



Lucile Packard Children's Hospital

STANFORD UNIVERSITY MEDICAL CENTER



STANFORD
HOSPITAL & CLINICS

Stanford University Medical Center

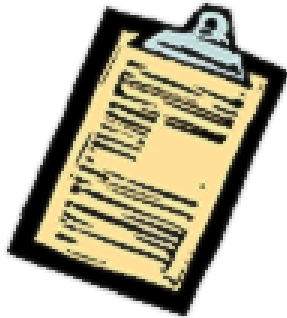
Prevention of Health-Care-Associated Influenza

Course Objectives

At the end of this course the learner should be able to:

- Recognize how influenza is spread.
- Describe how high vaccine rates in health care workers are linked to lower levels of flu.
- Identify the importance of hand hygiene.
- Recognize the importance of respiratory etiquette to decrease transmission.
- Describe the California law that mandates Flu injections for health care providers.
- Recognize that Santa Clara County Public Health mandates masking for those who decline the influenza vaccination.

Check Your Knowledge

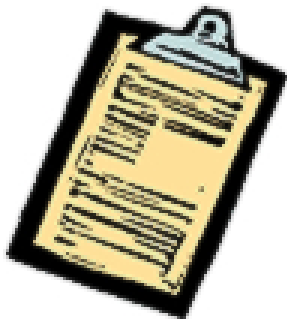


Influenza is the **6th leading cause of death** among adults in the United States, killing an average of 36,000 Americans annually.

True

False

Check Your Knowledge



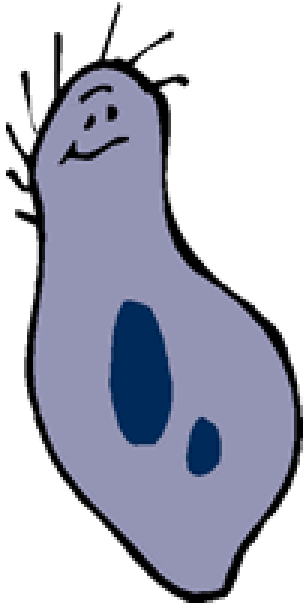
Influenza is the **6th leading cause of death** among adults in the United States, killing an average of 36,000 Americans annually.

 True

Correct, influenza is the **6th leading cause of death** among adults in the United States.

False

Remember



Influenza is a serious viral infection that causes a large number of deaths every year.

- Influenza is the 6th leading cause of death among adults in the United States, killing an average of 36,000 Americans every year.
- The Joint Commission and the California Legislature have made *vaccination of HCP a priority* since influenza-infected health care personnel (HCP) can give this deadly virus to vulnerable patients, their co-workers, families and friends.
- California Senate Bill 739 **requires acute care hospitals to vaccinate all employees** against influenza.
- Persons choosing not to be vaccinated will be required to complete the “*influenza Declination*” module in Heath Stream and to *wear a mask* during the flu season.

New Mandate from Santa Clara County



Santa Clara County ***mandates masking*** of all healthcare workers in hospitals and healthcare facilities in Santa Clara County ***who decline the influenza vaccination*** during the flu season.

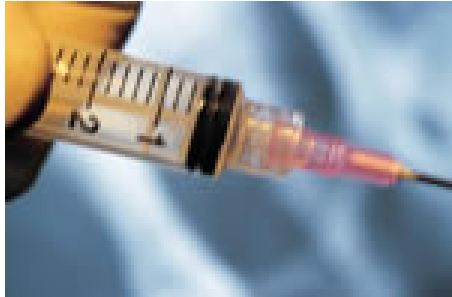
Influenza Biology



Influenza A and B are the two types of influenza viruses that cause epidemic human disease.

- Influenza A viruses are further categorized into subtypes on the basis of two surface antigens: hemagglutinin and neuraminidase.
- Influenza B viruses are *not* categorized into subtypes.

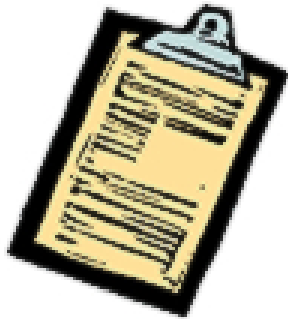
Pandemic Flu



Pandemic flu is virulent human flu that causes a global outbreak, or pandemic, of serious illness.

- Because there is little natural immunity, the disease can spread easily from person to person.
- Receiving the annual flu vaccination is an important part of pandemic preparation.
- SHC has a pandemic influenza plan that can be *found on the intranet*.
 - *Departments/Special Projects & Meetings/Pandemic Planning.*

Check Your Knowledge

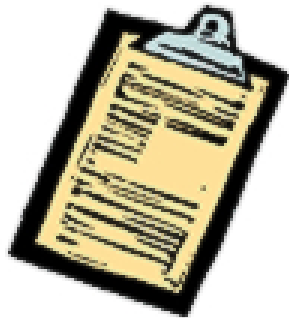


Influenza outbreaks in hospitals and long-term-care facilities have been associated with ***high vaccination rates*** among HCP.

True

False

Check Your Knowledge



Influenza outbreaks in hospitals and long-term-care facilities have been associated with **high vaccination rates** among HCP.

True

✓ False

Correct. Influenza outbreaks in hospitals and long-term-care facilities have been associated with **LOW vaccination rates** among HCP.

How Influenza is Spread

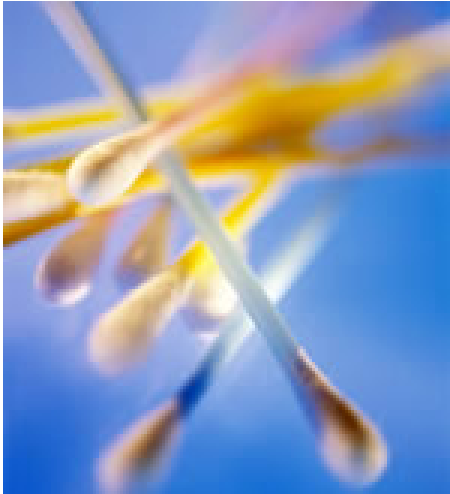


Decreasing the spread of influenza from caregivers to persons at high risk might reduce influenza-related deaths among people at high risk for complications from influenza.

Influenza viruses are spread from person to person, mainly through *respiratory droplet transmission* (e.g., when an infected person coughs or sneezes in close proximity to an uninfected person).

- The typical incubation period for influenza is **1 to 4 days**, with an average of **2 days**.
 - Adults can be infectious from the day before symptoms begin until around **5 days** after illness starts.
 - Children can be infectious for **>10 days** after the onset of symptoms, and young children also can shed virus **before their illness starts**.
 - Severely immunocompromised persons can shed virus for **weeks or months**.
- Health care personnel (*HCP*) who are clinically or sub-clinically infected can transmit (*spread*) influenza virus to other people.
- *High vaccination levels among health care staff have been*

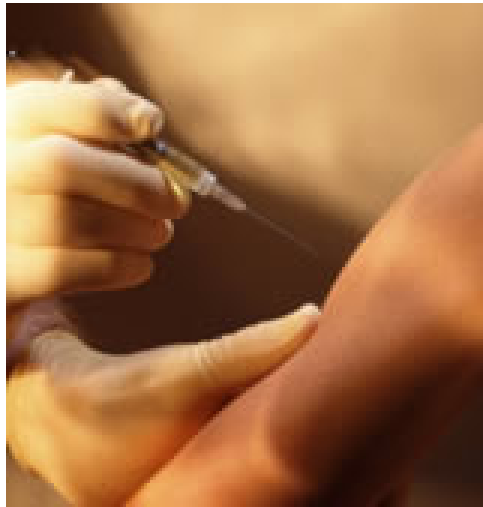
Diagnosis



A person with influenza may not appear or feel different than when infected with many other respiratory pathogens.

- Laboratory testing is critical to identify patients with influenza.
- A rapid influenza test can be used to identify Influenza A and B.
- These tests can be performed on nasopharyngeal-swab specimens.

Impact of HCP Vaccination in Health-Care Settings



Vaccination of HCP is an important part of influenza prevention programs in the United States.

Vaccination of HCP reduces:

- transmission of influenza in health-care settings.
- staff illness and absenteeism.
- influenza-related morbidity and mortality among persons at increased risk for severe influenza illness.

Use of antiviral drugs used for chemoprophylaxis or treatment of influenza is an add-on to (*but not a substitute for*) vaccination.

Inactivated Influenza Vaccine Issues



Inactivated Influenza Vaccine Issues

Inactivated influenza vaccine

- Trivalent inactivated influenza vaccine prevents influenza illness among approximately 70%--90% of healthy adults aged <65 years when the vaccine and circulating viruses are antigenically similar.
- How well the inactivated influenza vaccine works in preventing influenza may be lower when:
 - vaccine and circulating viruses are ***not well matched***.
 - adults are 65 years or older.
 - people with certain chronic conditions (e.g., diabetes, human immunodeficiency virus (HIV), or chronic obstructive pulmonary disease).

Influenza vaccine:

- prevents secondary complications.
- reduces the risk for influenza-related hospitalization.
- reduces death among adults aged >65 years with and without high-risk medical conditions (e.g., heart disease and diabetes).

Inactivated influenza vaccine contains *noninfectious killed viruses* and **cannot cause** influenza.

Respiratory disease unrelated to influenza vaccination *can* occur after vaccination.

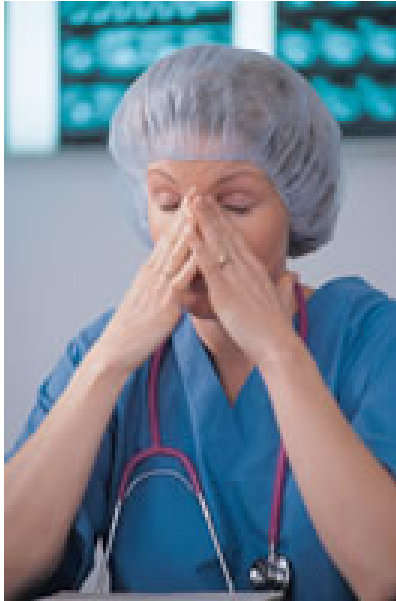
When *NOT* to use the Vaccine



Inactivated influenza vaccine should *not* be given to people:

- Known to have *anaphylactic hypersensitivity to eggs or to other components of the vaccine.*
- With acute febrile illness until symptoms have decreased.

Reaction to the Vaccine



In a controlled trial, **only body aches** (25.1%) were reported more often after inactivated influenza vaccine than a placebo-injection (20.8%).

Inactivated influenza vaccine can cause a local or systemic reaction.

Local Reactions:

- include soreness at the vaccination site, typically lasting <2 days (affecting 10%--64% of patients).
- are mild and rarely interfere with a person's ability to do everyday activities.

Systemic Reactions:

- typically begin 6--12 hours after vaccination and can persist for 1--2 days.
- include fever, malaise (*feeling tired or no energy*), myalgia, and other systemic symptoms can occur after vaccination with inactivated vaccine.
- most often affect people (e.g., infants) with no previous exposure to the influenza virus antigens in the vaccine.

Severe Reaction to the Vaccine



Are you allergic to eggs?

Immediate and presumably allergic reactions (e.g., hives, angioedema, allergic asthma, and systemic anaphylaxis) rarely occur after influenza vaccination.

Severe Adverse Events

Sever reactions probably happen due to being very sensitive (*hypersensitivity*) to certain vaccine components (*parts*). Most reactions are probably caused by residual **egg protein**.

- Although current influenza vaccines contain only a limited amount of egg protein, this protein can cause instant hypersensitivity reactions among people who have severe egg allergy.
- People who have **had hives or swelling of the lips or tongue, or who have experienced acute respiratory distress or collapse after eating eggs** should talk to a physician for an evaluation to help decide if a vaccine should be



Are you allergic to eggs?

Severe reactions probably happen due to being very sensitive (*hypersensitivity*) to certain vaccine components (*parts*). Most reactions are probably caused by residual **egg protein**.

- Although current influenza vaccines contain only a limited amount of egg protein, this protein can cause instant hypersensitivity reactions among people who have severe egg allergy.
- People who have had **hives or swelling of the lips or tongue, or who have experienced acute respiratory distress or collapse after eating eggs** should talk to a physician for an evaluation to help decide if a vaccine should be given.
- People who have **documented immunoglobulin E (IgE)-mediated hypersensitivity to eggs**, including those who have had occupational asthma or other allergic responses to egg protein, might also be at increased risk for allergic reactions to influenza vaccine and should think about talking to a physician before getting a vaccine.
- There are protocols for giving influenza vaccine safely to people with egg allergies.

Guillain-Barre Syndrome



The Guillain-Barre Syndrome (GBS) was associated with the swine flu in 1976 but has not been clearly linked to flu vaccines.

Guillain-Barre Syndrome

The CDC states that, “if there is a risk of GBS from current influenza vaccines it is estimated at *1 or 2 cases per million* persons vaccinated.” So the benefits of getting vaccinated greatly outweigh the risks involved.



Infection Control Procedures



Infection Control Procedures

Patients admitted to the hospital for influenza are placed on Droplet Precautions which includes:

- Private room (negative airflow not needed).
- Door may be kept open.
- Staff to wear surgical mask when entering the room.

At all times Respiratory Hygiene/Cough Etiquette is followed. This includes:

- Posting visual alerts instructing people to cover coughs with tissues.
- Providing masks and/or tissues in areas where patients are waiting (ED's, Lab, Clinics).
- Performing frequent hand hygiene and have sinks or products available.