

How to Make Sure the Ground Beef You Serve Is Safe



From burgers to burritos, ground beef is a staple served up everywhere from fast food restaurants to school cafeterias to homes around the country. But with outbreaks of foodborne illness caused by ground beef making headlines in the past few years—and with some states banning restaurants from serving rare hamburgers—many consumers are questioning the safety of the meat. What are the dangers of ground beef, and how can you know it is safe to eat?

Is ground beef more dangerous than other meats?

Bacteria are everywhere in our environment and may be present on food products at purchase—for example, the surface of cuts of

meat like chicken breasts, roasts or steaks often contain bacteria from the animals they came from, the processing equipment, or from the environment. Some of these bacteria are harmful and can cause illness when consumed, but bacteria on the surface of foods can be easily killed during cooking. However, when beef is ground, bacteria from its surface are mixed throughout the meat as it is chopped into tiny pieces. That means ground beef—and all other ground meats, like ground chicken, turkey, pork or lamb, which are processed the same way—must be cooked all the way through in order to kill the bacteria.

About 48 million people (1 in 6 Americans) get sick, 128,000 are hospitalized, and 3,000 die each year from foodborne diseases, according to estimates from the Centers for Disease Control and Prevention.

It's likely that many of these illnesses could be avoided by using safe food handling practices.

Will freezing ground beef kill the bacteria?

No. Freezing can kill some bacteria, but others can survive both refrigerator and freezer temperatures.

How can you be sure that ground beef is safe to eat?

Harmful bacteria may or may not be present in ground meat products—there is no way of knowing for sure. Proper cooking is the only reliable method of ensuring that ground meats are safe to eat. According to the U. S. Department of Agriculture's Food Safety and Inspection Service, ground beef should be cooked to an internal temperature of at least 160°F to kill bacteria. Thorough cooking is especially important if the food is going to be served to children, the elderly, or other people who may be more susceptible to foodborne illnesses.

What types of bacteria are found in ground beef?

E. coli, *E. coli O157:H7*, and *Salmonella* are illness-causing bacteria that can be found in ground beef. To keep bacteria levels low, refrigerate meat at temperatures below 40°F or freeze it.

E. coli are commonly found in the lower intestine of warm-blooded organisms.

E. coli O157:H7 is a particularly harmful strain that produces large quantities of a potent toxin that can damage the intestine.

Salmonella are found in the intestinal tracts of animals and in the environment. Ingesting food contaminated with *Salmonella* can cause food-borne illness.

Cooking Tips for Safe Ground Beef



Because ground beef can turn brown before disease-causing bacteria are killed, color is not a reliable indicator of the temperature of the meat. Use a meat thermometer to check the ground beef has reached the target temperature.

- ▶ **Cook until a thermometer inserted into the thickest part of the patty, meatloaf, or other ground beef dish reads at least 160°F.**

Reducing Risks From Ground Beef When Eating Out

- ▶ **In restaurants, send back undercooked ground beef for more cooking. Be especially careful with food that will be consumed by people who may be more susceptible to foodborne illness, for example children or the elderly.**
- ▶ **Be aware that bacteria from undercooked ground beef could have contaminated other foods on the plate -- and even the plate itself.**

Reducing Risks From Ground Beef at Home

- ▶ **Keep raw meat separate from ready-to-eat foods.**
- ▶ **Wash hands, counters, and utensils with hot soapy water after they touch raw ground beef.**
- ▶ **Wash meat thermometers between rounds of testing the temperature of ground beef being cooked.**

Why is it safer to eat a rare steak than a rare hamburger?

When a steak is seared, the bacteria on its surface are killed. Because the interior of the beef is sealed away from contact with bacteria in the air, environment, or cooking equipment, harmful bacteria should not be present in the center. That means that even though the center of the meat remains rare, it is probably safe to eat.

A hamburger, on the other hand, contains meat that has been ground. Any bacteria on the meat used to make the hamburger are mixed throughout the patty during processing. Unless the burger is cooked to at least 160°F throughout, it can still contain illness-causing bacteria.



This fact sheet is based on the National Research Council report *An Evaluation of the Food Safety Requirements of the Federal Purchase Ground Beef Program* (2010). The report was sponsored by the Agricultural Marketing Service of the United States Department of Agriculture.

The U.S. Department of Agriculture has established food safety standards for the ground beef it purchases for the National School Lunch Program, food banks, and other federal food and nutrition programs. This National Research Council report reviews the scientific basis for these standards, finding that although basing the safety specifications on scientific concepts would strengthen the purchase requirements, proper cooking is the key to ensuring that ground beef is safe to eat.

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