**Clostridium perfringens:** A Foodborne Illness, Not the 24-Hour Flu

**What is Clostridium perfringens?**

*Clostridium perfringens* is one of the bacteria that make people sick by producing a toxin that causes illness. Many times, people confuse this foodborne illness with the “24-Hour Flu.” *Clostridium perfringens* bacteria are found in soils, the intestines of humans and animals, and sewage. Any raw food may contain spores or the active bacteria. *Clostridium perfringens* grows anaerobically, meaning it will only grow where there is little or no oxygen. Storing food at temperatures between 70 and 120 degrees F, with little or no air and high moisture, can result in the spores germinating into active bacteria that can then produce the toxin.

**What are the symptoms of Clostridium perfringens foodborne illness?**

Intense abdominal pain and diarrhea begin 8 to 22 hours after eating foods that contain these bacteria. The illness is usually over within 24 hours but less severe symptoms may last longer for some people—especially very young or older people. Dehydration can occur with this type of foodborne illness and fluids are needed to treat this symptom.

**Is Clostridium perfringens poisoning common?**

*Clostridium perfringens* foodborne illness is not as common in this country as it once was because education on how to hold cooked foods has been successful. However, there is still a public health concern because food served in quantity and left for long periods of time on a steam table or at room temperature still causes this illness. Many times, dozens of people become sick from a common food source, especially where large quantities of food are prepared for serving.

The exact number of *Clostridium perfringens* cases that occur each year is hard to determine because many people attribute their illness to a virus or flu. The local Health Department and Centers for Disease Control and Prevention (CDC) cannot record the number of cases accurately unless the ill person seeks medical care, which is unusual in mild cases. The CDC has calculated an estimate of the number of cases of *Clostridium perfringens* based on corrections for under reporting, misdiagnosis, and the number of cases that are not caused by contaminated food. The CDC estimates that there are over 965,000 cases of *Clostridium perfringens* each year in this country, and that 100% of the cases are caused by eating food contaminated with the toxin produced by the bacteria. About 438 cases will be severe enough to require hospitalization; an average of 26 deaths are possible each year.

Anyone can get a foodborne illness cause by *Clostridium perfringens*. The most common risk factors include eating undercooked or improperly cooked food, eating food that has been left out too long, or eating food prepared by individuals who are ill with foodborne illness.
factor is food that has been cooked in large volumes in an institution, like a cafeteria, school, or nursing home. Most people who get this type of foodborne illness are children or the elderly.

**Foods implicated**

In most instances, poor temperature control is the primary factor leading to this foodborne illness. Small numbers of spores may still be present after cooking your food. When food is kept between the temperatures of 70 and 140 degrees F, and oxygen and moisture levels are right, these spores may become active bacteria that grow rapidly. Growing bacteria will produce the toxin that makes people sick. Meats, meat products, and gravy are the foods most frequently associated the illness.

Fortunately, the *Clostridium perfringens* toxin can be destroyed by heat. It is important to hold prepared foods above 140 degrees F when it is served, or put the food in the refrigerator if it cannot be consumed within 2 hours. It is possible that leftover food may contain some of the toxin. It is important to reheat leftovers thoroughly so that the toxin is destroyed before the food is eaten.

**How can I control this pathogen in my home?**

1. Keep hot food above 140 degrees F.
2. Refrigerate food in shallow containers (2–3 inches deep) within 2 hours of preparation.
3. Check reheated leftovers with a food thermometer to be sure it reaches at least 165 degrees F.

**References**


For more information about food safety, visit [Foodsafety.osu.edu](http://Foodsafety.osu.edu).

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