Frequently Asked Questions:

1. Define food poisoning?

Ans: Food poisoning, also called food-borne illness, caused by eating contaminated food. Infectious organisms including various bacteria, viruses and parasites or their toxins are the most common causes of food poisoning.

2. Mention the common symptoms of food poisoning?

Ans: Food poisoning symptoms often include nausea, vomiting or diarrhea, which can start just hours after eating contaminated food. Most often, food poisoning is mild and resolves without treatment. But some cases are severe, requiring hospitalization.

3. Name the general types of food poisoning.

Ans: Food Poisoning is of two types

- Food Intoxication is caused by eating food that contains a toxin or poison due to bacterial growth in the food. The bacteria that produced and excreted the toxic waste products into the food may be killed, but the toxin they produced remains on the food causing the illness or digestive upset to occur.
- Toxin-mediated Infection is caused by consuming food contaminated by organisms that produce toxins only after they have been ingested into the body.

4. Differentiate between food poisoning and food infection.

Ans: Food Poisoning is a general term used to describe illness caused by all types of food-borne microorganisms. Food poisoning and food infection are different, although the symptoms are

similar.

Food Infection is caused by eating foods containing certain types of live bacteria. Once the contaminated food is consumed, the bacteria themselves continue to grow, usually in the intestine and illness can result.

5. Mention the high risk foods which are more vulnerable for food poisoning.

Ans: They are high risk foods which are more vulnerable for food poisoning includes:

- a) Meat, especially undercooked mince and rolled, formed or tenderised meats
- b) Raw or undercooked poultry such as chicken, duck and turkey
- c) Raw or lightly cooked eggs including foods made from raw egg such as unpasteurised mayonnaise
- d) Seafoods
- e) Cooked rice not kept at correct temperatures
- f) Cooked pasta not kept at correct temperatures
- g) Prepared salads such as coleslaw, pasta salads and rice salads
- h) Prepared fruit salads
- i) Unpasteurised dairy products and etc.

6. Explain the possible ways of food contamination by microorganisms.

Ans: The germs may get into the food you eat (called contamination) in different ways:

- Meat or poultry can come into contact with bacteria from the intestines of an animal that is being processed
- Water that is used during growing or shipping can contain animal or human waste
- Food improper handling or preparation in grocery stores, restaurants, or homes
- Any food prepared using cooking utensils, cutting boards, and other tools that are not fully cleaned
- Dairy products or food containing mayonnaise (such as potato salad) that have been out of the refrigerator too long
- Frozen or refrigerated foods that are not stored at the proper temperature or are not reheated properly
- Contaminated raw fish or oysters
- Raw fruits or vegetables that have not been washed well
- Packed raw vegetables or fruit juices and dairy products (look for the word "pasteurized," which means the food has been treated to prevent contamination)

- Undercooked meats or eggs
- Contaminated water from a well or stream, or city or town water that has not been treated

7. Give an account on food poisoning caused by viruses.

Ans: Viruses account for most food poisoning cases where a specific contaminant is found.

- Noroviruses (=Norwalk-like viruses, caliciviruses) are a group of viruses that cause a mild illness (often termed "stomach flu") with nausea, vomiting, diarrhea, abdominal pain, headache, and low-grade fever. These symptoms usually resolve in two to three days. It is the most common viral cause of adult food poisoning and is transmitted from water, shellfish, and vegetables contaminated by feces, as well as from person to person. Outbreaks are more common in densely populated areas such as nursing homes, schools, and cruise ships (hence the viral infection is also known as the "Cruise Ship Illness").
- **Rotavirus:** Causes moderate to severe illness with vomiting followed by watery diarrhea and fever. It is the most common cause of food poisoning in infants and children and is transmitted from person to person by fecal contamination of food and shared play areas.
- Hepatitis A: Causes moderate illness with sudden onset of fever, loss of appetite, abdominal pain, and feeling of tiredness followed by jaundice, which is a yellowing of the eyes and skin. Symptoms usually last less than two months, but can be prolonged or relapse for up to six months. It is transmitted from person to person by fecal contamination of food.

8. Briefly discuss the role of *salmonella* in food poisoning.

Ans: Salmonellae are bacteria that may cause food poisoning; the illness itself is often referred to as *Salmonella* or *Salmonella* infection. The Center for Disease Control estimates that each year 1 million people are infected with *Salmonella*, amounting to

\$365 million in direct medical costs annually. Salmonellae cause a moderate illness with nausea, vomiting, crampy diarrhea, and headache, which may come back a few weeks later as arthritis (joint pains). In people with impaired immune systems (such as people with kidney disease, HIV/AIDS, or those receiving chemotherapy for cancer), Salmonellae can cause a life-threatening illness. The illness is transmitted by undercooked foods such as eggs, poultry, dairy products, and seafood.

9. Write an account on *Toxoplasma* associated with food poisoning?

Ans: The Center for Disease Control estimates that more than 60 million people in the U.S. carry the *Toxoplasma* parasite, but few have symptoms because the immune system keeps the parasite from causing illness. When it does cause disease, symptoms include headache, blurred vision, and eye pain. It is transmitted by eating undercooked or raw meat, contaminated water, or contact with contaminated cat feces. Pregnant women and those with compromised immune systems infected with *Toxoplasma* can have severe health complications.

10. Give an account on mycotoxins in food poisoning.

Ans : Mycotoxins causing food poisoning brought the attention of the scientists in the early 1960s. *Aspergillus* was first described almost 300 years ago and is an important genus in foods. Most *Aspergillus* species occur in foods as spoilage or in biodeterioration. They are extremely common in stored commodities such as grains, nuts and spices. Almost 50 species of *Aspergillus* have been identified as capable of producing toxic metabolites. Chief toxins produced by *Aspergillus* sp., are the aflatoxins, (*A. flavus, A. parasiticus, A. nomius*), Ochratoxin A (*A. ochraceus*), Sterigmatocystin (*A. versicolor*), Cyclopiazonic acid (*A. flavus, A. tamari*), Citrinin, Patulin and Penicillic acids. Other mycotoxins involved are the toxins produced by the fungus *Fusarium, Eurotium, Penicillium* etc.

11. What is ciguatera poisoning?

Ans: Ciguatera poisoning is caused by eating fish that contains toxins produced by a marine algae called *Gambierdiscus toxicus*. It can cause moderate to severe illness with numbress of the area around the mouth and lips that can spread to the arms and legs, nausea, vomiting, muscle pain and weakness, headache, dizziness, and rapid heartbeat. The toxin may cause sensory problems in which hot things feel cold and cold things feel hot. It is transmitted by eating certain large game fish from tropical waters-most specifically barracuda, grouper, snapper, and jacks. According to the CDC, ciguatera has no cure. Symptoms may disappear in days or weeks, but may persist for years.

12. Explain how food poisoning can be prevented?

Ans: Food poisoning can be avoided by

- Preventing food from being contaminated with pathogenic bacteria
- Preventing any bacteria present in the food from multiplying.
- Destroying those bacteria that are present in the food.
- Inspecting all food, and washing fruit and vegetables with water of drinking quality before preparation.
- Separating raw and high-risk, cooked and ready-to-eat foods at all stages of preparation, storage, display and distribution.
- Not using the same equipment, utensils and working surfaces to handle and prepare raw and high-risk, cooked and ready-to-eat foods.
- Keeping food covered as much as possible.
- Preventing insects, animals and birds from entering food rooms.
- Not using unsuitable, defective, or dirty equipment.
- Using good personal hygiene practices always, including hand washing, not coughing or sneezing over or around food and wearing suitable protective clothing.
- Using the correct cleaning procedures, especially the washing and sanitizing of all equipment used to prepare raw food, including benches and chopping boards.

- Promptly removing unfit or waste food and refuse from food areas.
- Keeping high-risk foods at temperatures that inhibit the growth of bacteria (i.e. out of the temperature danger zone).
- Food should be kept below 4°C in a refrigerated unit or above 70°C in a suitable warming unit.
- Ensuring that during preparation, food is not in the danger zone for even a short a time.
- High-risk foods must not be left sitting out at room temperature.
- Using suitable preservatives for commercial foods
- Using appropriate packing methods (like gas flushing or vacuum packing) for food products.
- Preventing dried foods from absorbing moisture.
- Serving food as soon as possible after preparation.
- Adequately cooking food, ensuring that a minimum internal cooking temperature of 80°C is reached.
- Using suitable processing methods such as pasteurisation, canning or sterilisation.

13. Discuss treatment methods followed for food poisoning?

Ans: Food poisoning persons usually recover from the most common types of food poisoning within a couple of days. The goal is to make feel better and make sure patients body maintains the proper amount of fluids.

- Should not eat solid foods until the diarrhea has passed, and avoid dairy products, which can worsen diarrhea (may be due to a temporary state of lactose intolerance).
- Drink any fluid (except milk or caffeinated beverages) to replace fluids lost by diarrhea and vomiting.
- Give children an electrolyte solution sold in drugstores.

If patients have diarrhea and are unable to drink fluids (for example, due to nausea or vomiting) need medical attention and fluids may be given through a vein by doctors. This is especially true for young children.

If patients take diuretics, need to manage diarrhea carefully. It should be done with consulting health care provider otherwise patient may need to stop taking the diuretic while having the diarrhea. Never stop or change medications without talking to your health care provider and getting specific instructions.

For the most common causes of food poisoning, doctor would NOT prescribe antibiotics. Do not use these medicines without talking to health care provider if patients have bloody diarrhea or a fever. Do not give these medicines to children. If patients have eaten toxins from mushrooms or shellfish, need medical attention right away, the emergency room doctor may take steps to empty stomach and remove the toxin.

14. What are possible complications associated with food poisoning if not treated?

Ans: Dehydration is the most common complication. This can occur from any of the causes of food poisoning. Less common but much more serious complications depend on the bacteria that are causing the food poisoning. These may include arthritis, bleeding problems, kidney problems, damage to the nervous system, and swelling or irritation in the tissue around the heart.

15. What is listeriosis?

Ans: Listeriosis is a moderate to severe illness with nausea and vomiting. Some affected individuals can progress to develop meningitis from *Listeria*. It is transmitted on many tips of uncooked foods such as meats, fruits, vegetables, soft cheeses, unpasteurized milk, and cold cut meats. Pregnant woman and newborns are at increased risk for serious infections. In United States of America 2011, in an outbreak caused by tainted cantaloupe, 25 people died and 123 people were infected.