

A Note on Food-Borne Illness

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DESCRIPTION

Food-borne illness (also known as food poisoning) is any illness caused by pathogenic bacteria, viruses, or parasites that contaminate food, as well as prions (the agents of mad cow disease) and toxins such as aflatoxins in peanuts, poisonous mushrooms, and various species of beans that have not been boiled for at least 10 minutes. Symptoms vary depending on the cause, but they commonly include vomiting, fever, and aches, as well as diarrhea. Even if infected food was eliminated from the stomach in the first bout, microbes, such as bacteria (if applicable), can pass through the stomach into the intestine and begin to multiply. Symptoms of contaminants that require an incubation period may not appear for hours to days, depending on the cause and quantity consumed. Longer incubation periods cause sufferers to not associate the symptoms with the item consumed, so they may mistake the symptoms for gastroenteritis, for example. Foodborne illness is typically caused by improper food handling, preparation, or storage. Good hygiene practices before, during, and after food preparation can reduce the likelihood of getting sick. The public health community agrees that regular hand washing is one of the most effective defenses against the spread of foodborne illness. Food safety refers to the process of monitoring food to ensure that it does not cause foodborne illness. Foodborne disease can also be caused by a wide range of toxins that have an impact on the environment. Furthermore, foodborne illness can be caused by a variety of chemicals, including pesticides, medications, and naturally toxic substances like vomitoxin, poisonous mushroom, and reef fish. Bacteria are a common cause of food poisoning. In the United Kingdom, the individual bacteria involved were reported as follows in 2000: *Campylobacter jejuni* 77.3 percent, *Salmonella* is 20.9 percent, *Escherichia coli* O157:H7 1.4 percent, and all of the others less than 0.56 percent. Bacterial infections were thought to be more common in the past because few places did not have the ability to test for nor virus and no active surveillance were

conducted for this particular agent. Toxins produced by bacterial infections are delayed because bacteria require time to multiply. In addition to disease caused by direct bacterial infection, enterotoxins are responsible for some foodborne illnesses (exotoxins targeting the intestines). Even after the microbes that produced them have been killed, enterotoxins can cause illness. The onset of symptoms varies depending on the toxin, but it can be rapid, as in the case of *Staphylococcus aureus* in the food chain which appear in one to six hours. This causes severe vomiting, which may or may not be accompanied by diarrhea (resulting in *Staphylococcal enterotoxins*), and *Staphylococcal enterotoxins* (most commonly *Staphylococcal enterotoxin A*, but also including the *Staphylococcal enterotoxin B*) are the most commonly reported the enterotoxins, though cases of poisoning are likely underreported. The state's primary role in prevention is to define strict hygiene rules and to provide public services of veterinary surveying of animal products in the food chain, from farming to the transformation industry and delivery (shops and restaurants). This regulation includes: traceability- in a final product, it must be possible to know the origin of the ingredients (originating farm, identification of the harvesting or of the animal) and where and when it was processed; the origin of the illness can thus be tracked and solved (and possibly penalized), and the final products can be removed from sale if a problem is detected; enforcement of hygiene procedures such as HACCP and the "cold chain". The Food and Drug Administration of the United States approved Phage therapy in August 2006, which involves spraying meat with viruses that infect bacteria, thereby preventing infection.

This has raised concerns because, in the food with the absence of mandatory labeling, consumers would be unaware that meat and poultry products had been sprayed. Prevention at home is primarily comprised of good food safety practices. Many types of bacterial poisoning can be avoided by cooking food thoroughly and either eating it quickly or properly refrigerating it. However, heat treatment does not destroy many toxins.

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