



THE AMERICAN ASSOCIATION OF
IMMUNOLOGISTS

AAI Statement on the Concept of “Immunity Debt”

August 29, 2023

The American Association of Immunologists (AAI), the nation’s largest professional association of research scientists and physicians who study the immune system, issued the following statement:

“Immunity debt” is a concept that arose during the COVID-19 pandemic as an attempt to explain the surge in childhood infections that coincided with the reduction of preventative measures (e.g., masking, social distancing, etc.) that were used to limit the spread of COVID-19, especially prior to the widespread availability of vaccines^{1,2}. Some have misinterpreted the concept of “immunity debt” to suggest that public health interventions utilized during the pandemic did irreparable harm to children’s immune systems. Currently, there is no scientific evidence that public health interventions had any long-term impact on the strength or capacity of children’s immune systems.

Measures taken to reduce the spread of SARS-CoV-2 during the pandemic may have instead resulted in a period of time in which public health interventions temporarily prevented infections of many kinds, resulting in a large pool of susceptible children without prior exposure to induce some protective immunity against common pathogens. The subsequent relaxation of preventative measures and historic increases in travel allowed for high levels of transmission of pathogens, leading to a surge in infections in susceptible populations. It is important to note, however, that other factors may have contributed to the increased incidence of infections, including, for example, waning immunity³ and fluctuations in seasonality effects of viral transmission⁴.

Public health interventions have been highly effective in reducing the incidence of many infectious diseases, including COVID-19. There is no scientific evidence that these measures have resulted in lasting harm to, or caused any deficit in, individuals’ immune systems. What is clear, however, is that the gold standard for combating infectious diseases continues to be vaccination. AAI strongly supports the use of vaccines to prevent disease and urges all adults and children to adhere to, and if necessary catch up on, the [Centers for Disease Control and Prevention’s \(CDC\) recommended immunization schedules](#).

Because there will continue to be infectious disease threats now and in the future, it is of utmost importance to remain vigilant and utilize effective preventative measures, including vaccination, to protect human health.

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8114587/>

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9756601/>

³ <https://pubmed.ncbi.nlm.nih.gov/37477906/>

⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7720203/>