

What is Food Poisoning?

Listen to the news these days and, more often than we'd care to hear, some food product is being recalled by the manufacturer due to the possibility of contamination by bacteria. Contaminated food is the cause of food poisoning and the most frequent bacterial contaminants are *E. coli*, the abbreviation for the full scientific name *Escherichia coli*, and *Salmonella*. The bacteria name of *Salmonella* is the straight line behind old jokes about eating at Sam and Ella's café.

Food poisoning is a serious illness, especially for children and the elderly. While mild food poisoning caused by ingesting just a small amount of bacteria results in an upset stomach and a bit of diarrhea, a severe case of food poisoning also includes abdominal cramps and vomiting. Once the bacteria multiply in a person's body, the individual gets sicker and prolonged vomiting and diarrhea result in dehydration, a life-threatening condition, and the loss of critical tissue salts. Individuals usually require hospitalization, intravenous (I-V) fluids and antibiotics. Food poisoning can be fatal; the news will report the number of fatalities associated with an outbreak of food poisoning.

The bacteria that cause food poisoning naturally live with farm animals without causing any harm. The possibility of food poisoning from *Salmonella* inside eggs has risen in the past decades. Researchers have discovered that hens are transmitting the bacteria to their eggs, which did not occur as often in the past. If meat, poultry and eggs are not properly refrigerated and cooked thoroughly enough to kill existing bacteria, live bacteria enter the human body when the food is ingested.

Humans rely on certain helpful strains of *E. coli* bacteria living in the intestines to maintain a healthy digestive system. However, harmful animal strains of *E. coli* cause illness when they reach the human intestinal tract and multiply. These harmful bacteria lodge in the human intestinal wall, attaching to human cells with their special surface proteins. The capsule-shaped bacteria also secrete a poison and damage the cells to which they are attached. Bloody diarrhea results as the affected intestinal cells die.