Older adults, young children and people with certain health conditions are at greater risk for severe respiratory disease.

Vaccines provide important protection.

CVEEP
Champions for Vaccine Education, Equity + Progress

Chronic Disease

Six in ten Americans have at least one chronic disease, and four in ten have at least two.[1] Chronic diseases require ongoing management and can interfere with the immune system by either weakening its ability to protect the body, making it work too hard, or by causing it to mistakenly attack the body's own cells.[2]

- **Autoimmune diseases** cause the immune system to become overactive and attack the body.[2] To treat these conditions, medications like steroids or biologics, are often used to intentionally suppress immune function. While an effective treatment option, these medications can put those with autoimmune conditions at higher risk of contracting an illness.[3]
- **Cancers**, especially blood cancers, can decrease immune function by impacting the body's ability to produce healthy immune cells. Chemotherapy and other drugs that treat cancer can lower immune function as well.
- **Diabetes**-induced high blood sugar adds stress to the body, which can make immune cells less efficient, resulting in higher risk of contracting diseases.[4]
- **Heart disease** can refer to multiple types of heart conditions, including the most common type known as coronary artery disease (CAD).[5] CAD can reduce immune function by suppressing key immune cells.[6] In particular, respiratory infections can worsen complications for those with CAD and even trigger new cardiovascular issues in previously heart-healthy individuals.[7]

Over time, many chronic diseases disrupt the function of natural killer cells, key immune cells that defend the body against infections. This leads to a weakened or suppressed immune system as the chronic disease progresses.

For individuals with chronic diseases, staying up to date with recommended vaccines is crucial for protecting against serious infections and reducing the risk of severe illnesses.

Older Adults

As we age, our immune systems naturally change, becoming less effective at fighting infection and more prone to low-level inflammation. These changes increase the risk of illness and make older adults more vulnerable to disease.

Aging specifically increases risk for respiratory infections because the cells in our lungs naturally deteriorate and become more easily damaged. This impairs our lungs' ability to effectively fight off an infection. Over time, lungs also naturally become more rigid and can't expand as easily. When an infection occurs, these changes to our lungs can make it harder for the body to fight it off.[8]

In addition to having aging immune systems, older adults are also more likely to have underlying health conditions that can further impact their immune function.[9] These combined factors make it especially important for older adults to stay up-to-date on vaccinations to help protect against serious infections and reduce the risk of severe illnesses.

Pregnant Women

Throughout the different stages of pregnancy, the immune system fluctuates and adapts to help accommodate the growing fetus. As a result, pregnant individuals may be more susceptible to infectious respiratory diseases and related complications.[10]

Pregnancy is also an opportunity to pass on immunity to babies. While in the uterus, antibodies can pass from the mother to the fetus through the placenta, providing infants with protection against infections after birth when they are most vulnerable and unable to receive vaccines. By getting vaccinated during pregnancy, individuals can help protect themselves and their infants against severe illness.[11]

Young Children

Starting from infancy, young children's immune systems mature and adapt to the world around them. Infants initially rely on maternal antibodies passed through pregnancy but as they grow older, their immune system evolves by responding to germs in their environment. Vaccines help stimulate the immune system to provide protection against diseases that can lead to serious complications and long-term side effects.[12]

Young children also have smaller lungs and airways and because of this are often more susceptible to respiratory infection and illness.[13]

By staying up-to-date on immunizations, young children can build critical protection against infectious diseases as their immune system develops.

Benefits of Immunization

One important way for vulnerable populations to help strengthen their immune system is by staying up-to-date with immunizations, including those for respiratory diseases such as flu, respiratory syncytial virus (RSV), pneumococcal disease, whooping cough, and COVID-19.

[1] https://www.cdc.gov/chronic-disease/about/index.html
[2] https://www.hopkinsmedicine.org/health/conditions-and-diseases/disorders-of-the-immune-system
[3] https://www.aaaai.org/conditions-treatments/related-conditions/immunosuppressive
[4] https://www.cdc.gov/diabetes/diabetes-complications/diabetes-immune-system.html
[5] https://www.cdc.gov/heart-disease/about/index.html
[6] https://academic.oup.com/eurjpc/article/31/7/877/7516103#450072375
[7] https://pmc.ncbi.nlm.nih.gov/articles/PMC9856218/
[8] https://pmc.ncbi.nlm.nih.gov/articles/PMC10389836/
[9] https://www.cdc.gov/respiratory-viruses/risk-factors/older-adults.html
[10] https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2020.575197/full
[11] https://www.cdc.gov/vaccine-safety/about/pregnancy.html
[12] https://pmc.ncbi.nlm.nih.gov/articles/PMC4707740/
[13] https://www.cdc.gov/respiratory-viruses/risk-factors/young-children.html

Explore CVEEP resources to learn more on the latest vaccine recommendations and talk to your provider to ensure you are up to date.