Understanding Influenza A and B

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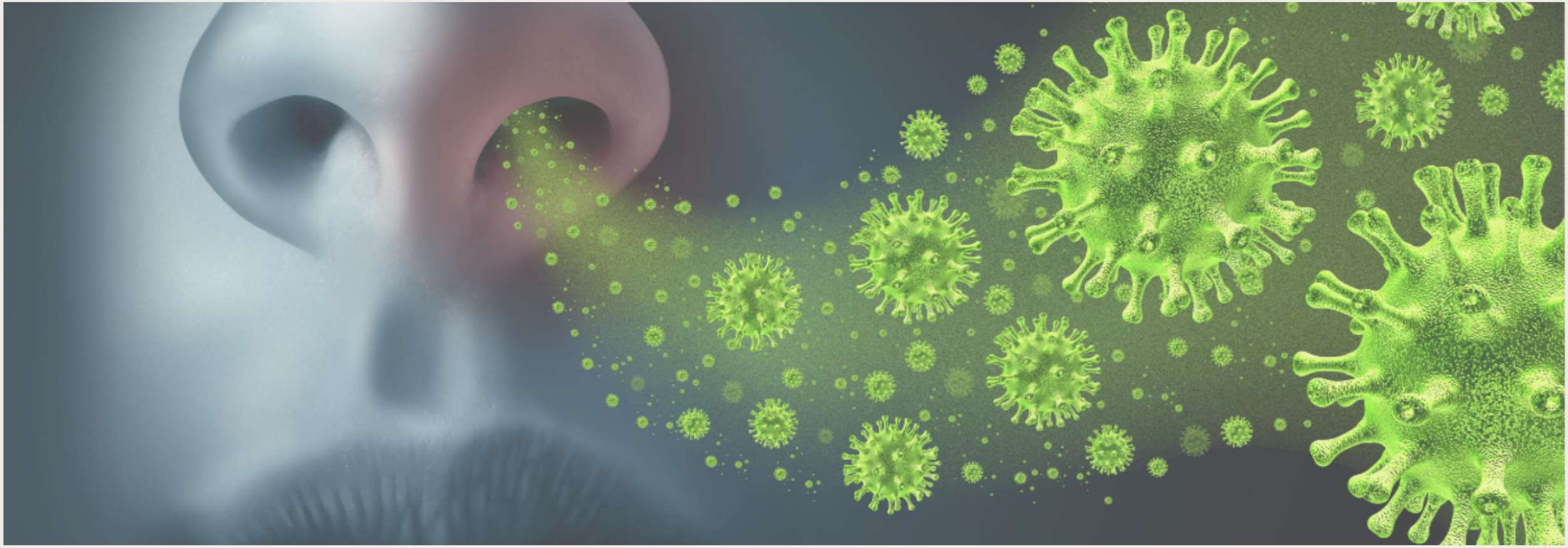
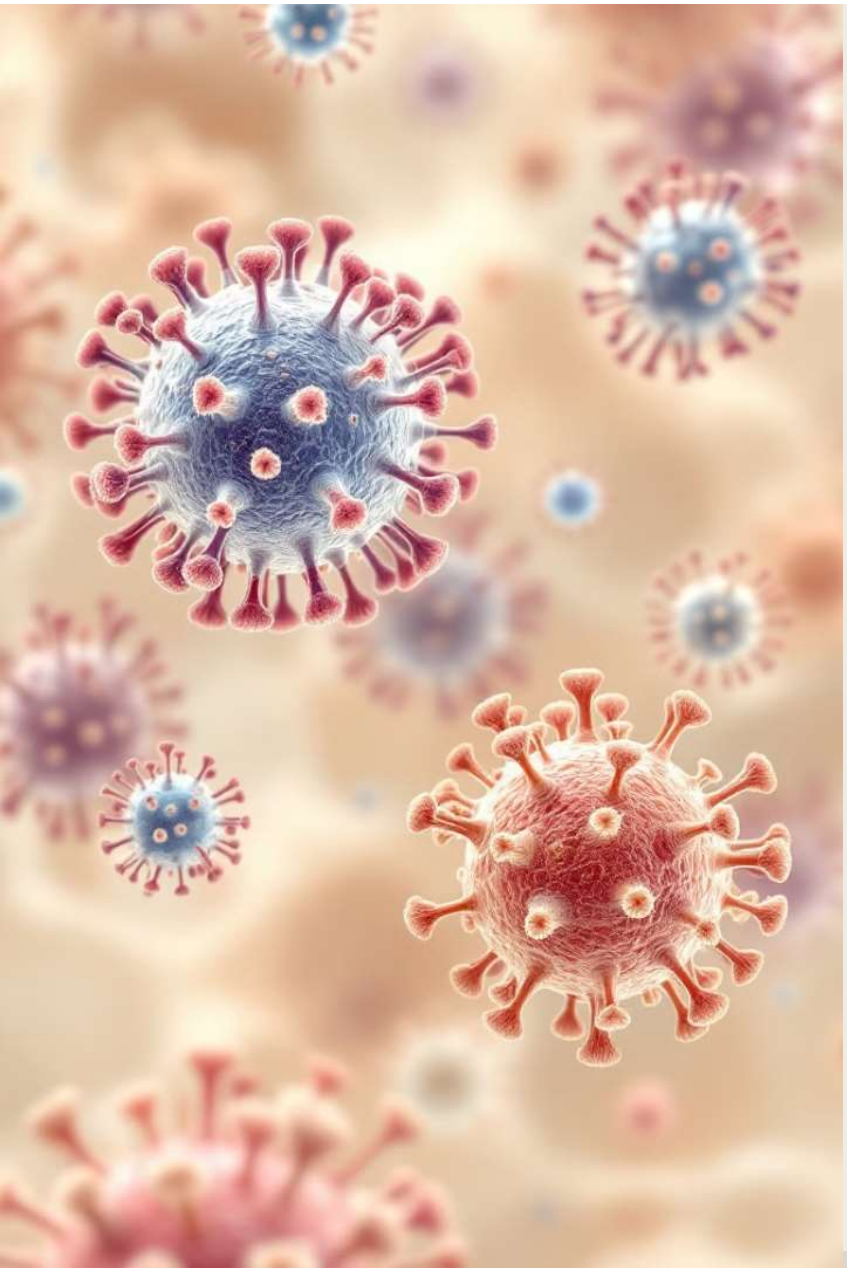
Influenza Viruses: Introduction



Seasonal influenza (flu) is a highly contagious respiratory illness that affects millions of people worldwide each year.
It is caused by influenza viruses, primarily types A and B, which spread easily through respiratory droplets when an infected person coughs, sneezes,or talks.



Influenza Viruses: Introduction

- According to the World Health Organization (WHO), influenza leads to 3 to 5 million severe cases annually, resulting in hundreds of thousands of hospitalizations and deaths. While most people recover within a few days to two weeks, the flu can cause serious complications, particularly in high-risk groups such as young children, the elderly, pregnant women, and individuals with chronic medical conditions.

1. RNA viruses
2. Respiratory illness.
   Three main types : A, B, and C.
   Types A and B cause seasonal epidemics.
3. Influenza A viruses are classified into subtypes based on hemagglutinin (H) neuraminidase (N).
   Influenza B viruses are broken down into lineages.

Influenza A And B : Characteristics

Influenza is a contagious respiratory illness caused by influenza viruses, with Influenza A and Influenza B being the two main types responsible for seasonal flu outbreaks.

Influenza A is the more diverse and adaptable of the two, as it can infect both humans and animals.
It is further classified into subtypes based on two surface proteins: hemagglutinin (H) and neuraminidase (N).
This type is known for its ability to undergo significant genetic changes, leading to new strains that can cause pandemics.

Influenza B, on the other hand, primarily affects humans and is generally less variable than Influenza A.
It is categorized into two major lineages: B/Yamagata and B/Victoria.
While Influenza B can still cause severe illness, it does not have the same potential to trigger global pandemics as Influenza A.
Understanding these two types of influenza is essential for disease prevention and control.

Key Differences Between Influenza A and B

Influenza A infects humans and animals with high pandemic risk. Subtypes are classified into H and N proteins. Influenza B primarily infects humans with low pandemic risk.

Classifications for Influenza B are done by lineages. Influenza A is generally more severe while Influenza B is milder.

Feature	Influenza A	Influenza B
Host Range	Humans and animals	Primarily humans
Pandemic Risk	High (due to antigenic shift)	Low (no antigenic shift)
Subtypes	Classified into subtypes (H and N proteins)	Classified into lineages (e.g., Victoria, Yamagata)
Severity	Generally more severe	Generally milder

Treatment and Prevention of Influenza

- Influenza is a disease with no definitive cure due to the variety of virus strains and the diverse range of symptoms it causes.
- There are treatment methods that can help alleviate symptoms and promote recovery.
- It is essential to get plenty of rest and stay hydrated to maintain body moisture.
- The immune system and support the body's ability to fight the virus.
- To get a flu vaccine every year

Treatment	**Prevention**
Get enough rest and drink plenty of fluids to stay hydrated	Wash hands frequently and use alcohol-based hand sanitizers
Identify individuals with flu symptoms and minimize contact with their respiratory secretions, such as nasal mucus or saliva droplets.	Wear a face mask in crowded places
Strengthen the immune system	Avoid touching the face with contaminated hands
Consume nutrient-rich foods	Use tissues or gloves when coughing or sneezing to prevent direct hand-to-face contamination.

Influenza Vaccines: Types & Characteristics

Influenza vaccines come in different types,
each working in a unique way to help the body build immunity against the flu virus

IIV **Inactivated Influenza Vaccine**

RIV **Recombinant Influenza Vaccine**

LAIV **Live Attenuated Influenza Vaccine**

Influenza Vaccines : Types &Characteristics

Inactivated Influenza Vaccine (IIV)

- Uses killed virus
- Administered via injection (under the skin or into the muscle)
- Triggers an immune response without the risk of the virus multiplying in the body

Suitable for:
All age groups, including young children, the elderly, and people with chronic illnesses

Recombinant Influenza Vaccine (RIV)

- Uses Hemagglutinin (HA) protein,
- a part of the virus, without containing the actual virus
- Produced using insect cells through genetic engineering
- Eliminates the risk of flu infection while still stimulating immunity

Suitable for:
People allergic to eggs
(since some inactivated flu vaccines are made using egg-based processes)

Live Attenuated Influenza Vaccine (LAIV)

- Contains a weakened form of the flu virus that cannot cause severe illness
- Administered as a nasal spray instead of an injection
- Stimulates immunity in both the respiratory tract and the whole body

Suitable for:
Healthy individuals
aged 2 - 49 years (not suitable for young children, the elderly, or immunocompromised individuals)

Influenza Vaccines : Types &Characteristics

Quadrivalent Influenza Vaccine

- Protects against four flu virus strains: two A strains and two B strains
- Covers more strains than the trivalent vaccine
- Available in both inactivated and live-attenuated forms

Suitable for:

- Everyone aged 6 months and older
- Children, adults, and the elderly who want broader protection
- People with chronic illnesses (e.g., diabetes, heart disease)
- Pregnant women
- Healthcare workers and caregivers (to prevent spreading the flu)

Influenza Vaccine:
How to Get Vaccinated & Preparation

How to Get the Flu Vaccine?

Once a year (as the flu virus changes annually).

Best time to get vaccinated:

before the flu season (April - June).

Recommended for everyone aged 6 months and older.

Influenza Vaccine:
Preparation Before Vaccination

Before Getting the Vaccine:

- ✓ Get enough rest.
- ✓ Eat a balanced meal.
- ✓ Postpone if you have a high fever illness. or severe illness.
- ✓ Inform your doctor if you have egg allergies or have had severe reactions to vaccines before.

Influenza Vaccine:
After Getting the Vaccine

After Getting the Vaccine

- You may experience mild side effects like soreness at the injection site, mild fever, or fatigue.
- Drink plenty of water and get enough rest.
- Avoid intense exercise for 24 hours.
- Seek medical help if you have severe allergic reactions (difficulty breathing, rash, swelling).


THANK
YOU
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YOUR
ATTENTION