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Take Control of Your Health

What the CDC Says About Obesity and COVID-19

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STORY AT-A-GLANCE -

- According to Joel Hirschhorn, member of the Association of American Physicians and Surgeons, and America's Frontline Doctors, governments have missed a public health opportunity by not issuing recommendations for effective and sustainable weight loss to lower your risk for severe COVID-19 infection and death
- Research has shown vaccines tend to be less effective in obese individuals, and if that holds true for injected gene therapeutics against COVID, then the shots may turn out disappointing results, seeing how 42.4% of Americans are obese
- The U.S. Centers for Disease Control and Prevention has detailed the connection between COVID-19 severity and obesity, admitting that obesity is associated with worse COVID-19 outcomes
- According to the CDC, modeling suggests 30.2% of all American adults hospitalized for COVID-19 up until November 18, 2020, could be attributed to obesity, and the greater your body mass index (BMI) the higher your risks for a poor outcome gets
- Obesity increases your risk of severe COVID-19 illness and triples your risk of hospitalization. It impairs your immune function, decreases your lung capacity and increases your risk of ending up on invasive mechanical ventilation. Obesity is also associated with chronic inflammation that can disrupt thrombogenic responses to pathogen

A July 25, 2021, article[1] by Joel Hirschhorn on Trial Site News highlights what he refers to as a "missed public health opportunity." Hirschhorn is a full professor at the University

of Wisconsin, Madison, a senior official at the Congressional Office of Technology Assessment and the National Governors Association, and a member of the Association of American Physicians and Surgeons, and America's Frontline Doctors.

Even though we've known for well over a year that obesity is one of the most common and most significant risk factors for COVID-19 (aside from age, which you have no control over), public health authorities have ignored the issue and failed to provide guidance on how to reduce excess weight.

> *"Would not fighting obesity qualify as a valid prevention approach to curbing the ill effects of the COVID pandemic?"* Hirschhorn asks. *"Could the reason for government's lack of aggressively pursuing an anti-obesity campaign be a bias for promoting vaccines? It seems a likely explanation."*

He points out that studies suggest vaccines tend to be less effective in obese individuals,[2] and if that holds true for injected gene therapeutics against COVID, then the shots may turn out disappointing results, seeing how 42.4% of Americans are obese.[3] This, Hirschhorn says, would be all the "more reason to have the public health system deal more directly with obesity to curb serious impacts of COVID."

Charting the Obesity-COVID Connection

The U.S. Centers for Disease Control and Prevention, while slow to put some of this information out, has in fact detailed the connection between COVID-19 severity and obesity. On its "Obesity and COVID-19" page,[4] the CDC frankly admits that obesity is associated with worse COVID-19 outcomes. The agency also lists obesity and excess weight as a risk factor for severe COVID-19 infection on its medical conditions known to worsen COVID outcomes page.[5]

Its March 12, 2021, Morbidity and Mortality Weekly Report[6] (MMWR) also addresses obesity and the risk for hospitalization, ICU admission, **mechanical ventilation** and death.

In summary, obesity increases your risk of severe illness and triples your risk of hospitalization. It impairs your immune function, decreases your lung capacity and increases your risk of ending up on **invasive mechanical ventilation** — a treatment strategy shown to kill more than half of all patients. **Obesity** is also associated with chronic inflammation that can disrupt thrombogenic responses to pathogens.

According to the CDC, modeling suggests 30.2% of all American adults hospitalized for COVID-19 up until November 18, 2020, could be attributed to obesity,[7] and the greater your body mass index (BMI) the higher your risks for a poor outcome gets. The connection between obesity and COVID-19 is particularly strong in people younger than 65.[8]

In its March 12, 2021, MMWR,[9] the CDC reports that the risk for hospitalization, ICU admission and death were lowest among patients with BMIs of 24.2 kg/m^2, 25.9 kg/m^2 and 23.7 kg/m^2 respectively, increasing sharply with higher BMIs. (Overweight is defined as having a BMI of 25 kg/m^2 or greater, while obesity is defined as a BMI of 30 kg/m^2 or greater.) The risk for invasive mechanical ventilation increased in tandem with BMI, starting at 15 kg/m^2.

Although BMI is the classic research tool to assess obesity, it has limited clinical value as it can be seriously off, especially if one has loads of muscle mass, as it will be incorrectly interpreted as body fat. An accurate body fat assessment is likely a far better tool to use. The key, however, is accuracy, as many inexpensive bioimpedance devices that determine body fat are not that accurate.

Why Has CDC Not Issued a Public Health Anti-Obesity Plan?

Based on the available data, the CDC could issue detailed guidance on how to not become a statistic, but has not yet done so. As noted by Hirschhorn:[10]

> *"How does CDC address the question of what can be done to address the obesity-COVID connection? Mostly with generalities and platitudes with the emphasis on what individuals can do. Consider this statement where the words government and public health or pandemic management do not appear:*

'This will take action at the policy and systems level to ensure that obesity prevention and management starts early, and that everyone has access to good nutrition and safe places to be physically active. Policy makers and community leaders must work to ensure that their communities, environments, and systems support a healthy, active lifestyle for all.'

There is no hint of how the government is going to address the pandemic with a major commitment to use public health efforts to reduce the negative impacts of obesity."

Similarly, in the March 12, 2021, MMWR, the CDC notes that "These findings highlight clinical and public health implications of higher BMIs, including the need for … continued vaccine prioritization and masking, and policies to support healthy behaviors."[11]

> **"Could the reason for government's lack of aggressively pursuing an anti-obesity campaign be a bias for promoting vaccines? It seems a likely explanation. ~ Joel Hirschhorn"**

At the time this report was published, the injectable COVID gene therapeutics had only been out for about three months and safety data were still sorely lacking. Yet the CDC opted to prioritize vaccination while providing no public health plan whatsoever on how to address obesity.

"What is clear is that CDC thinking is mostly about considering obesity in the medical management of pandemic victims, not preventing COVID serious infections in the first place by curbing obesity at the population level," Hirschhorn writes.[12]

Recent Research Strengthens Obesity-COVID Link

Studies showing the association between obesity and poor COVID-19 outcomes date back to the earlier days of the pandemic. As reported by The New York Times in mid-April 2020:[13]

> *"Obesity may be one of the most important predictors of severe coronavirus illness, new studies say. It's an alarming finding for the United States, which has one of the highest obesity rates in the world."*

A study published April 9, 2020, reported that obesity doubled the risk of hospitalization in patients under the age of 60,[14] even if the individual had no other obesity-related health problems. Since then, many more studies have been published showing the same trend.

One of the most recent ones was published in June 1, 2021, issue of The Lancet.[15] This was a prospective community-based cohort study looking at the associations between BMI and COVID-19 severity in 6.9 million British adults over the age of 20. According to the authors:[16]

> *"Among 6,910,695 eligible individuals … 13,503 (0.20%) were admitted to hospital, 1,601 (0.02%) to an ICU, and 5,479 (0.08%) died after a positive test for SARS-CoV-2.*
>
> *We found J-shaped associations between BMI and admission to hospital due to COVID-19 (adjusted hazard ratio [HR] per kg/m^2 from the nadir at BMI of 23 kg/m^2 … and a linear association across the whole BMI range with ICU admission …)*
>
> *We found a significant interaction between BMI and age and ethnicity, with higher HR per kg/m^2 above BMI 23 kg/m^2 for younger people … in 20–39 years age group vs 80–100 years group …*
>
> *The risk of admission to hospital and ICU due to COVID-19 associated with unit increase in BMI was slightly lower in people with type 2 diabetes, hypertension, and cardiovascular disease than in those without these morbidities."*

In their interpretation, the authors note that, starting at a BMI above 23 kg/m^2, there's a linear increase in the risk of severe COVID-19 leading to hospital admission and death. There's also a linear increase in ICU admission across the entire BMI range that "is not attributable to excess risks of related diseases."

In other words, it's not related to other chronic diseases commonly associated with obesity; rather, it appears to be directly related to obesity. They also point out that "The relative risk due to increasing BMI is particularly notable people younger than 40 years and of Black ethnicity."

Few Obese Britons Have Been Referred for Weight Management

Despite clear association between obesity and COVID severity, government action in the U.K. was found lacking.

> *"[S]ince most other obesity-related risks are improved with weight loss, weight-loss interventions might reduce COVID-19 disease severity,"* The Lancet authors state.[17]
>
> *"Although we originally planned to investigate this hypothesis in our protocol, we were unable to because the number of participants reported to have been offered referrals to weight management programmes was low and weight change was poorly recorded … In the longer term, our findings highlight the need to work towards a healthy weight at a population level."*

Other Studies Showing Obesity-COVID Link

In a Canadian paper[18] published July 19, 2021, that discusses treatment approaches for obese individuals, Diana Duong writes:

> *"There is no doubt that people with higher body mass index (BMI) suffer worse outcomes from COVID-19. One meta-analysis that pooled data on more than 399 000 people with COVID-19 found that those with obesity were 113% more*

likely to be hospitalized, 74% more likely to need intensive care and 48% more likely to die than those with lower BMIs."

Similarly, an April 2021 review article[19] from The Netherlands published in the journal Cells pointed out that:

"A large number of patients severely ill with COVID-19 arriving at the ICU are overweight or suffer from obesity. Obesity is associated with chronic inflammation, resulting from immune cell activity in dysfunctional (visceral) adipose tissue.

Of the eleven studies investigating the association between BMI and mortality in hospitalized COVID-19 patients, ten studies observed an increased mortality rate in patients that were overweight (BMI $\geq$ 25 to <30), or suffering from obesity (BMI $\geq$ 30), or severe obesity (BMI $\geq$ 35)."

While the authors acknowledge "the importance of a healthy lifestyle to positively influence the course of COVID-19 disease," and recommend "a non-processed nutrient-rich diet, limited excessive or overly energy-rich food, sufficient and intensive exercise, sufficient sleep and avoiding chronic psycho-emotional stress," no specific government program is referenced.

What's the Mechanism?

Alright, so what are the mechanisms? I've already mentioned a couple. Immune function can be impaired by chronic inflammation, which tends to be more prevalent when you're overweight.[20,21,22,23,24,25] Chronic inflammation can also disrupt thrombogenic (blood clotting) responses to pathogens. Fat cells also release a number of inflammatory compounds that can increase your risk of a cytokine storm. A 2008 paper in Diabetes Metabolism explains:[26]

"White adipose tissue was believed to be just an energy-storage organ, but it is now recognized to be an active participant in energy homoeostasis and

physiological functions such as immunity and inflammation. Macrophages are components of adipose tissue and actively participate in its activities.

Adipose tissue is known to express and secrete a variety of products known as 'adipokines', including leptin, adiponectin, resistin and visfatin, as well as cytokines and chemokines such as tumor necrosis factor-alpha, interleukin-6 and monocyte chemoattractant protein-1. The release of adipokines by either adipocytes or adipose tissue-infiltrated macrophages leads to a chronic subinflammatory state …"

Interleukin-6 (IL-6) plays an important role in your immune response,[27] and tends to be significantly elevated in patients with severe COVID-19. A number of studies have stressed that lowering Interleukin-6 (IL-6) can be helpful for "cooling the inflammatory soup" seen in SARS-CoV-2 infection, to quote the headline of a New England Journal of Medicine editorial.[28]

Leptin receptors are also expressed throughout your immune system, and leptin, typically associated with hunger signals, helps regulate both your innate and adaptive immune responses.[29] Fat cells also release components of your renin-angiotensin system (RAS), which also influence your immune function, as well as your brain and metabolism.[30]

Obesity is also frequently associated with insulin resistance, and higher blood glucose levels play a role in viral replication and the development of cytokine storms.[31,32,33]

Why No Public Health Policy?

While most studies at least touch on the basics of what makes for a healthy lifestyle and how to most effectively lose weight, what's missing is public policy. No country, to my knowledge, has implemented a public health policy aimed at reducing obesity as a way to lower the national COVID-19 burden. Hirschhorn comments on the state of affairs:[34]

"The U.S. public health system has failed to explicitly address the high fraction of obese American shown to have very high COVID risks. They place a burden

on the health care system and suffer large health impacts. There is every reason to question whether COVID vaccines work effectively for this group.

There is a need for focused and explicit public policies and government actions to address the population of obese people, other than placing the burden on them to eliminate their obesity through life style changes. Clearly, this 'solution' has not worked for most obese people, especially among children and black and brown ethnic groups …

In 2020 CDC said that obesity was increasing. But the closest it got to public policy was saying there was a need to 'remove barriers to healthy living and ensure that communities support a healthy, active lifestyle for all.' Hardly a call for action by the public health system during the pandemic and the obesity epidemic …

Even the scourge of the pandemic has not motivated this by the government and public health system. Considering the vast numbers of overweight and obese American, several billion dollars should be aimed at public health agencies to create new programs to reduce both health conditions. If following the science is truly embraced by the government in this pandemic.

This makes more sense than depending on vaccines which have many safety issues. Especially when you acknowledge that overweight and obese individuals are very likely to be at greater risk from health impacts of COVID experimental vaccines."

Take Control of Your Health, Starting Today

In closing, whether you're concerned about COVID-19 or not, losing excess weight can have a positive impact on your health. Tried and true strategies include fasting, **time-restricted eating**, avoiding food at least three hours before bed, and cutting out added sugars and refined carbs from your diet.

Great resources for more information include an editorial[35] published in the journal Open Heart by noted research scientist James DiNicolantonio, PharmD., and Dr. Jason Fung's book,[36] "The Complete Guide to Fasting: Heal Your Body Through Intermittent, Alternate-Day, and Extended Fasting."

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