Food Poisoning - Part 1

OBJECTIVES: TO RECOGNISE THE SERIOUSNESS OF FOOD POISONING.TO EXPLAIN THE CONDITIONS NECESSARY FOR BACTERIAL MULTIPLICATION.TO IDENTIFY HIGH RISK FOODS. TO DETERMINE WAYS TO REDUCE THE RISK OF BACTERIAL MULTIPLICATION. TO DESCRIBE CROSS-CONTAMINATION AND IDENTIFY HOW THIS CAN BE AVOIDED. TO REVIEW THE FACTORS AFFECTING FOOD POISONING.

- **WHAT IS FOOD POISONING?**
- **WHO IS THE MOST AT RISK?**
- **WHAT ARE THE DIFFERENT TYPES AND CAUSES OF FOOD POISONING?**
- **HOW DO FOOD POISONING BACTERIA GET INTO FOOD?**

There are thousands of cases of food poisoning each year, many of which are not reported or recorded in official statistics. Food poisoning may result from poor food processing.

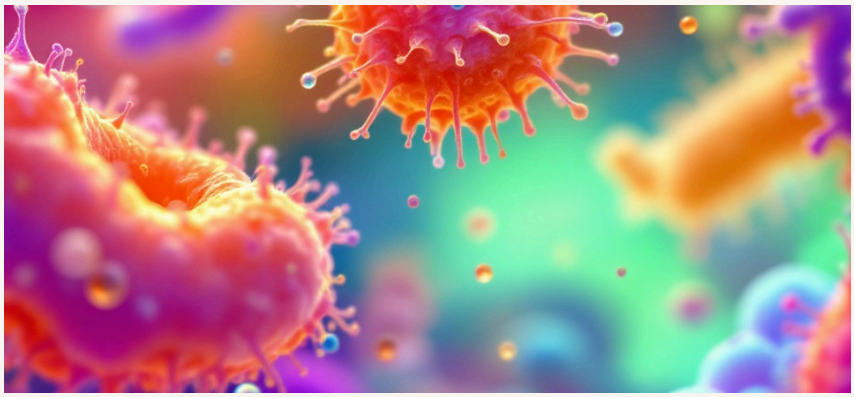
The symptoms of food poisoning include: Nausea; Vomiting; Stomach pains; Diarrhoea. The very old, the very young, or people who are already ill, are particularly at risk.

Micro-organisms occur naturally in the environment, on cereals, vegetables, fruit, animals, people, water, soil and in the air.

Most bacteria are harmless, and some are needed for medicine and food production, but a small number can cause illness.

Food which is contaminated with food poisoning micro-organisms can look, taste and smell normal.

Changes in food, either through enzyme deterioration of food or micro-organism growth, will eventually lead to the food becoming inedible or unsafe if eaten. Contaminants may be already present in the food, e.g. campylobacter in chicken or transferred to the food by humans, flies, rodents and other pests .Bacteria can grow and multiply on all foods. This means that all food must be stored, handled and, if appropriate, cooked correctly.



However, **some foods, more than others, provide the ideal conditions needed for harmful micro-organisms to grow and are known as 'high risk foods'.** High risk foods are often high in fat and protein, such as cooked meat, cooked fish, dairy and eggs.

Cooked pasta and rice, although not high in fat and protein, are also regarded as high risk foods if they are not cooled quickly and stored below 5°C.

Food Poisoning - Part 2

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High risk foods include:
Meat, meat products and poultry;
Milk and dairy products ;
Eggs – uncooked and lightly cooked;
Shellfish and seafood;
Prepared salads and vegetables;
Cooked rice and pasta.

Bacterial growth and multiplication
All bacteria, including those that are harmful, have four requirements to survive and grow: Food; Moisture; Warmth; Time.

Moisture: The moisture which bacteria need to survive is found in many foods. Dried foods, such as powdered milk, cereals or dried egg do not support their growth if properly stored. However, **if moisture is added, any bacteria still alive in these products can quickly begin to multiply.**

Warmth: Poor temperature control is the most common cause of food poisoning problems. **Bacteria will grow rapidly in foods, particularly high risk foods, that are left within the temperature danger zone - 5-63°C.** Bacteria do not grow or grow only very slowly, at temperatures below 5°C. They do not grow at temperatures above 63°C.

The **idea behind correct temperature control is to keep food out of the danger zone** and this is quite simple:
Keep hot food hot;
Keep cold food cold;
Keep prepared food out of the danger zone.

Temperatures to remember
5-63°C – the danger zone where bacteria grow most readily.
37°C – body temperature, optimum temperature for bacterial growth.
8°C – maximum legal temperature for cold food, i.e. your fridge.
5°C – the ideal temperature your fridge should be.
-18° – the temperature your freezer should be.
70° – cooking at this temperature or above will kill most bacteria.

Food Poisoning - Part 3

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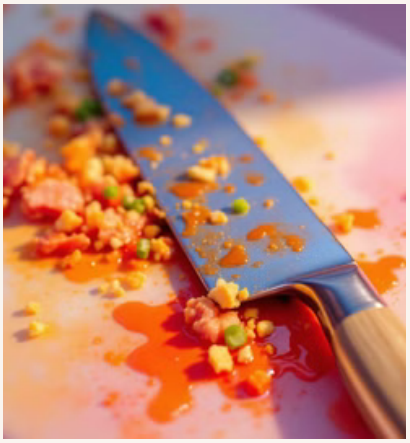
Time: When bacteria spend enough time on the right types of food at warm temperatures, they can multiply to levels that cause illness.

In order to prevent this, you should: Reduce the time bacteria have to grow by getting perishable, chilled and frozen foods home and properly stored as quickly as you can; Keep chilled food in the fridge until just before you need to prepare or serve it.

Preventing Bacterial Multiplication

If you take away any one of the four requirements that bacteria need to survive, the ability of bacteria to grow and cause food poisoning is reduced. It is therefore important to:

- Store, prepare and cook high risk foods carefully;
- Store food either hot (above 63°C) or cold (below 5°C), never warm;
- Reduce the time food is in the danger zone;
- Cook food for the correct time at the right temperature – make sure it is piping hot and no pink remains in poultry.



Cross Contamination

The process by which bacteria are transferred from one area to another is known as cross-contamination. The main carriers of bacteria and causes of cross contamination are: Humans; Rubbish; Pets and other animals; Food, e.g. raw meat or poultry.

Factors affecting food poisoning

A number of factors can lead to food poisoning so take care when storing, preparing, cooking and serving your food. Therefore avoid:

- Preparation of food too far in advance;
- Storage at ambient temperature – keep food really hot or really cold;
- Inadequate cooling – cool quickly and then store in the fridge if not being eaten straight away;
- Inadequate reheating – make sure food is steaming hot and reheat only once;
- Under cooking – make sure any bacteria present is killed.
- Inadequate thawing. – the heat of the oven is used to melt the ice rather than kill any bacteria;
- Consuming raw food – it may be contaminated;
- improper warm holding (i.e. holding 'hot' food below 63°C);
- Infected food handlers – do not cook if you are suffering from food poisoning; Poor personal hygiene – always wash your hands thoroughly.
- Contaminated processed food.