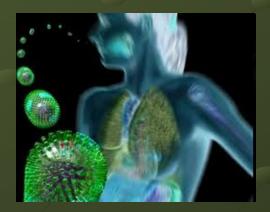
Chapter 40-1: Infectious Disease

Essential Questions:

- What are the causes of disease?
- How are infectious diseases transmitted?

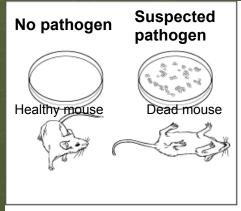
- Disease: any change besides injury that disrupts normal body function
 - Some inherited
 - Some caused by environmental factors (toxins)
 - Some caused by agents (bacteria/virus/ fungus) – these are pathogens



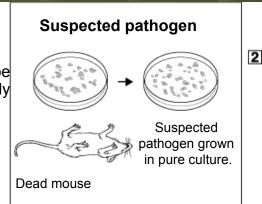


Germ theory of disease

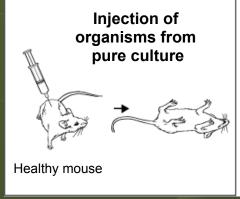
- Diseases caused by microorganisms (germs)
 - Koch's postulates



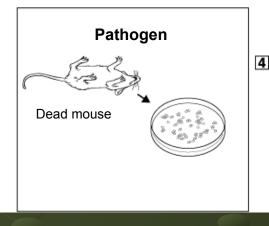
The pathogen should always be found in the body of a sick organism and should not be found in a healthy one.



The pathogen must be isolated and grown in the laboratory in a pure culture.



When purified pathogens are placed in a new host, they should cause the same disease that infected the host.



The very same pathogen should be reisolated from the second host. And it should be the same as the original pathogen.

Agents of disease

- Viruses: common cold, influenza, measles
- Bacteria: tuberculosis, cholera, tetanus
- Protists: malaria, amoebic dysentery
- Worms: schistosomiasis, beef tapeworm
- Fungi: athlete's foot, ringworm



- How diseases are spread
 - Cough or physical contact
 - Via contaminated food or water
 - Via infected animals
 - Vectors: animals that carry disease-causing organisms from person to person (ticks, mosquitos, etc.)



Sexually transmitted diseases

- Syphilis & gonorrhea -bacteria
- Hepatitus, genital herpes, AIDS virus





- Fighting infectious diseases
 - Prevention!
 - Antibiotics kill bacteria w/out harming cells
 - Antivirals inhibit virus's ability to invade & multiply inside cells





