

Unit 10 – Food safety and hygiene

Definitions

Allergy: a medical condition that causes someone to become sick after eating or touching something that is harmless to most people.

Anaphylaxis: a serious allergic reaction that can cause death.

Bacteria: a group of very small living things that cause disease.

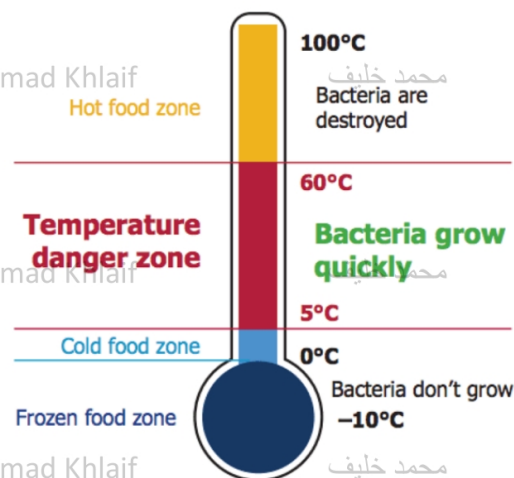
Contaminated: when something becomes dangerous because a harmful or unwanted substance gets into it, like bacteria.

Foodborne: when something is carried through food, such as a disease.

Foodborne illness

Foodborne illnesses, also known as food poisoning, are caused by eating food that are contaminated with disease-causing microorganisms.

- ❖ The most common disease-causing microorganisms found in food are bacteria, but can also include viruses, fungi, parasites, or chemicals.
- ❖ Food can become contaminated at any point during growth, harvesting, slaughter, processing, transport, storage, or preparation. Harmful bacteria may already be in foods when you buy them. Raw foods may be contaminated with bacteria that cause foodborne illness.
- ❖ The signs and symptoms of foodborne illnesses are different depending on the cause and type of infection. They may include nausea, vomiting, abdominal cramps and diarrhoea.
- ❖ Most foodborne illnesses happen suddenly and last a short time. Most people recover on their own without treatment. Occasionally, foodborne illnesses may lead to more serious complications.
- ❖ **Bacteria** grow by multiplying and they can do this very quickly. They need certain conditions to grow. These include:
 - Time: bacteria double every 15 minutes.
 - Warmth: bacteria need warmth to multiply. The ideal temperature is 37°C.
 - Food: bacteria need nutrients to grow.
 - Water: bacteria need moisture to grow.



- 1) Which of the following is False about foodborne illness?
 - a) Can be caused by bacteria, viruses, parasites and other harmful substances
 - b) Can lead to abdominal pain, vomiting and diarrhea
 - c) Most are serious and long-standing
 - d) Food can be already contaminated when you buy it
- 2) Which of the following reduce Bacterial growth?
 - a) Food
 - b) Freezing
 - c) Water
 - d) Room temperature

- ❖ Some foods are more likely to make you sick than others. This is because these foods are more at risk of bacterial growth, especially if they are not cooked to a safe temperature, or stored or handled properly.
- ❖ Most foodborne illnesses develop quickly. However, some can take days to develop, so it can be difficult to find the exact cause of the illness.

❖ High-risk foods:

- **Poultry:** raw and undercooked poultry can be dangerous and make people sick by small amounts of bacteria
- **Eggs:** even when contaminated, the eggs will still look and smell normal.
- **Fish:** fish can become contaminated through sewage in the water where they live. Even cooking to at high temperatures cannot kill some of the toxins found in seafood.
- **Rice:** cooked and uncooked rice
- **Vegetables:** especially when eaten raw.

3) Which of the following is False about handling high-risk food?

- Cook properly to a safe temperature
- Wash vegetables before eating them
- Wash and sanitize anything that raw poultry has touched
- Wash raw chicken in the kitchen before cooking

Cross-contamination

Cross-contamination can occur when particles of an allergy-containing food accidentally land on another food that is normally safe to eat.

- ❖ Your food travels a long distance from its origin until it gets to your plate, and can be handled by many different people >> there are many points where food can become contaminated.

❖ Types of cross-contamination:

- **Food to food:** Raw, undercooked or unclean food can contain large amounts of bacteria that may spread from contaminated food to non-contaminated food.
- **Equipment to food:** This is one of the most common types of cross-contamination. Bacteria can live for a long time on surfaces like countertops, cutting boards, utensils, storage containers and factory equipment >> it is very important to wash all surfaces and equipment properly using soap and hot water.
- **People to food:** humans to transfer bacteria from their bodies or clothes to food during many steps of food preparation. This includes using dirty tea towels.

Prevent cross-contamination	
Use the correct colour coded chopping boards and knives	
Raw meats and poultry only	
Raw fish and shellfish only	
Raw unwashed vegetables, salads and fruits only	
Ready to eat and cooked foods only	
Washed vegetables, salads and fruits only	
Bakery and dairy products only	
Food Hygiene Act 1995	

4) Bacteria can cause many foodborne diseases. Which of the following Doesn't increase the risk of cross-contaminating the food we eat?

- Proper washing of the equipment after preparing food
- A person coughs into their hand and continues to make food without washing
- Using the same cutting board and knife to cut raw meat and vegetables
- Adding unwashed, contaminated lettuce to a fresh salad.

Preventing foodborne illness

The World Health Organization has five keys that make food safer. These prevent foodborne illness and improve health.

1. Keep clean: Just because something looks clean it does not mean that it is !! Dangerous germs are widely found in soil, water, animals and people. The slightest contact can transfer germs to food and cause foodborne diseases.

How to keep food clean?

- Hand washing: before and after touching food, after going to the toilet, after touching your nose, after handling rubbish or cleaning products, after touching animals or pets.
- Cleaning plates and kitchen equipment: clean while preparing food so that bacteria have no chance to grow. Dry the equipment after cleaning because bacteria grow faster in damp places.
- Protect food from pests: Pests include cockroaches, mice, rats, flies and insects. They can pass harmful germs onto food and kitchen surfaces. Pets carry pests in their fur or their feet.

2. Separate raw and cooked food: to prevent cross-contamination. Raw food, especially meat, poultry and seafood (and their juices) contain dangerous bacteria which can move onto other foods during food preparation and storage.

How to keep raw and cooked food separate?

While shopping, keep raw meat, poultry and seafood separate from other foods.

- In the fridge, store raw meat, seafood and poultry on shelves or sections below cooked foods.
- Store food in containers with lids to stop raw and cooked foods from touching.
- Wash plates that have been in contact with raw foods, and always use a clean plate for cooked foods.

3. Cook thoroughly: Proper cooking can kill almost all dangerous bacteria. Cooking food to 70°C can ensure it is safe to eat within 30 seconds.

How to cook food properly?

- Use a thermometer if available to check that foods reach 70°C.
- Cook meat and poultry until the juices are clear and the inside is not pink.
- Cook eggs and seafood until piping hot the whole way through.
- Boil liquid-based foods like soups and stews. Allow them to remain boiling for at least one minute.

4. Keep food at safe temperatures: The danger zone is the temperature range between 5°C-60°C.

How to keep food at safe temperatures?

- Cool and store all leftover food quickly. Slice large pieces of meat into smaller pieces and place food in a clean, cool container.
- Leftover food should not be stored in the fridge for more than three days and should not be reheated more than once.
- Thaw frozen food in the fridge NOT in room temperature.
- You should not leave hot food to cool for more than two hours.

5. Use safe water and raw materials: "Safe" means that water and food are free from dangerous bacteria and chemicals that could cause illness. Do not eat food beyond its expiry date.

- 5) While dealing with food, which of the following should be avoided?
- Wash hands and sanitize all equipment used for food preparation
 - Use separate containers for cooked and raw foods
 - Leave hot food cool overnight before putting it in the fridge
 - Keep cooked food piping hot more than 60c prior to serving
- 6) Safe water and raw material should be free from bacteria and chemicals, which of the following is safe?
- Use safe water to wash rotten fruits.
 - Avoid pasteurized dairy products
 - Buy ready-to-eat cooked food stored in the 27c
 - Use safe water to make ice
- 7) Which of the following increase the risk of pests contacting the food?
- Food should be covered or in closed containers
 - Store food in the pets area
 - Food preparation area should be free of cracks and holes
 - Rubbish bins should be covered and emptied regularly

Food allergy and intolerances

- ❖ **Food allergy** is when the body's immune system responds unusually to certain foods. It might handle harmless substances in the food you eat and see them as a threat. This tells the body to release chemicals which cause an allergic reaction. Food allergies can be so severe that they cause a reaction called anaphylaxis. They can even be life-threatening. Allergies can develop at any stage in life.

Foods that commonly cause allergies are called allergens. Examples:

- Gluten -Peanuts -Eggs -Fish and shellfish -Milk and dairy products
- Mustard -Sesame seeds

- ❖ **Food intolerance** happens when the body cannot properly digest the food that is eaten. It can also happen when a particular food irritates the digestive system. It can be difficult to know if a person has a food intolerance as the symptoms are similar to other conditions. Reactions due to food intolerances are not life-threatening.

Common types of food intolerance are:

- Gluten -Lactose -Caffeine -Histamine in mushrooms and pickles
- Additives: artificial sweeteners, colouring or flavours

Food allergy	Food intolerance
⊙ It usually comes on suddenly. ⊙ Small amounts of food can trigger a reaction. ⊙ A reaction happens every time the food is eaten. ⊙ It can be life-threatening.	⊙ It usually comes on gradually. ⊙ A reaction may only happen when a lot of the food is eaten. ⊙ A reaction may only happen if the food is eaten often. ⊙ It is not life-threatening.

- ❖ Signs and symptoms of food allergy and intolerance are similar, but can range from mild to severe depending on the person. If a person suffers a mild reaction on one occasion, it does not mean that their reaction will be mild the next time.



Symptoms of both

- ⊙ Nausea
- ⊙ Abdominal pain
- ⊙ Diarrhoea
- ⊙ Vomiting

Symptoms of allergic reactions	Symptoms of food intolerance
⊙ Rashes or hives ⊙ Itchy mouth ⊙ Swelling of face, tongue and lips ⊙ Trouble breathing	⊙ Gas ⊙ Stomach cramps/bloating ⊙ Heartburn ⊙ Headaches

- ❖ Anaphylaxis is a severe life-threatening reaction. Symptoms of anaphylaxis include: Difficulty breathing, Rapid heart rate, Rash, Nausea. Give adrenaline.
- ❖ Food intolerances can be hard to diagnose. This is because the symptoms that people experience are similar to those of many other conditions, such as irritable bowel syndrome and irritable bowel disease.
- ❖ The best way to diagnose food intolerance is to monitor symptoms alongside the foods that are eaten. Removing suspected foods from the diet and seeing if any changes are noticed is a good method.
- 8) Which of the following is False about food intolerance?
- Causes anaphylaxis
 - Can cause nausea and vomiting
 - May be hard to diagnose
 - Usually comes gradually
- 9) The inability of the body to digest certain food leading to symptoms of bloating and diarrhea is called:
- Food allergy
 - Food tolerance
 - Food intolerance
 - Food inacceptance