

Infectious Diseases



Ground Rules

- Listen with respect
- Observe the time schedule
- Participate fully
- Silence cell phones
- Have fun!



Objectives

- **Describe** how Infectious Diseases are acquired
- **Identify** common Infectious Diseases
- **Describe** Infectious Disease Prevention Actions

Agenda

Part 1: Terms and Definitions

Part 2: Chain of Infection

Part 3: Common Infectious Diseases

Part 4: Prevention

Part 5: Pop Quiz



Part 1

Terms and Definitions



- Infection - presence of a bacteria or virus Local vs. Systemic
- Infectious Disease - the study of infections in a given population



- Mortality - the number of people that die in a population at a given time.
- Morbidity - the number of people infected or ill in a population at a given time.

- Outbreak - number of people infected or ill in a defined community is greater than normal
- Epidemic - widespread outbreak
- Pandemic - epidemic across continents



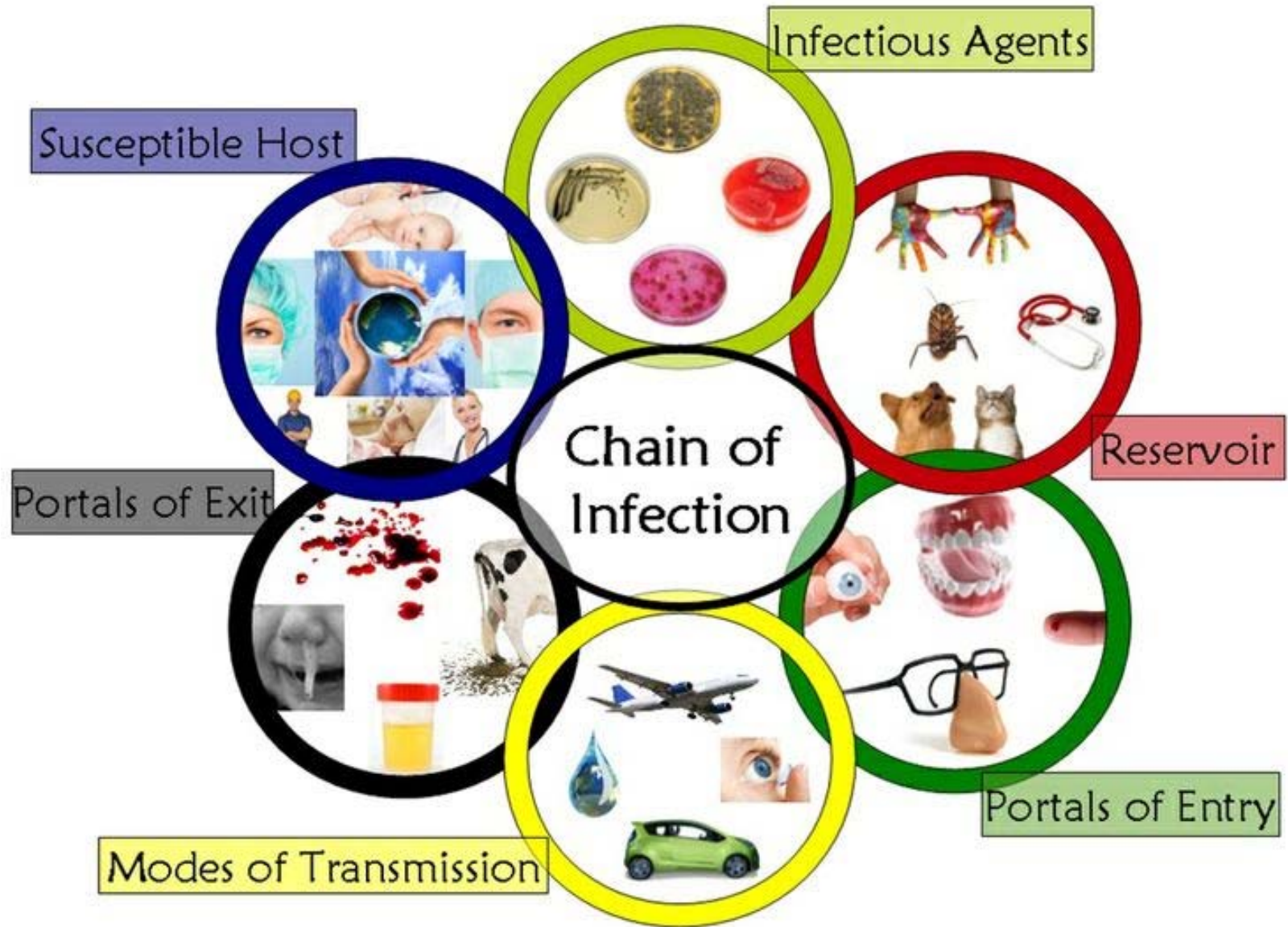
United States & New York State



- AIDS/HIV
- Influenza
- Measles
- Pneumonia
- STDs/STIs
- Viral Hepatitis
- Pertussis
- Lyme

Part 2

Chain of Infection



Variation

Chain of Infection
varies according to
microorganism

Example:
Cholera



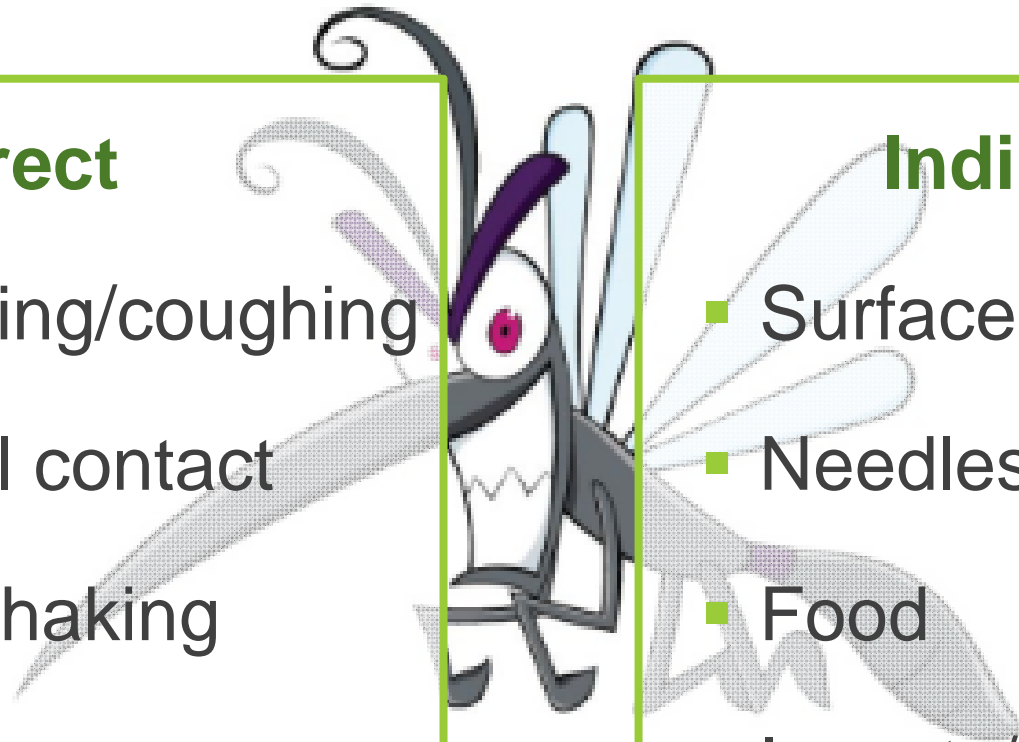
Most Common Means to Infection

Direct

- Sneezing/coughing
- Sexual contact
- Handshaking
- Blood exposure

Indirect

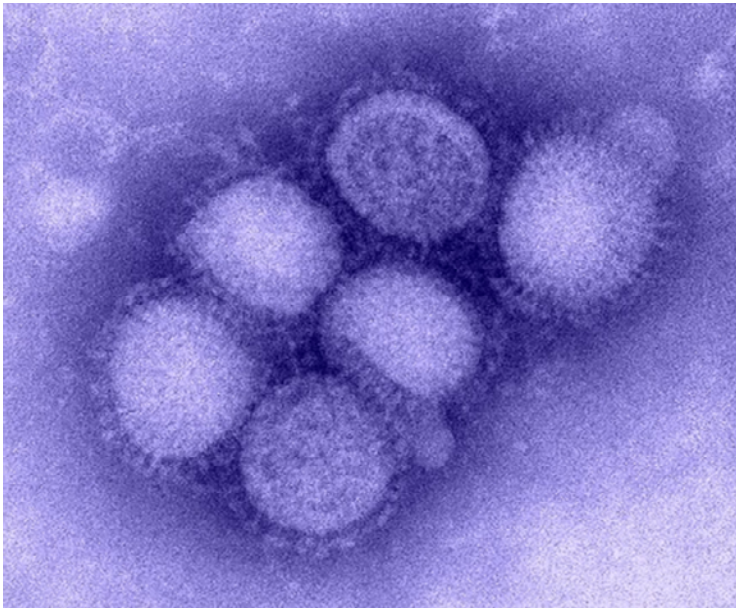
- Surfaces
- Needles
- Food
- Insects/animals



Part 3

Common Infectious Diseases in the Workplace

Which infectious diseases do you suspect you might have in your workplace?



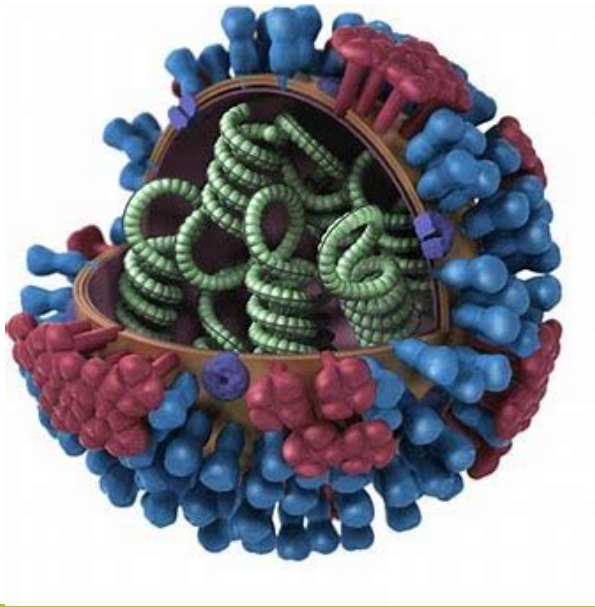
Influenza

Common Symptoms

- Fever/chills
- Body aches
- Sore throat
- Runny nose
- Fatigue

Treatment

- Antivirals
- Time





Measles

Common Symptoms

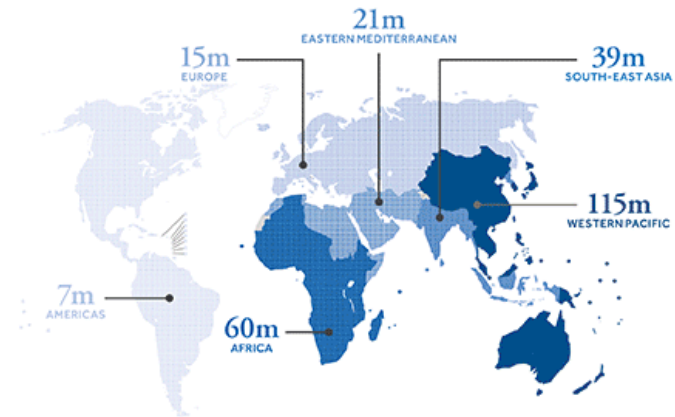
- High fever
- Painless spots in throat
- Cough
- Runny nose
- Red, watery eyes
- Rash (3 days post-fever)

Viral Hepatitis

Common Symptoms

- Nausea
- Vomiting
- Abdominal pain
- Gray feces
- Fever
- Fatigue
- Jaundice

VIRAL HEPATITIS B IN THE WORLD



257m
GLOBAL



A grayscale electron micrograph showing a dense field of spherical Hepatitis A virus particles. Each particle has a distinct outer shell and a darker, textured interior. The particles are arranged in a somewhat regular, grid-like pattern.

Hepatitis A

Transmission

- Ingestion of feces
 - ✓ food
 - ✓ bathrooms
 - ✓ anal and oral sex

Treatment

- Antivirals and monitoring

Hepatitis B and C

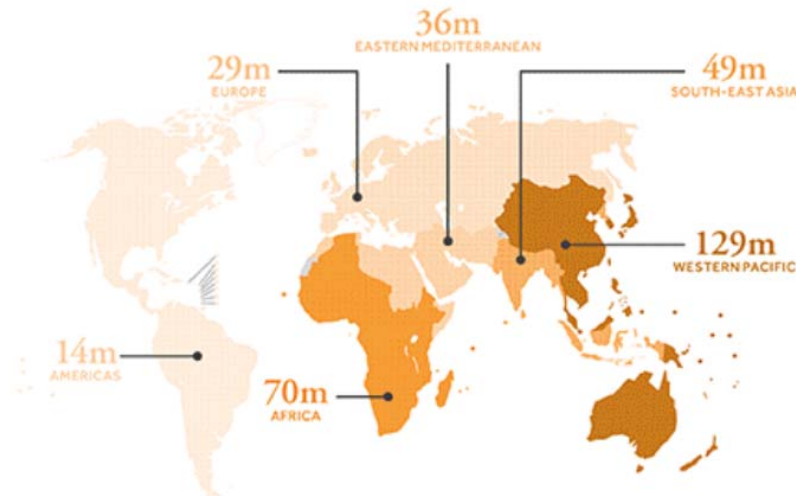
Routes of Transmission

- Blood
- Semen
 - ✓ all forms of sex
 - ✓ drug use
 - ✓ childbirth

Treatment

- Symptoms

VIRAL HEPATITIS B AND C IN THE WORLD



325m
GLOBAL



MRSA



Symptoms

- Fever
- Red bumps
- Swelling
- Discharge
- Skin feels hot

Transmission

- Droplet
- Contact

Tuberculosis

Transmission

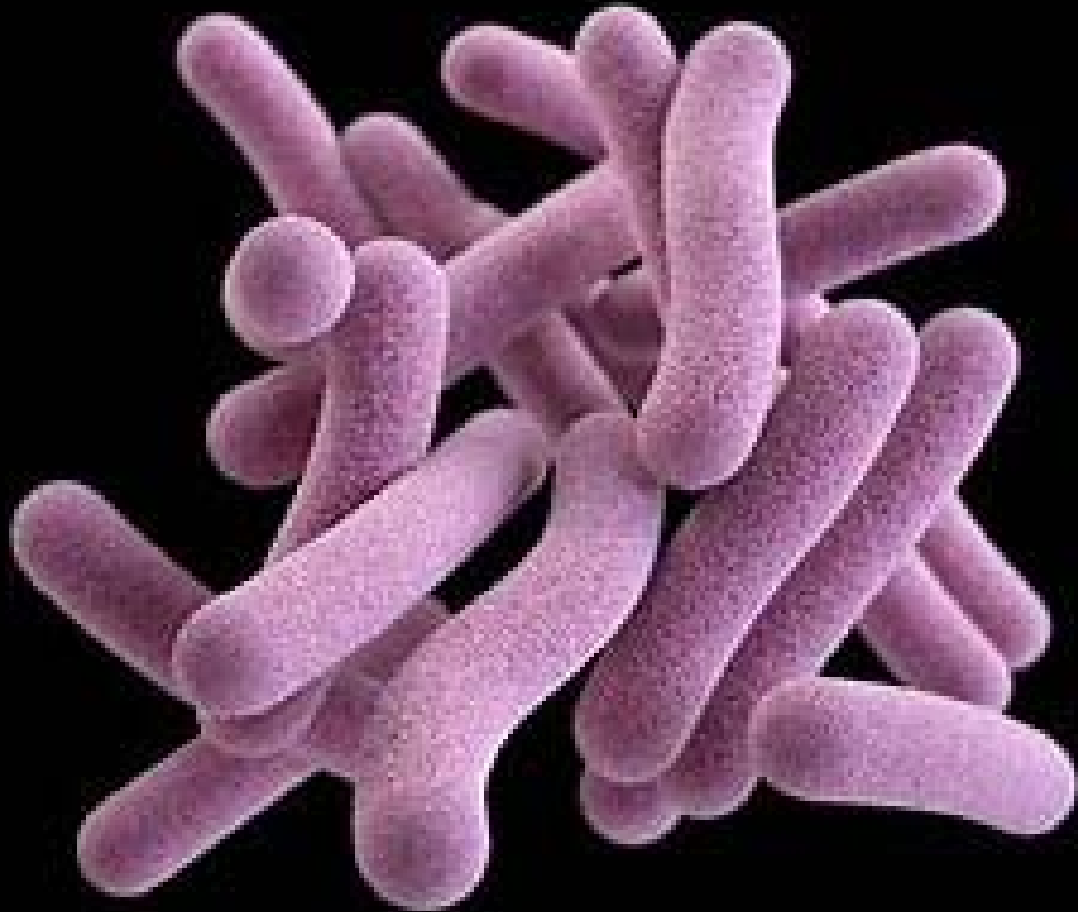
- Droplet

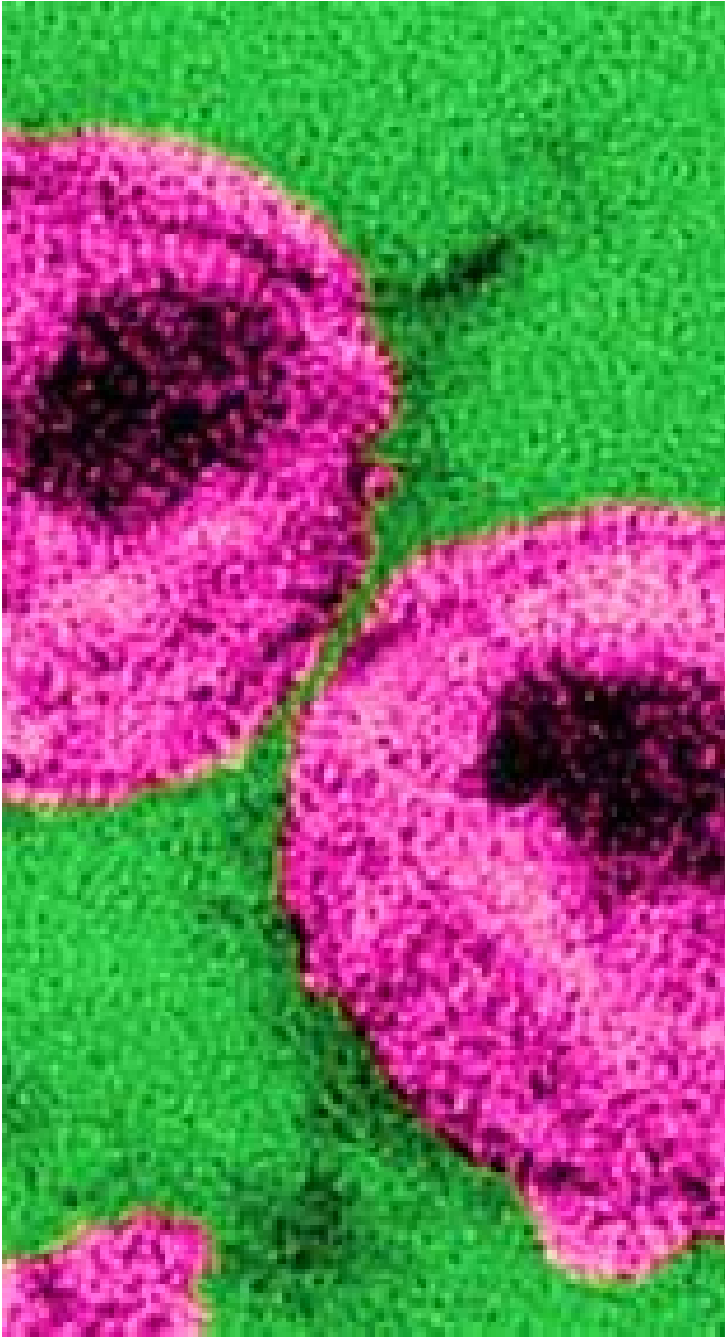
Symptoms

- Severe Cough

Treatment

- Antibiotics
- Steroids
- Inhalers





HIV/AIDS

Transmission

- Blood
- Semen
- All forms of sex
- Drug use
- Childbirth
- Breastfeeding

Treatment

- PreEP

Strep

Transmission

- Droplet

Symptoms

- Throat pain
- Redness
- White patches

Treatment

- Antibiotics





Pertussis

Transmission

- Droplet

Treatment

- Symptoms only

Norovirus

Transmission

- Fecal
- Vomit droplets

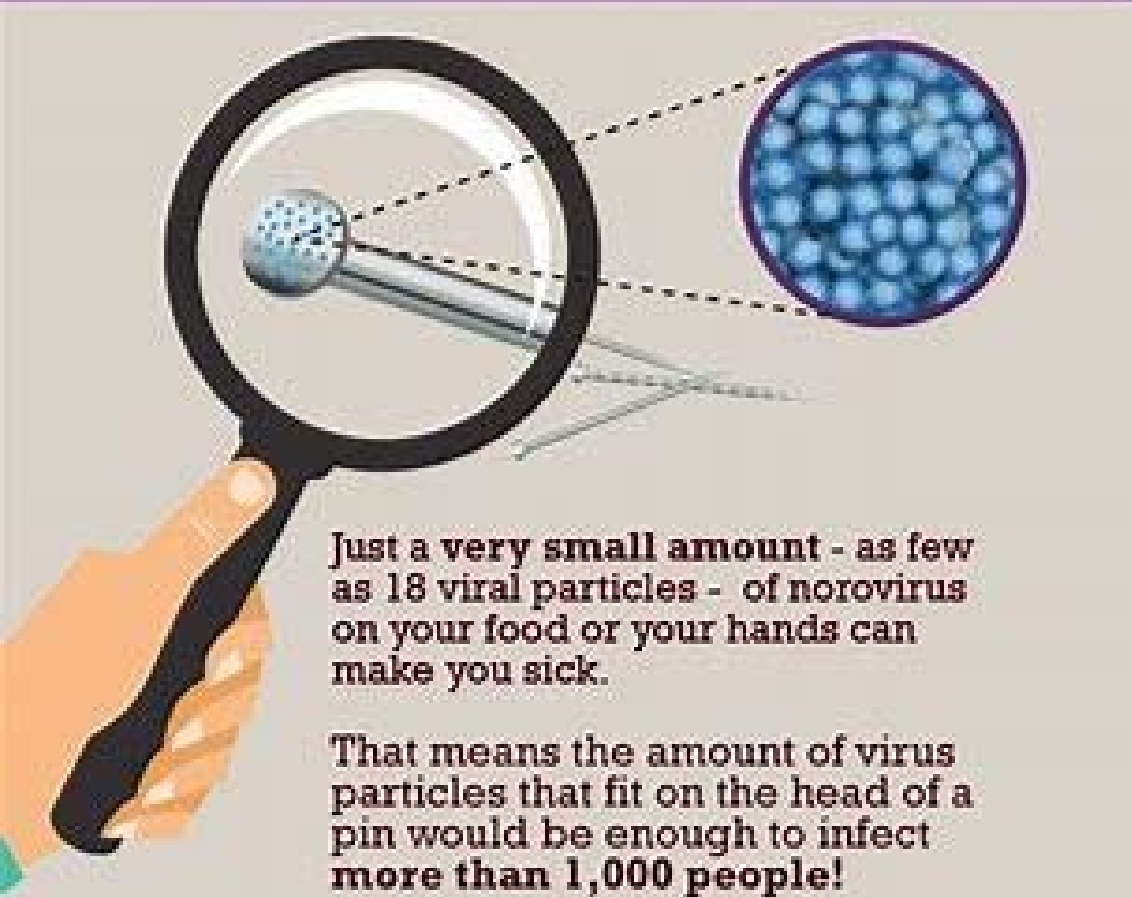
Symptoms

- Diarrhea
- Fever
- Vomiting

Treatment

- Symptoms only

How contagious is norovirus?



Just a very small amount - as few as 18 viral particles - of norovirus on your food or your hands can make you sick.

That means the amount of virus particles that fit on the head of a pin would be enough to infect more than 1,000 people!

Lyme

Transmission

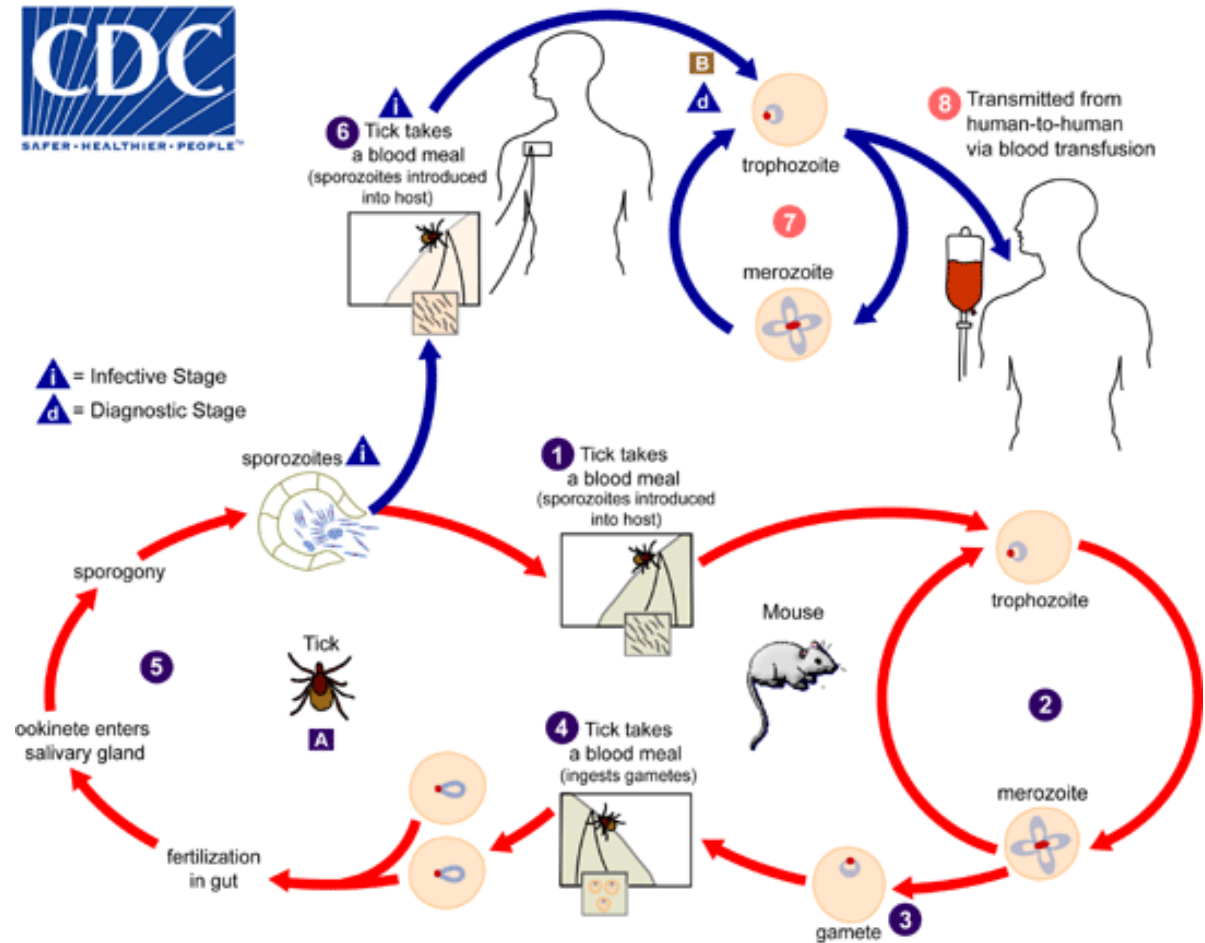
- Tick to blood

Symptoms

- Malaise
- Muscle aches
- Fever
- Rash/target

Treatment

- Antibiotics



Zika

Transmission

- Mosquito carrier
- Sexual contact
- Drug use
- Mother to baby

Symptoms

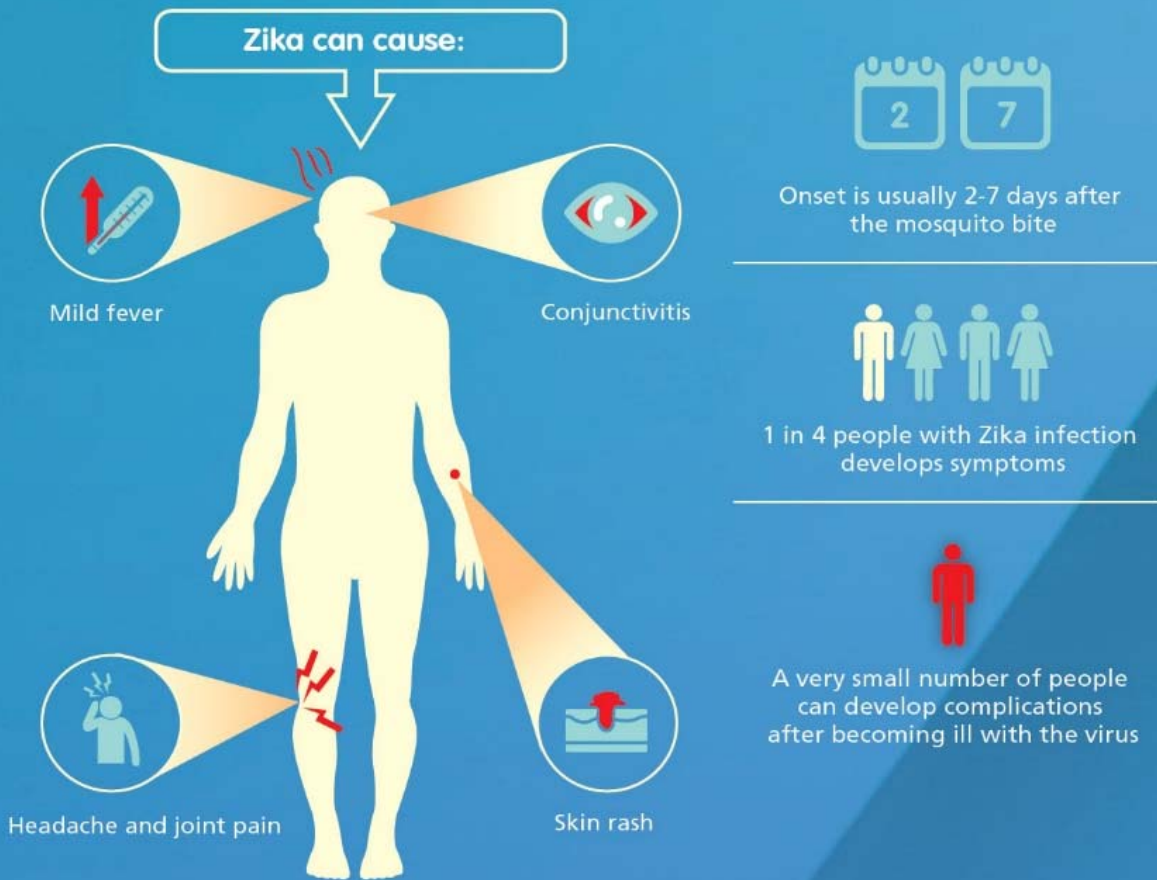
- Joint pain
- Fever
- Microcephaly



ZIKA VIRUS

What is Zika?

Zika is a virus transmitted by the *Aedes* mosquito, which also transmits dengue and chikungunya.



Zika Virus

2018 Case Counts in the US



2018 | [2017](#) | [2016](#) | [2015](#)

Provisional Data* as of April 4, 2018

Zika virus disease is a nationally notifiable condition. Cases are reported to CDC by state, territorial, and local health departments using standard case definitions. This webpage contains provisional data reported to ArboNET for **2018**.

US States

- 14 Zika virus disease cases reported[†]
 - 14 cases in travelers returning from affected areas
 - 0 cases acquired through presumed local mosquito-borne transmission
 - 0 cases acquired through sexual transmission

US Territories

- 15 Zika virus disease cases reported[†]
 - 0 cases in travelers returning from an affected area
 - 15 cases acquired through presumed local mosquito-borne transmission
 - 0 cases acquired through other routes[‡]

Part 4

Prevention

Workforce Risk

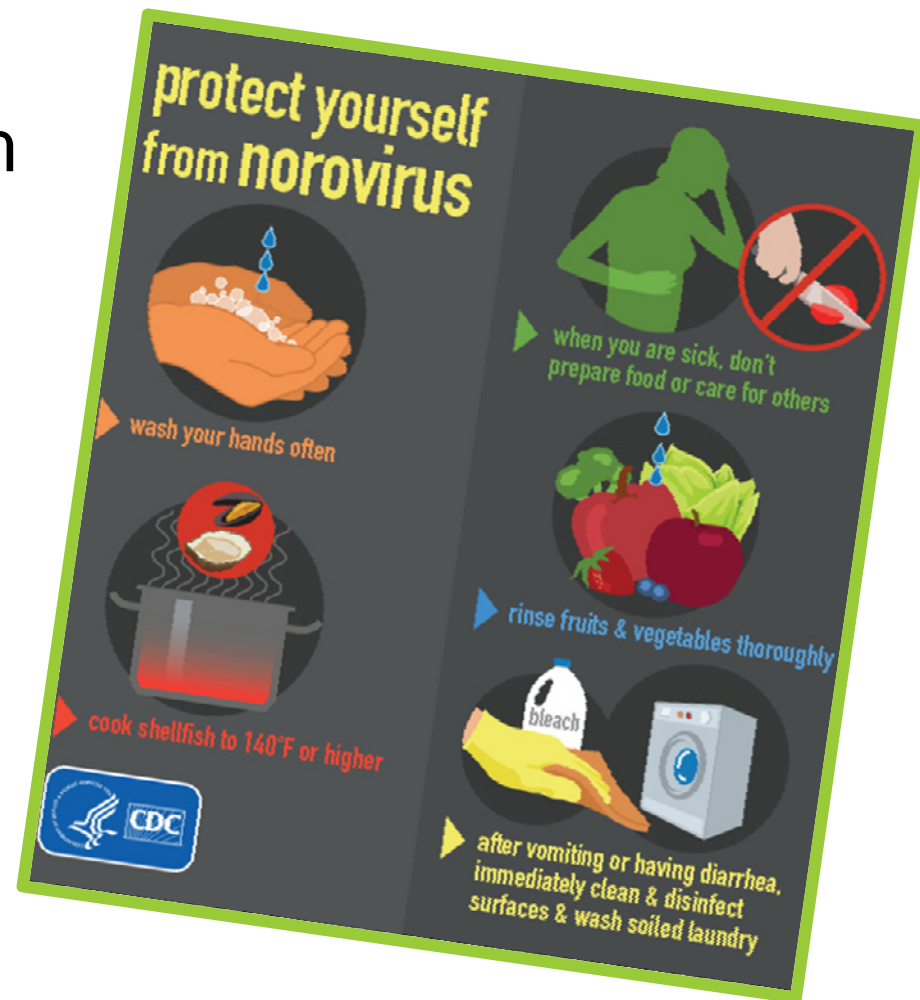


Highest Risk: Direct Care Workers, Custodial, Customer Service Workers

Lowest Risk: Workers that make hand-washing and PPE use a part of their normal routine and use sick time when ill.

Preventative Actions

- Strong immune system
- Vaccination
- Antibiotic abuse
- Hand washing
- Hand sanitizer



Preventative Actions

- Safe/no sex
- Travel
- Don't share food
- Wear PPE
- Stay informed
- Use sick time
- Use insect repellent
- Mitigate standing water



What actions can you take to prevent getting sick at your specific workplace?

Part 5

Pop Quiz

What is the #1 way to prevent the spread of infection?



How do we medically
treat an infection?



How do we medically
treat a virus?



If you have been diagnosed with strep should you stay home?



How many tick bites does it take to get Lyme disease?





How can a man prevent Zika in a woman?



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www.nyscseapartnership.org
learning@nyscseapartnership.org
(518) 486-7814/(800) 253-4332