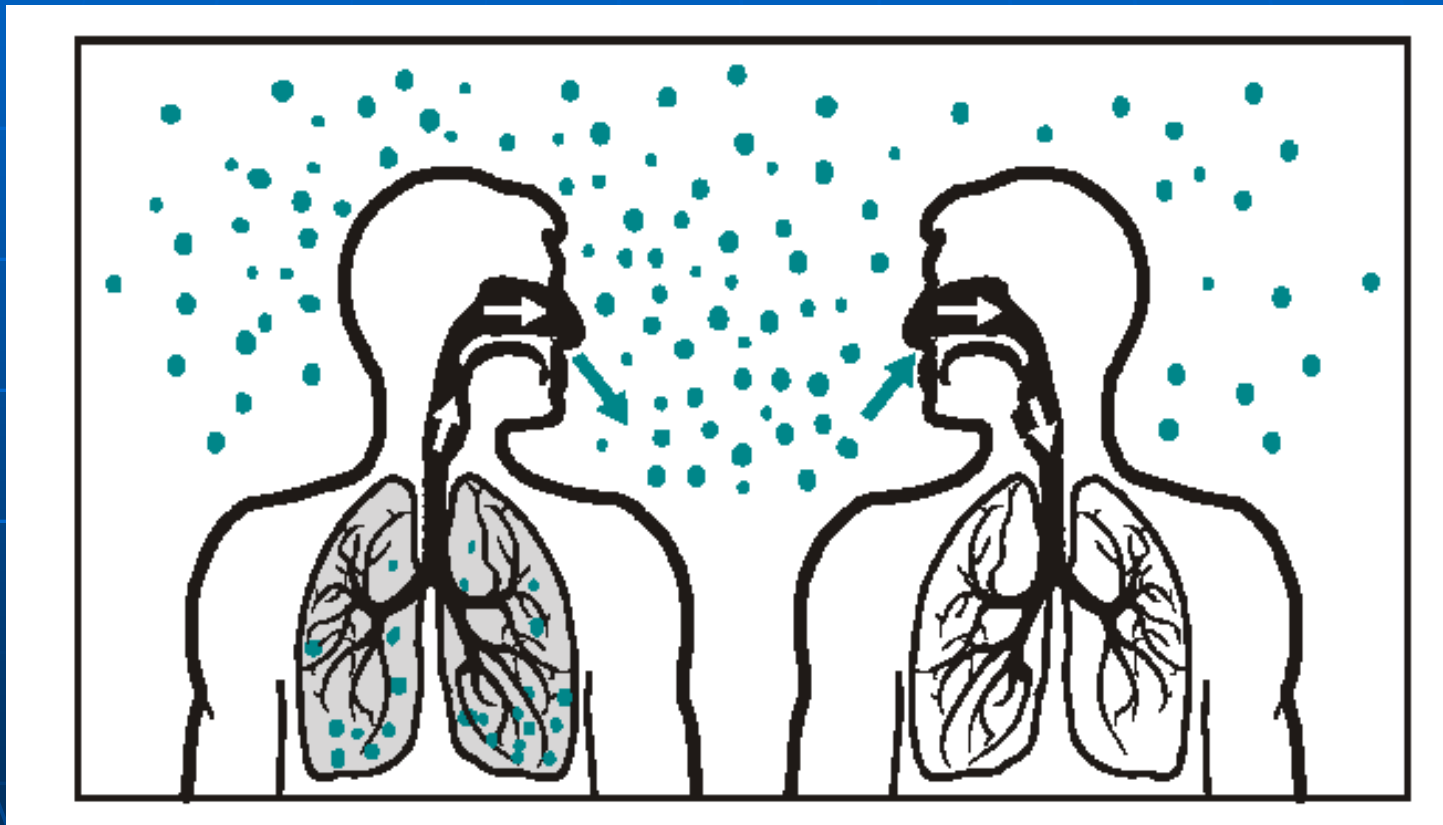


Aerosol Transmissible Disease

Annemarie Flood RN BSN CIC



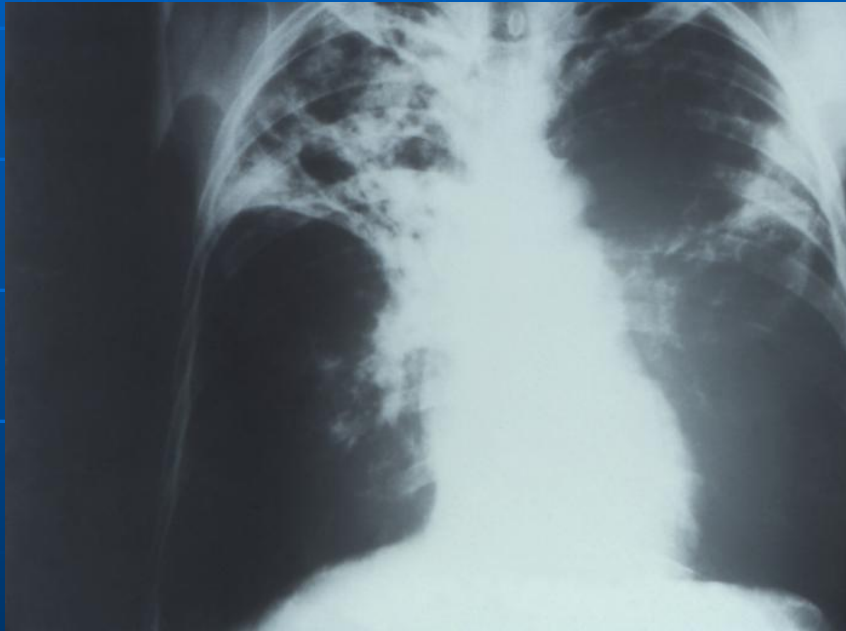
Airborne Transmission



Droplet Transmission



Tuberculosis

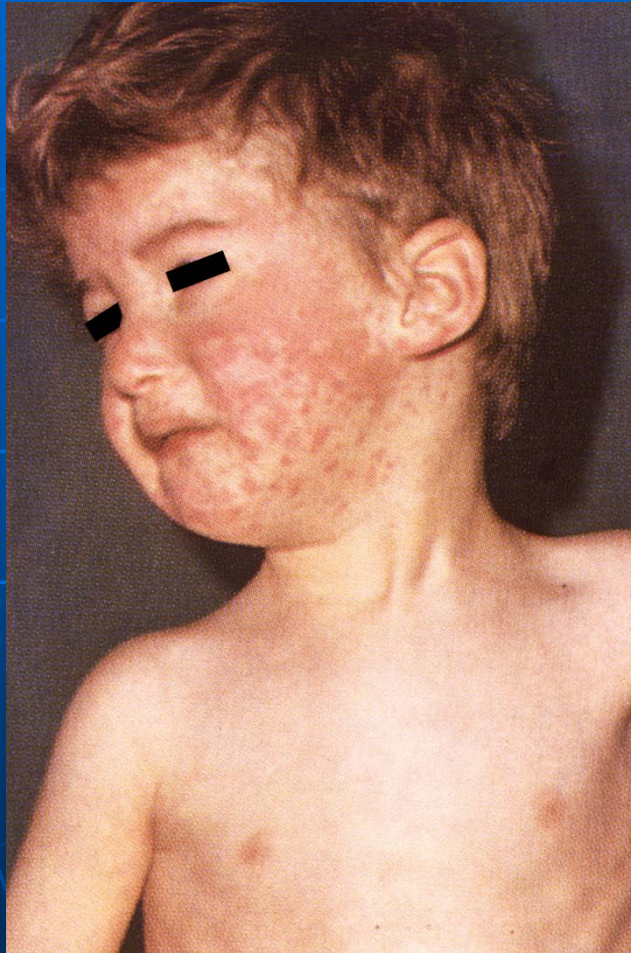


- Latent vs. Disease
- a bad cough that lasts 3 weeks or longer
- pain in the chest
- coughing up blood or sputum
- weakness or fatigue
- weight loss
- no appetite
- chills
- fever
- sweating at night

Tuberculosis Incidence

- One third of the world's population is infected with TB.
- In 2012, nearly 9 million people around the world became sick with TB disease.
- There were around 1.3 million TB-related deaths worldwide.
- TB is a leading killer of people who are HIV infected
- In 2013, a total of 9,588 new tuberculosis (TB) cases were reported in the United States
- There were 2170 cases of TB in California in 2013

Measles



- Fever, followed by a cough, runny nose, and conjunctivitis (pink eye).
- A rash starts on the face and upper neck, spreads down the back and trunk, then extends to the arms and hands, as well as the legs and feet. After about 5 days, the rash fades the same order in which it appeared.
- measles can lead to pneumonia
- it can also cause lifelong brain damage, deafness, and even death.
- one to three out of 1,000 children in the U.S. who get measles will die
- Before the measles vaccination program started in 1963, about 3 to 4 million people got measles each year in the US
- 48,000 people were hospitalized, 1,000 suffered brain damage or became deaf,
- 450 died because of measles

Recent Measles Outbreaks

- Out of 129 nationwide cases so far this year, 58 are in California. Ten of those are in Los Angeles County, and 22 are in Orange County.
- Last year in California, there was a 15-percent increase in the number of parents opting out of immunizations. In Orange County, health officials report a 30-percent increase.

Varicella (Chicken Pox)

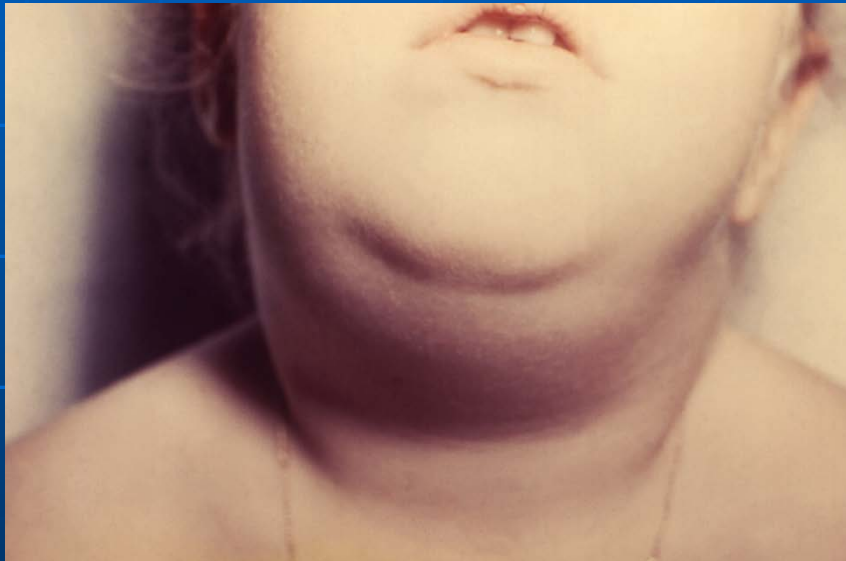
- High fever
- Tiredness
- Loss of appetite
- Headache
- The rash usually appears first on the head, chest, and back then spreads to the rest of the body. The lesions are usually most concentrated on the chest and back



Chicken Pox Incidence

- 4362 cases in 2013
- 2646 as of 5/4/14
- Vaccine became available in 1995
- Before the vaccine, about 4 million people would get chickenpox each year in the United States. Also, about 10,600 people were hospitalized and 100 to 150 died each year as a result of chickenpox.

Mumps



- Swollen, painful salivary glands on one or both sides of face (parotitis)
- Fever
- Headache
- Weakness and fatigue
- Loss of appetite
- Pain while chewing or swallowing
- Can cause encephalitis, orchitis(37% post pubertal) , miscarriage in first trimester

Recent Mumps Outbreaks

- January 1 to May 2, 2014, 464 people in the United States have been reported to have mumps.
- Outbreaks in at least two U.S. universities have contributed to these cases in Ohio and New York

Rubella

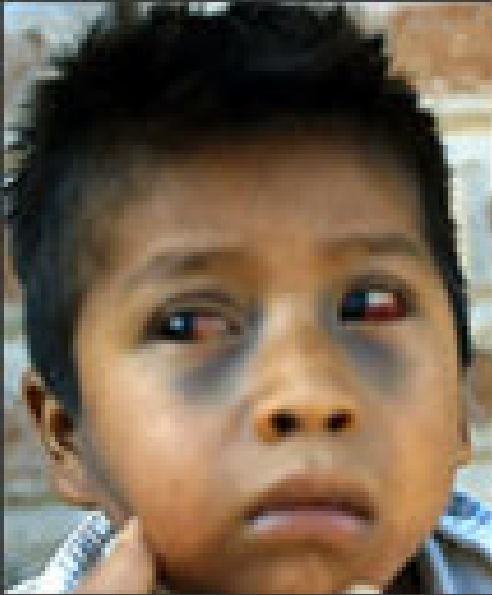


- Symptoms that to of flu. Fever, sore throat , body aches, swollen glands 1-5 days before rash appears.
- Rash on the face which spreads to the trunk and limbs and usually fades after three days
- Infection in the first trimester of pregnancy will develop congenital rubella syndrome (CRS), resulting in heart defects, cataracts, mental retardation, and deafness.

Rubella Out Breaks

- Rubella has not been detected in the US since 2009
- In 1964-1965, before rubella immunization was used routinely in the U.S., there was an epidemic of rubella that resulted in an estimated 20,000 infants born with CRS, with 2,100 neonatal deaths and 11,250 miscarriages. Of the 20,000 infants born with CRS, 11,600 were deaf, 3,580 were blind, and 1,800 were mentally retarded

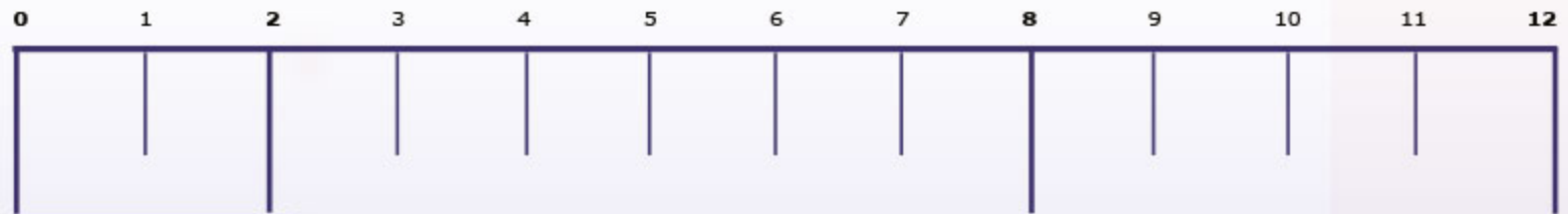
Pertussis (Whooping Cough)



- Serious illness, particularly for babies and young children. More than 50% of babies with reported cases of pertussis must be hospitalized. Coughing can be so severe that it is hard for babies to eat, drink or breathe.
- Babies may bleed behind the eyes and in the brain from coughing.
- The most common complication is bacterial pneumonia. About 1 child in 10 with pertussis also gets pneumonia, and about 1 in every 50 will have convulsions.
- Brain damage occurs in 1 out of every 250 children who get pertussis.
- Pertussis causes about 10-20 deaths each year in the United States.

Disease Progression: Pertussis

Weeks



Stage 1

Catarrhal Stage

May last 1 to 2 weeks

– Symptoms: runny nose, low-grade fever, mild, occasional cough – Highly contagious

Stage 2 - Paroxysmal Stage

Lasts from 1-6 weeks; may extend to 10 weeks

Symptoms: fits of numerous, rapid coughs followed by "whoop" sound; vomiting and exhaustion after coughing fits (called paroxysms)

Stage 3 - Convalescent Stage

Lasts about 2-3 weeks; susceptible to other respiratory infections for many

Recovery is gradual. Coughing lessens but fits of coughing may return.

Pertussis Outbreaks

- Over 9,000 cases of pertussis were reported in California during 2010, the most in over 60 years, including 10 infant deaths. Pertussis continues to circulate throughout California and the rest of the world
- From January 1-April 14, 2014, 4,838 cases of pertussis have been reported to CDC by 48 states and Washington, D.C.; This represents a 24% increase compared with the same time period in 2013.

Neisseria Meningitis



- Sudden onset of fever, headache, and stiff neck. There are often additional symptoms, such as Nausea, Vomiting, Photophobia (increased sensitivity to light)
- Altered mental status (confusion)
- The symptoms of meningococcal meningitis can appear quickly or over several days. Typically they develop within 3-7 days after exposure

Meningococcal Septicemia

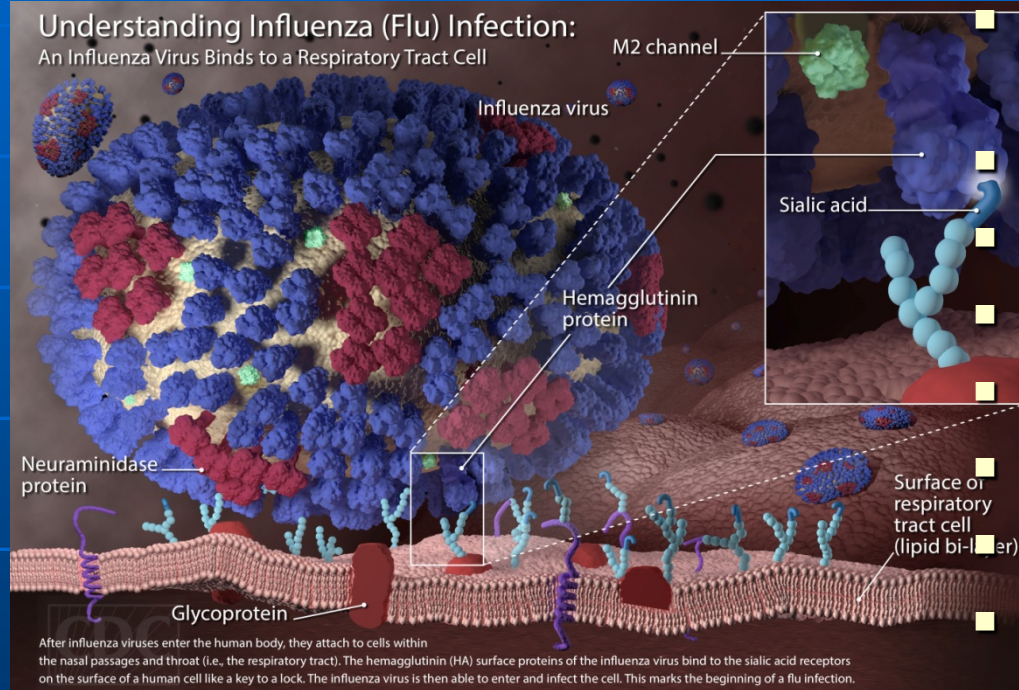


- Bacteria enter the bloodstream and multiply, damaging the walls of the blood vessels and causing bleeding into the skin and organs.
- Symptoms may include:
 - Fatigue, Vomiting
 - Cold hands and feet, Cold chills
 - Severe aches or pain in the muscles, joints, chest or abdomen (belly)
 - Rapid breathing
 - Diarrhea
 - In the later stages, a dark purple rash

Meningococcal Outbreaks

- Two U.S. Universities are experiencing unrelated outbreaks of serogroup B meningococcal disease.
- Princeton University
- University of California, Santa Barbara
- The department of public health has confirmed a total of eight cases of invasive meningococcal disease (IMD) in Los Angeles county so far this year, including four cases reported among men who have sex with men (MSM), of which three men who were HIV-positive.

Influenza



Fever* or feeling
feverish/chills

Cough

Sore throat

Runny or stuffy nose

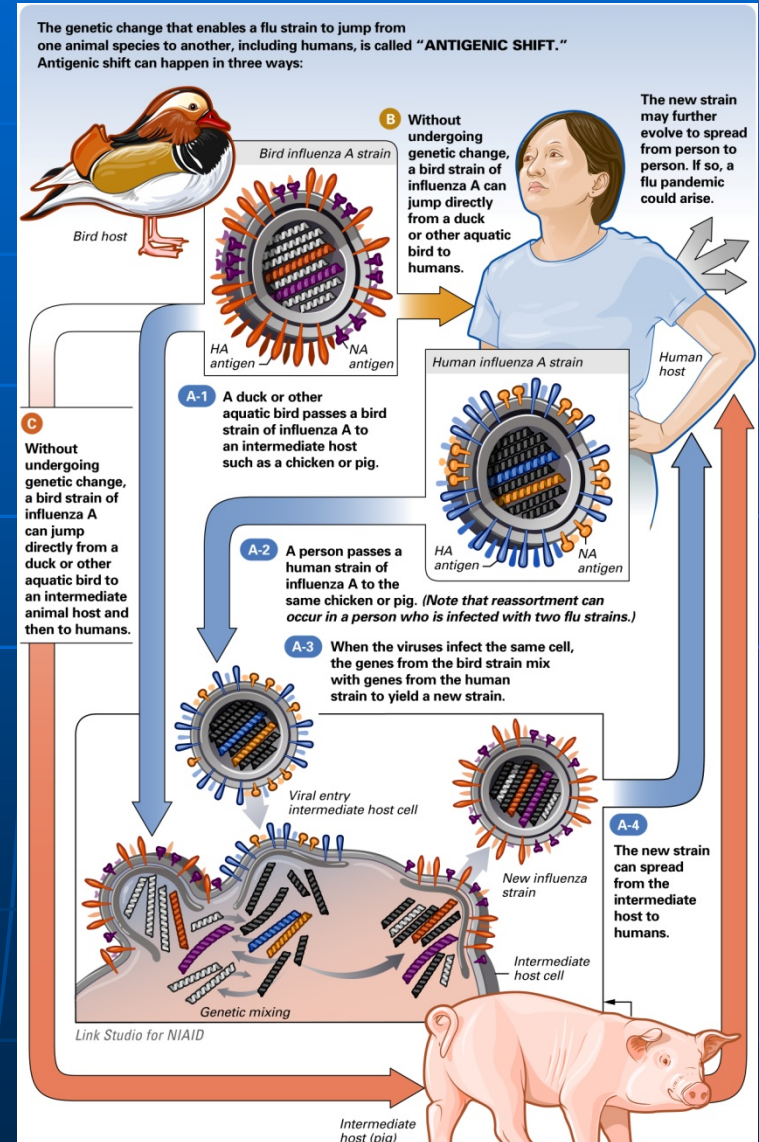
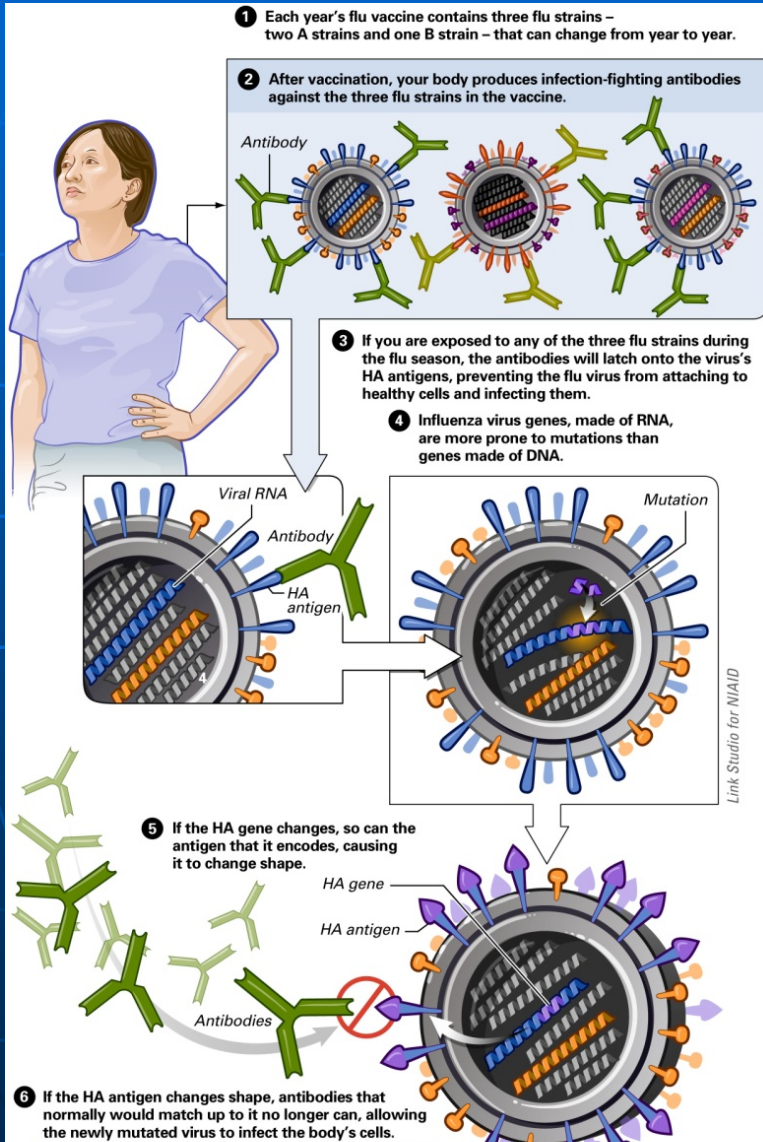
Muscle or body aches

Headaches

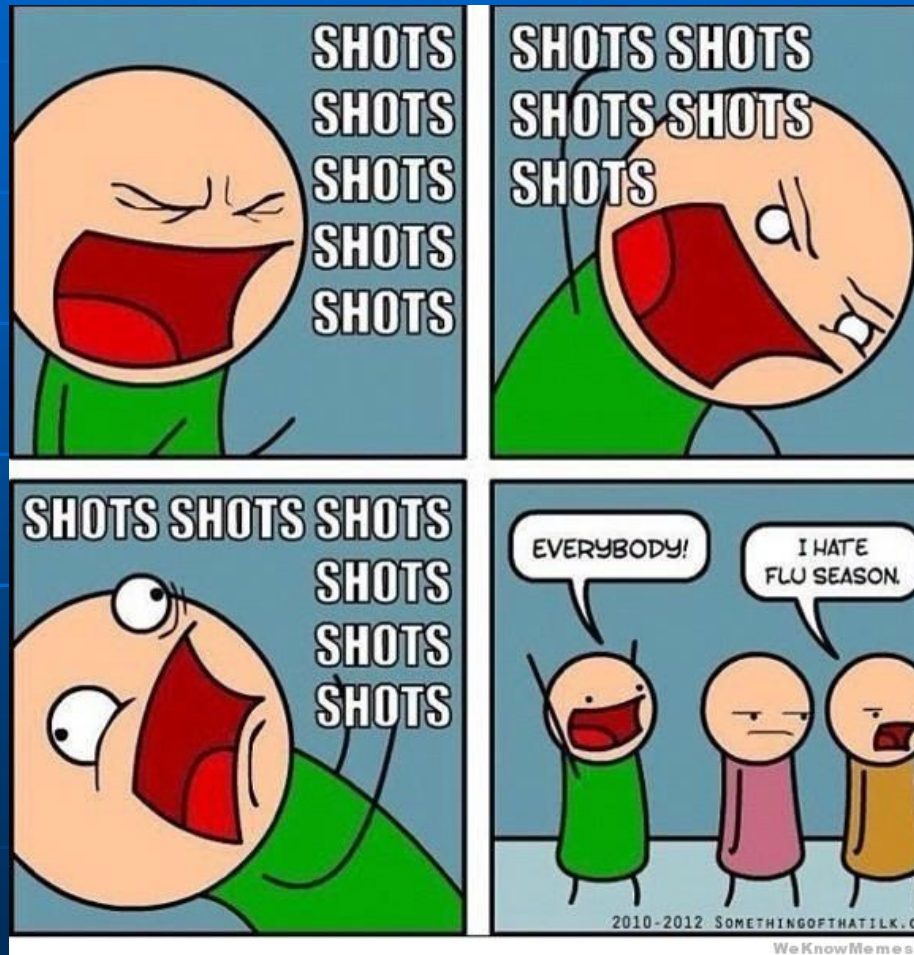
Fatigue (tiredness)


Some people may have
vomiting and diarrhea,
though this is more
common in children than
adults.

Why Do We Need a New Shot Each Year?




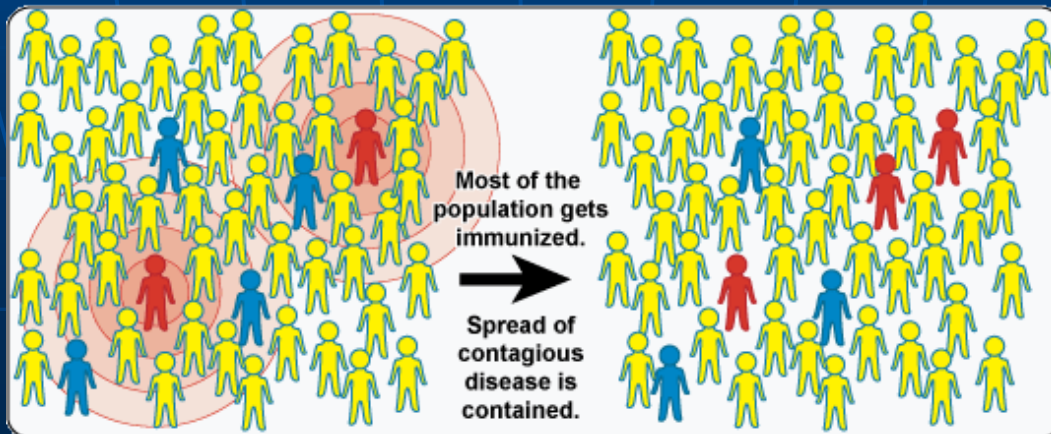
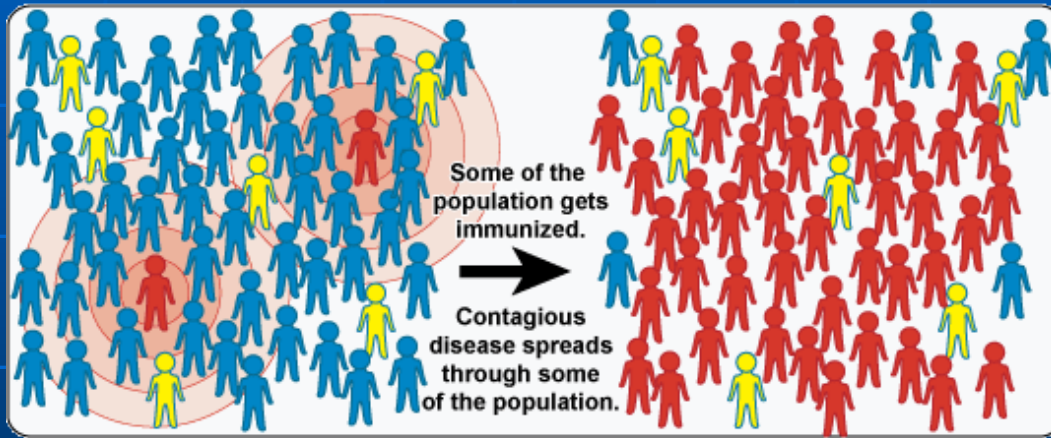
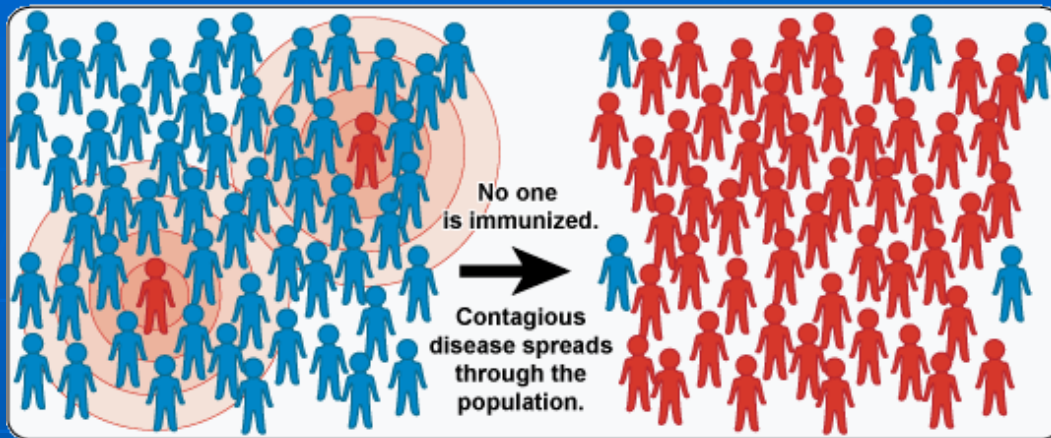
So What Can We do?



 = not immunized but still healthy

 = immunized and healthy

 = not immunized, sick, and contagious



Respiratory Hygiene and Cough Etiquette



Stop the spread of germs that make you and others sick!

Cover your Cough

Cover your mouth and nose with a tissue when you cough or sneeze or cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.

Clean your Hands

Wash hands with soap and warm water or clean with alcohol-based hand cleaner.

MDH Minnesota Department of Health
601 N. Seward Street, 5th Floor
St. Paul, MN 55103-1020
651.431.3347 TDD 651.431.3377
www.health.state.mn.us

APIC Association for Professionals in Infection Control and Epidemiology, Inc.

Any Questions?