

TOPIC: FOODBORNE PATHOGENS

Bacteria

◆ *Recall:* Pathogens: microorganisms that cause foodborne illness → **bacteria**, **viruses**, & **parasites**.

Most common bacterial foodborne illnesses:

Salmonella:

- ▶ **Source:** chicken, eggs, & produce.
- ▶ Most hospitalizations & _____.



Staphylococcus aureus:

- ▶ **Source:** _____ + unsafe temps.
- ▶ Produces a _____ that causes illness.

Clostridium perfringens: “_____ germ”

- ▶ **Source:** improperly cooked/stored food.

Campylobacter: most _____ bacterial diarrhea.

- ▶ **Source:** poultry & raw milk.



Less common but particularly dangerous:

Escherichia coli (_____):

- ▶ **Source:** ground meat & produce.
- ▶ Shiga toxin producing *E. coli* (STEC; O157:H7) - _____ diarrhea.

Listeria: rare; especially dangerous during _____.

- ▶ **Source:** soft cheeses, _____ milk, & deli meats.



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Viruses & Parasites

◆ Recall: Pathogens → **bacteria**, **viruses**, & **parasites**.

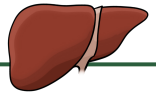
Viruses

Norovirus: → _____ common foodborne illness.

- Highly contagious but _____ illness period.
- **Source:** unsafe _____ & contaminated water.

Hepatitis ____: liver infection → _____ illness.

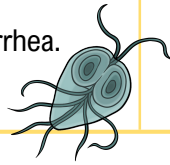
- **Source:** produce & contaminated _____.
- Vaccine recommended for all children.



Parasites: larger, _____-bacterial pathogens.

Protozoa: larger single-celled organisms.

- *Toxoplasma gondii*: dangerous during _____ and in the immunocompromised.
 - **Source:** _____ feces.
- *Giardia intestinalis*: may cause _____ diarrhea.
 - **Source:** untreated water.



Worms: tapeworms, roundworms, flukes.

- **Source:** larvae or _____ in contaminated water or improperly prepared foods.
- Most common in areas with poor _____.

EXAMPLE

Listed below are multiple microorganisms that cause foodborne illness. Using the list, do the following:

1. Mark bacteria with a star.
2. Mark viruses with a triangle.
3. Mark parasites with a square.
4. Circle the microorganism that causes a significant number of deaths.
5. Underline the pathogen that causes the most cases of foodborne illness.

Toxoplasma gondii

Norovirus

E. coli

Campylobacter

Hepatitis A

Listeria

Tapeworms

Salmonella

PRACTICE

Which type of microorganism can be transmitted through larvae in food that grow into full organisms inside a host?

- a) Bacteria. b) Viruses. c) Parasites. d) Fungi.

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PRACTICE

Which foodborne pathogen is the most common bacterial cause of foodborne illness?

- a) *Salmonella*. b) *E. coli*. c) Norovirus. d) *Listeria*.

PRACTICE

Which foodborne pathogen causes the most hospitalizations?

- a) *Salmonella*. b) *E. coli*. c) Norovirus. d) *Listeria*.

PRACTICE

Raw/unpasteurized milk is considered a high-risk food because of the risk of it containing pathogens.

Which type of pathogen is most likely to cause foodborne illness in association with raw milk?

- a) Fungi. b) Parasites. c) Bacteria. d) Viruses.