

A Cluster Randomised Trial of Cloth Masks Compared With Medical Masks in Healthcare Workers (British Medical Journal).

“The rates of all infection outcomes were highest in the cloth mask arm...Penetration of cloth masks by particles was almost 97% and medical masks 44%...Conclusions: This study is the first RCT 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. Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs, particularly in high-risk situations, and guidelines need to be updated.”

<https://pubmed.ncbi.nlm.nih.gov/25903751/> (PMID: 25903751)

“This study is the first RCT 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. Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs, particularly in high-risk situations, and guidelines need to be updated.” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971>

CDC echoes the concern:

“Available evidence shows that (cloth masks)... may even increase the risk of infection due to moisture, liquid diffusion and retention of the virus. Penetration of particles through cloth is reported to be high.” “Altogether, common fabric cloth masks are not considered protective against respiratory viruses and their use should not be encouraged.”

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>

The British Medical Journal weighs in:

“Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection.”

“The virus may survive on the surface of the facemasks.”

“Self-contamination through repeated use and improper doffing is possible.”

<https://bmjopen.bmj.com/content/5/4/e006577>

Cutting edge: Hypoxia-Inducible Factor-1 negatively regulates Th1 function. *J Immunol* 2015; 195:1372-1376.
<https://rational.org/PandemicParallaxView/1372.full.pdf>

Hypoxia enhances immunosuppression by inhibiting CD4+ effector T cell function and promoting Treg activity. *Cell Physiol Biochem* 2017;41:1271-84. <https://pubmed.ncbi.nlm.nih.gov/28278498/>

Hypoxia-driven immunosuppression contributes to the premetastatic niche. *Oncoimmunology* 2013; 2:1 e22355.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3583916/>

Wearing cloth masks in public can create a false sense of security and complacency in which people may neglect other hygiene practices. [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak)

There is a danger of masks reducing oxygen (O₂) levels and increasing levels of Carbon Dioxide (CO₂) to unsafe levels

"Wearing N95 masks results in hypo-oxygenemia (levels of oxygen in the blood) and hypercapnia (is increased levels of carbon dioxide), which reduce working efficiency and the ability to make correct decision."

...

"Medical staff are at increased risk of getting 'Severe acute respiratory syndrome' (SARS), and wearing N95 masks is highly recommended by experts worldwide. However, dizziness, headache, and short of breath are commonly experienced by the medical staff wearing N95 masks. The ability to make correct decision may be hampered, too."

<https://clinicaltrials.gov/ct2/show/NCT00173017>

<https://www.researchgate.net/.../7332926> Headaches and the N9...

More on the danger of masks reducing oxygen levels and increasing levels of Carbon Dioxide (CO₂)

- "Chronic hypoxia-hypercapnia influences cognitive function"
<https://www.ncbi.nlm.nih.gov/pubmed/18331781>
- A recent study involving 159 healthcare workers aged 21 to 35 years of age found that 81% developed headaches from wearing a face mask... That is, a reduction in blood oxygenation (hypoxia) or an elevation in blood carbon dioxide (CO₂- (hypercapnia). It is known that the N95 mask, if worn for hours, can reduce blood oxygenation as much as 20%. And proper oxygenation of the blood is essential for energy, mental clarity, focus and emotional well-being. Ong JY et al. **Headaches associated with personal protective equipment- A cross sectional study among frontline healthcare workers during COVID-19.** *Headache* 2020;60(5):864-877.
<https://headachejournal.onlinelibrary.wiley.com/doi/epdf/10.1111/head.13811>
- "Hypercapnia, the elevation of carbon dioxide (CO₂) in blood and tissues, commonly occurs in severe acute and chronic respiratory diseases, and is associated with increased risk of mortality. Recent studies have shown that hypercapnia adversely affects innate immunity, host defense, lung edema clearance and cell proliferation. Airway epithelial dysfunction is a feature of advanced lung disease....These changes in gene expression indicate the potential for hypercapnia to impact bronchial epithelial cell function in ways that may contribute to poor

clinical outcomes in patients with severe acute or advanced chronic lung diseases.” This clearly can have a negative impact with a disease like COVID-19. <https://www.nature.com/articles/s41598-018-32008-x.pdf>

- "Hypercapnia status has been shown to predict mild cognitive impairment <https://www.nature.com/articles/s41598-018-35797-3>
- Chronic hypoxia – hypercapnia has been seen as a cause of cognitive impairment <https://www.atsjournals.org/.../fu.../10.1164/ajrccm.186.12.1307>
- **Report on surgical mask induced deoxygenation during major surgery**
Results: “Our study revealed a decrease in the oxygen saturation of arterial pulsations (SpO2) and a slight increase in pulse rates compared to preoperative values in all surgeon groups. The decrease was more prominent in the surgeons aged over 35.” <https://www.ncbi.nlm.nih.gov/pubmed/18500410>

More on the dangers of mask induced reduction of oxygen concentrations:

- "Seventy percent of the patients showed a reduction in partial pressure of oxygen (PaO2), and 19% developed various degrees of hypoxemia. Wearing an N95 mask significantly reduced the PaO2 level" <https://www.ncbi.nlm.nih.gov/pubmed/15340662>
- <https://www.ncbi.nlm.nih.gov/pubmed/31479137>
- <https://www.ncbi.nlm.nih.gov/pubmed/26952529>

Different types of masks and their effectiveness

This 2015 study published by the British Medical Journal titled, **A cluster randomised trial of cloth masks compared with medical masks in healthcare workers**, compares the use of cloth masks and medical masks and warns against the use of cloth masks, due to their increased risk of transmitting infection, especially in health care workers. While this study looked at health care workers specifically, the results can be extrapolated to mask use by the general public.

From the results: “Penetration of cloth masks by particles was almost 97% and medical masks 44%.” *This shows the almost complete ineffectiveness of cloth masks and correlates closely with many other studies, some of them presented below.*

The conclusion: “This study is the first RCT 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. Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs, particularly in high-risk situations, and guidelines need to be updated.”

<https://pubmed.ncbi.nlm.nih.gov/25903751/>

A real-world observation:

With near universal use of cloth and medical masks worn in public in Wuhan, China during the 2019-2020 flu season leading up to the COVID-19 outbreak, the outbreak spread virtually unchecked.

Universal Masking in Hospitals in the Covid-19 Era (New England Journal of Medicine)

“We know that wearing a mask outside health care facilities offers little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic.”

<https://pubmed.ncbi.nlm.nih.gov/32237672/>

Use of Surgical Face Masks to Reduce the Incidence of the Common Cold Among Health Care Workers in Japan: A Randomized Controlled Trial (American Journal of Infection Control)

“Conclusion: Face mask use in health care workers has not been demonstrated to provide benefit in terms of cold symptoms or getting colds.” <https://pubmed.ncbi.nlm.nih.gov/19216002/>

Cloth masks not effective relative to medical masks:

<https://bmjopen.bmj.com/content/5/4/e006577.long>

<https://www.ncbi.nlm.nih.gov/pubmed/20584862>

Distribution of particle sizes in a cough maxes out at ~900 nm:

<https://bmcpulmed.biomedcentral.com/articles/10.1186/1471-2466-12-11>

Most particles under 1 um: Fabian P, Mcdevitt JJ, Dehaan WH et al. (2008). Influenza virus in human exhaled breath: an observational study.

A report by the *National Academies of Sciences, Engineering, and Medicine 2020* titled, **Rapid Expert Consultation on the Effectiveness of Fabric Masks for the COVID-19 Pandemic** (April 8, 2020), reported the following: “There is little evidence regarding the transmission of small aerosolized particulates of the size potentially exhaled by asymptomatic or pre-symptomatic individuals with COVID-19.” <https://www.nap.edu/download/25776>

Have to use the mask and do all the other precautionary things in order be effective:

<https://www.ncbi.nlm.nih.gov/pubmed/22188875>

Medical or N95 masks aren't that different in effectiveness: <https://www.ncbi.nlm.nih.gov/pubmed/31479137>

Unmasking the Surgeons: The Evidence Base Behind the Use of Facemasks in Surgery (Journal of the Royal Society of Medicine) “Examination of the literature revealed much of the published work on the matter to be quite dated and often studies had poorly elucidated methodologies. As a result, we recommend caution in extrapolating their findings to contemporary surgical practice. However, overall there is a lack of substantial evidence to support claims that face masks protect either patient or surgeon from infectious contamination. More rigorous contemporary research is needed to make a definitive comment on the effectiveness of surgical facemasks.”

A 2015 article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4480558/>

Particle size breakdown and fabric differences for cloth masks and particle penetration:

<https://doi.org/10.1093/annhyg/meq044>

Cloth masks worse than surgical masks for anything <2.5 µm (the one brand had a filter, and was the best performing cloth mask):** <https://www.ncbi.nlm.nih.gov/pubmed/27531371>

Report to the National Academies of Science from 2006, indicating caution on the use of cloth masks due to lack of evidence of protection and may encourage risk taking by the wearer.

<https://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=s04272006>

Fit testing matters less vs it's an N95 mask: <https://www.ncbi.nlm.nih.gov/pubmed/21477136>

Masks don't seem to impact family infection as much: <https://www.ncbi.nlm.nih.gov/pubmed/28039289>

Transmission of viruses from breathing requires extended time of contact for even low transmission

From the journal *Nature Medicine*, April 2020 titled, **Respiratory virus shedding in exhaled breath and efficacy of face masks.**

From the study: “Among the samples collected without a face mask, we found that the majority of participants with influenza virus and coronavirus infection did not shed detectable virus in respiratory droplets or aerosols,.... given that each exhaled breath collection was conducted for 30 min, this might imply that prolonged close contact would be required for transmission to occur, even if transmission was primarily via aerosols, as has been described for rhinovirus colds.” <https://www.nature.com/articles/s41591-020-0843-2>

The Surgical Mask Is a Bad Fit for Risk Reduction (Canadian Medical Association Journal)- 2016

“Histories of the surgical mask offer some clues about our contemporary risk profile, a profile that is, according to the nature of risk, future-oriented. The birth of the mask came from the realization that surgical wounds need protection from the droplets released in the breath of surgeons. The technology was applied outside the operating room in an effort to control the spread of infectious epidemics. In the 1919 influenza pandemic, masks were available and were dispensed to populations, but they had no impact on the epidemic curve. At the time, it was unknown that the influenza organism is nanoscopic and can theoretically penetrate the surgical mask barrier. As recently as 2010, the US National Academy of Sciences declared that, in the community setting, “face masks are not designed or certified to protect the wearer from exposure to respiratory hazards.” A number of studies have shown the inefficacy of the surgical mask in household settings to prevent transmission of the influenza virus.”

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4868614/>

Frequent washing and drying of a cloth mask can decrease the filtration capacity of the mask.

Optical microscopic study of surface morphology and filtering efficiency of face masks (Journal of Life and Environmental Sciences)

“We studied the effect of surface morphology of locally available face masks on their PM filtering efficiency. Filtering efficiency of CM for ambient PM10 was poorer than in SM. The poor efficiency was due to the presence of larger sized pores. Our study also demonstrated that washing and drying cycle deteriorates the filtering efficiency due to change in pore shape and clearance. We also found that stretching of the CM surface alters the pore size and potentially decreases the filtering efficiency. The findings of this study suggest that CM are not effective, and that effectiveness deteriorates if used after washing and drying cycles and if used under stretched condition.” (CM = cloth mask, PM = particulate matter, SM = surgical mask) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6599448/>

Fear induced immunocompromise from wearing face masks

Wearing face masks is a constant reminder that we should fear this invisible enemy or “monster” as some politicians have called it- There is no doubt that wearing a mask reinforces the worry and fear about COVID-19. Even being in public mask-less and seeing that most people are wearing masks leaves one with a sense of angst. Fear, worry and anxiety are powerful immune suppressing emotions. This is another factor relating to the immunosuppressive effects of face masks. This is a link to a section of a 2007 book titled, Cytokines: Stress and Immunity- Second Edition 2007. You can read Chapter 2 titled Worried to Death? Worry, and Immune Dysregulation in Health and HIV. Interestingly, HIV is a viral infection as is SARS-COV-2 (COVID-19).

https://books.google.com/books?hl=en&lr=&id=2DvMBQAAQBAJ&oi=fnd&pg=PA17&dq=the+immunosuppressive+effects+of+fear+and+worry&ots=ZNbmH2FBXA&sig=0FwVcXAxteBeHT78_EV90NWI91g

Other harms from wearing masks:

Textile materials (that can be used for cloth masks) can contain harmful chemicals and dyes (i.e. formaldehyde). There is no research available regarding the safety of breathing through such materials, but formaldehyde is a gas that can irritate a person’s eyes, nose, throat and lungs, or trigger an asthma attack, even at low concentrations. Prolonged exposure to formaldehyde can cause cancer.

<https://ww2.arb.ca.gov/resources/fact-sheets/formaldehyde>

FORMALDEHYDE IN TEXTILES, a Government Accountability Office Report to Congressional Committees

<https://www.gao.gov/new.items/d10875.pdf>

Headaches Associated With Personal Protective Equipment - A Cross-Sectional Study Among Frontline Healthcare Workers During COVID-19 (Journal Headache)

Conclusion: “Most healthcare workers develop de novo PPE-associated headaches or exacerbation of their pre-existing headache disorders.” <https://pubmed.ncbi.nlm.nih.gov/32232837/>

Effects of Wearing N95 and Surgical Facemasks on Heart Rate, Thermal Stress and Subjective Sensations (International Archives of Occupational and Environmental Health)

“Therefore, it can be concluded that N95 and surgical facemasks can induce significantly different temperatures and humidity in the microclimates of facemasks, which have profound influences on heart rate and thermal stress and subjective perception of discomfort.” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7087880/>

Other miscellaneous topics

What kills microbes on masks?

<https://www.ncbi.nlm.nih.gov/pubmed/29855107>: yes: bleach, UVC, autoclave, TERC no: UVA, alcohol

<https://www.ncbi.nlm.nih.gov/pubmed/29678452>: UVGI is a yes

<https://www.ncbi.nlm.nih.gov/pubmed/25806411> UVGI works, and mask still good, but much more fragile (90% more)
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0186217>

Can you breathe if you double mask?

<https://www.ncbi.nlm.nih.gov/pubmed/23108786> : less well if it’s a surgical mask over an N95

We need more studies

<https://www.ncbi.nlm.nih.gov/pubmed/25858901>

We have no uniform policy: Lancet 2020

[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext)

We need science before mandates.

https://www.drbrownstein.com/we-must-wear-face-masks-show-me-the-science-behind-that/?fbclid=iwar38czap444d14oxh9lg_oz-r8acwn-zoexkpu558tvv8npskv9owcg8gsi

https://www.thehealthyamerican.org/masks-dont-work?fbclid=IwAR2kj_ljJNGzfmhIp4EiOIXdPDku_4J90-xZx2WUhlv9Bk35Nhde9sbpZs