



Foodborne Illness

Bacteria are a natural part of our environment and are found in air, water, in food and even in our bodies. All raw agricultural products - including meat and poultry - naturally carry bacteria. Most bacteria are harmless. Some bacteria - like acidophilus - have health benefits. *Pathogenic bacteria* however, can cause human illness.

Fortunately, government data indicate that bacteria that pathogenic bacteria on meat and poultry products have declined dramatically over last decade thanks to new food safety technologies and new inspection procedures. Likewise, foodborne illnesses most commonly associated with meat and poultry products have also declined dramatically, according to data from the Centers for Disease Control and account for fewer than 10 percent of all foodborne illnesses.

Depending upon the pathogen, some people may be more at risk for foodborne illness. These groups can include pregnant women, people over 60 years of age, young children and people who are immuno-compromised.

While advances in food safety should encourage consumers, the best way to assure that meat and poultry are safe all the way to the table is to assume that bacteria may be present and handle and prepare products accordingly. For handling information, [click here](#).

Pathogens of greatest concern to the meat and poultry industry include:

E. coli O157:H7
Listeria monocytogenes (Lm)
Salmonella
Campylobacter.

E. coli O157:H7

Generic *Escherichia coli* (*E. coli*) bacteria are an essential, but normally harmless component of the digestive tract of healthy animals and people. *E. coli* O157:H7 is a virulent strain of the family of generic bacteria that is found in cattle and deer. This pathogen is generally associated with meat, but can be found in fresh produce and dairy products. Proper cooking techniques can kill this bacterium.

Symptoms

E. coli O157:H7 infection can cause severe bloody diarrhea and abdominal cramps; sometimes the infection causes non-bloody diarrhea or no symptoms.

Usually little or no fever is present, and the illness resolves in 5 to 10 days. In some instances, *E. coli* O157:H7 infections can cause a very serious illness called hemolytic uremic syndrome, which can cause kidney failure.

Lm

Listeria is an environmental bacteria that can live in soil, water and most environments like refrigerators. Most people are routinely exposed to *Listeria* with no health consequences. But one strain of *Listeria* - *Listeria monocytogenes (Lm)*— is a virulent strain and can lead to the very serious disease, listeriosis, particularly among at-risk populations; populations include the elderly, pregnant women, neo-nates/infants and immuno-compromised individuals. While cooking processed meat and poultry products destroy *Lm*, on rare occasions, products can become re-contaminated, when packaged, handled or distributed.

Lm can be found in unprocessed foods like raw milk, meat, poultry, fish and fruits and vegetables. The pasteurization and cooking of these products destroys it. *Lm* can also be found in some processed foods like cheese, ice cream and processed meats. *Listeria* often lives in the cold, moist environment found in refrigerators. Even if a *Listeria*-free product is placed in a refrigerator, if it is improperly stored, it can become contaminated. In fact, protein products are an excellent medium or “food” for bacterial growth.

Listeriosis is the infection that develops from *Lm*.

Symptoms

Can include fever, muscle aches and sometimes-gastrointestinal symptoms. If infection spreads to the nervous system, symptoms may progress to include severe headache, stiff neck, confusion, and loss of balance or convulsions.

Healthy adults and children can become infected, but rarely become seriously ill.

Salmonella

Salmonella live in the intestinal tracts of humans and other animals, including birds. *Salmonella* are usually transmitted to humans by eating foods contaminated with animal feces. There are many different kinds of *Salmonella* bacteria. *Salmonella* serotype Typhimurium and *Salmonella* serotype Enteritidis are the most common in the United States.

Samonella is most often associated with poultry and eggs, but can contaminate foods such as beef, eggs and vegetables. Thorough cooking methods kill *Salmonella*.

Salmonellosis is the infection that develops from *Salmonella*.

Symptoms

Can include diarrhea, fever, and abdominal cramps 12 to 72 hours after infection. The illness usually lasts 4 to 7 days, and most persons recover without treatment. However, at-risk groups, which include elderly (over 60), children and immuno-compromised individuals, can develop more severe symptoms.

Campylobacter

These bacteria live in the intestines of healthy birds, and are most commonly associated with raw poultry. Eating undercooked chicken, or other food that has been contaminated with juices from raw chicken is the most frequent source of this infection. This bacterium cannot tolerate drying and can be killed by oxygen. Freezing reduces the number of *Campylobacter* bacteria present.

Campylobacteriosis is an **infectious** disease- it can be passed to others.

Symptoms

Can include diarrhea, cramping, abdominal pain, and fever within 2 to 5 days after exposure; some infected persons have no symptoms. Symptoms can also be accompanied by nausea and vomiting. The illness typically lasts one week.

The incidence of pathogens has decreased significantly in recent years due to advances in technology, research and consumer education. Proper cooking and handling techniques are important in reducing the risk of foodborne illness.

Note: If you believe that you or a family member (particularly those in an at-risk group) has a foodborne illness, please visit your doctor as soon as possible.

For more information on food borne illness, visit the Centers for Disease Control Web site at www.cdc.gov or contact CDC at (800) 311-3435.