Abdulameer Al-Mussawi Saba Adnan 2018 The Chain of Infection SUSCEPTIBLE RESERVOIR HOST INFECTIOUS AGENT MODE OF TRANSMISSION PORTAL PORTAL **OF ENTRY** OF EXIT



The Six Links...

- Pathogen
- Reservoir
- Place of Exit
- Method of Transmission
- Port of Entry
- Susceptible Host





Reservoir

- The place for a pathogen to live and grow
 - Direct transmission:
 - Human or animal body (host)
 - Indirect transmission:
 - Contaminated food or water
 - Animal/insect
 - Infected soil



Place of Exit

- Ways pathogens escape the reservoir
 - Mouth
 - Nose
 - Broken skin





Method of Transmission

- A way to get to a new host
- Directly
 - Body fluids (i.e. blood, secretions)
- Indirectly
 - Intermediate hosts (i.e. toothbrushes, animals, drinking fountains, food)



Port of Entry

- Ways to enter a new host
 - Broken skin
 - Mouth
 - Nose
 - Eyes
 - Genitals
 - Insect bites



Susceptible Host

- Those that have little (if any) **resistance** to the pathogen and thus, lack the ability to fight them off
- <u>Carriers</u>: Those who carry germ, but show no **signs** or symptoms; can spread disease, but often do so unknowingly

Do all 6 links need to be connected in order for a disease to be transmitted?

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...if even **ONE** link is broken, an infection will **not** occur!

Break the Chain...

- Kill the pathogen
- Prevent contact
- Prevent its escape
- Prevent Transmission
- Block the Ports
- Resistant Host

Kill Pathogen

- If you kill the pathogen, you stop it from spreading
- Method
 - Antibiotics or other medications
 - Wash hands



Prevent Contact

- By preventing things from coming in contact with an infected source, the pathogen has no place to escape to
- Method:
 - Quarantine/ those with



Prevent Escape

- If the pathogens cannot get out of its host, the disease cannot spread
- Method:
 - Cover your mouth when you sneeze
 - Wear a band-aid to cover wounds



Prevent Transmission

- By not giving pathogens a means to travel, we can stop the spread
- Method
 - Kill/control infected animals/insects
 - Ensure proper treatment of sewage
 - Chlorinate drinking water

Block the Ports

- If you do not have ways for pathogens to get into a new host, they cannot infect
- Method
 - Cover wounds
 - Do not eat "shady" food



Resistant Host

- By making smart choices about your health and developing a strong immune system, your body can fight off pathogens without you ever feeling sick
- Method
 - Exercise
 - Eat well-balanced diet
 - Get immunizations

