

Health Talk

The Role of Vaccinations Among Children for the Upcoming Flu Season

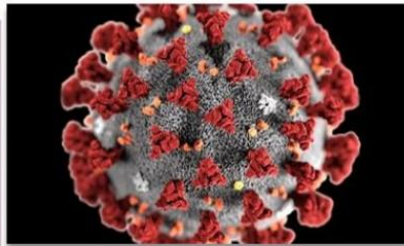
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What are the types of viruses involved?



Influenza

PromoCell



COVID-19

Smithsonian



RSV

Willis-Knighton Health System

Introduction A sustained increase has been reported nationwide among children suffering from flu viral illnesses. During the fall and winter months, there have been more incidences of common colds, allergies, and flu cases among children due to them being unable to acclimatize to weather changes easily. Fewer regular checkups by

pediatricians during the COVID era, uninsured parents and caretakers due to loss of jobs, and missing regular immunization updates.

What is the Flu? Flu (Influenza) is an extremely contagious respiratory illness caused by influenza A/B virus. Symptoms of flu are more or less the same as the common cold which are cold, sneezing, sore throat, congestions, and running nose however these symptoms generally resolve in 3 to 5 days. Symptoms of persistent fever,

chills, muscle aches, productive cough, and trouble breathing prompt attention to further investigate a more serious viral illness. A recent survey by the Centers for Disease Control in October revealed at least 780,000 people sick with flu so far this season resulting in hospitalization and death due to complications from flu among children and adults. (CDC)

What is COVID-19? COVID-19 is a disease caused by the very contagious SARS-CoV-2 virus. The virus specifically targets the lungs and can lead to symptoms similar to that of the flu or pneumonia. SARS also mutates very quickly and presents different variants such as omicron, delta, and alpha. The total number of COVID cases is getting less due to proper immunizations and early detection. However, recent data from Wastewater Scan - a group that receives data from wastewater collection sites in 36 states 3 times a week looking for viruses shed in sewages - shows that COVID remains widespread from northeast through western parts of the US. (vaccineinformation.org).

What is RSV? RSV (respiratory syncytial virus) is a highly contagious respiratory disease that causes cold-like symptoms. Most kids sick with RSV have stuffy noses, cough or wheezing fever, and general weakness. More severe cases of RSV can lead to bronchitis and pneumonia. Infants and immunocompromised individuals are more at risk of developing more severe cases of RSV. This year the RSV virus is hitting earlier than usual since the typical peak is around Jan-Feb due to lack of vaccinations. The lack of vaccinations may stem from heightened stigma and anti-vax

ideologies surrounding vaccines during/post-COVID era.

Innate Immunity vs Adaptive Immunity

Innate immunity refers to physical barriers that prevent pathogens from infecting the body. These physical barriers include the skin, mucus, lysozymes, and antibodies. Children are born with innate immunity reflective of their mothers, who provide antibodies through breastfeeding.

Adaptive immunity refers to immune responses to specific antigens that get past any first-line barriers and is the basis for vaccine immunizations. Just as the name suggests, the immune system can learn to recognize specific antigens (markers specific to a pathogen) and utilize this information to synthesize antibodies against the foreign invader and store the information in case of later infection.

Vaccines take advantage of the adaptive immune system and provide a safer way of granting immunity. Vaccines can contain dead, inactivated, or genetic material of viruses or pathogens. The vaccines contain only a tiny fraction of the pathogen, which is enough for the adaptive immune system to mark it as an antigen, synthesize antibodies, and store its specific information in the form of memory B-cells. Vaccinations allows us the opportunity to avoid exposure to live viruses, giving us a much safer alternative to generating immunity against certain pathogens. Modern technologies have since advanced and improved vaccinations to be more effective against a wider variety of diseases and infections.