

The Link Between Blood Types and Risks of COVID-19, Cancer, and Other Diseases

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Blood types play a crucial role not only in ensuring safe blood transfusions but also in influencing various health risks. Numerous studies suggest that genetically determined blood types may increase susceptibility to both infectious and non-infectious diseases, including COVID-19, heart disease, and allergies.

Blood is categorized into four main types—A, B, AB, or O—based on the types of antigens present on the surface of red blood cells. Antigens are proteins found on red blood cells that trigger an immune response when encountering unfamiliar substances, such as certain bacteria, Dr. Douglas Eric Guggenheim, a physician at the Abramson Cancer Center at the University of Pennsylvania Hospital, [explained](#) in a 2020 Penn Medicine article.

Increased Risk of Viral Infections

A [2023 study](#) from Harvard Medical School, published in the journal *Blood*, found that the SARS-CoV-2 virus, which causes COVID-19, preferentially targets type A blood cells.

“We show that the part of the SARS-CoV-2 spike protein that’s key to enabling the virus to invade cells displays affinity for blood group A cells, and the virus in turn also shows a preferential ability to infect blood group A cells,” Dr. Sean R. Stowell, of Harvard Medical School and Brigham and Women’s Hospital, said in a [press release](#).