

S. Renner BOS 6/29/2021 #41

Board of Supervisors Mandatory Mask Item #41, Resolution 069-2021 6/29/2021

Sarah Renner

I am an Educational Specialist, whose training and work experience focuses on students with reading deficits and disabilities.

Mandatory masking policies will have major effects on speech and reading development.

Such interruptions to student education and literacy acquisition will result in **lifelong** educational, social-emotional, and health consequences.

Based on three longitudinal studies (Juel, 1988; Francis et al., 1996; Shaywitz et al., 1999) there is "nearly a **90 percent chance that a poor reader in first grade will remain a poor reader**". This well established research shows that **struggling readers rarely catch up** even with special education intervention.

Masking interrupts early reading acquisition by distorting sounds and preventing phonemic development.

It prevents students from gaining the skill of **blending** words together when learning to read and **segmenting** the sounds (or taking them apart) when spelling. All of these skills are learned K-2 and **are learned orally not visually**.

We are experiencing a **policy** driven educational crisis. Statewide, students already have significant reading deficits due to school closures. Governor Newsom, allocated \$6.6 billion for school reopening with a focus on summer school because of this fact. The majority of El Dorado County school districts did not make summer school available to the general population. Our students are starting the year at a disadvantage. A policy of mandatory student masking is a policy with **substantial negative side-effects**.

Further data on educational impact is essential. Speech and sound manipulation is an essential skill assessed in kindergarten to second grade as an indicator of reading acquisition. The Board of Supervisors could request that end of year reading assessments for 2021 be reported by the superintendent of each school district to the County Board of Supervisors. This will provide the community with data documenting the educational damage that has already occurred.

Remember, **students in first grade with reading deficits have only a 10% likelihood of returning to grade level**. The negative effects these policies will have on literacy development cannot be overstated. Please consider all aspects of the child's health and wellbeing when reviewing mandatory masking policies. Parent choice is essential in determining what is best for each individual student.

6/28/2021 Edcgov.us Mail - Healthy Kids resolution
County of El Dorado Clerk of the Board <edc.cob@edcgov.us>



Healthy Kids resolution
2 messages

Jennifer Spring <jennmspring@gmail.com> Sat, Jun 26, 2021 at 10:50 AM
To: Edc Cob <edc.cob@edcgov.us>, The Bosone <bosone@edcgov.us>, Two Bos <bostwo@edcgov.us>, The Bosthree <bostthree@edcgov.us>, Four Bos <bosfour@edcgov.us>, bosfive@edcgov.us

Dear Supervisors,
I am writing to urge you to support style Resolution for Healthy Kids (Resolution No. 069-2021), which is currently being considered by your board.

This resolution assures parental choice in decision making regarding masking children. Furthermore, this allows our county to advocate for more local control for the state decisions.

As a Speech Pathologist, working in the public schools, I see the negative affects of masking students and educators. Those children that are language and speech impaired are already dealing with learning issues. Wearing a mask impacts their ability to hear, understand, read lips and read facial expressions and nonverbal language cues. These have far reaching consequences, far more worrisome than a virus which largely does not affect children or teens. The overwhelming science over the last year and a half, has proven that masks are not effective. It is critical that El Dorado County keep our local governmental control tailored to our unique region. We have been safely operating schools and youth programs, we can now move to face coverings as optional.

Thank you for your consideration,
Jennifer Spring, CCC-SLP
Speech Pathologist
El Dorado County Resident
Sent from my iPad

County of El Dorado Clerk of the Board <edc.cob@edcgov.us> Mon, Jun 28, 2021 at 8:06 AM
To: Donald Ashton <don.ashton@edcgov.us>

L. Emil BOS 6/29/2021 #41

May 25, 2020

Board of Supervisors

El Dorado County
Hickam, Tumbao, Thomas, Purtilo, Novase

Re: County Health Officer Order Regarding Mandatory Masks

Dear Board of Supervisors:

I write asking that you immediately walk back the recent proposal by the County Health Officer regarding mask-wearing. I will lead with my conclusion: (1) the proposal runs counter to accepted medical and scientific studies – including World Health Organization studies and the CDC’s recent study published last week which found “no significant reduction” in “transmission with the use of face masks” (2) the proposal puts county residents at risk of severe injury based on the multiplicity of medical studies showing mask-wearing leads to hypoxia which can precipitate fatal cardiac and other life-endangering events, and (3) the County Health Officer has neither the relevant credentials nor the judgment to have made this order.

By way of background: I am a veteran litigator, who previously represented Fortune 500 companies in hi-tech and environmental disputes, as well as advised municipalities not unlike yours, and I have also practiced a fair bit of litigation in the healthcare arena. I am thus quite familiar with the scientific studies in this context, as well as the law in this arena.

As a starting point, I should note that under Health & Safety Code 101000, you appointed the County Health Officer, and by extension, you can also reverse this decision: “Each board of supervisors shall appoint a health officer who is a county officer.” I would also note that under H&S Code 101029, the Sheriff “may” enforce the Health Officer’s orders, but that the **Sheriff he is not required to do so**: “The sheriff of each county ... **may** enforce within the county all orders of the local health officer issued for the purpose of preventing the spread of any contagious, infectious, or communicable disease.” H&S Code 101029. Should any Board member have further questions on the difference between “may” and “must,” I would be happy to hold a briefing on the California law in this area: my very first case as an attorney in the early ‘90’s was on behalf of the St. Louis Rams regarding the sole issue of whether the term “may” had a mandatory or permissive meaning, which case was litigated through the highest courts in this state (not surprisingly, “may” is permissive in construction, and not a mandate to the person to whom it is directed).

Finally, on the point of Health & Safety Code sections which impact your decisions this week, I would note that under a different section, no funds “shall be allocated to any local health department whose professional personnel or organization do NOT meet the minimum standards.” Health & Safety Code 101260. For reasons I will go over with you in detail tomorrow, I believe the County’s due diligence prior to the hiring of the health officer fell drastically short of the mark professionally. While your retention of this health officer may have been due to such omissions, any continued retention by the Board of Supervisors after

tomorrow will be grounds to pull funding from the Health department given the catastrophic failure to ensure that her hiring and decision-making is qualified, and further, does not depart below minimum standards.

Turning now to the context underlying the current events: On March 4, 2020, Governor Newsom declared a state of emergency in California, and on March 19, 2020, issued a Stay at Home order (“SAH order”) which he initially intimated would run a series of weeks, and which originally had an end date in mid-April, but was subsequently adjusted to reflect no definite termination date. The order was issued pursuant to Government Code Sections 8567, 8627, 8665, and was predicated on modeling which predicted great loss of life absent the quarantine of healthy people. All of the municipalities in the state immediately complied, as did the vast majority of the more than 40 million Americans who choose to make their home in California.

Fortunately, the loss of life predicted did not come to pass. Indeed, not only did California not experience a pandemic or even an epidemic, to date its mortality rate has not even approached the normal loss of life seen in our state during a typical flu season. To wit: two years ago, in 2017-18, just under 7,000 Californians died from the flu, and as of now, only half that number of Californians have died from COVID. Specifically, in our county, we’ve had 88 deaths from COVID – whereas two years ago we had nearly 600 deaths from the flu.

In short, this is NOT an epidemic, and under Government Code 8629, Newsom should have already terminated his Declaration of Emergency “at the earliest possible moment” and is acting outside his lawful limits by not having done so. Moreover, the Constitutional right to travel and speak – without infringement and without being muzzled by a mask – is well settled law: to infringe on First Amendment rights, the governmental entity must have a “compelling governmental interest” it is asserting, and the proposed solution it puts forth must be “narrowly tailored” to achieving that end. As there is no epidemic in California based on the math, the State has no ability to infringe on First Amendment rights – nor does a local municipality like Orange County. Further, even if our local government could make the case that it had a compelling interest in controlling the spread of a *non-existent epidemic*, the proposed solution of mandatory mask-wearing while outside of our homes must be shown to be narrowly tailored to achieving that end – which simply cannot be shown based on the available scientific literature discussed below.

Indeed, and as reviewed in thorough detail below, the only conclusion to be had from the available medical literature is that the Health Officer’s mask-wearing recommendation will not only be entirely ineffective in preventing viral spread, it will *actually increase the spread of the disease* based on available medical studies, and further, will put the wearers of such masks at grave risk of suffering severe if not fatal consequences.

MASKS DO NOT PREVENT SPREAD OF THE VIRUS

In a recent study from 2020, which itself was a review of other randomized controlled trials, the researchers found masks simply do not work:

Masks and respirators do not work. There have been extensive randomized controlled trial (RCT) studies, and meta-analysis review of RCT studies, which all show that masks and respirators do not work to prevent respiratory influenza-like illnesses, or respiratory illnesses believed to be transmitted by droplets and aerosol particles.¹

Similarly another 2020 study showed:

Surgical masks are unlikely to effectively filter this [COVID] virus.²

Yet worse, cloth masks can actually INCREASE infection and transmission: a British Medical Journal study from 2015 found healthcare workers caught viruses from their patients 13 times more often if they wore a cloth mask than when they wore a medical mask.³ And a Chinese study found similarly that a medical mask was no more protective against viruses than wearing no mask at all.⁴

Even the N95 respirator, recommended for medical workers, requires training to use properly and “without training, the masks could not only expose workers to the virus but also lull them into thinking they are protected,” according to doctors at the Harvard School of Public Health. Yet worse, in practice, the N95 mask has been found to be ineffective in preventing the transmission of viruses: a review of six clinical studies, published in the Canadian Medical Association Journal, found that medical workers caught viruses from their patients just as often when they used N95 respirators as when they used ordinary medical masks.

As for the scientific support for the use of face mask, a recent careful examination of the literature, in which 17 of the best studies were analyzed, concluded:

None of the 17 studies established a conclusive relationship between mask/respirator use and protection against influenza infection.⁵

¹ Masks Don't Work: A Review Of Science Relevant To COVID-19 Social Policy, D.G. Rancourt (Research Gate, April 2020).

² Masks Fail to Filter Virus in Coughing COVID-19 Patients, MedPage Today, Infectious Disease (April 6, 2020).

³ A Cluster Randomized Trial Of Cloth Masks Compared With Medical Masks In Healthcare Workers, C. Raina MacIntyre, Holly Seale, Quanyi Wang, British Medical Journal (2015).

⁴ Chughtai A.A., MacIntyre C.R., Zheng Y., Wang Q., Toor Z.I., Dung T.C. Examining the policies and guidelines around the use of masks and respirators by healthcare workers in China, Pakistan and Vietnam. J Infect Prev. 2015;16(2):68–74.

⁵ 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.

MASKS CREATE DANGEROUSLY LOW LEVELS OF OXYGEN – WHICH CAN LEAD TO UNCONSCIOUSNESS, CARDIAC EVENTS & STROKES – AND INCREASE THE RISK OF CONTRACTING THE VIRUS

Masks are harmful to the wearer. COVID-19 kills by causing severe hypoxia (low levels of oxygen in the blood). Ironically, mask-wearing also causes low levels of oxygen and hypoxia – because people wearing masks re-breathe some of their exhaled air, lowering the amount of oxygen they are breathing, and putting them at greater risk for the disease should they contract it:

Wearing respirators come[s] with a host of physiological and psychological burdens. These can interfere with task performances and reduce work efficiency. These burdens can even be **severe enough to cause life-threatening conditions if not ameliorated.**⁶

Indeed, when the N95 respirator was tested in use in 2010, the “dead-space oxygen and carbon dioxide levels did not meet the Occupational Safety and Health Administration’s ambient workplace standards.”

In a study conducted by the National Taiwan University Hospital fifteen years ago – which date of conclusion means we can safely ignore the idea that the study was trying to bias public opinion against mask wearing for the COVID 2020 crisis since it concluded a decade and a half prior to the COVID situation – it was found that the use of N-95 masks in healthcare workers caused them to experience hypoxemia, a low level of oxygen in the blood, and hypercapnia, an elevation in the blood's carbon dioxide levels.⁷ Not only did the mask create dangerously low levels of oxygen and an equally dangerous spike in carbon dioxide in the human body, the study found:

Medical staff are at increased risk of getting 'Severe acute respiratory syndrome' (SARS) [from] wearing N95 masks....

Lastly, the study’s authors further found that “dizziness, headache, and short[ness] of breath are commonly experienced by the medical staff wearing N95 masks” and that the “ability to make correct decisions” was also likely impaired. Id.

Studies show that headaches in medical professionals are commonly found as a result of mask-wearing, which is a sign of hypoxia: Just under 10% of the healthcare workers in one study experienced such severe symptoms that they were forced to take, on average, two full days of sick leave from their healthcare jobs, while 60% of these healthcare professionals “required use of abortive analgesics because of headache.”⁸

A more recent study involving 159 healthcare workers aged 21 to 35 years of age found that 81% developed headaches from wearing a face mask – which is a sign of dangerously low

⁶ Arthur Johnson, Journal of Biological Engineering (2016).

⁷ The Physiological Impact of N95 Masks on Medical Staff, National Taiwan University Hospital (June 2005).

⁸ Headaches and the N95 Face-Mask Amongst Healthcare Providers. Lim EC1, Seet RC, Lee KH, Wilder-Smith EP, Chuah BY, Ong BK, Acta Neurologica Scandinavica, 28 Feb 2006, 113(3):199-202.

levels of oxygenation – and ALL healthcare workers felt like the headaches affected their work performance.⁹ Pregnant women wearing N-95 masks were found to have breathing difficulties associated with the use of the mask.¹⁰

According to a noted neurosurgeon:

“It is known that the N95 mask, if worn for hours, can reduce blood oxygenation as much as 20%” which in turn "can lead to a loss of consciousness, as happened to the hapless fellow driving around alone in his car wearing an N95 mask, causing him to pass out, and to crash his car and sustain injuries. I am sure that we have several cases of elderly individuals or any person with poor lung function passing out, hitting their head. This, of course, can lead to death.”¹¹

While all studies reviewed show that the N95 mask can cause significant hypoxia (too little oxygen) and hypercapnia (dangerous amounts of carbon dioxide), another study – not of N95 masks – but of simple surgical masks found significant reductions in blood oxygen as well. In this study, researchers examined the blood oxygen levels in 53 surgeons. They measured blood oxygenation before surgery as well as at the end of surgeries. The researchers found that the mask reduced the blood oxygen levels significantly. The longer the duration of wearing the mask, the greater the fall in blood oxygen levels.¹²

Yet worse, the immunity of the mask wearer – and his or her subsequent ability to fight off COVID-19 or any other harmful infection – is actually harmed by wearing a mask. To wit: the drop in oxygen levels (hypoxia) noted in the myriad studies above is directly associated with an impairment in immunity. In terms of the biological effects, what the studies have shown is that the lowered rate of oxygen (hypoxia) in turn inhibits the production of the type of primary immune cells that our bodies use to fight viral infections (known as the CD4+ T-lymphocyte). Functionally speaking, what happens inside our bodies is that the decrease in oxygen causes a spike in the level of a compound called hypoxia-inducible-factor-1 (HIF-1). Once that compound spikes, it in turn inhibits the production of T-lymphocytes we need for our bodies to fight off invaders and infections. Yet worse, the lack of oxygen stimulates a powerful inhibitor of the immune system (a cell called the Tregs), which in turn makes one’s body ripe for contracting a COVID-19 infection and experiencing said illness more severely:

This sets the stage for contracting any infection, including COVID-19, and making the consequences of that infection much graver. In essence, your mask may very well put you at an increased risk of infections and if so, having a much worse outcome.¹³

⁹ Ong JJY 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.

¹⁰ Are Face Masks Effective Against Covid-19? *The Science Times* (May 25, 2020).

¹¹ Could Wearing a Mask for Long Periods Be Detrimental to Health? *The Jerusalem Post*, Donna Rachel Edmunds (May 18, 2020) (quoting neurosurgeon Blaylock).

¹² Bader A et al. Preliminary report on surgical mask induced deoxygenation during major surgery. *Neurocirugia* 2008;19:12-126..

¹³ Russell Blaylock, Id. (quoting Shehade H et al. Cutting edge: Hypoxia-Inducible Factor-1 negatively regulates Th1 function. *J Immunol* 2015;195:1372-1376. See also: Westendorf AM et al. Hypoxia enhances

Moreover, people with cancer, especially if the cancer has spread, will be at a further risk from hypoxia – as cancer cells grow best in a bodily environment that is low in oxygen. Low oxygen also promotes systemic inflammation which, in turn, promotes “the growth, invasion and spread of cancers.”¹⁴

Repeated episodes of low oxygen – known as intermittent hypoxia – also “causes atherosclerosis” and hence increases “all cardiovascular events” such as heart attacks – as well as adverse cerebral events like stroke.¹⁵

Perhaps even worse than all of the foregoing is the fact that recent findings show that, in some cases, the virus can enter the brain.¹⁶ According to those who practice neurosurgery, in most instances where the virus enters the brain, it does so by way of the olfactory nerves (smell nerves) – and accordingly – 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.”¹⁷

Simply put: wearing a mask actually **increases** your susceptibility to infection – particularly an infection that targets the lungs – and puts you on track for much worse outcomes should the re-breathing of the viral load cause the virus to invade the brain through the olfactory pathways.

The fact that mask wearing presents a severe risk of harm to the wearer should – standing alone – mandate in favor of not ordering American citizens to wear them, particularly given that these citizens are not ill and have done nothing wrong that would warrant an infringement of their constitutional rights and bodily autonomy. A conclusion that is underscored by recent studies from the the CDC and the World Health Organization that prove mask-wearing is completely ineffective in controlling the spread of the virus:

To wit, and quite strikingly, the CDC *just last week* on its website published a review of all studies – worldwide – that looked at the efficacy of face-mask wearing as a preventive measure to control the spread of highly infectious respiratory illnesses such as COVID. The CDC’s methodology involved searching four different databases – Medline, PubMed,

immunosuppression by inhibiting CD4+ effector T cell function and promoting Treg activity. *Cell Physiol Biochem* 2017;41:1271-84. See further: Sceneay J et al. Hypoxia-driven immunosuppression contributes to the pre-metastatic niche. *Oncoimmunology* 2013;2:1 e22355.

14 Aggarwal BB. Nuclear factor-kappaB: The enemy within. *Cancer Cell* 2004;6:203-208, and Blaylock RL. Immunoexcitatory mechanisms in glioma proliferation, invasion and occasional metastasis. *Surg Neurol Inter* 2013;4:15.

15 Savransky V et al. Chronic intermittent hypoxia induces atherosclerosis. *Am J Resp Crit Care Med* 2007;175:1290-1297.

16 Baig AM et al. 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. Wu Y et al. Nervous system involvement after infection with COVID-19 and other coronaviruses. *Brain Behavior, and Immunity*.

17 Perlman S et al. Spread of a neurotropic murine coronavirus into the CNS via the trigeminal and olfactory nerves. *Virology* 1989;170:556-560.

EMBASE, and CENTRAL – and reviewing every single randomized controlled trial regarding mask-wearing, from every single country in the world.

After reviewing ALL of the studies worldwide, the CDC found “no reduction in viral transmission with the use of face masks.”¹⁸

Similarly, in recent weeks, the World Health Organization also has found that there “is no evidence wearing a mask by a healthy person in a community setting can prevent infection with respiratory viruses, including COVID-19.” And thus, **the World Health Organization concluded “universal community masking” is ineffective at preventing “infection from respiratory viruses, including COVID-19.”**¹⁹ Indeed, the WHO went so far as to recommend against wearing medical masks as they “may create a false sense of security” against COVID-19, while it took pains to reiterate that there is “no evidence available on a [mask’s] usefulness to protect non-sick persons.” Id.

CONCLUSION

Given that the CDC and the World Health Organization have concluded this month that mask-wearing is completely ineffective at preventing the spread of viral infections including COVID-19, and further given the absolute wealth of medical studies concluding that mask-wearing creates dangerously low levels of oxygen combined with high rates of carbon dioxide which can, in turn, lead to headache and loss of consciousness as well as precipitate respiratory and cardiac events which can prove fatal – and indeed, in recent weeks, have led to drivers losing consciousness and T-boning trees and two children suffering fatal heart attacks while trying to exercise while mask-wearing in China – the suggestion by the County Health Officer that all county residents wear masks while outside their homes will not only fail abysmally in achieving any purported health goal, it will further serve to put millions of Orange County residents at risk of severe injury and/or death.²⁰ To put a very fine point on it: the recent order/suggestion – which flew in the face of the available scientific literature – puts directly into harm’s way the 40% of our county residents who have chronic, underlying health conditions. More than most, this half of the population needs its normal oxygen intake just to survive: the Health Officer’s order is nothing less than the placement of their hand in front of their compromised airways ... while she waits for the all-too-certain negative medical emergency to transpire.

The Board of Supervisors has a duty to the individuals who elected it to immediately cancel this proposal so as to not jeopardize the physical safety of its residents, as well as report its Health Officers for acts constituting moral turpitude to the State Medical Board. Further, an immediate investigation should be commenced into this issue, as well as the Health Officer’s credentials or lack thereof, and the officer should be concomitantly placed on administrative leave pending conclusion of that investigation. In sum, we are living in California in the

¹⁸ Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—Personal Protective and Environmental Measures, Jingyi Xiao¹, Eunice Y. C. Shiu¹, Huizhi Gao, Jessica Y. Wong, Min W. Fong, Sukhyun Ryu, and Benjamin J. Cowling (Volume 26, Number 5, May of 2020).

¹⁹ Advice on the Use of Masks in the Context of COVID-19 – Guidance, World Health Organization (April 6, 2020) https://apps.who.int/iris/bitstream/handle/10665/331693/WHO-2019-nCov-IPC_Masks-2020.3-eng.pdf?sequence=1&isAllowed=y

²⁰ Two Boys Drop Dead in China While Wearing Masks During Gym Class, NY Post (May 6, 2020); Driver Crashes Car after Passing Out from Wearing N-95 Mask Too Long Police Said, ABC News (April 25, 2020).

summer of 2020, not Nazi Germany, and neither modern law nor morality will long countenance a “health officer” seeking to become the modern-day equivalent of Josef Mengele to Nazi Germany’s Hitler – through dangerous and unsupported medical suggestions that put millions of county residents at risk of harm and death. Lastly, should the Health Officer’s actions be the proximate cause of any injury or loss of life prior to the canceling of the mandatory mask order from last week, I will seek an immediate investigation into each addressee hereto – regarding how and why the Board of Supervisors did not take immediate action to remedy the problem once it was on notice of same.

Sincerely,

Leigh Dundas, Esq.

cc: United States Department of Justice

Excerpts from Studies Involving Mask-Wearing

- Study on CDC website which reviewed ten different randomized clinical trials, world-wide, reviewing highly infectious respiratory virus transmission which found “no significant reduction” in “transmission with the use of face masks.”
https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article. *Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—Personal Protective and Environmental Measures*, Jingyi Xiao¹, Eunice Y. C. Shiu¹, Huizhi Gao, Jessica Y. Wong, Min W. Fong, Sukhyun Ryu, and Benjamin J. Cowling (Volume 26, Number 5, May of 2020).
- World Health Organization states there “is no evidence wearing a mask by a healthy person in a community setting can prevent infection with respiratory viruses, including COVID-19” and further concludes “universal community masking” is ineffective at preventing “infection from respiratory viruses, including COVID-19.” The WHO recommended against wearing medical masks as they “may create a false sense of security” against COVID-19, while it further went out of its way to reiterate that there is “no evidence available on a [mask’s] usefulness to protect non-sick persons.”
https://apps.who.int/iris/bitstream/handle/10665/331693/WHO-2019-nCov-IPC_Masks-2020.3-eng.pdf?sequence=1&isAllowed=y *Advice on the Use of Masks in the Context of COVID-19 – Guidance*, World Health Organization (April 6, 2020)
- British Medical Journal notes that cloth face masks may INCREASE spread of virus: “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.”
<https://bmjopen.bmj.com/content/5/4/e006577> *A cluster randomised trial of cloth masks compared with medical masks in healthcare workers*
- C Raina MacIntyre¹, Holly Seale¹, Tham Chi Dung², Nguyen Tran Hien², Phan Thi Nga², Abrar Ahmad Chughtai¹, Bayzidur Rahman¹, Dominic E Dwyer³, Quanyi Wang⁴
- Explanation of Why Face Masks Do Not Work (reviewing other studies)
<https://www.oralhealthgroup.com/features/face-masks-dont-work-revealing-review/>
- Canadian Physicist Reviewing Why Face Masks Do Not Work.
<http://ocla.ca/wp-content/uploads/2020/04/Rancourt-Masks-dont-work-review-science-re-COVID19-policy.pdf>
- Wearing respirators come[s] with a host of physiological and psychological burdens. These can interfere with task performances and reduce work efficiency. These burdens can even be severe enough to cause life-threatening conditions if not ameliorated. Arthur Johnson, *Journal of Biological Engineering* (2016).

- When the N95 respirator was tested in use in 2010, the “dead-space oxygen and carbon dioxide levels did not meet the Occupational Safety and Health Administration’s ambient workplace standards.”
- In a study conducted by the National Taiwan University Hospital fifteen years ago, it was found that the use of N-95 masks in healthcare workers caused them to experience hypoxemia, a low level of oxygen in the blood, and hypercapnia, an elevation in the blood’s carbon dioxide levels. Not only did the mask create dangerously low levels of oxygen and an equally dangerous spike in carbon dioxide in the human body, the study found that “medical staff are at increased risk of getting ‘Severe acute respiratory syndrome’ (SARS) [from] wearing N95 masks...” Lastly, the study’s authors further found that “dizziness, headache, and short[ness] of breath are commonly experienced by the medical staff wearing N95 masks” and that the “ability to make correct decisions” was also likely impaired. *The Physiological Impact of N95 Masks on Medical Staff, National Taiwan University Hospital (June 2005).*
- Studies show that headaches in medical professionals are commonly found as a result of mask-wearing, which is a sign of hypoxia: Just under 10% of the healthcare workers in one study experienced such severe symptoms that they were forced to take, on average, two full days of sick leave from their healthcare jobs, while 60% of these healthcare professionals “required use of abortive analgesics because of headache.” *Headaches and the N95 Face-Mask Amongst Healthcare Providers. Lim EC1, Seet RC, Lee KH, Wilder-Smith EP, Chuah BY, Ong BK, Acta Neurologica Scandinavica, 28 Feb 2006, 113(3):199-202.*
- A more recent study involving 159 healthcare workers aged 21 to 35 years of age found that 81% developed headaches from wearing a face mask – which is a sign of dangerously low levels of oxygenation – and ALL healthcare workers felt like the headaches affected their work performance. *Ong JJY 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.*
- Pregnant women wearing N-95 masks were found to have breathing difficulties associated with the use of the mask. *Are Face Masks Effective Against Covid-19? The Science Times (May 25, 2020).*
- “It is known that the N95 mask, if worn for hours, can reduce blood oxygenation as much as 20%” which in turn “can lead to a loss of consciousness, as happened to the hapless fellow driving around alone in his car wearing an N95 mask, causing him to pass out, and to crash his car and sustain injuries. I am sure that we have several cases of elderly individuals or any person with poor lung function passing out, hitting their head. This, of course, can lead to death.” *Are Face Masks Effective Against Covid-19? The Science Times (May 25, 2020).*
- In this study, researchers examined the blood oxygen levels in 53 surgeons. They measured blood oxygenation before surgery as well as at the end of

surgeries. The researchers found that the mask reduced the blood oxygen levels significantly. The longer the duration of wearing the mask, the greater the fall in blood oxygen levels. Bader A et al. Preliminary report on surgical mask induced deoxygenation during major surgery. *Neurocirugia* 2008;19:12-126.

- In a study of dentists and dental assistants who adopted new protocols since COVID, headaches jumped from 16% pre-COVID to 65%, with half of respondents (49%) noting it was not hard to breathe “all the time” and 40% noting it was hard to breathe some of the time. [https://www.dentistryiq.com/covid-19/article/14177630/headaches-exhaustion-anxiety-the-physical-and-emotional-challenges-of-returning-to-work-during-the-pandemic?utm_source=RDH%20eVillage%20%26%20Product&utm_medium=email&utm_campaign=CPS200611069&utm_id=3982E9300967G0X&rdx.ident\[pull\]=omeda%7C3982E9300967G0X&oly_enc_id=3982E9300967G0X&fbclid=IwAR1Dr974eARImMqMikUxsl8XBZjvzOznYcgEFxJLWUoR-n1zjxfUxih_QKY#cid-14177681](https://www.dentistryiq.com/covid-19/article/14177630/headaches-exhaustion-anxiety-the-physical-and-emotional-challenges-of-returning-to-work-during-the-pandemic?utm_source=RDH%20eVillage%20%26%20Product&utm_medium=email&utm_campaign=CPS200611069&utm_id=3982E9300967G0X&rdx.ident[pull]=omeda%7C3982E9300967G0X&oly_enc_id=3982E9300967G0X&fbclid=IwAR1Dr974eARImMqMikUxsl8XBZjvzOznYcgEFxJLWUoR-n1zjxfUxih_QKY#cid-14177681)
- The immunity of the mask wearer – and his or her subsequent ability to fight off COVID-19 or any other harmful infection – is actually harmed by wearing a mask. The drop in oxygen levels (hypoxia) noted in many studies is directly associated with an impairment in immunity. In terms of the biological effects, what the studies have shown is that the lowered rate of oxygen (hypoxia) in turn inhibits the production of the type of primary immune cells that our bodies use to fight viral infections (known as the CD4+ T-lymphocyte). Functionally speaking, what happens inside our bodies is that the decrease in oxygen causes a spike in the level of a compound called hypoxia-inducible-factor-1 (HIF-1). Once that compound spikes, it in turn inhibits the production of T-lymphocytes we need for our bodies to fight off invaders and infections. Yet worse, the lack of oxygen stimulates a powerful inhibitor of the immune system (a cell called the Tregs), which in turn makes one’s body ripe for contracting a COVID-19 infection and experiencing said illness more severely: “This sets the stage for contracting any infection, including COVID-19, and making the consequences of that infection much graver. In essence, your mask may very well put you at an increased risk of infections and if so, having a much worse outcome.” Russell Blaylock, Id. (quoting Shehade H et al. Cutting edge: Hypoxia-Inducible Factor-1 negatively regulates Th1 function. *J Immunol* 2015;195:1372-1376. See also: Westendorf AM et al. Hypoxia enhances immunosuppression by inhibiting CD4+ effector T cell function and promoting Treg activity. *Cell Physiol Biochem* 2017;41:1271-84. See further: Sceneay J et al. Hypoxia-driven immunosuppression contributes to the pre-metastatic niche. *Oncimmunology* 2013;2:1 e22355.
- People with cancer may be at a further risk from hypoxia – as cancer cells grow best in a bodily environment that is low in oxygen. Low oxygen also promotes systemic inflammation which, in turn, promotes “the growth, invasion and spread of cancers.” Aggarwal BB. Nuclear factor-kappaB: The enemy within. *Cancer Cell* 2004;6:203-208, and Blaylock RL. Immunoexcitatory mechanisms in glioma proliferation, invasion and occasional metastasis. *Surg Neurol Inter* 2013;4:15.
- Repeated episodes of low oxygen – known as intermittent hypoxia – also “causes atherosclerosis” and hence increases “all cardiovascular events” such

as heart attacks – as well as adverse cerebral events like stroke. *Blaylock, quoting Savransky V et al. Chronic intermittent hypoxia induces atherosclerosis. Am J Resp Crit Care Med 2007;175:1290-1297.*

- It appears the virus may be able to enter the brain. According to those who practice neurosurgery, in most instances where the virus enters the brain, it does so by way of the olfactory nerves (smell nerves) – and accordingly – 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.” *Blaylock, reviewing Baig AM et al. 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. Wu Y et al. Nervous system involvement after infection with COVID-19 and other coronaviruses. Brain Behavior, and Immunity. Perlman S et al. Spread of a neurotropic murine coronavirus into the CNS via the trigeminal and olfactory nerves. Virology 1989;170:556-560.*