Conclusion Regarding Masks
They Do Not Work

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There are NO randomized, controlled trials (RCT) with verified outcomes that show a benefit to healthcare workers or community members for wearing a mask or a respirator. **There is no such definitive study.** Likewise, no study exists that shows a benefit from a broad policy to wear masks in public (documented below).

Furthermore, if there were any benefit to wearing a mask, because of the blocking power against droplets and aerosol particles, then there should be more benefit from wearing a respirator (N95) compared to a surgical mask. There is not. Neither masks nor respirators protect; cloth coverings are essentially worthless.

It should be noted that the surgical masks are primarily designed to protect the environment from the wearer, whereas the respirators are supposed to protect the wearer from the environment. (Balazy, et al).

Coronavirus are <0.125 microns in size. Masks and respirators filter particles 0.30 to 0.80 microns in size. Masks cannot possibly work. *No bias-free study* has ever found a benefit from wearing a mask or respirator in this application.

o Public Health Experts Keep Changing: Mask vs No Mask

- **March 15, 2020 - Medical Science News "Reusing masks may increase your risk of coronavirus infection."** https://www.news-medical.net/news/20200315/Reusing-masks-mayincrease-your-risk-of-coronavirus-infection-expert-says.aspx

  - Dr. Jenny Harries, England's deputy chief medical officer, has warned that it was not a good idea for the public to wear facemasks as the virus can get trapped in the material and causes infection when the wearer breathes in. "For the average member of the public walking down a street, it is not a good idea," Dr. Harries said.

- **March 30, 2020: WHO Emergencies Press Conference on coronavirus disease**
https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergenciescoronavirus-press-conference-full-30mar2020.pdf?sfvrsn=6b68bc4a_2

  - at 00:22:39) "We don't generally recommend the wearing to masks in public by otherwise well individuals because it has not been up to now associated with any particular benefit...It does have benefit psychologically, socially and there are social norms around that and we don't criticize the wearing of masks and have not done so but there is no specific evidence to suggest that the wearing of masks by the mass population has any particular benefit.
  In fact, there's some evidence to suggest the opposite in the misuse of wearing a mask properly or fitting it properly or taking it off and all the other risks that are otherwise associated with that.

- **March 31, 2020:**
https://www.newsmax.com/us/surgeon-general-adamsmasks/2020/03/31/id/960679/

  - "You can increase your risk of getting COVID19 by wearing a mask if you are not a health care provider. Folks who don't know how to wear them properly tend to touch their faces a lot and actually can increase the spread of coronavirus." -Dr. Jerome Adams, US Surgeon General

- **April 3, 2020:** https://time.com/5794729/coronavirus-face-masks/
  - According to the CDC, wearing a surgical mask won't stop the wearer from inhaling small airborne particles, which can cause infection. Nor do these masks form a snug seal around the face.
  - The CDC recommends surgical masks only for people who *already show symptoms* of coronavirus and must go outside. Wearing a mask can help prevent spreading the virus by protecting others nearby when you cough or sneeze.
- **May 1, 2020:** Illinois issued an order that a mask will be required in public when social distancing isn't an option.
- **May 27, 2020:** Virginia announced a statewide mask mandate. ....and many more states have followed suit.
- **Nov 2020: Major peer-reviewed study finds masks don't work.** The first large, randomized controlled trial of its kind showed no statistically significant difference in COVID-19 cases between people who wore masks and those who did not.
  "The Danish study published this week in the ***Annals of Internal Medicine*** found that a recommendation to wear a surgical mask when outside the home among others **did not reduce**, at conventional levels of statistical significance, incident [COVID-19] infection compared with no mask recommendation."

o Healthy persons do not spread illness

- **Leung, Nancy., et al. (2020) "Respiratory virus shedding in exhaled breath and efficacy of face masks."** Nature Medicine 26, 676-680. https://www.nature.com/articles/s41591-020- 0843-2
  - "...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.."
- **Gao, Ming. et al. "A Study of infectivity of asymptomatic SARS-CoV2 carriers."** Respiratory Medicine. 2020. Aug: 169:106026 https://pubmed.ncbi.nlm.nih.gov/32513410/
  - **455** contacts who were exposed to the asymptomatic COVID-19 virus carrier (35 patients, 196 family members and 224 hospital staffs) NONE of the 455 contacts contracted the SARS-CoV-2 infection

o Mask Mandates as Public Policy is a Disaster

- **Klompas, Michael., et al. (2020) "Universal Masking in Hospitals in the COVID-19 Era."** NEJM 2020; 382:e63 https://www.nejm.org/doi/full/10.1056/NEJMp2006372?
  - **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.

- **Brainard, Julii Suzanne, et al.(2020) "Facemasks and similar barriers to prevent respiratory illness such as COVID-19: A rapid systematic review."** medRxiv 2020.04.01.20049528 https://www.medrxiv.org/content/10.1101/2020.04.01.20049528v1

  - "There were 31 eligible studies (including 12 RCTs). Based on the RCTs (Randomized, Control Studies) we would conclude that wearing facemasks can be only very slightly protective against primary infection from ***casual*** community contact, and modestly protective against household infections when both infected and uninfected members wear facemasks. **The evidence is not sufficiently strong to support widespread use of facemasks as a protective measure against COVID-19.**

- **Chandrasekaran, Baskaran. (2020) "Exercise with facemask: Are we handling a devil's sword?" – a physiological hypothesis.** Med Hypotheses. Nov; 144:11002. 2020 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7306735/

  - Exercising with facemasks may reduce available Oxygen and increase air trapping preventing substantial carbon dioxide exchange. The hypercapnic hypoxia may potentially increase acidic environment, ***cardiac overload***, anaerobic metabolism and ***renal overload***, ***which may substantially aggravate the underlying pathology of established chronic diseases.*** Further contrary to the earlier thought, **no evidence exists to claim the facemasks during exercise offer additional protection from the droplet transfer of the virus.**

- **Tam, Victor CW et al (2020) "A reality check on the use of face masks during the COVID 19 outbreak in Hong Kong."** EClinicalMedicine. 2020 May; 22:100356

  - In our study, 94.8% wore masks of which 83.7% wore disposable surgical masks. However, 13.0% wore them incorrectly: with 35.5% worn 'inside-out' or 'upside-down'; and 42.5% worn too low, exposing the nostrils or mouth. Packaging of different brands of surgical mask sold locally were examined; very few provided instructions on correct usage. **[NOTE: IF NOT worn correctly, they are doing nothing and should not be worn at all.]**

o Particle Size: The Key to it All

- **Zhu, Na, et al. (2020). "A Novel Coronavirus from Patients with Pneumonia in China, 2019"** N Engl J Med 2020; 382:727-733. https://www.nejm.org/doi/full/10.1056/nejmoa2001017

  - Scientists were at a consensus that the diameter of the 2019-nCoV particles were 0.06 to 0.14 microns in size. Most N95 and N99 face masks can filter out 0.30 microns. **Airborne coronavirus particle (<0.125 micron) will pass directly through a N95 face mask.**

- **Balazy, Anna, et al. (2006). "Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks?"** Am J Infect Control. 2006 Mar;34(2):51-7.

  - The N95 filtering face piece respirators may not provide the expected protection level against small virions. As anticipated, the tested surgical masks showed a much higher particle penetration because they are known to be less efficient than the N95 respirators.

    Some surgical masks may let a significant fraction of airborne viruses penetrate through their filters, providing very low protection against aerosolized infectious agents in the size range of 10 to 80 nm.

o N95 Respirators

- **Long, Y. et al. (2020). "Effectiveness of N95 respirators vs surgical masks against influenza: A systematic review and meta-analysis."** J Evidence Based Medicine. 2020;12:93-101. https://onlinelibrary.wiley.com/doi/epdf/10.1111/jebm.12381

    - "The current meta-analysis shows the use of N95 respirators compared to surgical masks is not associated with a lower risk of laboratory-confirmed influenza."

- **Randonovich, Lewis, et al. (2019) "N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel: A Randomized Clinical Trial".** JAMA. 2019 Sept 3; (322(9):824-833. https://pubmed.ncbi.nlm.nih.gov/31479137/

    - "Among outpatient health care personnel, N95 respirators vs medical masks as worn by participants in this trial resulted in no significant difference in the incidence of laboratory-confirmed influenza.

- **Offeddu, V. et al. (2017) "Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare Workers: A Systematic Review and Meta-Analysis,"** Clinical Infectious Diseases, Volume 65, Issue 11, 1 December 2017, Pages 1934– 1942, https://academic.oup.com/cid/article/65/11/1934/4068747

    - "Self-reported assessment of clinical outcomes was prone to bias. Evidence of a protective effect of masks or respirators against verified respiratory infection(VRI) was not statistically significant."

- **Chou, Roger, et al. (2020) "Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings."** *Ann Intern Med* June 24:M20-3213. 2020 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7322812/

    - Randomized trials in community settings found possibly no difference between N95 versus surgical masks and probably no difference between surgical versus no mask in risk for influenza or influenza-like illness, but compliance was low. Bothersome symptoms were common.

- **Zhu JH, et al. "Effects of long-duration wearing of N95 respirator and surgical facemask: a pilot study."** *J Lung Pulm Respir Res.* 2014;1(4):97–100. http://medcraveonline.com/JLPRR/JLPRR-01-00021.pdf

    - As the protection efficacy and possible effects on nasal functions and subjective sensations of wearing N95 respirator/surgical facemask have been well demonstrated, wearing of respirator and facemask altered the fractions of air components and changed microclimate around the nasal cavity, which would further affect the function of mucosa and its transportation rate.

- **Cowling, B. et al. (2010) "Face masks to prevent transmission of influenza virus: A systematic review."** *Epidemiology and Infection,* 138(4), 449-456. https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-preventtransmission-of-influenza-virus-a-systematicreview/64D368496EBDE0AFCC6639CCC9D8BC05/core-reader

    - N95-masked health-care workers (HCW) were **significantly more likely to experience headaches.** Face mask use in HCW was not demonstrated to provide benefit in terms of cold symptoms or getting colds.

- **Smith, Jeffrey, et al. (2016) "Effectiveness of N95 respirators versus surgical masks in protecting health care workers from acute respiratory infection: a systematic review and meta-analysis."** *CMAJ* 2016 May 17;188(8):567-574 https://pubmed.ncbi.nlm.nih.gov/26952529/

    - § Although N95 respirators appeared to have a protective advantage over surgical masks in laboratory settings, our meta-analysis showed that there were **insufficient data to determine definitively whether N95 respirators are superior to surgical masks** in protecting health care workers against transmissible acute respiratory infections in clinical settings.

○ Surgical Face Masks

- **Isaacs, David, et al. (2020) "Do Facemasks protect against COVID-19?"** *J. of Pediatric and Child Health,* June. 56(6): 976-977. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7323223/

    - "The **questionable benefits** arguably **do not justify health-care staff wearing surgical masks** when treating low-risk patients and may impede the normal caring relationship between patients, parents and staff. We counsel against such practice, at least at present."

- **Jacobs, J. L. et al. (2009) "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*, Volume 37, Issue 5, 417-419. https://www.ncbi.nlm.nih.gov/pubmed/19216002

    - N95-masked health-care workers (HCW) were significantly more likely to experience headaches. **Face mask use in HCW was not demonstrated to provide benefit in terms of cold symptoms or getting colds.**

- **Smith, J.D. et al. (2016) "Effectiveness of N95 respirators versus surgical masks in protecting health care workers from acute respiratory infection: a systematic review and meta-analysis,"** *CMAJ* Mar 2016 https://www.cmaj.ca/content/188/8/567

    - "We identified six clinical studies ...we found **no significant difference** between N95 respirators and surgical masks in associated risk of (a) laboratory-confirmed respiratory infection, (b) influenza-like illness, or (c) reported work-place absenteeism."

- **Balazy, Anna, et al. (2006). "Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks?"** *Am J Infect Control*. 2006 Mar;34(2):51-7.

    - The N95 filtering face piece respirators may not provide the expected protection level **against small virions.** As anticipated, the tested surgical masks showed a much higher particle penetration because they are known to be less efficient than the N95 respirators. **Some surgical masks may let a significant fraction of airborne viruses penetrate through their filters**, providing very low protection against aerosolized infectious agents in the size range of 10 to 80 nm.

○ Cloth masks

- **MacIntyre, C Raina, et al. "A cluster randomized trial of cloth masks compared with medical masks in healthcare workers."** *BMJ Open* 2015; 5:e006577. https://bmjopen.bmj.com/content/5/4/e006577.full

    - "Cloth masks also had significantly higher rates of influenza-like illness. Penetration of **viral particles through a cloth mask was almost 97%"**

- **Rengasamy, Samy, et al. "Simple Respiratory Protection – Evaluation of the filtration performance of cloth masks and common fabric materials against 20-1000nm size particles"** *The Annals of Occupational Hygiene,* Vol 54, Issue 7, Oct 2010. Pg 789-798
  https://academic.oup.com/annweh/article/54/7/789/202744
  - Results obtained show that common fabric materials provide marginal protection against nanoparticles including those in the size ranges of virus-containing particles in exhaled breath.
- **Shakya, Kabindra M, et al. "Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure."** *J Expo Sci Environ Epidemiol.* 2017;27(3):352-357.
  https://pubmed.ncbi.nlm.nih.gov/27531371/
  - "Our results suggest that cloth masks are only marginally beneficial in protecting individuals from particles <2.5 μm **(Note: coronaviruses are between .05 and 0.2 microns)**

- **MMWR:** *Weekly* / July 17, 2020 / 69(28);930-932
  https://www.cdc.gov/mmwr/volumes/69/wr/mm6928e2.htm?s_cid=mm6928e2_w
  - At salon X in Springfield, Missouri, two stylists ***with*** COVID-19 symptoms worked closely with 139 clients before receiving diagnoses of COVID-19, and none of their clients developed COVID-19 symptoms.
    CONCLUSION: 1) Exposure isn't illness and 2) positive tests isn't illness 3) Tests may not be accurate

○ Wearing a mask blocks oxygen

- Wearing a mask is hazardous to your health. https://www.youtube.com/watch?v=ZqRL1GXu5DE

- **Kao, Tze-Wah, et al. (2004). The physiological impact of wearing an N95 mask during hemodialysis as a precaution against SARS in patients with end-stage renal disease."** *J Formos Med Asso.* 2004 Aug;103(8(:624-8
  - Thirty-nine patients (mean age, 57.2 yrs) in the study. 70% 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, increased the respiratory rate, increased chest discomfort, and respiratory distress**. Wearing an N95 mask for **4 hours** during HD significantly reduced PaO2 and increased respiratory adverse effects in ESRD patients. **[DOES THIS DO THE SAME IN OTHER PATIENTS WITH HEALTH CONDITIONS?]**

- **OSHA documents**: https://www.osha.gov/laws-regs/standardinterpretations/2007-04-02-0
  - "People begin to suffer adverse health effects when the oxygen level of their breathing air drops below 19.5 percent oxygen. The rule-making record for the Respiratory Protection Standard clearly justifies adopting the requirement that air breathed by employees must have an **oxygen content of at least 19.5 percent**.

- **Beder, A et al. (2008) "Preliminary report on surgical mask induced deoxygenation during major surgery."** Neurocirugia (Astur) 2008 Apr;19(2):121-6. https://pubmed.ncbi.nlm.nih.gov/18500410/
  - A study on 53 surgeons using a pulse oximeter pre and postoperatively. **Pulse rates increased and SpO2 decrease after the first hour.** Since a very small decrease in saturation at this level, reflects a large decrease in PaO2, our findings may have a clinical value for the health workers and the surgeons. ***[NOTE:*** *SpO2 {O2 sat} is the saturation of hemoglobin with oxygen measured with a. pulse oximeter. PaO2 is amount of oxygen in*

the blood, determined by an arterial blood sample. Once the O2 sat falls below 90%, the PaO2 drops quickly into the dangerously hypoxic.

○ Wearing a mask increases CO2 – leading to cognitive dysfunction

- **Zheng, Guo-quing, et al. (2008) "Chronic hypoxia-hypercapnia influences cognitive function: a possible new model of cognitive dysfunction in COPD."** *Med Hypotheses.* 2008;71(1):111-3 https://pubmed.ncbi.nlm.nih.gov/18331781/
  - "We propose that cognitive impairment is strongly related to combination of chronic hypoxia and hypercapnia."

○ The psychological impact of mask wearing

- **TIME MAGAZINE (2020) "Public Health Experts Keep Changing Their Guidance on Whether or Not to Wear Face Masks for Coronavirus."** https://time.com/5794729/coronavirus-face-masks/
  - Lynn Bufka, a clinical psychologist and senior director for practice, research and policy at the American Psychological Association, suspects that people are clinging to masks for the same reason they knock on wood or avoid walking under ladders. "**Even if experts are saying it's really not going to make a difference,** a little [part of] people's brains is thinking, well, it's not going to hurt. Maybe it'll cut my risk just a little bit, so it's worth it to wear a mask," she says. In that sense, **wearing a mask is a "superstitious behavior."** https://time.com/5794729/coronavirus-face-masks/
- **Potts, Susan Claire. "The Cult of the Mask."** https://remnantnewspaper.com/web/index.php/articles/item/4927-the-cult-of-the-mask
  - When people hide their faces, they feel they *belong* to something. They can show their solidarity with the whole human race. They can feel *good about themselves.* They can keep people *safe*. They can *make a difference.* **The freedom of the open-faced is seen as a threat to their *safety* and, more significantly, to their sense of commitment to a great cause.** Currently, the weapons are psychological—shame, ostracism.
- **Klompas, Michael., et al. (2020) "Universal Masking in Hospitals in the COVID-19 Era."** NEJM 2020; 382:e63 https://www.nejm.org/doi/full/10.1056/NEJMp2006372
  - One might argue that fear and anxiety are better countered with data and education than with **a marginally beneficial mask**, particularly in light of the worldwide mask shortage, but it is difficult to get clinicians to hear this message in the heat of the current crisis. **Expanded masking protocols' greatest contribution may be to reduce the transmission of anxiety,** over and above whatever role they may play in reducing transmission of Covid-19.

○ Masks dehumanize us

Foley, Gretchen N, et al. (2010) "Nonverbal Communication in Psychotherapy." *Psychiatry (Edgmont).* June 7(6):38-44 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2898840/

- An estimated 60 to 65 percent of interpersonal communication is **conveyed via nonverbal behaviors.**
- Masks distort the structure of the face. The lower part of their face is disguised. Identity is concealed. No non-verbal cues or emotion is communicated to a fellow human being can be discerned; **all facial communication is hidden under the mask.**

Four Key Reasons Why People Choose to Not Wear a Mask

https://www.medicalnewstoday.com/articles/covid-19-and-face-masks-to-wear-or-not-to-wear#1.-Masks-offer-no-protection-to-the-wearer

1. **Masks offer no protection to the wearer**
    a. *Masks are not an effective way of protection from the new coronavirus, only N95 have the potential to protect in the right circumstances*
    b. *Masks have disclaimers saying they cannot prevent someone from acquiring the new coronavirus*

2. **Evidence is lacking that masks protect anyone: the wearer or the public**
    a. *See the references and research above*

3. **Masks increase the risk of contracting an infection: COVID19 or others**
    a. *Masks can become contaminated very quickly, and every time the wearer breathes in, they inhale contaminants*

4. **Masks might harm the wearer**
    a. *Masks limit oxygen intake and increase carbon dioxide (CO2)*
    b. *Masks are dangerous for people with certain health conditions (COPD, asthma), as they may restrict breathing*
        i. The WHO acknowledge that people living with asthma, chronic respiratory conditions, or breathing problems may experience difficulties when wearing face masks.
        ii. The CDC recommend that anyone who has trouble breathing should not wear a face covering.

BEST REFERENCES:

1. **"No one has died of coronavirus."** https://www.globalresearch.ca/no-one-has-diedcoronavirus/5717668

2. **"Masks don't work."** https://www.rcreader.com/commentary/masks-dont-work-covid-areview-of-science-relevant-to-covide-19-social-policy

3. **"Asymptomatic carriers don't spread infection."** https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7219423/

4. **"Exposure doesn't mean death; doesn't even mean illness."**
https://www.cdc.gov/mmwr/volumes/69/wr/mm6928e2.htm?s_cid=mm6928e2_w

5. **"Masks for all not based on sound data."**
https://www.cidrap.umn.edu/newsperspective/2020/04/commentary-masks-all-covid-19-not-based-sound-data

6. **"COVID19- PCR testing is Scientifically Meaningless"**
https://offguardian.org/2020/06/27/covid19-pcr-tests-are-scientifically-meaningless/

7. **CDC Shows those infected with the virus: 71% Always wore masks and 14% Often wore masks. So Not Effective**
https://www.lewrockwell.com/lrc-blog/alex-berenson-studies-showing-ineffectiveness-of-masks-are-being-censored/