

*Food Safety Workshop For
Food Handlers in Government
Secondary Schools*



**FOOD BORNE
DISEASES**

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FOOD BORNE DISEASES



Are diseases brought about by eating harmful/contaminated food.

Symptoms: diarrhea, abdominal pains
 nausea and vomiting; possibly
 mild fever and chilling.

Food borne diseases are also known as food poisoning.

FOOD BORNE DISEASES

- ★ **May manifest themselves in a mild form or as a serious conditions that can lead to death;**
- ★ **Of great economic importance, not only because of the expenses involving treatment at home/hospital , but, as a very common cause of absence from work.**

FOOD BORNE DISEASES

How sick you will become depends on:

- ❖ **Type of bacteria, amount of bacteria or toxin ingested.**
- ❖ **Age and condition of the consumer.**
- ❖ **Incubation period = time interval between eating and the onset of symptoms**

CAUSES OF FOOD BORNE DISEASES



- ❑ **Microbial intoxication /infection**
- ❑ **Naturally occurring toxins**
- ❑ **Chemicals - heavy metals, pesticides**
- ❑ **Allergic or sensitivity reactions to certain foods.**

Bacterial Food Poisoning

✓ Majority of food poisoning are caused by **bacteria**

- ✦ Multiply on food and cause spoilage.
- ✦ Releases toxins.



Naturally occurring toxins in plants

Certain plants naturally contain substances which are harmful to human being

e.g.

-alkaloids, glucosides, resins,etc

(peas, beans, cassava)

-raw & undercooked red kidney beans

Chemical Food Poisoning

- Food contaminated by chemicals due to mishandling of chemicals

Store cleaning materials away from food, they should be clearly labeled, and containers not to be used to store food.

e.g. Zinc poisoning, Antimony poisoning

- Food contaminated by chemicals during processing e.g. pesticides

COMMON FOOD POISONING BACTERIA

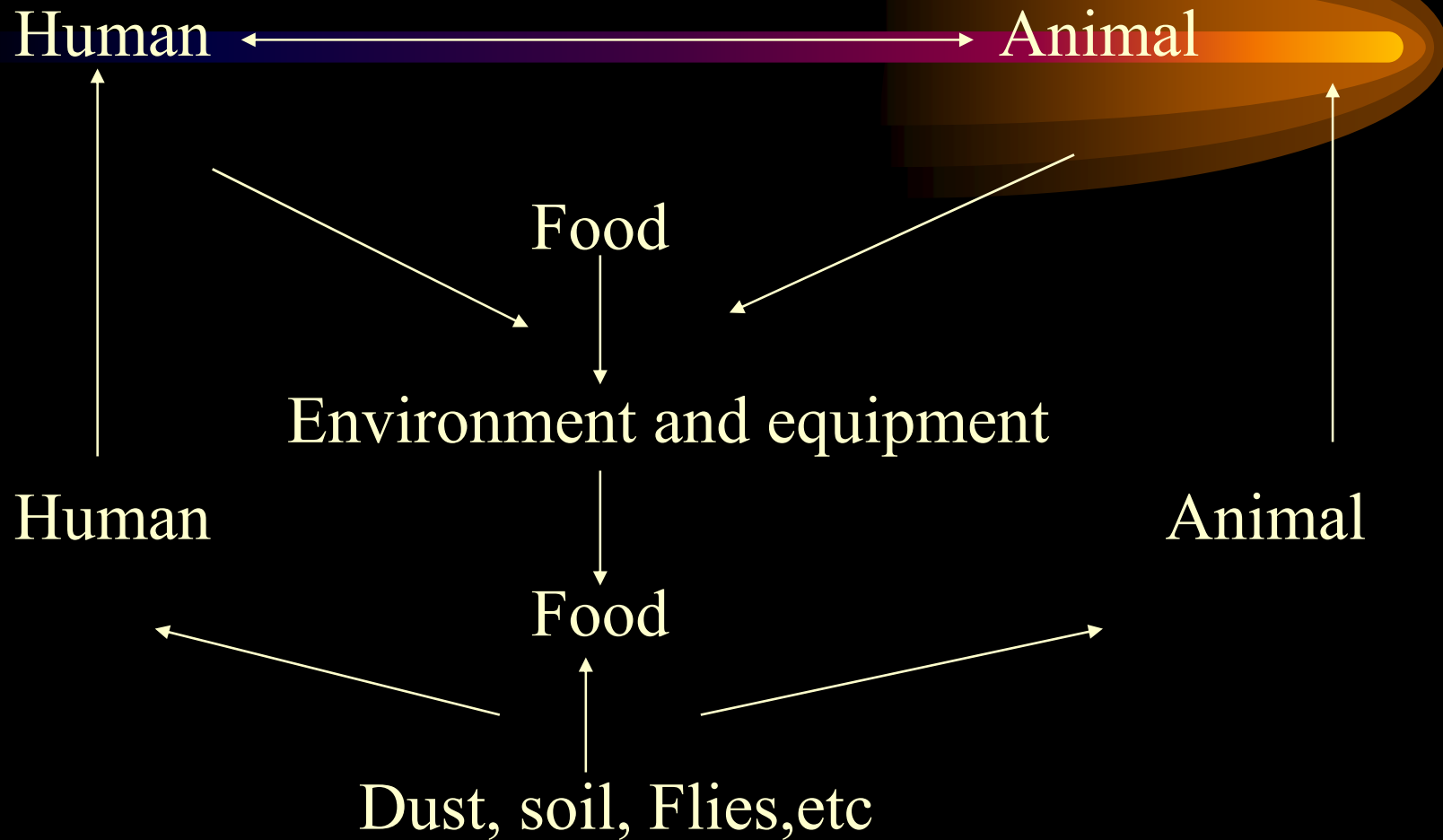
| | <i>Salmonella</i> | <i>Staphylococcus</i> |
|---------------------------------------|--|---|
| Incubation period | <i>(12-36 hours)</i> | <i>(1-7 hours)</i> |
| Means of access to the kitchen | <ul style="list-style-type: none"> •Poultry and other raw meat. •Human carriers. | <ul style="list-style-type: none"> •Humans: nose, mouth, infected wounds and sores |
| Foods usually involved | Meat and meat products | Almost any food which has been handled and not cooked or only lightly cooked afterwards, |
| Destruction | HEAT | TOXIN resistant to heat! |

COMMON FOOD POISONING BACTERIA

| | <i>C. perfringens</i> | <i>Bacillus cereus</i> |
|---------------------------------------|---|--|
| Incubation period | <i>(8-22 hours)</i> | <i>(1-5 hours)</i> |
| Means of access to the kitchen | <ul style="list-style-type: none"> • Raw meat. • Human carriers. • Unwashed vegetables | <ul style="list-style-type: none"> • Cereals, especially rice |
| Foods usually involved | <ul style="list-style-type: none"> ✓ Meat dishes e.e. stews, pies ✓ Unwashed vegetables | Rice |
| Destruction | Spores can survive several hours in boiling water | Spores can survive several hours in boiling water |

| NAME | SYMPTOMS | How soon it strikes | How soon it goes? |
|-----------------------|--|--|-------------------|
| <i>Salmonella</i> | Nausea, fever, vomiting, cramps, diarrhea | 6 hours to 2 days | 1 to 7 days |
| <i>S. aureus</i> | Nausea, vomiting cramps, rarely diarrhea | 2 to 4 hours Range: 30' to 7 hours | 12 to 24 hours |
| <i>C. perfringens</i> | Severe abdom. pain, watery diarrhea, rarely vomiting | 10 to 12 h Range: 6 to 24 hours | 24 hours |
| <i>B. cereus</i> | <ol style="list-style-type: none"> 1. Vomiting 2. diarrhea | <ol style="list-style-type: none"> 1. 1 to 6 h 2. 10 to 12 h | 12 to 24 h |

How bacteria can reach food?



PREVENTION OF FOOD BORNE DISEASES



SAFE FOOD PREPARATION

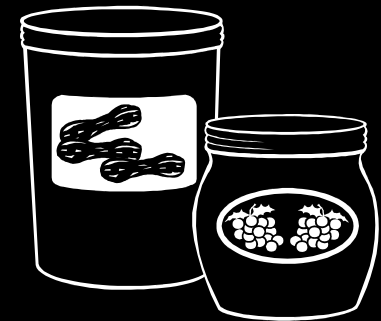
1. Proper cleaning



2. Proper cooking



3. Proper storage



CLEANING



Cleanliness of the food handler
Cleanliness of the kitchen



Important!



**In the kitchen: wash hands
repeatedly**

☺ Cleanliness of the kitchen

☞ use clean utensils, clean cloths

☞ use hot soapy water to clean cutting boards, knives and equipment after handling raw food



**keep all surfaces that
come in contact with
food absolutely clean!**

* COOKING



Cook foods thoroughly



☞ avoid ‘undercooked’ portions- especially meat and poultry should be properly thawed before cooking!

☞ avoid reheating food- in case of need, food must be reheated thoroughly in all parts!

STORAGE



🕒 **Store *perishable foods* in the refrigerator or in the freezer for longer storage.**

- ▶ Do not crowd the refrigerator or freezer – cold air should circulate!
- ▶ Do not store foods near cleaning products and chemicals!

IMPORTANT!



**KEEP FOOD AT THE
RIGHT TEMPERATURE.**

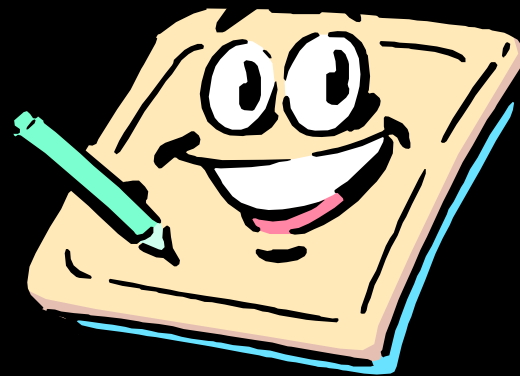
TEMPERATURE GUIDE

| | |
|--------------------|--|
| 100° | Boiling temperature. |
| 74° | Bacteria die within these temperatures if heated for a sufficient time. The longer the time the greater the destruction. |
| 60° | Warming temperatures prevent growth of bacteria. However, some bacteria may survive. |
| DANGER ZONE | |
| 5° | Some growth of bacteria may occur. Temperature of the fridge should be not more than 5 C. |
| 0° | Cold temperatures permit slow growth of some bacteria that cause spoilage. |
| -18° | Freezing temperatures stop growth of bacteria. However, some bacteria may survive. |

PREVENTION OF FOOD BORNE DISEASES



FOLLOW BASIC RULES OF
HYGIENE



Investigating food poisoning cases!

- Any suspected case should be reported to the Environmental Health Officer-Local Authorities (District Councils).
- The Environmental Health Officer in collaboration with Food Control Unit carry on investigations on such cases through inspection, sampling and testing (laboratory analysis)



It is important for the school staff to
work together with the Councils and the
Food Control Unit:

☒ reporting any suspected case of food
poisoning!

☒ to check for the quality of food!

The End

