Salmonella Outbreak Linked to Ground Beef

Posted July 25, 2023

Investigators are working to identify the source of the ground beef sick people ate in this outbreak. Any ground beef can have germs, like *Salmonella*. Always cook ground beef to an internal temperature of 160°F.

Fast Facts

- Illnesses: 16
- Hospitalizations: 6
- Deaths: 0
- States: 4
- Recall: No
- Investigation status: Active

Source of the Outbreak

All of the people who remembered the type of ground beef they ate and where they bought it reported eating 80% lean ground beef purchased from ShopRite locations in Connecticut, New Jersey, and New York before they got sick. Ground beef is the only common food people reported eating. Investigators are working to identify the source of the ground beef sick people ate.

Salmonella in Ground Beef

Ground beef is a known source of *Salmonella* illnesses. *Salmonella* germs live in the intestines of people and animals and can be spread through contaminated food, water, food preparation surfaces, and unwashed hands. *Salmonella* germs are killed when ground beef is cooked to an internal temperature of 160°F. Eating raw or undercooked ground beef can make you sick.

What You Should Do

Follow these four food safety steps to prevent getting sick from *Salmonella*.

- **Clean**:
  - Wash any bowls, utensils, and surfaces that touch raw ground beef with soap and water before using them to prepare other foods.
  - Wash your hands with soap and water for 20 seconds after preparing raw ground beef and before touching other kitchen items.
- **Separate**:
  - When shopping, separate raw ground beef from other foods in your shopping cart and grocery bags. Place packages of raw ground beef into individual plastic bags to avoid cross-contamination.
  - Keep raw ground beef separate from foods that will not be cooked.
  - Store raw ground beef in a container or sealed, leakproof bag on the lowest shelf in the fridge or freezer.
- **Cook**:
  - Use a food thermometer to make sure you have cooked meat to a temperature high enough to kill germs. Ground beef should be cooked to an internal temperature of 160°F, and leftovers should be heated to an internal temperature of 165°
  - Do not eat raw or undercooked ground beef.
- **Chill**:
  - Raw ground beef that has been refrigerated should be used or frozen within 1 or 2 days.
  - Refrigerate or freeze ground beef within 2 hours of cooking. If the food is exposed to temperatures hotter than 90°F, like a hot car or picnic, refrigerate or freeze within 1 hour.
  - Freeze any meat that will not be used within a few days. Although freezing can help keep ground beef safe until you can cook it, it does not kill existing harmful germs.
  - Thaw frozen ground beef in the refrigerator, not on the counter.
- **Call your healthcare provider right away if you have any of these severe *Salmonella* symptoms:**
  - Diarrhea and a fever higher than 102°F
  - Diarrhea for more than 3 days that is not improving
  - Bloody diarrhea
  - So much vomiting that you cannot keep liquids down

    - Signs of dehydration, such as:
        - Not peeing much
        - Dry mouth and throat
        - Feeling dizzy when standing up

Symptoms of *Salmonella*

- Most people infected with *Salmonella* experience diarrhea, fever, and stomach cramps.
    - Symptoms usually start 6 hours to 6 days after swallowing the bacteria.
    - Most people recover without treatment after 4 to 7 days.
- Some people—especially children younger than 5 years, adults 65 years and older, and people with weakened immune systems—may experience more severe illnesses that require medical treatment or hospitalization.
- For more information about *Salmonella*, see the *Salmonella* Questions and Answers page.

Investigation Details

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CDC, public health and regulatory officials in several states, and the U.S. Department of Agriculture's Food Safety and Inspection Service (USDA-FSIS) are collecting different types of data to identify the source of a multistate outbreak of *Salmonella* Saintpaul infections.

Epidemiologic Data

As of July 24, 2023, 16 people infected with the outbreak strain of *Salmonella* have been reported from 4 states (see map). Illnesses started on dates ranging from April 27, 2023, through June 16, 2023 (see timeline).

The true number of sick people in this outbreak is likely much higher than the number reported, and the outbreak may not be limited to the states with known illnesses. This is because many people recover without medical care

and are not tested for *Salmonella*. In addition, recent illnesses may not yet be reported as it usually takes 3 to 4 weeks to determine if a sick person is part of an outbreak.

Public health officials collect many different types of information from sick people, including their age, race, ethnicity, other demographics, and the foods they ate in the week before they got sick. This information provides clues to help investigators identify the source of the outbreak. The table below has information about sick people in this outbreak ("n" is the number of people with information available for each demographic).

Table of demographic information (n is the number of people with information available)

Demographics	Information
Age (n=16)	Range from 0 to 97 years Median age of 28 years 19% under 5 years
Sex (n=16)	56% Female 44% Male
Race (n=12)	100% White 0% African American/Black 0% Native American or Alaska Native 0% Asian 0% Native Hawaiian or other Pacific Islander 0% reported more than one race
Ethnicity (n=12)	100% non-Hispanic 0% Hispanic

State and local public health officials are interviewing people about the foods they ate in the week before they got sick. Of the 14 people interviewed, 9 (64%) reported eating ground beef. All 9 purchased the ground beef from ShopRite locations in Connecticut, New Jersey, and New York. Seven of these people specifically reported purchasing 80% lean ground beef products. Two people reported purchasing ground beef products from ShopRite but could not recall the type of ground beef.

Laboratory Data

Public health investigators are using the PulseNet system to identify illnesses that may be part of this outbreak. CDC PulseNet manages a national database of DNA fingerprints of bacteria that cause foodborne illnesses. DNA fingerprinting is performed on bacteria using a method called whole genome sequencing (WGS).

WGS showed that bacteria from sick people's samples are closely related genetically. This suggests that people in this outbreak may have gotten sick from the same food.

A routine FSIS ground beef surveillance sample collected in March 2023 was closely related to bacteria from sick people's samples. The investigation is ongoing to determine whether the current outbreak is related to ground beef.

WGS analysis of bacteria from 15 people's samples and one food sample did not predict resistance to any antibiotics. Standard antibiotic susceptibility testing by CDC's National Antimicrobial Resistance Monitoring System (NARMS) laboratory is currently underway.

Public Health Actions

Investigators are working to identify the source of the ground beef sick people ate. Because ground beef can have germs like *Salmonella* in it, CDC always advises you to cook ground beef to an internal temperature of 160°F before eating it.