
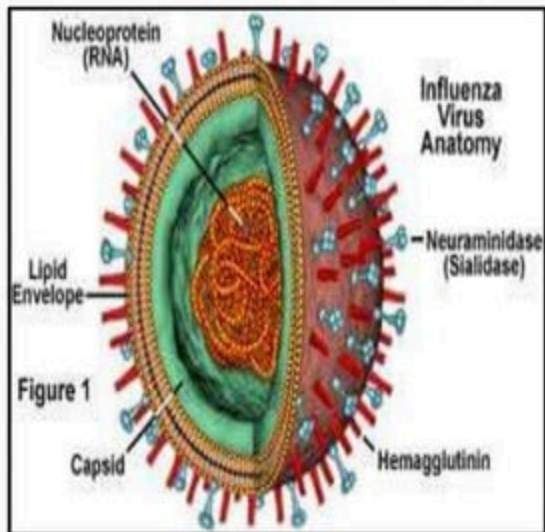



CONTROL AND PREVENTION OF INFLUENZA



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- Influenza is a contagious respiratory illness caused by influenza virus.
 - Worldwide seasonal influenza kills 2,50,000 -5,00,000 people each year.
 - antigenic shift & drift properties of influenza virus are responsible for emergence of new viral pathogens & normal flu seasons.



- **ANTIGENIC SHIFT** :two or more different strains of virus combine to form a new subtype,with a mixture of surface antigens of the two or more original strains.
- **ANTIGENIC DRIFT** : small mutations in hemagglutinin & neuraminidase genes that make protein unrecognizable to pre-existing host immunity.This leads to continous process of genetic & antigenic changes among flu strains.

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- Influenza transmission is by 3 ways :
 1. Direct transmission into the mucous membrane of a person .
 2. Airborne route – that is via droplets .(0.5-5 microm diameter)
 3. Contaminated surfaces, handles etc...

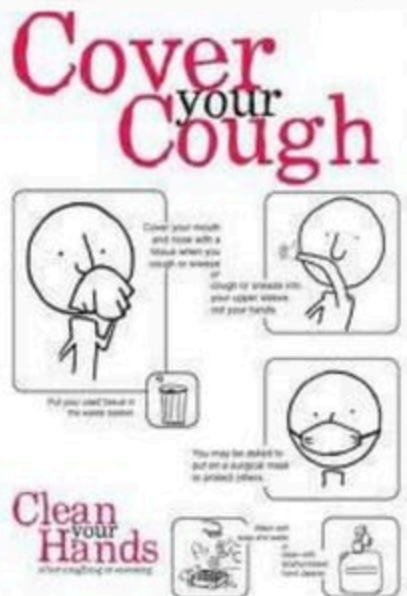


CONTROL OF INFLUENZA



INFECTION CONTROL

- Infection control includes :
 - ❖ Good personal health & hygiene.
 - ❖ Frequent handwashing with water & soap or alcohol (effective sanitizer against influenza)
 - ❖ Covering cough and sneezes.
 - ❖ Avoiding close contact with infected persons.



ANTIVIRAL DRUGS

- Lessens symptoms.
- Prevents flu related complications like pneumonia, bronchitis, sinus infections, ear infections.
- Two antiviral drugs:
 - a. Oseltamivir(brand name- tamiflu) : form of pills/tablets
 - b. Zanamivir (brand name – relenza) : form of inhaled powder.

Given for a duration of 5 days.

PREVENTION OF INFLUENZA

**DON'T
GET
THE FLU.
DON'T
SPREAD
THE FLU.**

**GET
VACCINATED.**

cdc.gov/flu



- Influenza vaccines based on concept of herd immunity. .ie, 80% population should be immune to a disease.
- There are two flu seasons annually , corresponding to occurrence of winter in opposite months in northern & southern hemisphere.
- Annual reformulation of flu vaccine : each yr 3 influenza strains(trivalent) that will be most common during upcoming season are incorporated. This is based on research by WHO s “Global influenza surveillance network”.
- Upcoming seasonal flu vaccines contain H₁N₁, H₃N₂ and influenza B strains.

vaccination

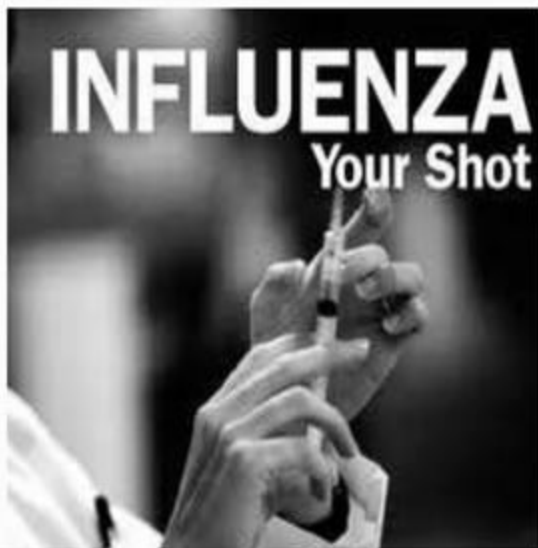
- Two types of vaccines are available:
 - a. Flu shots
 - b. Nasal spray flu vaccine (LAIV – live attenuated influenza vaccine)

DNA based vaccines are in clinical trial.



➤ FLU SHOT:

- Inactivated vaccine (containing killed virus)
- Approved for > 6 months old, including healthy people & people with chronic medical conditions.
- 3 different types :
 - i. Regular dose for 6 months and older
 - ii. High dose > 65yrs
 - iii. Intermediate flu shot (18-64 yrs.)





- NASAL SPRAY FLU VACCINES :

- Live weakened flu viruses.
- LAIV
- Healthy people (2-49 yrs)

- People at high risk of developing flu related complications are potential candidates of influenza vaccine.
1. Children < 5yrs ; especially < 2 yrs
 2. Older people >65 yrs.
 3. Pregnant women



4. Medical conditions like

- Asthma, heart disease
- Blood disorders like sickle cell anaemia
- Liver disorders , kidney disorders
- Endocrine disorders like diabetes mellitus.
- Metabolic disorders (inherited metabolic disorders or mitochondrial isorders)
- Immunocompromised states – HIV/AIDS; prolonged steroid therapy; malignancies.
- Morbidly obese (BMI > 40)
- Long term aspirin therapy.

Side effects of vaccine

- INJECTIONS:

- ❖ Mild soreness, redness and swelling at the injection site.
- ❖ Fever
- ❖ Aches
- ❖ Guillian barre syndrome (rare)

- NASAL SPRAY :

- Nasal congestion, running nose
- Cough, wheezing
- Fever
- Headache, myalgia
- Allergic reaction
- Abdominal pain (more so in children)



- CONTRAINDICATIONS :

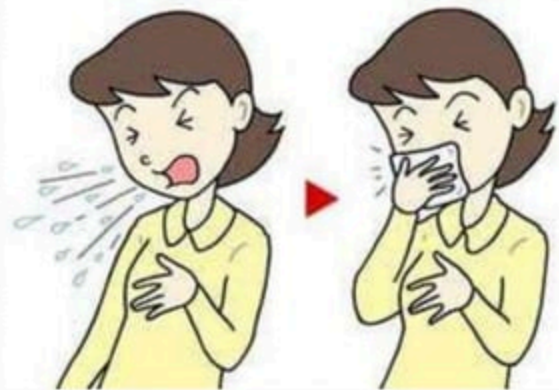
- I. Severe reaction to influenza vaccination in <6 months.
- II. Severe allergy to chicken eggs that is used to grow the virus strains.
- III. Moderate to severe illness with fever.
- IV. History of Guillian barre syndrome.

WHO RECOMMENDATIONS

- Get yourself & your family members (> 6 months of age) vaccinated against current strains of influenza.
- Keep distance from people with symptoms of influenza like illness, coughing & sneezing



- Clean hands thoroughly with soap & water/ alcohol based hand rub on regular basis.
- Avoid touching your mouth , nose , eyes as much as possible.
- Reduce time spent in crowded places.
- Improve airflow in our living spaces by opening windows.
- Practice good health habits (adequate sleep, nutritious food ,keeping physically active).



CDC RECOMMENDATIONS

- Cover nose & mouth with tissue when coughing / sneezing.
- Wash hands with soap & water especially after coughing & sneezing. alcohol based cleansers are also effective.
- Avoid touching eyes ,mouth, nose to avoid spread of germs.





STOP

the spread of the flu!

1. **WASH HANDS**
2. **COVER COUGHS**
3. **STAY HOME** (if sick)



- Try to avoid close contact with sick people.
- Those sick with flu like illness should stay at home until fever has subsided > 24 hrs.

THANK YOU