

# The Harms From Wearing Masks Are Real

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

April 27, 2023

## STORY AT-A-GLANCE

- › Researchers found a robust relationship between mask wearing, low levels of blood oxygen, and increased levels of carbon dioxide (CO<sub>2</sub>), heart rate, humidity and systolic blood pressure
- › Clinical symptoms included headache, fatigue, shortness of breath and dizziness. High levels of CO<sub>2</sub> reduce blood pH and may be associated with protein misfolding and altered interactions with nucleic acids, which is hypothesized to lead to diabetes, osteoporosis, cancer and neurological disorders
- › In 2020, national experts on respiratory protection and infectious diseases said that while there was limited evidence of effectiveness, they still supported wearing masks in public. However, people should "not count on or expect" face coverings to protect them
- › There is a cost for ignorance, which may be paid for decades. Although population-wide mask mandates never made sense, the massive censorship and shutdown of healthy scientific debate was perhaps the most disturbing aspect of this masking debacle

Mask mandates during the COVID-19 pandemic were an exercise in scientific insanity and evidence is mounting that the long-term physical consequences may not be evident for some time.<sup>1</sup> It started with recommendations to wear a mask in public and quickly deteriorated to questionable advice ranging from head scratching and mildly amusing to the outright laughable.

Spain's mandated use of face masks while swimming in the ocean,<sup>2</sup> double masking,<sup>3</sup> triple masking and masking while exercising<sup>4</sup> all fall into one of those categories,

depending on your perspective.

On the other side of the coin were business owners and individuals who recognized the madness of wearing masks to protect against a virus since for nearly 25 years researchers have questioned the effectiveness of surgical and cloth masks. An NBC report<sup>5</sup> in February 2021 showed a grocery store in Naples, Florida, where hardly any of the customers wore masks.

The news reporter said the store owner “is known for his conservative and often controversial viewpoints.” The owner posted a sign that individuals who have a medical condition were exempt from the mask mandate order and since by HIPAA guidelines and the Fourth Amendment they could not legally ask about medical conditions, the store assumed if you did not wear a mask you had a medical condition.<sup>6</sup>

Mask mandates were put in place without ever properly evaluating efficacy, they divided communities and were used as a form of virtue signaling and a visible reminder of compliance with what became the “new normal.” Research<sup>7</sup> has demonstrated that masks do not protect but, rather, increase the risk you may get sick.

The rationale behind a widespread mask mandate must be questioned, yet it doesn't appear that public health officials are paying attention to science. Is that really surprising?

## **Long-Term Consequences of Face Masks Are Unknown**

A group of scientists from Germany, Poland, India and Austria<sup>8</sup> sought to evaluate the effects of mask wearing on physiological, metabolic and clinical parameters. In a 2023 review of past use, the researchers noted that in most countries face masks had been restricted to health professionals for decades.

They wrote that even before 2020, effectiveness was debatable and it wasn't until 2020 that leaders and scientists began suggesting that masks might protect against viral transmission, even though the evidence was weak. Certain properties of surgical face

masks were used to justify their use in hospital settings in the past, such as preventing bacteria from entering surgical wounds and during operations.

Yet, past research also found the evidence to support use during surgery was not unequivocal.<sup>9</sup> The studies included in the featured 2023 systematic analysis evaluated the adverse effects masks may have. The median trial duration was only 18 minutes, yet the pooled results were significant.

In reviewing the literature, the researchers found both standard surgical masks and N95 masks had significant effects, but the N95 mask had a greater impact on clinical parameters. The researchers measured adverse effects in decreased oxygen saturation, minute ventilation and simultaneous increase in blood CO<sub>2</sub>, heart rate, humidity and systolic blood pressure.

During exertion, a robust relationship to mask wearing was noted in discomfort, shortness of breath, heat and humidity. When the symptoms of the participants were pooled, there was a significant prevalence of headache, acne, skin irritation, shortness of breath, voice disorders and dizziness.

The researchers found that the masks interfered with oxygen uptake and carbon dioxide (CO<sub>2</sub>) release, which compromised respiration. They concluded that the risks and benefits of face mask wearing must be assessed against side effects and the available evidence of their effectiveness against viral transmission: "In the absence of strong empirical evidence of effectiveness, mask wearing should not be mandated let alone enforced by law."<sup>10</sup>

The result of this systematic review is similar to another published in 2021<sup>11</sup> that evaluated 44 mostly experimental, quantitative, studies and 65 substantive publications. They looked at psychological and physical deterioration and found there was a significant correlation between oxygen drop and fatigue.

Of participants wearing N95 masks, 82% showed a rise in CO<sub>2</sub>, 72% had a drop in oxygen and 60% reported headaches. The researchers concluded: "Extended mask

wearing by the general population could lead to relevant effects and consequences in many medical fields.”<sup>12</sup>

## **Masks Raise CO2 Levels**

Your body's homeostasis depends on balance. CO2 and oxygen must also be in balance. When CO2 levels are too high, it can be an indication of other underlying medical conditions, such as kidney failure, lung disease and Cushing syndrome.<sup>13</sup>

Too much CO2 can also trigger health conditions.<sup>14</sup> Excess CO2 reduces blood pH, which may be associated with protein misfolding and altered interaction with nucleic acids, metals and drugs. Clinical presentation of the systemic effects is hypothesized to include diabetes, osteoporosis, cancer and neurological disorders.

In other words, too much CO2 in the blood may be responsible for long-term health conditions well beyond the short-term effects of headache, fatigue and dizziness. A 2021 paper<sup>15</sup> described the effects of wearing a face mask on CO2 concentration.

The researchers found there was no difference in the three types of face masks tested, which included a surgical mask, N95 mask and cloth mask. They wrote that the concentrations of CO2 had no toxicological effects according to the literature, yet "concentrations in the detected range can cause undesirable symptoms, such as fatigue, headache and loss of concentration."<sup>16</sup>

These recorded side effects strongly suggest the brain was oxygen deprived. While the researchers noted the short-term exposure to high CO2 levels in the blood may not trigger "toxicological effects," the long-term effects were not measured. Another study published in early 2021<sup>17</sup> also found that while face masks increased CO2 levels, they remained below the short-term National Institute for Occupational Safety and Health (NIOSH) limit.

For those who only read the title of the paper, it appears as if wearing a face mask poses no significant health challenges. However, short-term use was defined as 15 minutes.

For individuals who wore their face masks consistently throughout the day, as was required in states with a mask mandate, CO2 limits were exceeded.

These tests were performed on healthy adults. A study published in late 2022,<sup>18</sup> evaluated CO2 levels in healthy children who wore face mask coverings. Since many countries made it compulsory for children to wear face masks in school, these scientists sought to determine the average CO2 levels in an experimental control study over 25 minutes.

After baseline measurements were taken, children wore either surgical masks or an FFP2 mask, similar to an N95 mask. Researchers measured breathing frequency and pulse in 45 children with a mean age of 10.7 years. They found that the difference between the two masks was small and not significant but that wearing any mask raised the CO2 content quickly to a “very high level” in healthy children in a seated resting position.<sup>19</sup>

## **Experts Supported Masks Despite Limited Data**

It seems that public health experts were supporting the use of mask mandates despite weak evidence that they protected from viral transmission. In April 2020, national experts on respiratory protection and infectious diseases wrote a commentary titled “Masks-for-All for COVID-19 Not Based on Sound Data,” saying:<sup>20</sup>

*“Despite the current limited scientific data detailing their effectiveness, we support the wearing of face coverings by the public when mandated and when in close contact with people whose infection status they don't know.*

*However, we also encourage everyone to continue to limit their time spent indoors near potentially infectious people and to **not count on or expect** a cloth mask or face covering to protect them or the people around them.”*

Data began accumulating in 1975, and possibly earlier, that surgical face masks may not be effective. In 1975,<sup>21</sup> researchers concluded that “surgical face mask had no effect upon the overall operating room environmental contamination” and in 1989<sup>22</sup>

researchers found that masks used during cardiac catheterization did not impact the infection rate.

A 1991 study<sup>23</sup> was published in which a general surgical team wore no masks during half of their surgeries over a two-year period. There were 1,537 operations with face masks that resulted in 4.7% wound infections and 1,551 operations without face masks resulting in 3.5% wound infections. In other words, there were fewer infections when the surgical team did not wear a face mask.

A 2009 systematic review of the literature<sup>24</sup> found no significant difference in post-operative wound infection and concluded that “from the limited randomized trials it is not clear whether wearing surgical face masks harms or benefits the patients undergoing elective surgery.”

In 2015, another literature review<sup>25</sup> cautioned that there was an overall lack of substantial evidence to support the claims that face masks protect either patients or surgeons from infectious contamination. Also in 2015,<sup>26</sup> researchers from the University of New South Wales demonstrated that cloth masks not only were not effective in stopping the transmission of respiratory illnesses and viral infections, but health care workers who wore them had a “much higher” infection rate.

In the face of experimental studies and systematic reviews of the literature demonstrating weak evidence that surgical masks were effective during surgery to reduce infection from bacteria, which are significantly larger than viruses, public health experts continued to insist that surgical masks and cloth masks can stop viral transmission. This insanity has likely had a significant effect on physical and mental health, which will be experienced for years to come.

## **Magical Thinking Has Harmed Children and Adults**

Magical thinking – the belief that you can influence outcomes by doing something that has no causal connection to them – has persisted throughout the pandemic. Although

the data show that masking cannot stop viral transmission, people feel safer when they wear them. It's the very definition of magical thinking.

In addition to the dangers of high CO2 levels and the physiological repercussions, face masks also pose other dangers. For example, a study<sup>27</sup> of surgical and cotton face masks from 13 healthy volunteers demonstrated that 43% of the bacteria on the masks after four hours were antibiotic-resistant.

To best clean these masks, the study found they must be boiled at 100° C (212° F), washed at 60° C (140° F) with detergent or ironed with a steam iron. Yet a large-scale survey of almost 25,000 participants revealed that only 21% of the responders cleaned their cotton face masks daily.<sup>28</sup>

Studies<sup>29</sup> have also isolated symptoms that collectively have been identified as mask-induced exhaustion syndrome (MIES). Researchers have warned that children, pregnant women and those who are sick or suffering from certain chronic conditions may be particularly at risk from extended masking.

The cluster of symptoms identified as MIES includes exhaustion, increased heart rate, decreased blood oxygen saturation with increased blood CO2, increased breathing resistance, headache, dizziness and a decrease in empathy perception. These researchers noted:<sup>30</sup>

*"... the advocacy of an extended mask requirement remains predominantly theoretical ... Moreover, recent studies on SARS-CoV-2 show both a significantly lower infectivity and a significantly lower case mortality than previously assumed, as it could be calculated that the median corrected infection fatality rate (IFR) was 0.10% in locations with a lower than average global COVID-19 population mortality rate.*

*In early October 2020, the WHO also publicly announced that projections show COVID-19 to be fatal for approximately 0.14% of those who become ill – compared to 0.10% for endemic influenza – again a figure far lower than expected. On the other hand, the side effects of masks are clinically relevant."*

Another risk is associated with inhaling plastic particles and titanium dioxide nanoparticles. In a 1998 lung cancer study<sup>31</sup> researchers found microplastics in lung tissue including a plastics and fibers identified in 99 of the 114 lung samples examined. A team of scientists from Hull York Medical School<sup>32</sup> examined human lung tissue in 13 patients who underwent lung surgery and found 39 pieces in 11 tissue samples.<sup>33</sup>

The most abundant types of microplastics were polypropylene (PP) and polyethylene terephthalate (PET). This finding points to the ubiquitous use of surgical masks as PP is the most commonly used plastic component in them.<sup>34</sup> The International Agency for Research on Cancer (IARC) classifies titanium dioxide as a Group 2B carcinogen, which means it's "possibly carcinogenic to humans" by inhalation.<sup>35</sup>

The state of California<sup>36</sup> includes titanium dioxide in the form of airborne particles on the Proposition 65 list. Despite these facts, the compound is commonly used in face mask textiles. A Scientific Reports study stated, "Although titanium dioxide (TiO<sub>2</sub>) is a suspected human carcinogen when inhaled, fiber-grade TiO<sub>2</sub> (nano)particles were demonstrated in synthetic textile fibers of face masks intended for the general public."<sup>37</sup>

Given the data that face masks are not effective, may increase the risk of infection, did not impact infection trends for COVID<sup>38</sup> and come with a long list of psychological and physical adverse effects, it begs the question if public health experts will create another environment where lack of compliance with unreasonable and ineffective interventions lead to societal shunning in the next pandemic?

## **Science Has Been Censored by Propagandists**

There is a cost for ignorance, which society may be paying for decades to come. Although population-wide mask mandates never made sense, the massive censorship and shutdown of healthy scientific debate was perhaps the **most disturbing aspect** of this masking debacle. Only those who went along to get along were allowed to air their perfectly scripted views. Those who had concerns were silenced, shamed and maligned, regardless of their credentials.



A 2023 review<sup>39</sup> by Cochrane Library added 11 new randomized control trials (RCT) and cluster RCTs to their previous 2020 analysis and concluded that, while there's "uncertainty about the effects of face masks" due to trial bias and low adherence by participants, the pooled results of randomized controlled trials "did not show a clear reduction in respiratory viral infection with the use of medical/surgical masks."

In a February 6, 2023, Substack article, lead author of the Cochrane review, Tom Jefferson, described the propaganda effort to twist the findings and other physical interventions against COVID-19.<sup>40</sup>

*"What disturbs me ... is the idea of 'debunking' or 'normalization' of the information flow. We have done the tough work over two decades, reporting results separately from our interpretation, as in all Cochrane reviews. The studies' results are the results reported by the authors of the single studies included in the reviews.*

*Our interpretation is one you can – and should if you want – challenge. However, successfully challenging our interpretation requires hard work, elbow grease, graft, focus, and application. So picking up the phone and speaking to someone, then deciding how to 'debunk' or normalize the message, is so much easier."*

## Sources and References

---

- <sup>1, 10</sup> [Frontiers in Public Health, April 5, 2023](#)
- <sup>2</sup> [LaPrensa Latina, March 30, 2021](#)
- <sup>3</sup> [NBC News, February 10, 2021](#)
- <sup>4</sup> [Training and Conditioning, January 19, 2021](#)
- <sup>5</sup> [YouTube, February 3, 2021](#)
- <sup>6</sup> [YouTube, February 3, 2021, 00:30](#)
- <sup>7</sup> [Medicine, 2022;101\(7\)](#)
- <sup>8</sup> [Frontiers in Public Health, April 5, 2023, First paras in intro and abstract](#)
- <sup>9</sup> [Annals of the Royal College of Surgeons of England. 1984](#)
- <sup>11, 12, 29, 30</sup> [International Journal of Environmental Research and Public Health, 2021; 18\(8\)](#)
- <sup>13</sup> [Medline Plus, Carbon Dioxide in Blood](#)
- <sup>14</sup> [Frontiers in public health, 2020; doi: 10.3389/fpubh.2020.543322](#)

- <sup>15, 16</sup> [Aerosol and Air Quality Research, 2021; 21\(2\)](#)
- <sup>17</sup> [BMC Infectious Diseases, 2021; 21 \(354\)](#)
- <sup>18, 19</sup> [Environmental Research, 2022; 212\(113564\)](#)
- <sup>20</sup> [CIDRAP, April 1, 2020](#)
- <sup>21</sup> [Clinical Orthopedics and Related Research 1975;\(111\)](#)
- <sup>22</sup> [Catheterization and Cardiovascular Diagnosis 1989; doi: 10.1002/ccd.1810170306](#)
- <sup>23</sup> [World Journal of Surgery, 1991](#)
- <sup>24</sup> [Medicine, June 2009](#)
- <sup>25</sup> [Journal of the Royal Society of Medicine, 2015; 108\(6\)](#)
- <sup>26</sup> [Science Daily, April 22, 2015](#)
- <sup>27, 28</sup> [Frontiers in Medicine, 2021 \(8\)](#)
- <sup>31</sup> [Cancer Epidemiology, Biomarkers and Prevention, 1998;7\(5\)](#)
- <sup>32</sup> [Hull York Medical School, April 6, 2022](#)
- <sup>33</sup> [Science of the Total Environment, 2022;831\(154907\)](#)
- <sup>34</sup> [Western Standard, April 17, 2022](#)
- <sup>35</sup> [Radiology and Oncology, 2011;45\(4\) mid abstract](#)
- <sup>36</sup> [CA.gov, Titanium Dioxide](#)
- <sup>37</sup> [Scientific Reports, 2022, 12\(2529\)](#)
- <sup>38</sup> [The Federalist October 29, 2020](#)
- <sup>39</sup> [Cochrane Library, 2023, doi: 10.1002/14651858.CD006207.pub6](#)
- <sup>40</sup> [Tom Jefferson Substack February 6, 2023](#)