

**HEALTH**

**(PART 2)**

**FOOD**

**POISONING**

**( 1 TRAINING HOUR )**

**Lifetech Instructional Services  
727-433-3341**

## HEALTH (PART 2) "FOOD POISONING"

Each year more than two million Americans report illnesses that have been traced to foods that were eaten. Food poisoning occurs when a person consumes food containing harmful bacteria. The actual number of food poisoning cases is well above the number of reported cases because most people mistake the symptoms of food poisoning for intestinal flu. In fact, up to 275 million of the cases of diarrhea reported annually are directly related to foods eaten.

Symptoms of food poisoning include nausea, vomiting, and cramps lasting from a few hours to a few days. If you suspect that a child or even yourself have been poisoned from cafeteria food or other eating places, contact the local health department right away so that others might be saved from possible food poisoning. In the child care centers or home daycares follow the protocols that are set in place for such situations. Some types of food poisoning, such as botulism, are more serious, especially for elderly people and children. As many as 9,000 deaths occur annually from all types of food poisoning. In addition, many cases of food poisoning lead to chronic health disorders, such as reactive arthritis.

Pathogenic and oxygenic organisms--those that can cause disease and those that can produce toxins--are silent killers because neither the taste, odor, nor appearance of the food indicates their existence. All types of bacteria can potentially become toxigenic.

The most common cause of food poisoning is *Salmonella*. *Salmonella* bacteria are part of the natural intestinal flora of animals. They are easily transmitted to others through human food supplies, knives, table tops, cracked eggs, and the hands of food handlers. *Salmonella* thrive in livestock that has been given antibiotics. More than 50 percent of cattle, poultry, and swine are given antibiotics in their feed to make them grow faster and to prevent disease in crowded and unsanitary conditions. At least one-third of all chickens in the United States are contaminated with *Salmonella* bacteria.

Symptoms of salmonella poisoning can range from mild abdominal pain to severe diarrhea and dehydration to typhoid-like fever. Diarrhea may be the first sign of food poisoning. Outbreaks of salmonella poisoning can

also weaken the immune system and cause kidney and cardiovascular damage and arthritis.

Most salmonella poisoning is contracted from contaminated foods--primarily chicken, eggs, beef, and pork products. People who eat raw or poorly cooked meats are at greater risk for salmonella poisoning. Cooks who first handle raw hamburger and then other foods will endanger others; in addition, those cooks who lick their hands or fingers after handling raw meat put themselves at risk for salmonella poisoning. Those taking antibiotics are also at greater risk for salmonella poisoning. Even though antibiotics can effectively treat bacterial infections, they can also promote infection by destroying good, competing bacteria and permitting the growth of bacteria that are antibiotic resistant.

In 1985 an outbreak of salmonella poisoning from contaminated milk occurred in five mid-western states. As a result, 17,000 people became ill and some died, including some children. Until recently eggs were thought to be free of *Salmonella* bacteria; however, there has been a dramatic increase in the number of reported cases of food poisoning from foods containing raw or only partly cooked eggs, particularly in the Northeast. Foods such as ice cream, hollandaise sauce, eggnog, and Caesar salad dressing are not cooked well enough to kill *Salmonella* bacteria. Certain strains of bacteria will not be destroyed in eggs that are poached or in eggs made over easy or sunny side up, in addition to other ways.

In addition to eggs, salmonella poisoning has been reported with raw clams, oysters, and sushi. Although this type of poisoning does not occur as often, it does exist. Sushi (raw fish) has been contaminated with a worm-like parasite called anisakis. This parasite appears as a tightly coiled, clear worm, about one-half to three quarters of an inch in length. It commonly embeds itself in herring and other fish.

Next to *Salmonella*, *Staphylococcus aureus* is the second most frequent cause of food-borne illnesses. Because this microorganism is commonly found in the nose and throat, sneezing and coughing on food can contaminate it. Before you eat from a salad bar, make sure that it is protected and clean. *Staphylococcus aureus* are responsible for approximately 25 percent of all food-borne illnesses. Symptoms of food contamination by this bacterium include diarrhea, nausea and vomiting within two to six hours after eating. These responses occur because the

body is trying to rid itself of the toxins produced in the presence of this bacterium. For this reason it may be wise to induce vomiting. If the symptoms are severe or prolonged, seek professional help.

Food kept at room temperature is the most likely to encourage the growth of bacteria. One of the problems with eating in some restaurants and food service companies that provide to schools is that they often prepare large servings of turkey, chicken, beef, and many other foods that have been left out at room temperature. Bacteria called *Clostridium botulinum*, sometimes referred to as the “cafeteria germ,” and *Salmonella* often breed in food that has not been kept cold or hot.

The bacterium *Clostridium* commonly inhabits the soil in the form of harmless spores. It is easily destroyed when frozen or heated properly. Of the various types of food poisoning, botulism is the most severe and affects the central nervous system. In botulism, toxins produced by the organism block the transmission of impulses from the nerve to the muscles. Those suffering from botulism may feel extremely weak and have double vision, droopy eyelids, and trouble typically appear twelve to forty-eight hours after ingestion. Paralysis and death may result in severe cases.

Even though the Centers for Disease Control reported only thirty cases of botulism back in 1982, following the data up to date has seen 263 reported cases from 1990 to 2000 and over 2000 to the present over 400 cases. Usually about 110 cases of botulism occur in the U.S. per year. The CDC reports that 65 percent of botulism cases occur in infants or children younger than one year of age.

Heating foods to 176 degrees for twenty minutes or 194 degrees for ten minutes will also help to destroy the spores. Canned foods, especially those canned at home, may become contaminated with this potentially lethal organism. Beware of bulging cans, cracked jars, or loose lids on products. These can indicate botulism. In addition, beware of rusty cans and check home canning as well. This toxin has been found in asparagus, beets, corn, stuffed eggplant, smoked and salted fish, green beans, ham, lobster, luncheon meats, mushrooms, peppers, sausage, soups, spinach and tuna. Occasionally botulism can occur even though the food containers show no signs of damage.

A microorganism called *Complobacter jejuni* has recently been

implicated in human illness, although it has been known to cause illness in cattle for some time. Thirty-one cases of this illness have been reported, although officials believe that the actual number of cases is much higher because many people mistake it for a stomach virus. People tend not to associate their illness with food because it takes three to five days for these bacteria to produce abdominal cramps, diarrhea, and possibly blood in the stool. Because *Comprobacter jejuni* are present in the intestinal tracts of healthy cattle, turkeys, chickens, and sheep, they are spread to all parts of the meat during the slaughtering process. Fortunately, heat destroys the bacteria. Hamburger and all other meats should be cooked at least until they turn brown. Rare meat that is even a little pink in color may still carry the bacteria. To insure that the bacteria have been destroyed, it is best to cook the meat until it is well done.

Four other types of food poisoning include *staphylococcal*, *campylobacteriosis*, *perfringens*, and *giardiasis*.

*Staphylococcus* produce a toxin that often contaminates meat, poultry, egg products, tuna, potato and macaroni salads, and cream-filled pastries. Symptoms such as diarrhea, nausea, vomiting, abdominal cramps, and prostration will occur thirty minutes to eight hours after eating.

*Campylobacteria*, which are found in poultry, cattle, and sheep, can cause similar symptoms within two to five days after eating. Those suffering from this type of food poisoning commonly have abdominal cramps, diarrhea, and fever, often they have blood in the stool as well. These symptoms may last up to ten days.

*Perfringens* are bacteria that survive heat and multiply when meat and meat products cool and when they are stored. This type of food poisoning can be very serious in elderly victims and younger children. Common symptoms are mild nausea and vomiting that usually lasts the day or less.

*Giardiasis* is associated with consumption of contaminated water. It can also be transmitted to raw foods that have grown in contaminated water. Cool, moist environments are conducive to the growth of this type of microorganism. Symptoms generally occur within one to three weeks and include diarrhea, constipation, abdominal pain, flatulence, loss of appetite, nausea and vomiting.

## Tips for Preventing Food Poisoning

Here are some fast, easy rules to help prevent food poisoning at school and even at home.

- = Keep food either hot or cold. Food left at room temperature encourage rapid bacteria growth.
- = Keep perishable products refrigerated.
- = Refrigerate leftovers as soon as possible.
- = Cook meat, poultry, and seafood thoroughly. Meats should be cooked at a temperature of at least 165 degrees.
- = Wash your hands before handling food. Harmful bacteria are transmitted after diapering a baby or blowing your nose.
- = Keep two cutting boards: one for cutting meat and the other for vegetables. This will prevent the transfer of bacteria from meat to vegetables. Wash your cutting boards with a bleach-water solution at least three times a week.
- = Don't let food sit in the heat when coming back from shopping.
- = Clean any utensil that has come in contact with raw hamburger, poultry, or seafood. Utensils that have been used with raw meats should not be used to mix other foods until they have been disinfected. These measures will prevent the spread of harmful bacteria.
- = Wash out lunch boxes and thermoses after every use.
- = Throw away cans having loose lids and those that are bulging, rusted, bent, or sticky. Beware of cracks in jars and leaks in paper packaging.
- = Reheat food thoroughly and bring to a rapid boil, if possible.
- = Set refrigerator temperature at 40 degrees or below. Freezers should be set at 0 degrees or below.

- = Wash kitchen towels and sponges with a bleach-water solution daily.
- = Picnic foods, such as mayonnaise, salad dressings, and milk products, can be trouble if they are left in the sun or at room temperature.
- = Avoid creamed foods, foods containing mayonnaise and soups that are not kept at near boiling temperatures at salad bars. Do not eat at salad bars that do not look fresh and clean or have a protective glass.
- = Giving honey to a newborn can produce a toxin inside the infant's immature intestine and can lead to infant botulism. Honey is safe for babies after age one.
- = Mold commonly grow on spoiled food products. The following foods should be avoided if mold is growing on them: bacon, bread, cured luncheon meats, soft dairy products, flour, canned ham, hot dogs, dried nuts, peanut butter, roast poultry, soft vegetables, and whole grains. Also avoid any other cooked or raw foods covered with mold.
- = Thaw all foods, especially meats and poultry, in the refrigerator.
- = Do not stuff a chicken or turkey with dressing until you are ready to put it in the oven. The dressing can contaminate the poultry. Cook and/or store the dressing separately, and then place it in the poultry immediately before putting it in the oven.

Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS:** Read each of the following questions carefully and **CIRCLE** your best answer.

**1. Which of the following bacteria is most common in food poisoning?**

- A. staphylococcus aureus
- B. complobacter jejuni
- C. salmonella
- D. perfringens

**2. Botulism is a type of food poisoning and has serious health effects, especially in?**

- A. elderly and adults
- B. adults and children
- C. children and elderly
- D. all of the above

**3. Salmonella bacteria is caused by foods containing raw or only partly cooked foods such as eggs, meat, and sushi?**

True or False

**4. Which type of parasite is tightly coiled, clear worm and about one-half to three quarters inch long?**

- A. aureus
- B. anisakis
- C. salmonella
- D. botulism

**5. Clostridium commonly inhabits the salt water in the form of harmless spores?**

True or False

**6. Which is the most common type of food poisoning that has the most severe and affects the central nervous system?**

- A. staphylococcus aureus
- B. salmonella
- C. complobacter jujuni
- D. botulism

7. The spores in Clostridium and other bacteria's can be destroyed by heating foods to 176 degrees for 10 minutes?

True or False

8. The people that suffer from Botulism after ingestion, usually start seeing the symptoms in?

- A. one to three hours
- B. twelve to forty-eight hours
- C. three to four days
- D. none of the above

9. Salmonella bacteria can be easily transmitted to others through knives, table tops, cracked eggs and the hands of food handlers?

True or False

10. Food that is kept at room temperature can most likely encourage the growth of bacteria?

True or False

11. Other types of food poisoning can include?

- A. perfringens
- B. giardiasis
- C. campylobacteria
- D. all of the above

12. When watching a newborn or a infant less than one year of age, is it safe to give them honey?

True or False

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**FILL OUT YOUR INFORMATION BELOW AND SEND YOUR COMPLETED TEST TO THE ADDRESS BELOW.**

**INCLUDE YOUR CHECK or MONEY ORDER for \$ 5.00 (PER TEST)**

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**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**School Name:** \_\_\_\_\_

**MAIL TO:**

**Lifetech Instructional Services**

**1423 Wisconsin Avenue**

**Palm Harbor, FL. 34683**