

# FOOD SAFETY

## Facts & Fallacies

### *An Inservice for Your Staff*

September is National Food Safety Education Month. Use these questions to test your employees' knowledge and build an in-service training program.

Looking for a staff inservice to assess your employees' grasp of food protection principles? Test their expertise by giving them the True/False questions outlined below. Can they identify what information is fact—and what is fallacy? Answers appear here, accompanied by further information on the topic.

- 1. E. coli is the number-one pathogen involved in foodborne illness in the U.S.**  
*True False*
- 2. You can prevent mad cow disease among customers by cooking beef to at least 155°F.**  
*True False*
- 3. Most food safety experts advise rinsing chicken before cooking it.**  
*True False*

- 4. Rates of foodborne illness rise in summer months.**  
*True False*
- 5. Scrubbing away the black mold you find growing on the gaskets of refrigerators can help control mold growth on foods.**  
*True False*
- 6. At least three-quarters of foodborne illness in the U.S. results from eating away from home.**  
*True False*
- 7. A foodservice employee who is restricted can handle such non-food items as placemats and ketchup bottles.**  
*True False*

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ANSWERS

1. E. coli is the number-one pathogen involved in foodborne illness in the U.S.

FALSE

The CDC estimates that foodborne illnesses can be traced as follows: 5.2 million (13 percent) due to bacteria, 2.5 million (7 percent) due to parasites, and 30.9 million (80 percent) due to viruses. Information from the CDC ranks known cases of foodborne illness (FBI), shown as follows:

Known Causes of Foodborne Illness

Pathogen	Proportion of FBI in U.S.
Norovirus	66.7 percent
Campylobacter	14.2 percent
Salmonella	9.7 percent
Clostridium perfringens	1.8 percent
Giardia	1.4 percent
E. coli (STEC)	1.3 percent
Staphylococcus	1.3 percent

This list may surprise you, and you are not alone. Health researchers in Tennessee wanted to find out how people perceive causes of foodborne illness, so they conducted a survey. They asked participants, *What are the three most common pathogens causing foodborne illness in the U.S.?*

Study participants had reason to be well informed, as they were public health practitioners, laboratory workers, and environmentalists. However, their answers were quite far off course. The vast majority (90 percent) rated Salmonella as the top FBI culprit. After that, the two most common choices were E. coli (STEC) and Staphylococcus. Other common choices, in order of popularity, were Shigella, Campylobacter, Listeria, Hepatitis A, Clostridium perfringens, and Norovirus.

How do these figures match with your own guesses? The Tennessee researchers point out that even individuals who assist with FBI investigation may not always have the bigger picture about numbers of cases. Most of us in the general public are unlikely to have that information either.

Instead, most of our perceptions of FBI rates are driven by the severity of consequences and the extent of media coverage. E. coli (STEC), even with its relatively low incidence, has caused major ground beef recalls and devastating outbreaks in recent years. Some cases of E. coli infection lead to death.

Listeria is another major pathogen with major consequences. One of every five cases is fatal. Listeriosis also can cause stillbirth among pregnant women.



What about Salmonella? This pathogen, too, has led to many highly publicized cases with serious consequences.

Another reason for misconception about cases of FBI is that some reports focus only on the bacteria. FoodNet, a government monitoring network combining the expertise of health departments from nine states with USDA, FDA, and CDC resources to track actual foodborne illness, tracks only bacteria at this time. Among bacteria, many of the pathogens we tend to list are, in fact, among the top five: Campylobacter, Salmonella, Clostridium perfringens, E. coli (STEC), and Staphylococcus. In all, bacteria receive a great deal of attention. This makes sense because of the potential consequences of illness.

2. You can prevent mad cow disease among customers by cooking beef to at least 155°F.

FALSE

Mad cow disease, more officially known as bovine spongiform encephalopathy (BSE), is not caused by a bacterium or virus, pathogens that ordinarily can be destroyed by heat. Instead, it is caused by a biological agent that has only recently been identified. The agent is called a *prion* (pronounced pree-on). It is not a full living organism, like a bacterium or virus, so it cannot be killed—even at high temperatures.

A prion is a strand of protein. It is present in animals that have BSE illness. When they are slaughtered, it is present in the meat and byproducts produced. Another animal that consumes the product can become ill with the disease. The prion-related illness causes the brain to become like a sponge, and over a very long period of time, it leads to brain degeneration and death.

The controls for BSE focus on tracking cattle herds, routine testing for BSE (conducted by the USDA), and for a foodservice manager purchasing meat from approved sources. The bottom line is that once BSE-affected meat reaches a foodservice operation, there is nothing a dietary manager can do to prevent the illness. All controls occur much earlier in the flow of food.

While this may seem frightening, the good news is that BSE is not prevalent among cattle in the U.S. A few isolated cases have been identified and addressed aggressively by USDA officials. Around the world, the human form of the disease, called Creutzfeldt-Jakob Disease (CJK), is estimated to affect one person in a million. CJK affected over 100 individuals in Great Britain before the disease and its method of transmission were fully understood in the 1980s. There has been one human case in the U.S., which occurred in a woman who had grown up in Great Britain.

**3. Most food safety experts advise rinsing chicken before cooking it.**

*FALSE*

The USDA advises against rinsing or soaking chicken before cooking it. Some people mistakenly believe this is an effective way to wash away bacteria and reduce the risk of foodborne illness. Actually, handling chicken in this way probably gives it more time in the danger zone and greater opportunity to become contaminated with pathogens. Furthermore, the raw chicken drippings pose a risk of cross contamination for other foods. Thus, the best advice is to withdraw chicken from refrigeration and prepare immediately.

**4. Rates of foodborne illness rise in summer months.**

*TRUE*

Yes, this has been a consistent trend. You can probably guess some of the reasons. In hotter weather, keeping cold food cold requires more effort. People tend to have picnics and cook-outs more often. In addition, people are more likely to be in contact with sources of contamination, such as lake water, swimming pools, petting zoos, and other outdoor recreation areas.

The onset of a warm season is a good time to double-check your procedures for handling food in transport, as well as food holding practices, especially for outdoor events. Employees' hands may have greater exposure to sources of contamination, so this is also a good time to conduct a hand-washing brush-up session.

**5. Scrubbing away the black mold you find growing on the gaskets of refrigerators can help control mold growth on foods.**

*TRUE*

This is true. The USDA advises scrubbing away this mold, as well as routinely washing the insides of refrigerators. Mold spores can build up in areas such as these, and then travel via air and land on foods. Also, keeping food covered during storage helps to prevent mold growth.

**6. At least three-quarters of foodborne illness in the U.S. results from eating away from home.**

*TRUE*

Yes, this is true, according to U.S. government statistics. Consider that food away from home may involve transport, where food may be exposed to the danger zone for prolonged periods. And it involves quantity food production, where there are typically longer production cycles and more opportunities for contamination.

**7. A foodservice employee who is restricted can handle such non-food items as placemats and ketchup bottles.**

*FALSE*

According to the 2005 FDA Food Code, a "single-use article" (one of the things a restricted employee should not handle) includes utensils and bulk food containers made to be used once and discarded, as well as wax paper, butcher paper, plastic wrap, aluminum food containers, jars, plastic tubs, bread wrappers, and ketchup bottles.

## SUMMING IT UP

Dietary managers can use these questions as a springboard for discussion on food safety principles. Challenge your staff to come up with other little-known facts relating to food protection. Your clients are sure to benefit. ■

*Sue Grossbauer, RD, is DMA's webmaster and author of the Master Track booklet, Food Safety Facts & Fallacies, from which this article was extracted.*



## Want More Food Safety Answers?

Eager to test your knowledge on other food safety-related questions? DMA has a Master Track booklet available titled *Food Safety Facts & Fallacies* which features 40 questions and answers. Completing the book and answering the accompanying questions is approved for three CE (continuing education) hours. To order or learn more, visit the DMA Marketplace section of [dmaonline.org](http://dmaonline.org).

Food safety training materials for your staff are also available from the National Restaurant Association Education Foundation. Dietary managers can download and print free training materials from the National Food Safety Education Month website at [www.nraef.org/nfsem](http://www.nraef.org/nfsem). This year's theme is "Viruses: They're in Your Hands."