

Topic 2. Food Hygiene – Keeping Food Safe

Food hygiene is not only about cleanliness. It is also about taking the correct steps to make sure that the food that you handle and serve is safe.

Good food hygiene practices means that you will have satisfied customers, a safe and clean workplace, and meet your legal requirements.

Bad food hygiene practices can lead to food contamination and outbreaks of food poisoning.

Food safety hazards

A food safety hazard is something found in food that shouldn't be there. Hazards can be harmful once in the food. This is called **contamination**.

There are three types of hazards that can contaminate food:

Microbiological hazards - include bacteria, fungi, yeasts and moulds.

Chemical hazards - food contaminated by cleaning chemicals or pesticides.

Physical hazards - things found in food that are not meant to be there.

Imagine finding some of these things in your food:

- Hair, fingernails or band aids
- Bolts, wire, nails or screws from machinery
- Glass, wood chips or razor blades
- Maggots, moths or flies



Food Safety Supervisor says ...

*"As a food handler you are responsible for serving safe food.
Be aware of these food safety hazards!"*

Food spoilage and food poisoning

Food spoilage is when food goes 'off'. Some examples include sour milk, mouldy bread, and vegetables that have gone green and slimy. The smell, taste and look of the food make it unfit to eat and should be thrown away, however **this is not food poisoning**.

Food poisoning is different to food spoilage because you can't see or smell any difference in the food. The food looks, smells and tastes normal even though there are many food poisoning bacteria on the food.

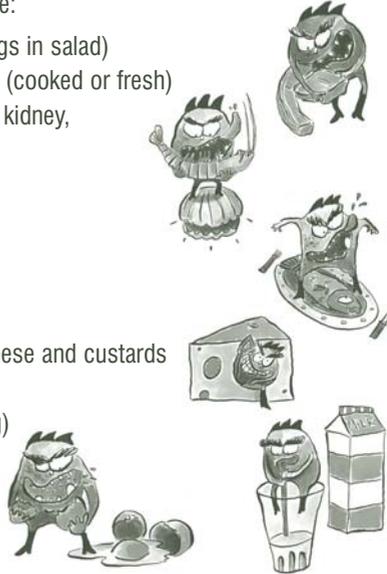


High risk foods

Bacteria need food to survive and there are certain types of food that food poisoning bacteria grow well in. These are grouped together and called **high risk foods**.

These high risk foods are also called potentially hazardous foods. They are high in protein and water content (they are often moist) and include:

- Eggs and egg products (such as cooked eggs in salad)
- Rice (cooked or partially cooked) and pasta (cooked or fresh)
- Beans (cooked or partially cooked) such as kidney, lima or borlotti beans
- Raw and cooked meats
- Fish and poultry
- Stuffing for meat and poultry
- Stews, soups and stocks
- Pizza, sandwiches and filled cakes
- Milk and dairy products such as cream, cheese and custards
- Sauces and gravies
- Processed and canned meats (after opening)
- Shellfish (especially oysters)



Low risk foods

Bacteria don't grow well in these foods:

Dry - Packaged foods such as flour, tea, coffee, dry pasta, sugar and dried fruits are safe foods. These foods don't need refrigeration and have a long shelf life. **However many dried foods become high risk foods once water is added - for instance cooked rice or pasta.**

Frozen - No bacterial growth occurs in frozen foods as water is in solid form. Bacteria will grow once the food is defrosted.

High in acid - pickles, chutneys, tomatoes

High in salt and sugar - salty and sweet foods

The food poisoning chain

A chain of events take place before food poisoning occurs:



- There must be food poisoning bacteria on the food
- The bacteria must have the right conditions to multiply
- The food must be eaten for food poisoning to occur

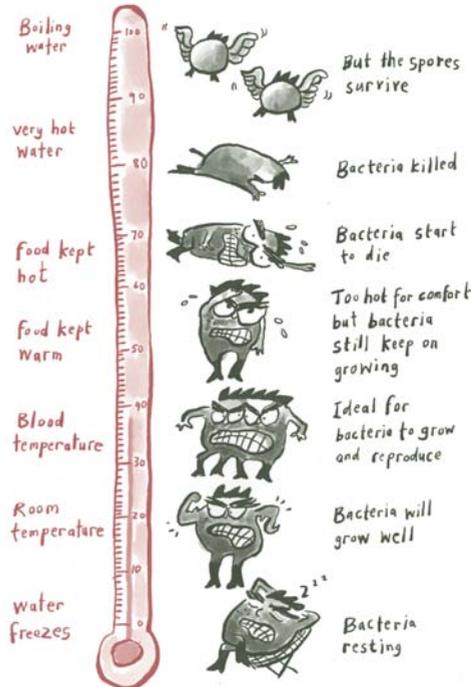
What to do to prevent it

There are three steps that can be taken to prevent food poisoning:

Step 1 - protecting food from bacterial contamination with correct handling and storage.

Step 2 - preventing the growth of bacteria in food through time and temperature monitoring.

Step 3 - destroying or reducing bacteria present in food by cooking food thoroughly - this can be checked using a thermometer.



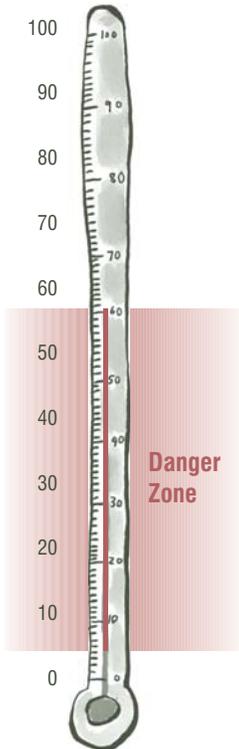
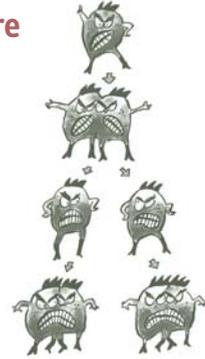
The right conditions: time, moisture, temperature

Time

Under the right conditions, bacteria can multiply every 20 minutes. This means that in 3.5 hours, one bacterium can become one million bacteria.

Moisture

Bacteria need moisture to grow. If there is no moisture, the growth may slow down or stop. This is why drying food is a safe way to preserve it.



Temperature

Bacteria grow in temperatures **between 5°C and 60°C**. This temperature range is called the **Danger Zone**.

At 5°C bacteria start growing. They grow faster as the temperature rises up to approximately 45°C when their growth slows.

Bacteria stop growing at around 60°C. Food must be cooked to reach a core temperature above 75°C to kill bacteria.

Food in the freezer - Bacteria are not active when food is frozen solid (-18°C and below).

Food in the refrigerator - Temperatures (0-4°C) prevent most food poisoning bacteria from growing.

Food at room temperature – Food is in the Danger Zone (5-60°C) which are ideal conditions for bacteria growth and reproduction.

TAKE CARE: Foods are not to be in the danger zone (between 5°C and 60°C) longer than necessary.

Temperature monitoring

The temperature of food is taken using a probe thermometer. To take the temperature of foods you should:

1. **Wash the probe.** Rinse the probe under hot running water before each use.
2. **Sanitise.** Wash in sanitising solution or use sanitising wipes before each use.
3. **Insert.** Put the probe into food.
4. **Read and record.** Write down the temperature on the Food Safety Program record form.



Wash



Sanitise



Insert



Read/record

If you don't think that the reading sounds right or the food is between 5°C and 60°C, check with your Food Safety Supervisor.



Food Safety Supervisor says... "Remember always:

- Take the core (internal) temperature by putting the probe into the thickest part of the food
- Stir liquids (such as soups and sauces) before taking temperature
- Wash and sanitise the probe between every reading"

Cross contamination

Food poisoning bacteria are all around us everyday. They can be found in the soil, on animals, on our skin and our things. In fact, everything that we touch and use!

Cross contamination is when bacteria contaminates food or a food contact surface. Food is usually cross contaminated by food handlers incorrectly handling food.

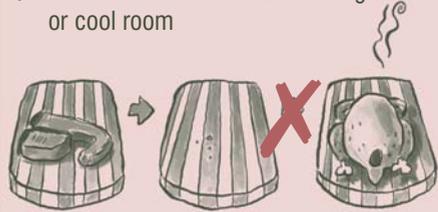
Here are some dos and don'ts for when handling food:

✓ Do

- ✓ Keep raw meat and vegetables away from cooked food
- ✓ Keep cooked meat above raw meat in the refrigerator
- ✓ Keep food covered to protect from dust, flies and dirt
- ✓ Thoroughly rinse/wash all fruit and vegetables in clean water to remove soil, insects and chemicals
- ✓ Clean and sanitise all equipment and benches
- ✓ Keep food stored in food-grade containers
- ✓ Wear clean protective clothing
- ✓ Wash hands before handling food

✗ Don't

- ✗ Chop raw and cooked meat on the same chopping board
- ✗ Handle raw food then cooked food without washing your hands
- ✗ Use food handling gloves for handling money
- ✗ Store food uncovered in the fridge or cool room



Remember, make hand washing and good personal and food hygiene habits a way of life.



Food Safety Supervisor says...

Did you know that it is really easy to cross contaminate food through:

- *Food handlers' poor hygiene habits*
- *Your suppliers*
- *Storing foods incorrectly*



ACTIVITY - Food Safety Supervisor says...

“Read Joe’s diary carefully and determine which tasks were performed correctly”. (Insert ✓ or X)

	Right ✓	Wrong X
Sliced vegetables with a clean and sanitised knife		
Used the same knife to slice the cooked ham		
Washed tomatoes in the hand-wash basin		
Put sliced ham in a covered container and placed it on the top shelf of the refrigerator		
Placed the hot soup by the open window to cool quickly		
Went outside for a cigarette and washed his hands when re-entering the kitchen		
Used the same chopping board to cut up raw meat and cooked meat		

Food storage

Storing food correctly is important in any kitchen. There are three main food storage areas:

1. The dry store for the storage of dry ingredients
2. The refrigerator or cool room for the storage of fresh perishable food
3. The freezer for the storage of frozen foods

1. Dry food storage in the dry store (pantry/larder)

Dry foods like flour, tea, coffee, dried pasta, sugar, breadcrumbs, herbs and spices can be kept in the dry store or pantry. These foods have a long shelf life because they are dry. They can be kept at room temperature.

Always

- Store dry foods such as flour, herbs and spices and dried pasta, oil in cartons, tins or containers with tight fitting lids.
- Check for signs of dampness, the use-by date, dented or rusty cans, and holes in packaging.
- Store food on shelves off the floor and store chemicals in a separate area.
- Rotate stock – first in, first out rule.

2. Cold food storage in the refrigerator

High risk foods must be kept in the refrigerator at 5°C or cooler.



✓ Do

- ✓ Store cooked food above raw food.
- ✓ Keep opening and closing of the door to a minimum.
- ✓ Defrost regularly and make sure that the refrigerator is in good repair and kept clean.
- ✓ Cover, label and date foods.
- ✓ Rotate stock – first in, first out rule.

✗ Don't

- ✗ Over stack the refrigerator or the cold air can't circulate.
- ✗ Put hot food straight into the fridge.
- ✗ Store cans in the fridge once they have been opened.



Food Safety Supervisor says...

"Remember keep food covered, labelled and dated!!!!"

3. Frozen food storage in the freezer

Frozen food should be kept in a freezer that is cold enough to keep the food **rock solid frozen** (-18°C and below).

Remember

- Frozen foods can still contain bacteria, and once thawed, the bacteria will again start to grow.
- Keep freezers at -18 to -20°C and in good working order.
- Frozen food must be rock solid frozen. When receiving food from suppliers check that it is frozen solid.
- Don't overload freezers.
- Cover, label and date foods.
- Rotate stock – first in, first out rule.

Thawing

It is important that food is completely thawed before cooking. If the food is still partly frozen it may not reach the right temperature on the inside to kill food poisoning bacteria.

Always

- Thaw food in a refrigerator or microwave (defrost).
- Allow plenty of time to thaw thoroughly.
- Cook food within 24 hours of thawing.
- Check the temperature of the food with a probe thermometer.
- Cover, label and date foods.

Remember:

Don't re-freeze food once it has thawed.



ACTIVITY - Food Safety Supervisor says...

“Don't forget to thaw food completely before cooking, or the inside of the food may still be frozen and not get hot enough to kill food poisoning bacteria”.

- A. Prepared salads
- B. Cooked ham
- C. Raw chicken
- D. Sponge cake with cream



Cooking, cooling and reheating

Cooking food thoroughly is an important aspect of food hygiene and a way to prevent food poisoning. Make sure that all foods, especially **high risk** food, is cooked to an internal core temperature of 75°C or higher. This will kill most bacteria.

Cooking

- Cook food to 75°C or higher.
- Stir liquids to heat evenly.
- Re-cook meat that is cut from gyros on a hotplate.

Cooling

Sometimes you may want to cook food and then cool it and re-heat it for service the next day. Special rules apply when doing this:

- Cool food quickly.
- Decant food into shallow containers.
- Portion food into small amounts to cool faster.
- Put foods into the cool room or fridge - don't leave it on the bench or stove to cool.

TAKE CARE: Foods are not to be in the danger zone (between 5°C and 60°C) longer than necessary.

Reheating

- Re-heat food by the quickest method, making sure the core temperature reaches 75°C.
- Food should only be reheated once and then thrown out if not eaten or sold.
- If heating food in the microwave, make sure that it is re-heated all the way through.



Remember Food Safety Supervisor says...

“Work quickly with high risk foods in the danger zone. Cook and re-heat foods by the quickest method and cool foods quickly by breaking them down to smaller quantities”.

Bain-maries and pie warmers

Bain-maries and pie warmers should only be used for keeping HOT food HOT for a short time during meal service. They are NOT to be used to cook or reheat food.

✓ Do

- ✓ Ensure temperature of bain-marie is greater than 60°C prior to loading.
- ✓ Take the temperature of hot food.
- ✓ Clean regularly.
- ✓ Replace trays.

✗ Don't

- ✗ Mix fresh with those already on display.
- ✗ Overload with food.
- ✗ Use to heat or cook food.



Food Safety Supervisor says...

“Remember to heat food in the oven before putting into a bain-marie or pie warmer and use separate tongs, spoons and serving utensils for each tray in the bain-marie”.

Ready-to-eat foods and ‘no touch’ techniques

Ready-to-eat foods can be eaten or served straight away without any further food preparation such as cooking or heating which would normally kill bacteria.

Some ready-to-eat foods include:

- Hot meat pies, pasties, sausage rolls and cooked pizza
- Prepared sandwiches and filled rolls
- Cakes, pastries, custards, yoghurt and cheese
- Cut fruit, salads, dips, sushi and ice cream
- Cooked rice, pasta and noodle dishes



Food Safety Supervisor says...

“Take care when handling ready-to-eat foods so that they won't be contaminated. Use ‘No Touch’ techniques. These techniques put a barrier between the food and your hands to protect the food”.

Always use a ‘no touch’ technique

- Use tongs and serving spoons to handle food.
- Grab or hold food using a piece of food grade grease proof paper or paper serviette.
- Use clean food handling gloves to handle food.