

**FIGHT BAC!® AGAINST:**

**MICROSCOPIC  
MONSTERS**

WANT TO HEAR SOMETHING SCARY?

YOU CAN'T...

SEE

SMELL

OR TASTE

THE GERMS THAT CAUSE FOOD POISONING.

Luckily, we can help you recognize the pathogens that cause illness and fight them off!



Meet the “Microscopic Monsters” that can get in your food and make you sick.

Also known as...

# THE 10 LEAST WANTED PATHOGENS!

## Fight BAC!®

### To Avoid These Least Wanted Pathogens

You can't see, smell, or taste these pathogens, but they can enter your body when you eat contaminated food and make you sick! Learn about them so you can Fight BAC! - anytime, anywhere, and any place.

#### Use the Four Food Safety Rules to Fight BAC!®

**Clean:**  
Wash hands and surfaces often.

**Separate:**  
Don't cross-contaminate.

**Cook:**  
Cook to proper temperatures.

**Chill:**  
Refrigerate promptly.

Create and manage the perfect picnic and keep park visitors free from these least wanted pathogens! Visit the App Store to download the free **Perfect Picnic** iPhone game app!

**CAMPYLOBACTER**  
(kəm-pī-ē-lob-ak-ter)  
*Symptoms:* diarrhea, fever, vomiting, stomach pain  
*Sources:* raw and undercooked poultry and other meat

**CLOSTRIDIUM BOTULINUM**  
(kloz-trī-dē-ūm-bō-tū-lī-nūm)  
*Symptoms:* double or blurred vision, slurred speech, difficulty swallowing, dry mouth, muscle weakness  
*Sources:* improperly prepared home canned foods

**E. COLI O157:H7**  
(ē-kō-lī-ō-157-hē-7)  
*Symptoms:* vomiting, diarrhea, headache, stomach cramps  
*Sources:* beef, especially undercooked or raw hamburger, undercooked steaks

**LISTERIA MONOCYTOGENES**  
(lī-stē-ē-ā-mō-nō-sī-tō-jē-nē-s)  
*Symptoms:* fever, muscle aches, diarrhea  
*Sources:* unpasteurized products (including soft cheeses), cold deli meats, hot dogs, and deli prepared salads like egg, tuna, seafood, and chicken salads  
Image: CDC/Dr. Bonnie Tomaszewski/Philly Media

**NOROVIRUS**  
(nō-rō-vī-rū-s)  
*Symptoms:* nausea, diarrhea, vomiting, stomach pain, fever, headache, body aches  
*Sources:* any food contaminated by someone infected with this virus

**SALMONELLA**  
(sāl-mō-nē-lā)  
*Symptoms:* severe diarrhea, fever, abdominal cramps  
*Sources:* raw and undercooked eggs, undercooked poultry and meat, fresh fruits and vegetables, and unpasteurized dairy products

**SHIGELLA**  
(shī-jē-lā)  
*Symptoms:* diarrhea, fever, stomach cramps  
*Sources:* salads, undercooked steaks, food handled by someone who is infected with the bacterium

**STAPHYLOCOCCUS AUREUS**  
(stā-fī-lō-kō-kū-s-ā-ū-rē-ū-s)  
*Symptoms:* nausea, vomiting, stomach cramps, diarrhea  
*Sources:* cooked foods high in protein like cooked ham, salami, bakery products, and dairy products that are left at room temperature for too long

**TOXOPLASMA GONDII (PARASITE)**  
(tō-kso-plāz-mā-gōn-dē-ē)  
*Symptoms:* muscle aches, pains, fever  
*Sources:* raw or undercooked meat, particularly pork, birds, or animals contact with cat feces

**VIBRIO VULNIFICUS**  
(vī-bī-ō-vū-l-nī-fī-kū-s)  
*Symptoms:* vomiting, diarrhea, and stomach pain  
*Sources:* raw or undercooked seafood, particularly shellfish

**Perfect Picnic**  
Perfect Picnic: A Food Safety Game

YME  
The Partnership for Food Safety Education

# 1) CAMPYLOBACTER

\kam-pi-lō-'bak-tər\

## SYMPTOMS

Diarrhea, fever, vomiting, stomach pain

## SOURCES

Raw and undercooked poultry and other meat



## FIGHT BAC!®

- Cook all poultry to an internal temperature of 165 °F as measured with a food thermometer
- Wash hands with warm water and soap before and after handling food and after using the bathroom, changing diapers and handling pets
- [Separate](#) raw foods from ready-to-eat foods to prevent cross-contamination

# 2) CLOSTRIDIUM BOTULINUM

\klä-'stri-dē-əm\ bä-chə-'lī-nəm\

## SYMPTOMS

Double or blurred vision, slurred speech, difficulty swallowing, dry mouth, muscle weakness

## SOURCES

Improperly prepared home-canned foods



## FIGHT BAC!®

- Persons who do home canning should follow strict hygienic procedures to reduce contamination of foods, and carefully follow instructions on safe home canning including the use of pressure canners/cookers as recommended through county extension services or from the [US Department of Agriculture](https://www.usda.gov/).

# 3) E. COLI O157:H7

\ē-'kō-,lī\

## SYMPTOMS

Vomiting, diarrhea, headaches, stomach cramps

## SOURCES

Beef, especially undercooked or raw hamburger, fresh produce, unclean water



## FIGHT BAC!®

- Avoid eating high-risk foods, especially undercooked ground beef, unpasteurized milk or juice, soft cheeses made from unpasteurized milk, or raw sprouts
- Use a food thermometer to make sure that ground beef has reached a safe internal temperature of 160 °F
- Wash hands before preparing food, after diapering infants, and after contact with cows, sheep, or goats, their food or treats, or their living environment

# 4) LISTERIA MONOCYTOGENES

\lis- 'tir-ē-ə\ mon-oh sahy-tuh [jeen]

## SYMPTOMS

Fever, muscle aches, diarrhea

## SOURCES

Unpasteurized products (including soft cheeses), sliced deli meats, hot dogs, and deli-prepared salads like egg, ham, seafood, and chicken salads



## FIGHT BAC!®

- Rinse fresh fruits and vegetables just before use.
- Firm-skinned fruits and vegetables should be rubbed by hand or scrubbed with a clean brush while rinsing under running tap water.
- Dry fresh fruits and vegetables with a clean cloth or paper towel.
- Separate uncooked meats and poultry from vegetables, cooked foods, and ready-to-eat foods.
- Cook meat and poultry to a safe internal temperature.
- Store foods safely – make sure your refrigerator is at 40 °F or below!



# 5) NOROVIRUS

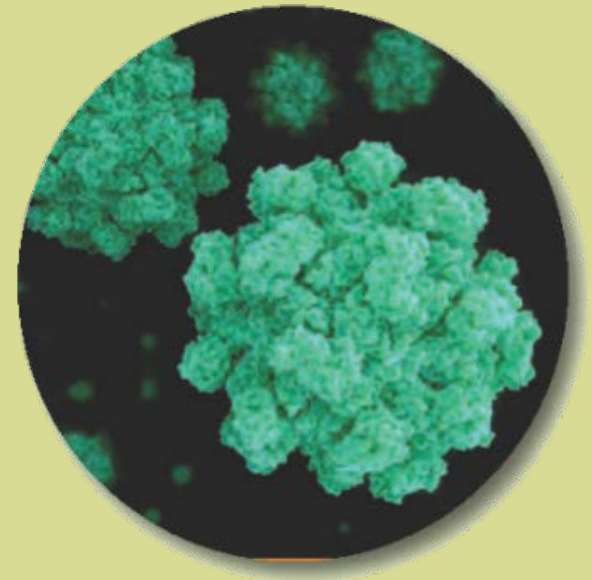
\no-rō-'vī-rəs\  
/no-roh-vi-ras/

## SYMPTOMS

Severe diarrhea, vomiting, nausea, stomach pain, fever, headache, body aches

## SOURCES

Any food contaminated by someone infected with this virus



## FIGHT BAC!®

- Wash hands with warm water and soap for at least 20 seconds before and after handling food.
- Rinse fresh fruits and vegetables under running tap water, including those with skins or rinds that are not eaten.
- When you are sick, do not prepare food for others.
- Clean and disinfect surfaces often.

# 6) SALMONELLA

\sal-mə-'nel-ə\

## SYMPTOMS

Severe diarrhea, fever, abdominal cramps

## SOURCES

Raw and undercooked eggs, undercooked poultry and meat, fresh fruits and vegetables, and unpasteurized dairy products



## FIGHT BAC!®

- Don't rinse raw poultry. It isn't a food safety step.
- Cook poultry to 165 °F as measured with a food thermometer
- Wash hands before all meal preparations – always use soap!
- Buy and consume only pasteurized milk and dairy products.
- Rinse all raw fruits and vegetables just before eating.

# 7) SHIGELLA

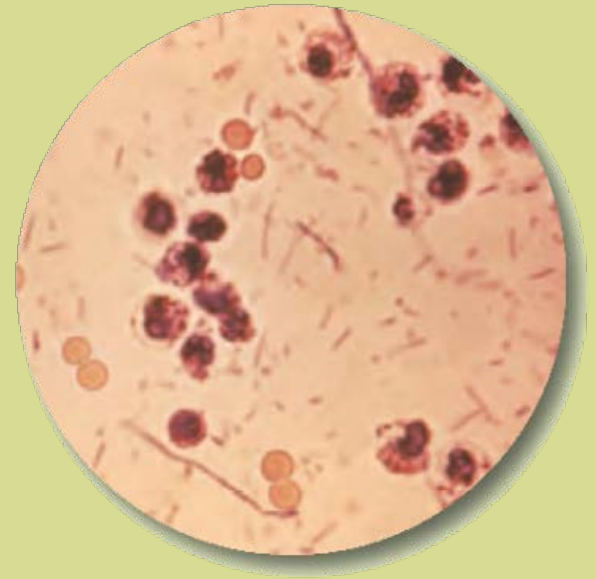
\shi- 'gel-ə\  
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## SYMPTOMS

Diarrhea, fever, stomach cramps

## SOURCES

Salads, unclean water, food handled by someone who is infected with the bacterium



## FIGHT BAC!®

- Wash hands with soap and water for 20 seconds, including after going to the bathroom, changing diapers, and always before preparing foods or beverages.
- Clean and disinfect diaper changing areas after using them.
- Do not prepare food for others while you are ill with diarrhea.
- Avoid swallowing water from ponds, lakes, or untreated pools.

# 8) STAPHYLOCOCCUS AUREUS

\staf-ə-lō-'käk-əs\ ô'rē-əs

## SYMPTOMS

Nausea, vomiting, stomach cramps, diarrhea

## SOURCES

Cooked foods high in protein like cooked ham, salads, bakery products, and dairy products that are left at room temperature for too long



## FIGHT BAC!®

- Wash hands and under fingernails vigorously with soap and water before handling and preparing food
- Do not prepare or serve food if you have a nose or eye infection, or if you have wounds or skin infections on your hands or wrists.
- Clean and sanitize kitchen and food-preparation surfaces.
- Refrigerate perishable foods and leftovers within 2 hours. Use shallow containers to store foods in the refrigerator.

# 9) TOXOPLASMA GONDII

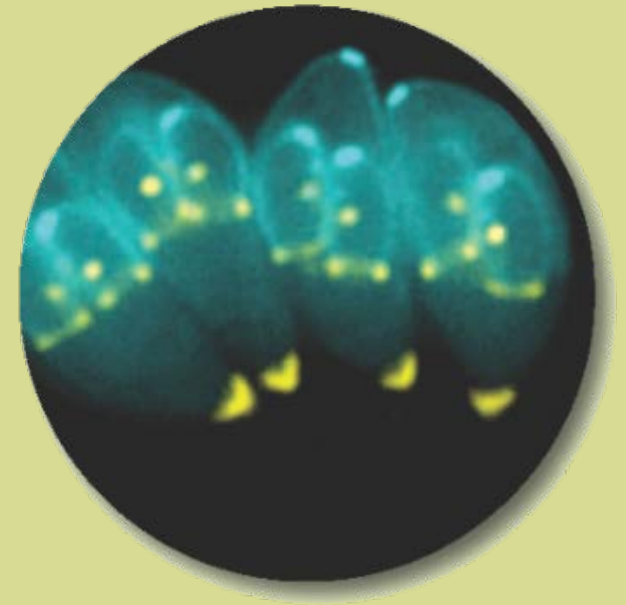
\tāk-sə-'plaz-mə\ gŏn'dē-ī'

## SYMPTOMS

Muscle aches, pains, fever

## SOURCES

Raw or undercooked meat, particularly pork, lamb, or venison; contact with cat feces



## FIGHT BAC!®

- Wash hands with soap and warm water after touching soil, sand, raw meat, cat litter, or unwashed vegetables.
- Clean all surfaces and utensils with hot water and soap, including cutting boards and knives, before and after preparing food.
- Rinse fresh fruits and vegetables under running tap water just before use.
- Separate raw meat from other foods in your grocery shopping cart, in your refrigerator, and while preparing and handling foods at home.
- [Cook meat](#) to a safe internal temperature as measured by a food thermometer.
- Don't sample meat until it's cooked to a safe internal temperature!

# 10) VIBRIO VULNIFICUS

\ 'vib-rē-ō\ vŭl-nīf'ī-kəs)

## SYMPTOMS

Vomiting, diarrhea, and stomach pain

## SOURCES

Raw or undercooked seafood, particularly shellfish

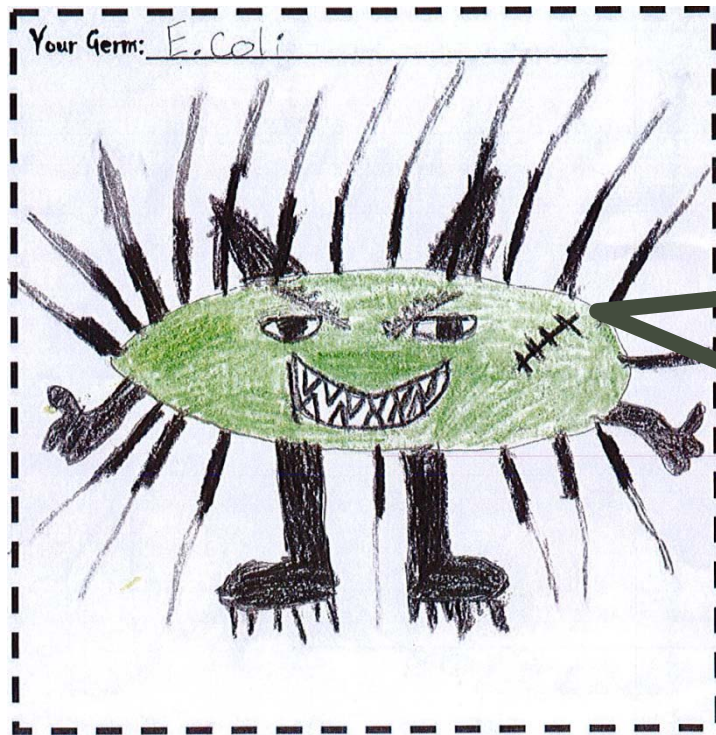


## FIGHT BAC!®

- Avoid eating raw or undercooked shellfish, especially oysters and clams.
- Cook seafood until the inside reaches a temperature, for at least 15 seconds, of 145 °F. 155 °F for fishcakes and 165 °F for stuffed fish.
- Know how to handle and [cook oysters](#) safely.
- Keep raw shellfish from touching cooked foods and surfaces used for cooking and eating.
- Keep food refrigerated at 40 °F or lower.



Visit [www.fightbac.org/monsters](http://www.fightbac.org/monsters) and [www.fightbac.org/october](http://www.fightbac.org/october) for more scary-good food safety resources!



Have kids draw a microscopic monster, then make sure they know how to fight it off!

Download the [drawing sheet](#) to get started!