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Is Immunity Debt Real, or Should You Keep Kids in a Bubble?

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STORY AT-A-GLANCE

- Children who aren't exposed to germs on a regular basis have different microbiomes than those who are. The microbiome, in turn, plays a decisive role in how well one's immune system works
- Exposure to nonpathogenic microorganisms helps prevent immune-mediated chronic disorders, as they act as immunomodulatory signaling agents. They basically train your immune system to function normally and not react excessively or unnecessarily
- There's also evidence suggesting that certain childhood infections may reduce your risk of certain chronic illnesses. Measles infection, for example, could potentially lower your risk of cancer in the future
- In August 2021, a French group of pediatric infectious disease experts warned that "immunity debt" caused by a lack of exposure to common viruses and bacteria during COVID lockdowns and school closures may predispose children to suffer more infections in the future
- The potential benefits of natural infections have fallen by the wayside as the single-minded focus on vaccination has taken over. We now see the medical industry trying to erase knowledge about the lifelong benefits associated with infections, especially childhood infections

As reported by The Atlantic[1] in early November 2022, children who aren't exposed to germs on a regular basis have different microbiomes than those who are. In April 2021,

a year into widespread COVID lockdowns and the obsessive focus on antibacterials, microbiologist Brett Finlay predicted that, "five years from now we are going to see a large number of kids with asthma and obesity."[2]

Contact With Microbes Trains Your Immune System

The "hygiene hypothesis" was initially proposed by epidemiologist Dr. David Strachan in 1989.[3,4,5] He believed the rising incidence of allergies was linked to reduced exposure to viruses and bacteria, thanks to smaller family sizes, which means fewer siblings from whom infants are exposed to germs and infections.

In 2003, Graham Rook refined the hypothesis, renaming it the "old friends" hypothesis[6] (a name that never stuck). Rather than including both good and bad germs, Rook's version of the hygiene hypothesis emphasized the importance of exposure to nonpathogenic (friendly) microorganisms in the building of robust immune function.

According to this narrowed view of the hygiene hypothesis, exposure to nonpathogenic microorganisms is an important way by which immune-mediated chronic disorders are prevented, as they act as immunomodulatory signaling agents,[7] basically training your immune system to function normally and not react excessively or unnecessarily.

The video below reviews how feedback loops in the natural world, where X affects Y and Y affects X, help keep nature in balance and promote resilience in natural systems. The same kind of feedback loops exist within the human body, between microbes and various systems such as your immune system, and between your body and its environment.

Can Certain Infections Provide Long-Term Benefits?

There's also evidence suggesting that certain childhood infections may reduce your risk of certain chronic illnesses. One such theory is that measles infection may lower your risk of cancer.

Researchers have found 1 in 4 cancer patients lacked antibodies against measles, and more than 1 in 3 lack antibodies against mumps,[8] which suggests they were never sick with mumps or measles, and any vaccination has worn off.

Incidentally, measles virus is also being used as part of cancer treatment. In one reported case, a woman with incurable blood cancer went into remission after receiving a huge bolus of measles virus.[9]

Unfortunately, the potential benefits of natural infections have fallen by the wayside as the single-minded focus on vaccination has taken over. The idea nowadays is to prevent all infection, even if there are benefits to infection, and even if there are downstream adverse events to vaccination.

The COVID Immunity Debt Bubble Is Bursting

In August 2021, a French group of pediatric infectious disease experts warned[10] that "immunity debt" caused by a lack of exposure to common viruses and bacteria during COVID lockdowns and school closures may predispose children to suffer more infections in the future.

They predicted the decrease in viral and bacterial exposure that train your immune system may result in a rebound of a variety of infectious diseases, including influenza and respiratory syncytial virus (RSV), which is what we're seeing now, as we head into winter in 2022. According to the authors:[11]

> *"While NPIs [non-pharmaceutical interventions] limited the transmission of SARS-CoV-2, they also reduced the spread of other pathogens during and after lockdown periods … The lack of immune stimulation due to the reduced circulation of microbial agents … could have negative consequences when the pandemic is under control and NPIs are lifted.*
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> *The longer these periods of 'viral or bacterial low-exposure' are, the greater the likelihood of future epidemics. This is due to a growing proportion of 'susceptible' people and a declined herd immunity in the population."*

In an article for Wired, journalist Maryn McKenna in late April 2021 also wrote:[12]

> *"Social distancing, lockdowns, and masking … seem to have quenched some of the other respiratory diseases that circulate in the winter. Influenza, respiratory syncytial virus (RSV), enterovirus D68 — this year, the surveillance networks that keep track of those diseases could barely find them …*
>
> *This is good … And yet, some researchers are worried. The downward trends in flu and other respiratory diseases … may also be a warning of unintended consequences to come.*
>
> *It is accepted doctrine in immunology that exposure to routine infections and common microbes early in life helps our immune systems learn what they should target and what to leave alone. Failure to get those exposures at the right time leaves the immune system overreacting to every minor insult …*
>
> *While acting out of best intentions … we may have created a worldwide natural experiment in reducing exposure to microbes of all kinds. 'Every other example in our history in which we disrupt exposure to good microbes has had unintended consequences,' says B. Brett Finlay …*
>
> *Finlay is one of 23 prominent researchers from six countries who warned in February in the Proceedings of the National Academy of Sciences[13] about the long-term consequences to children of a hyper-hygienic, locked-down world."*

The Role of Your Gut Microbiome

In November 2022, epidemiologist Dr. Keren Landman published an article in Vox, in which she not only reviewed the hygiene and immunity debt hypotheses but also the role of your gut microbiome:[14]

> *"There are … misconceptions, the researchers say, about which microbes help 'train' our immune system most effectively. It's not respiratory viruses like the cold and flu.*

Rather, it's the billions of microbes that live peacefully in our bodies, sometimes called the microbiome, said Marsha Wills-Karp, an immunologist at Johns Hopkins Bloomberg School of Public Health who studies the environmental determinants of allergic airway diseases.

Within that microbiome, there are many 'teachers,' like bacteria that educate infants' immune systems to develop lymphoid centers, the B-cell factories that contribute to antibody production, or that train macrophages and other immune cells to respond to pathogenic invaders (i.e., germs).

A lot of work that's supported the hygiene hypothesis suggests that most of the microbiome's important immune system education originates in the gut — and, therefore, that what kids swallow contributes more to their immune development than what they breathe in …

There is a small microbiome in the upper airways and the lungs, but it's much less diverse than the digestive tract's, said Wills-Karp. Although the respiratory microbiome does play a role in health and disease states, 'in population studies and animal studies, the hygiene hypothesis seems to be more linked to a healthy gut microbiome,' she said.

The bottom line here: There's currently not much evidence to support the idea that adding more viruses to a person's respiratory tract does anything to improve the immune system or to otherwise improve health …

[I]mmune systems should get trained on the safe environmental and comestible microbes that live in our guts — exposures children and adults get anyway by living in non-sterile environments, but which are enriched by certain factors like living with animals and eating fermented and fiber-rich foods."

COVID Measures Have Altered Gut Microbiomes Around the World

According to Landman,[15] alternative media have misconstrued what the immunity debt theory actually is in order to promote the idea that we should not protect ourselves against viral infections and even go out of our way to get infected. As for me, I've not come across anyone actually advocating for that.

In the end, Landman directs us to the role of the gut microbiome, stressing that this is where most of the immune training actually takes place, not through exposure to viruses.

This, I believe, is true — and the fact is, children's gut microbiomes have indeed been adversely affected through our COVID measures. It's not just that they've been less exposed to infections, but that they've been less exposed to beneficial microbes as well.

> **"What microbial functions might we lose as a result of COVID-19 prevention efforts? What are the consequences as humans continue to encounter nutritional and immune challenges in future generations, and what can be done to mitigate them? ~ Proceedings of the National Academy of Sciences"**

In fact, the negative impact on the gut microbiome is the focus of the Proceedings of the National Academy of Sciences paper cited in the earlier quote. In it, Finlay and his coauthors note that:[16]

> *"Current pandemic control measures and practices will have broad, uneven, and potentially long-term effects for the human microbiome across the planet, given the implementation of physical separation, extensive hygiene, travel barriers, and other measures that influence overall microbial loss and inability for reinoculation …*
>
> *[The] intersection of the past century's hygienic practices and recent COVID-19 pandemic control measures may negatively affect the microbiome and thus*

human health across multiple timescales. As morbidity and mortality increase in relation to these microbial changes, human evolutionary trajectories may also change.

Studies in mice, for instance, have shown that once particular microbial taxa are lost from a population over generations, they are difficult to recover. The associated loss of microbial function can severely limit host ability to survive in certain environments or to resist infections.

A fundamental question, then, is what microbial functions might we lose as a result of COVID-19 prevention efforts? What are the consequences as humans continue to encounter nutritional and immune challenges in future generations, and what can be done to mitigate them?

It is worth considering how to deploy physical distancing and hygiene practices to prevent COVID-19 transmission, but also to sustain and protect diversity of the microbiome.

It is important to understand more fully how these practices affect the microbiome, and then, in response, to develop public measures and practices that can, if appropriate, increase exposure to beneficial microbes and simultaneously reduce risk of COVID-19 transmission."

The Resistance Conundrum

Adding to the problem is that vaccinating billions of people against a virus during an active outbreak promotes the emergence of resistant variants, and we've certainly seen that over the past year and a half. I use the term "vaccinating" loosely here, as the COVID jabs are technically not vaccines. At best, they're gene therapies. At worst, they're bioweapons. Either way, the mechanism for resistance remains the same.

No doubt you've heard of antibiotic resistance,[17,18] which occurs when bacteria are inadequately treated with antibiotics so that some of the bacteria survive, and when antibiotics or antibacterial products are overused. Surviving bacteria will be hardier than

those that succumbed during treatment and, over time, their resistance grows until the antibiotic ceases to have any effect.

The same happens when pests are overtreated with pesticides,[19] and when a vaccine is "leaky," meaning a vaccine that doesn't prevent infection and/or spread of a virus.

In mid-March 2021, The New York Times reported[20] that COVID-19 variants "likely evolved inside people with weak immune systems." The answer, The NYT suggested, is to make sure the immunocompromised get the shot first, to "lower the risk that their bodies turn into incubators for the world's next supercharged mutant."

Some six weeks later, the journal Cell published research[21] showing half of the 10 circulating SARS-CoV-2 variants tested had already developed resistance against the spike antibodies induced by the COVID shots. Three were highly resistant to neutralization. As noted by the authors, "a relatively small number of mutations can mediate potent escape from vaccine responses."

Fast-forward just three months to the end of July 2021, and U.S. Centers for Disease Control and Prevention director Dr. Rochelle Walensky warned we were just "a few mutations away" from a totally vaccine-resistant variant.[22]

Those jab-resistant variants probably did not mutate inside the unvaccinated. No, they mutated inside those who got the shot and were infected anyway, as the jab doesn't prevent infection. Since the shots also do not prevent spread, those mutated strains then were passed from one jabbed person to another, rapidly overtaking previous variants.

The Human Body Was Not Designed to Live in a Bubble

The idea that your immune system requires regular "workouts" in the form of exposure to microorganisms, be they benign or pathogenic, rests on a strong scientific foundation. For a real-world case, look at David Vetter,[23] a young Texas boy who was forced to live inside a sterile plastic bubble due to severe combined immunodeficiency (SCID).

Born in 1971, his mother held him in her arms for the first time in 1977, after NASA engineers designed a "space suit" for him to wear outside the bubble. He died at age 12, after a bone marrow transfusion from his sister introduced the Epstein-Barr virus into his system.

Vetter's immune system did not work due to a rare genetic anomaly. But isolating at home where everything has been obsessively sterilized in many ways mimics what happened to this young boy. Without a steady stream of immune challenges, your immune system becomes more and more susceptible to illness whenever a foreign invader does manage to get in.

Vaccine Propaganda Makes a Mockery of Science

Unfortunately, while the hygiene hypothesis gained scientific strength and support over the past three decades, the medical system is now trying to wind back the clock. They want you to believe there is never a benefit to getting ill, and that the hygiene hypothesis is misunderstood and misapplied.

It's not a hard sell, considering no one really wants to get sick. But when it comes down to it, this idea that you can safely circumvent all illness through vaccination is nothing but vaccine propaganda. It's neither rational nor healthy.

Tragically, we now see the medical industry trying to erase knowledge about the lifelong benefits associated with infections, especially childhood infections. At bare minimum, you develop immunity. At best, you may reduce your risk of other chronic conditions such as asthma, allergies or cancer. These are no minor tradeoffs.

COVID Jab Reprograms Both Adaptive and Innate Immune System

Also, when we're talking about COVID shots, we must remember that they're NOT conventional vaccines. They do not confer immunity, and they do not induce antibodies against the whole virus. They make your body produce a genetically modified spike

protein that is similar to, but different from, the spike protein found in SARS-CoV-2. Your body then produces antibodies against that spike.

It's a very narrow antibody response, which is why the virus can rapidly mutate to avoid neutralization. Viruses have multiple parts, and when infected naturally, your immune system will react and respond to all of them, not just the spike. This is part of why natural immunity is so much better.

The COVID shots also appear to be directly degrading your immune system. According to a paper[24] published in early May 2021, the Pfizer/BioNTech COVID jab "reprograms both adaptive and innate immune responses," causing immune depletion. I wrote about this in "**How the Endless Boosters Will Destroy Immune Function**."

Practice Good Hygiene, but Don't Go Overboard

We should all practice good hygiene, such as washing our hands with warm water and soap. But antibacterial soaps, wipes and sanitizers do more harm than good, as they're one of the primary contributors to antibacterial resistance. If antibiotics cease to work, bacterial infections that used to be simple to treat become deadly. If you truly want to do something for "the greater good," stop using antibacterial products.

Similarly, a world in which people are vaccinated against viral infections of all kinds can backfire, resulting in more aggressive and resistant viruses that cause more severe infections. I suspect the immunity debt hypothesis is on the money, and that this is why we're now seeing an uptick in children being hospitalized with RSV and influenza.

The best long-term answer is not to shoot them up with more vaccines and gene therapies, but to work with the natural feedback loops inherent in the human body, and between the body and its environment, so that their immune systems can develop greater resilience. This would include doing things like:

- Playing outdoors
- Gardening

- Eating plenty of pro- and prebiotic foods, such as fermented vegetables and fiber-rich organic fruits and vegetables (organic to avoid pesticides such as glyphosate, which kills beneficial gut bacteria)
- Getting enough sun exposure to maintain a healthy vitamin D level above 40 ng/mL
- Avoiding unnecessary vaccinations

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