



SafeFoodHandler.com

Easy Learn Notes

*“Get the Knowledge,
Make the Commitment,
Walk the Talk”*



**Programme
Concept by:**



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Welcome

Congratulations on starting the 'SafeFoodHandler.com' programme.

By completing the programme you will show that you have a positive attitude towards the important principles of safe food handling and your customers will feel more confident about buying and eating food produced or served by you.

The aim of this programme is to make sure that people, who eat food that has been prepared, handled or served by you, receive the best possible safe food quality.

In every country there are numerous premises where prepared food is sold directly to the public. Clearly it's an impossible task for the Food Safety Regulators to continually check every food premises, every sneeze or every hand washing etc. For this reason this programme has given priority to the task of getting the people who handle food at these outlets to take on the responsibility themselves of preparing food safely.

Food safety involves knowing and doing, which is why we have set up the SafeFoodHandler.com programme in two parts. The first part is to understand the basic principles of Food Safety. The second part is accepting responsibility for Food Safety by entering into an Agreement to put into practice those principles that have been learned.

After completing the Check Sheets, you will be asked to sign the Safe Food Handler Agreement. In this Agreement you undertake to **"always observe the best food safety practices, so customers can be confident of receiving safe quality food."**

Safe Food Handlers are expected to display their Agreement where their customers can see it, and to wear their 'SafeFoodHandler.com' badge with pride at work. It is this combination of knowledge and commitment on your part that will encourage you to 'Walk the Talk' and indeed be a 'Safe Food Handler'



"Get the Knowledge, Make the Commitment, Walk the Talk"

FOOD POISONING DOUBLES

Incidents of food poisoning have more than doubled over the past year in the Auckland health districts, according to the National Health Institute.

Deborah Tait, the institute's chief bacteriologist, is unable to offer any particular reason for the increased number of cases of both salmonella and shigellosis.

ing diarrhoea.

Tait is convinced that the sources of infection must be identified before the number of food poisoning cases can be reduced. He and community medical authorities are urging people to observe a strict code of hygiene when preparing food.

The number of reported cases of food poisoning in South Auckland are record proportions, with 655 cases of vibriosis being reported last year, compared with 263 in 1983. Sal-
monella cases in South Auckland in-
creased from 110 in 1988 to 275 last

year. Health professionals have reason to believe that most cases are not reported.

Disease upsurge mystery

Health Department and Auckland Area Health Board officials, as well as major poultry meat producers, are at a loss to understand reasons for the recent upsurge in salmonella food poisoning in the Auckland area.

Girl dies from salmonella

AUCKLAND

A south Auckland girl has died from salmonella poisoning and health authorities say they have been unable to pinpoint the source of infection.

The girl was taken to Middlemore Hospital on Sunday, her 12th birthday, and died the next morning.

Chicken warning

A Wellington City Council health officer has issued a warning that all raw chicken should be cooked thoroughly following notification that a takeaway chicken store was infected with salmonella-like bacteria from uncooked food preparer at the Adelaide Road store was found to be infected with bacteria and has been off work. Health inspector Mr Roger Grace said

Salmonella toll soars

LONDON

The number of people hit by a salmonella epidemic in Chester and north Wales swept past the 300 mark today as experts investigated the possibility of a link with a fresh outbreak in the country's north-east.

The Clwyd Health Authority said today that 15 suspected cases have been reported in North Wales with 106 confirmed. In Chester, there are already 16 confirmed cases.

Today scientists from the Communicable Disease Surveillance Centre were checking for links between those outbreaks and another in Northumberland around Cossett, Durham, where at least 45 people have been affected.

Health officials say all the victims in the north-east had attended one of three functions in the area.

"We are investigating the possibility that all three functions were supplied with rooket meat by the same supplier," said a spokesman for the research centre, based in Colindale, north London. — NZPA-PA.

Don't be Part of the Problem
Become Part of the Solution
Be a 'Safe Food Handler'

What is Food Safety?

Food Safety is more than just cleanliness; it also means:

- protecting food from risk of **contamination**, including harmful **bacteria**, poisons and other harmful things (like pieces of glass, rat droppings or cigarette ends) which should not get into food;
- stopping any germs present growing to a number which would result in the illness of customers or result in early **spoilage** of the food;
- destroying any harmful germs in the food by thorough cooking or other processing.

The Aim of Food Safety

The aim of food safety is to stop people getting sick from eating unhealthy food¹. The other aim is to keep the food quality good through all stages of **processing** until it is finally eaten.

At home where food is prepared for a few people the result of food **contamination** could make the family sick. But if food is contaminated in a kitchen of a hotel or in a food factory it can have devastating results of large numbers of people becoming ill.



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Meaning of Words

'**Bacteria**' means germs that can live and grow on food - they can quickly grow to millions and that makes you sick if you eat the food.

'**Spoilage**' means food that has gone off or looks/smells bad.

Note

¹When people get suddenly sick from eating food its called food poisoning.

Meaning of Words

'**Processing**' means storing, handling, cooking and serving of food.

'**Contamination**' means when dirt, germs or any thing nasty or unwanted gets on food.

Remember to use the comments in the boxes on this side for more information and help

The Cost of Poor Food Safety

- food contamination;
- complaints from customers about the place and the food;
- the place has rats, mice, flies and other nasty insects and pests;
- food wasted due to spoilage;
- fines and the shame of being taken to court because of poor food safety;
- **Food Safety Regulators** closing you down¹;
- loss of production;
- stripping the place out, scrubbing clean and replacing bad or damaged equipment;
- food poisoning **outbreaks** that can sometimes even kill people².



All of these things will affect the business badly. If the business is threatened, staff may lose their jobs.

It's in everyone's interest to have the highest standards of food safety.

The Benefits of Good Food Safety

- satisfied customers, a good reputation and more business;
- increased **shelf-life** of food;
- good working conditions;
- staff and management feel good and have a good attitude;
- less staff leaving the job;
- good reports from the Food Safety Regulators;

All of these things will be good for the business, mean higher profits, and more money to pay workers.



Meaning of Word

'*Food Safety Regulators*' are people who work for the government or local council, and their job is to inspect food premises to make sure food safety standards are being maintained. Their job name is different in each country.

Note

¹In most countries there are laws that require Food Safety Regulators to close down dirty food places, remove bad food and fine the business, management or staff for poor food safety.

Fines may be as high as hundreds of thousands of dollars in some countries.

Meaning of Word

'*Outbreak*' means when many people get sick.

Note

²Each year worldwide, countless numbers of people get food poisoning and millions die. Costs of loss production from food illnesses runs into billions of dollars.

Meaning of Word

'*Shelf-life*' means the length of time food can be kept before the quality becomes poor and therefore can't be sold.



Food Poisoning and Food Diseases

'**Food poisoning**' means getting sick from eating contaminated food or drink (including water).

Most illnesses that are caused by eating food are called 'food poisoning' and the **micro-organisms** responsible for illness are **viruses, bacteria and fungi**.

Generally food poisoning results from contamination of food and subsequent growth of food poisoning micro-organisms. With or without the presence of these food poisoning germs food will decay or spoil because of the many spoilage micro-organisms present.

Food poisoning outbreaks often begin by the sudden start of illness (usually **vomiting** and **diarrhoea**) within a short time after people have eaten or drunk one or more of the same foods.

You can also get food poisoning from many types of contaminants:

- chemical contaminants (such as cleaning fluid, insect sprays, and metal contaminants such as lead or copper);
- *poisons* produced from germs;
- some foods can contain *poisons* from other things found in nature such as shellfish becoming poisonous from ¹algal blooms, if potatoes are left in the sun they produce a green colour which is poisonous.



Food or water can also pass on many types of **infectious diseases** but these are not called food poisoning and are known as food borne illnesses or food diseases.



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Meaning of Words

'**Micro-organisms**' (we call them germs or bugs); are the smallest of living things; they are too small to see without a microscope yet cause most of the disease in the world.

'**Viruses**' are the smallest of germs and cause many common and some serious illnesses such as colds, flu and hepatitis.

'**Bacteria**' are larger than viruses but as they can grow on food to large numbers they often cause food poisoning.

'**Fungi**' are like plants but feed on dead things; some fungi are good to eat like mushrooms but others contain toxins (poisons).

Meaning of Word

'**Vomiting**' means throwing-up, or spewing or being sick.

"**Diarrhoea**" (diarrhea - US) means loose bowels, the trots and another common name too rude to print! (sh... you know what!)

Note

¹Algal blooms are formed when large numbers of algae (a small type of plant) grow in the sea.

Meaning of Word

'**Infectious diseases**' means illnesses that are spread from person to person and includes things like colds flu, hepatitis and parasites like threadworms

High-Risk Foods

'**High-risk foods**' are those that let harmful bacteria grow on them or in them.

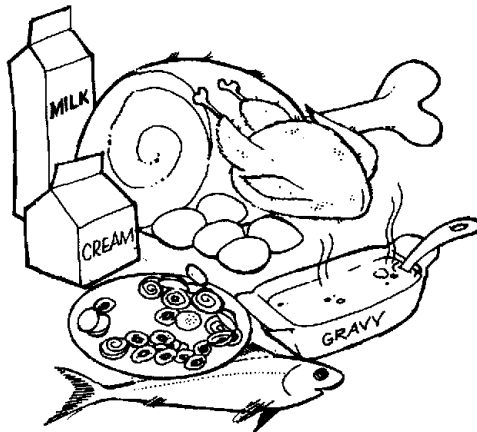
The highest risks are those foods that are eaten without further cooking or other processing that could destroy the bacteria. These foods are usually meat, fish, dairy products and some cooked **cereals**.

High-risk foods must be kept in a refrigerator.

They must be handled carefully to prevent contamination and it is very important that they are always kept apart from raw foods such as raw meat, raw **poultry** such as chicken or unwashed vegetables.

Examples of high-risk foods are:

- cooked meat and poultry;
- cooked meat products (eg pies) including gravy and stock;
- milk, cream, artificial cream, custards and dairy produce;
- cooked eggs and products made from eggs;
- shellfish and other seafoods;
- cooked rice¹ and other cereals



All of the above types of foods often cause outbreaks of food poisoning.

Cooked meats, including fish and poultry cause the most cases of food poisoning.

The biggest problem is that contaminated food usually looks, tastes and smells completely normal. You have to send the food to a laboratory for examination to find out what the germs or other contaminants are in it².

Meaning of Word

'**Cereals**' means things like wheat, rice, barley and oats.

Meaning of Word

'**Poultry**' includes chicken, turkey, ducks and geese.

Note

¹We don't normally think of cooked rice as a high-risk food, but it causes many cases of food poisoning each year when food safety is not good after the rice has been cooked.

Note that dry uncooked cereals are not high-risk foods.

Note

²Because you cannot tell if food will cause food poisoning it is really important that you are a 'safe food handler' so you know how to stop food becoming contaminated.



Common Causes of Food Poisoning

- Preparing food too far ahead of time before it is eaten and storing it at room temperature¹;
- Cooling food too slowly before storing in the refrigerator²;
- Not reheating food to high enough temperatures to kill off food poisoning bacteria³;
- The use of cooked food already contaminated with food poisoning bacteria⁴;
- Not cooking food thoroughly (especially large pieces of food like roasts)⁵;
- Not thawing frozen poultry long enough so that the middle (gut cavity) is still frozen⁶;
- Cross-contamination from raw food to cooked food⁷;
- Storing hot food below 65°C [149°F]⁸;
- Food handlers who have an infectious disease⁹;
- Using leftovers¹⁰.

Notes

¹Keeping high-risk food for more than an hour in a warm room allows germs to grow rapidly.

²Big pots of food can take hours to cool - small shallow dishes let food cool quicker.

³You need to almost re-cook food to be sure it is safe, re-warming food will not kill germs.

⁴Food from an unknown or bad supplier may already be poisonous.

⁵Cook food long enough so that the middle of it reaches 75-83°C [167-181°F] (piping hot).

⁶If poultry is not thawed properly the inside may not get hot enough during cooking.

⁷Food that has just been properly cooked has no germs so don't contaminate it.

⁸Germs grow on high-risk foods kept below 65°C.

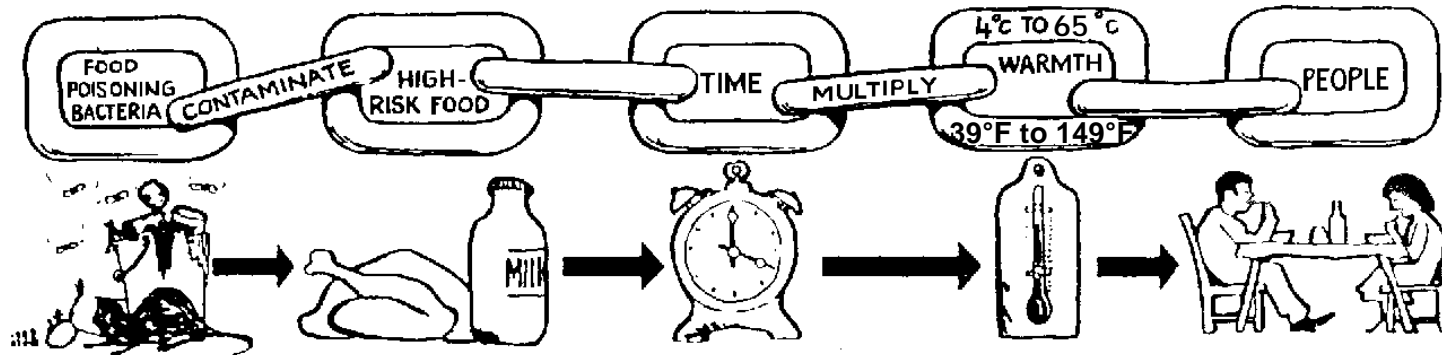
⁹Would you eat food that's been sneezed on?

¹⁰Leftovers are often exposed to contamination and kept at warm temperatures for long periods.



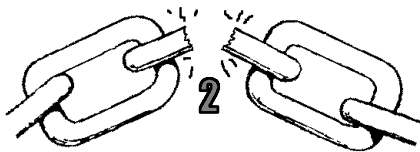
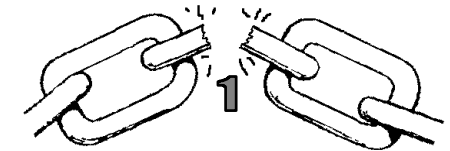
How to Stop Food Poisoning

In most cases of food poisoning a **chain of events** takes place and, if you are to reduce the incidence of illness, this chain must be broken.



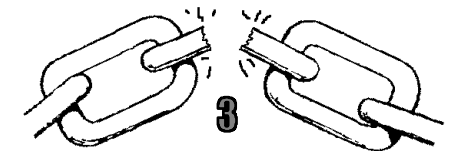
Break the Food Poisoning Chain

protect food from contamination



stop germs growing

kill any germs already in the food



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How to Protect Food From Contamination

- keep food covered whenever possible;
- only use suitable, clean equipment in good repair;
- only use clean wiping cloths¹;
- handle food as little as possible - tongs, plates and trays should be used in preference to hands;
- always keep raw and cooked food separate at all stages of food processing²;
- stop insects, animals and birds from coming into contact with food or rooms where food is prepared or stored (food rooms)³;
- store food in rat and mice-proof containers and make sure that the lids are tightly replaced after use;
- have the highest standards of personal hygiene at all times (shower and shampoo hair at least daily and wear clean clothes);
- wear suitable, clean protective clothing to protect food;
- do not handle parts of crockery or cutlery that comes into contact with food, for example, knife blades or inside glasses and cups;
- remove unfit or waste food and rubbish waste (garbage) promptly and keep it well away from food and food rooms;
- keep food and food equipment off the floor;
- don't let the blood from thawed frozen meat, fish and poultry come in contact with food – this is particularly important for high-risk food or the surfaces and equipment used for high-risk food;
- use safe and effective cleaning procedures;
- only use wash-hand basins for washing your hands⁴.

Note

¹Disposable paper cloths are the best kind.

Note

²The same equipment and working surface must not be used for raw food and high-risk foods.

Note

³Keep pests out. This is better than having to get rid of them when they are already there.

Note

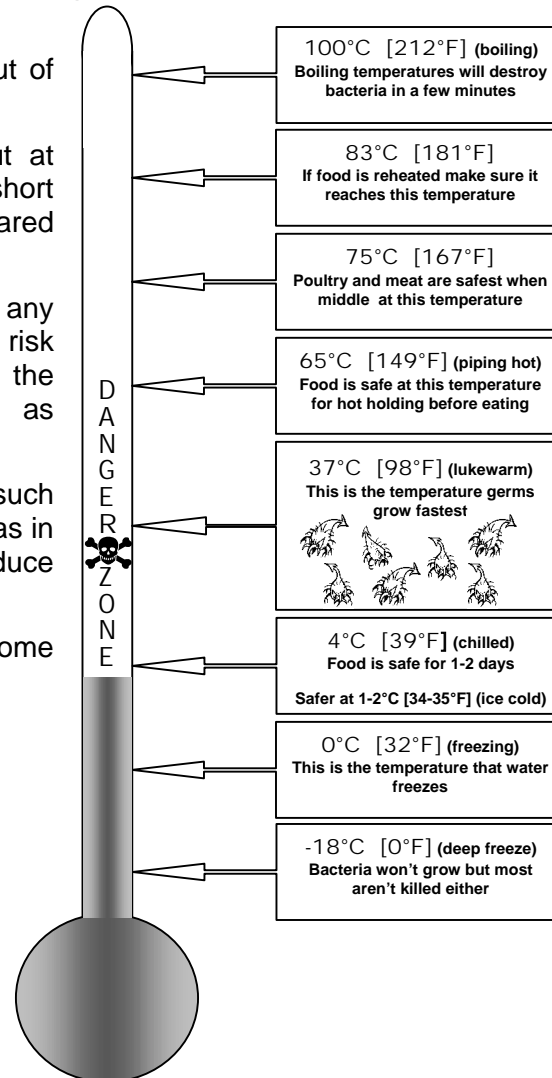
⁴Do not use the wash-hand basin for washing food or equipment. Do not use the food sinks for washing your hands.



"Get the Knowledge, Make the Commitment, Walk the Talk"

How to Stop Germs From Growing

- always store high risk food out of the ***danger zone***¹;
- you may only leave food out at room temperature for very short periods where it is to be prepared or to be eaten straight away;
- make sure that during any processing or serving of high risk food, that it is kept out of the danger zone as much as possible¹;
- using suitable preservatives such as vinegar, salt or sugar such as in making pickles, or jams will reduce the risk of germs growing;
- don't allow dried foods to become moist.



Meaning of Word

'*Danger_Zone*' means the temperature between 4°C [39°F] and 65°C 149°F] where germs grow.

Note

¹The total maximum time food should be in the danger zone is 2 hours.

Note

²The most dangerous temperature for germs to grow is 37°C [98°F], which is the same as our body temperature.

Note

³Frozen foods will keep for several months if below -18°C [0°F] but if the freezer is not keeping foods this frozen use the food within a month.

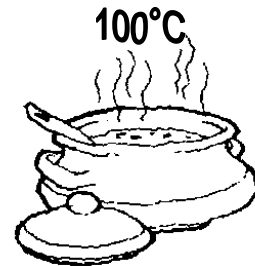
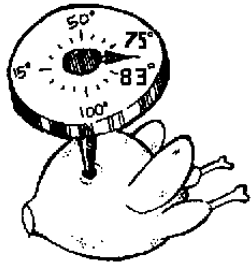
Note

⁴Even when food is frozen, germs can be passed onto the food, so keep all foods in the freezer wrapped in plastic or stored in containers.



How to Kill Germs in Food

1 Thorough Cooking¹



or

2 Heat Processing Such As

⚡ pasteurisation

⚡ sterilisation

⚡ canning

Note

¹Bringing food up to 83°C [181°F] (if baked) or to 100°C [212°F] (boiling point) will kill all harmful germs but some germ spores may survive (see below).

Note

A combination of a suitable temperature and sufficient time is always required to destroy bacteria. The time and the temperature required will depend on the particular type of germ. For example, germs that produce spores are much more resistant to heat when in this spore state.

(see page 17 for meaning of 'spores')

Meaning of Words

'Pasteurisation' means heating food until all the bad germs have been killed but there will be some less harmful bacteria left.

Bottled and most cartoned milk is pasteurised the bacteria which is not killed turns milk sour if it's kept out the fridge.

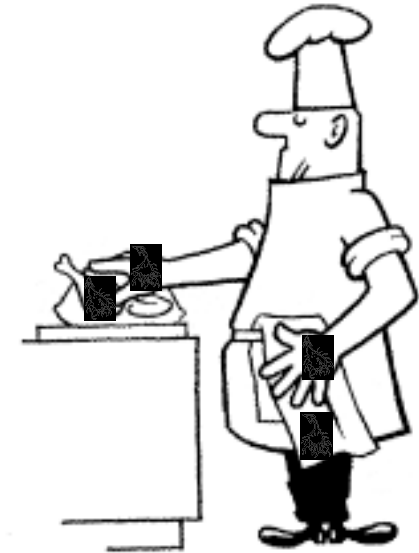
'Sterilised' means there are no germs at all.

UHT (Ultra Heat Treated) milk is sterilised so you can keep it unopened outside of the fridge for up to 6 months (WARNING - once opened it must be kept refrigerated and used within 2-3 days, otherwise it will go bad - not sour)



Main Points to Remember

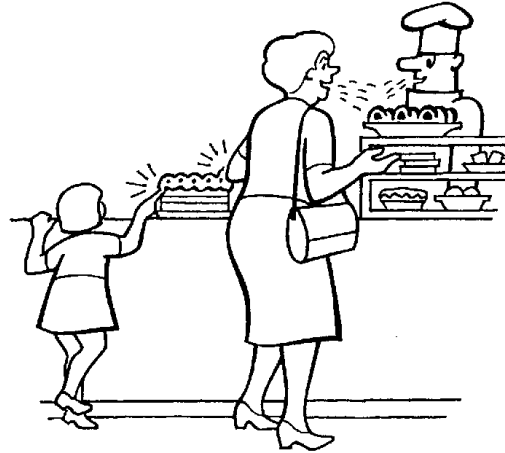
- world-wide, many millions of people suffer from food poisoning each year
- food poisoning results in loss of business and jobs as well as the illness of customers
- food which causes food poisoning looks, tastes and smells normal
- the main reason for food poisoning is storage of high-risk foods at room temperature.
- food poisoning bacteria are everywhere.
- given the right conditions of warmth, food, moisture and time, bacteria will multiply rapidly.



Sources of Food Poisoning Germs

People

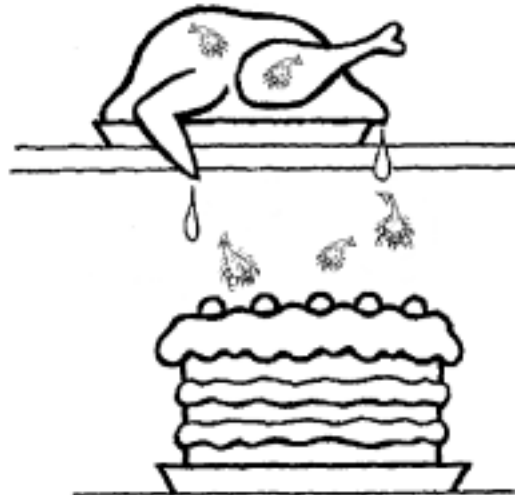
Even healthy people¹ often have food poisoning bacteria in their nose, mouth, and intestines and also on their skin. Food may be contaminated directly by their hands, by sneezing or coughing, or indirectly by sewage contaminated water. All water used in food premises should be from a reliable and **treated** main piped supply or an alternative approved supply such as a deep well or protected spring source if a main supply is unavailable.



Raw Food

Raw food is particularly dangerous, especially red meat, poultry², raw milk straight from cows or goats, eggs and shellfish such as oysters. Raw food should always be kept separate from high-risk food³. The blood from foods that are thawing, especially frozen poultry, must not be allowed to contaminate high-risk food, wiping cloths or equipment used for high-risk food.

Soil has a lot of harmful bacteria so care must be taken when bringing soil grown vegetables into food rooms.



Note

¹People who are feeling sick are much more likely to have germs that can contaminate food, which is why they should not work in a food place.

Public water supplies should have no germs in them. The water is usually treated to kill off any germs and is checked regularly to make sure that the water is safe to drink.

Meaning of Word

"**Treated**" in regards to water supply means water that may be filtered and disinfected using a chemical such as chlorine. Most water supply companies (either government or private) are required to make sure the water quality meets minimum standards of purity so it's safe to drink.

Note

²Up to 80% of frozen chickens may carry food poisoning organisms.

Note

³One of the biggest contamination risks found in food places is failure to keep raw foods separate from cooked foods.



Insects

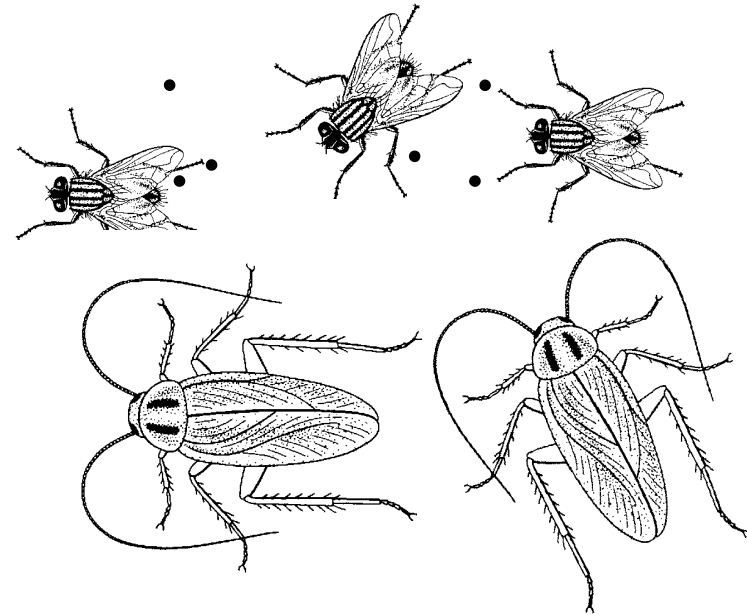
There are many insects that can put food poisoning bacteria onto food.

Flies and cockroaches are the worst because of the way they eat food and the mucky places they visit.

Flies love really nasty things like dog faeces (poo). They charge around fresh ones and pick up huge numbers of germs on their hairy legs and bodies. Flies also have the most disgusting habits. They leave little spots of fly droppings (poo) everywhere and they feed by vomiting (throwing-up) onto the food as they feed.

Cockroaches often live in drains and like to feed on rotting garbage. They don't like the light and hide well away in dark little places in food rooms. During the night they come out and carry food poisoning germs on their legs and bodies to food and equipment on which they walk. They also vomit on food to digest it before sucking the contents back into their stomach.

Use of insecticides in food rooms must be done carefully. Insecticides are poisonous chemicals and must not get on or near food or food equipment. Careless use of sprays often means dead insects ending up in food.

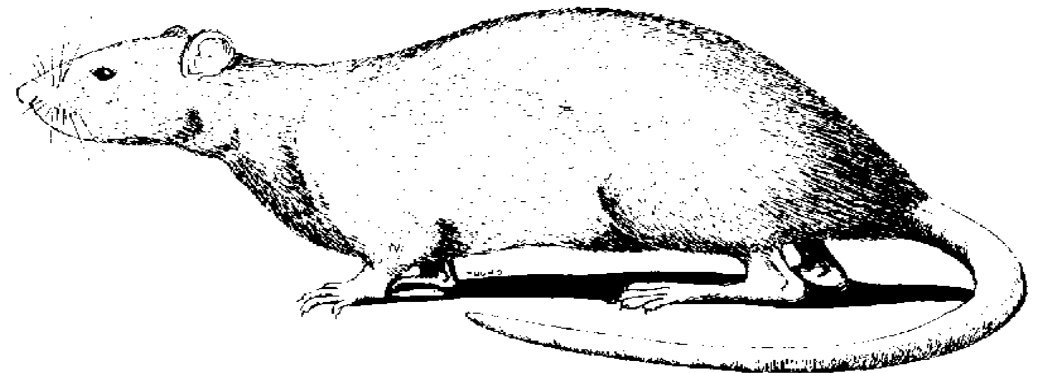


Rats & Mice

Both rats and mice have food poisoning germs in their poo (droppings).

Contamination of food is often caused by their droppings, urine (pee), hairs and with their chewing (gnawing). Food-equipment contaminated by rats or mice must be thoroughly cleaned and disinfected before use.

Food that is even slightly suspected of being contaminated by rats or mice must be destroyed.



Control of Insects, Rats and Mice

These pests will really take a hold if they can get into the building, have food and have places to hide. If you remove any one of these things it prevents their survival, and is the first line of defence against possible **infestations**.

Basic control of an infestation involves:

- access - doors, windows and screens must be kept closed to prevent entry;
- food - by keeping the place clean and tidy;
- places to hide - by care in the design, maintenance and pest proofing of buildings.

Good Housekeeping

To reduce the risk of infestation it is important not to give pests the conditions they like - so make sure that:

- the place inside and out is kept in a clean and tidy condition;
- spills are cleared up straight away;
- food is stored off the floor and clear of walls to help check for pests;
- all food should be checked regularly and damaged stock removed;
- food is kept in rat/mice proof containers and lids are always on;
- all deliveries of goods and food are checked for infestations;
- yards are kept clear of weeds, old equipment and other waste (garbage) etc;
- sightings of pests or pest damage are reported immediately and so that a control programme can be started.

Note

'*Infestation*' means having pests in high numbers.



Physical and Chemical Control

Although very important, control of pests by good housekeeping may not be totally successful.

You will then have to get rid of them using some form of **eradication** and this may involve a specialised pest control firm.

Physical methods that trap the pests are usually preferred. Poisons may cause pests to die in food or some inaccessible place. Poisons also are a contamination risk to food.

Unfortunately physical methods are not always successful and poisons have to be used.

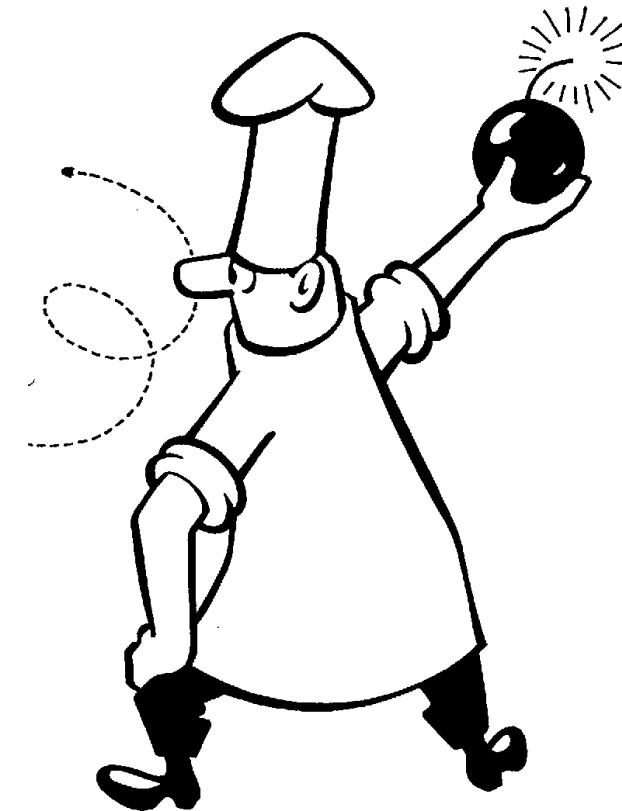
Great care must be exercised when using poisons. You must be extra careful when using insect sprays; food must always be removed and a thorough clean is necessary after use to avoid risk of contaminating food.

Infestations of food premises should be dealt with immediately and food handlers are strongly recommended to seek assistance from a specialist contractor rather than try to do the job themselves.

To ensure pests don't come back take action to fix up the conditions that may have been the cause of the infestation in the first place.

Meaning of Word

'**Eradication**' means method(s) to get rid of the pests that are the problem.



Animals and Birds

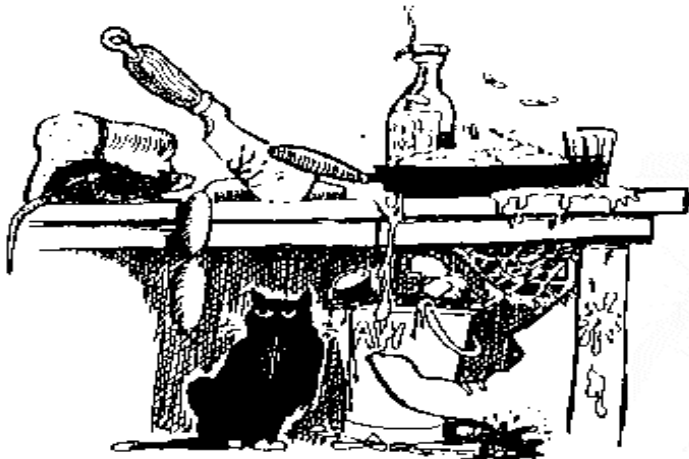
Pets as well as wild animals carry harmful germs on their bodies and in their bowels (guts)¹. Also dirt can be placed onto food from their feet. Hairs and feathers may end up in the food. Pets must always be kept out of food rooms. Bird poo often gets on food in places like market stalls and open warehouses and has been the cause of several food poisoning cases. Other diseases to people occur because of contamination by birds².

Dust

Most dust in confined places occupied by people is from shedding their dead skin. There are always large numbers of germs in dust and these float about in the air². Open food must always be covered and this is really important when cleaning is carried out, especially dusting and sweeping.

Rubbish and Waste Food

Waste and rotting food must be quickly removed from food rooms³. Care must be taken to avoid contamination of food from waste either directly or indirectly. Food handlers must wash their hands after placing rubbish in bins. Always use good quality bins with tight fitting lids for food wastes. Using bin liners will make the job of emptying easier and reduce the amount of cleaning⁴.



"Get the Knowledge, Make the Commitment, Walk the Talk"

Note

¹Many cases of food poisoning and infectious diseases in the home are traced back to pets.

²Birds carry a very serious disease that affects people's lungs.

Note

²It is much better to use a wet mop to clean floors and a damp cloth for shelves. This way the dust and germs are not brushed into the air.

Note

³Food wastes must be taken away from the premises at least daily - clean waste such as paper, plastic and cardboard should be taken away at least weekly.

⁴Make sure re-useable food waste containers are thoroughly cleaned and sanitized after each time they are emptied.

Growth of Bacteria

Bacteria are microscopic organisms that are found everywhere, including, on and in food, in water, soil and air and on and in animals including people.

It may be surprising to know that most bacteria are quite harmless and some are actually helpful to us, for example they are needed in making yoghurt and some kinds of cheeses. However, a small number of bacteria cause food spoilage and some, known as **pathogens**, are responsible for causing illness.

It is just about impossible to run a food business without food poisoning bacteria being present at one time or another. It is therefore really important that you don't have any conditions that would allow them to multiply to a level where they could give customers food poisoning.

Bacteria responsible for causing food poisoning need the following conditions to help them to grow.

Warmth

Most food poisoning bacteria grow (multiply) quickest at 37°C [98°F] (our normal body temperature), although they can grow quite quickly between 20°C [68°F] and 50°C [122°F]. To prevent their growth we must make sure that the temperature of food is kept below 4°C [39°F] or above 65°C [149°F]. The temperature range of 4°C [39°F] to 65°C [149°F] is often referred to as the danger zone. Some bacteria are able to produce **spores** that enable them to survive difficult conditions such as high temperatures.

Food and moisture

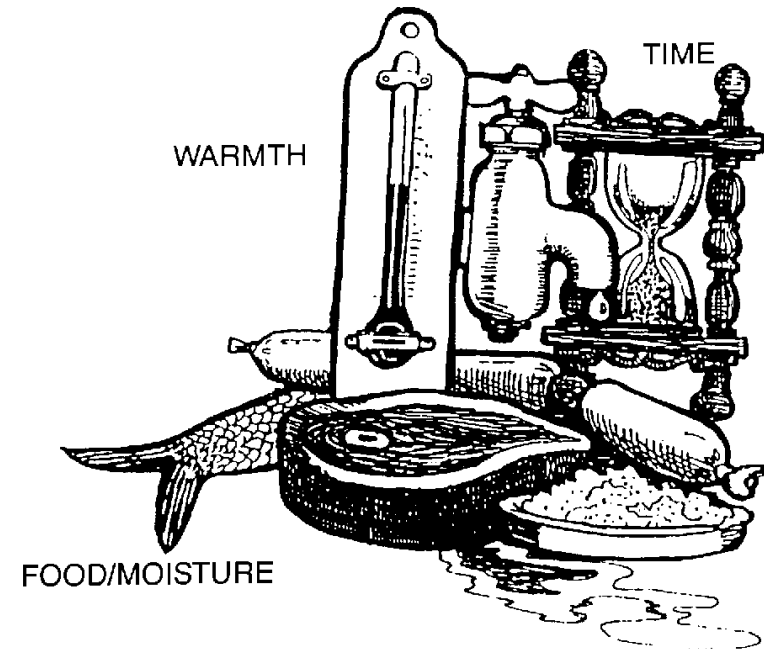
Germs prefer moist, high protein foods like meat, fish, poultry and dairy produce. Foods that are dried such as powdered egg or milk does not provide the conditions necessary for germs to grow. However, once water is added to the powder, any bacteria present will start growing. It's essential, therefore, to use such food as soon as possible after adding water.

High concentrations of sugar, salt, acid or other preservatives in food help prevent germs growing.

Meaning of Word

'**Spores**' means germs that have closed themselves into a kind of shell which protects them from such things as heat, dryness and chemicals.

They remove the shell and continue as normal when conditions become good again for them.



Time

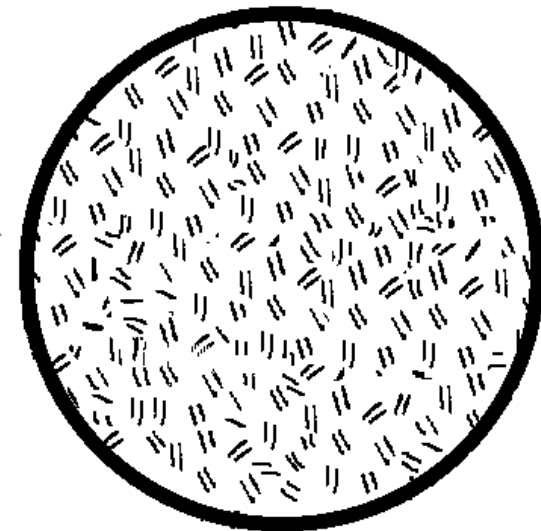
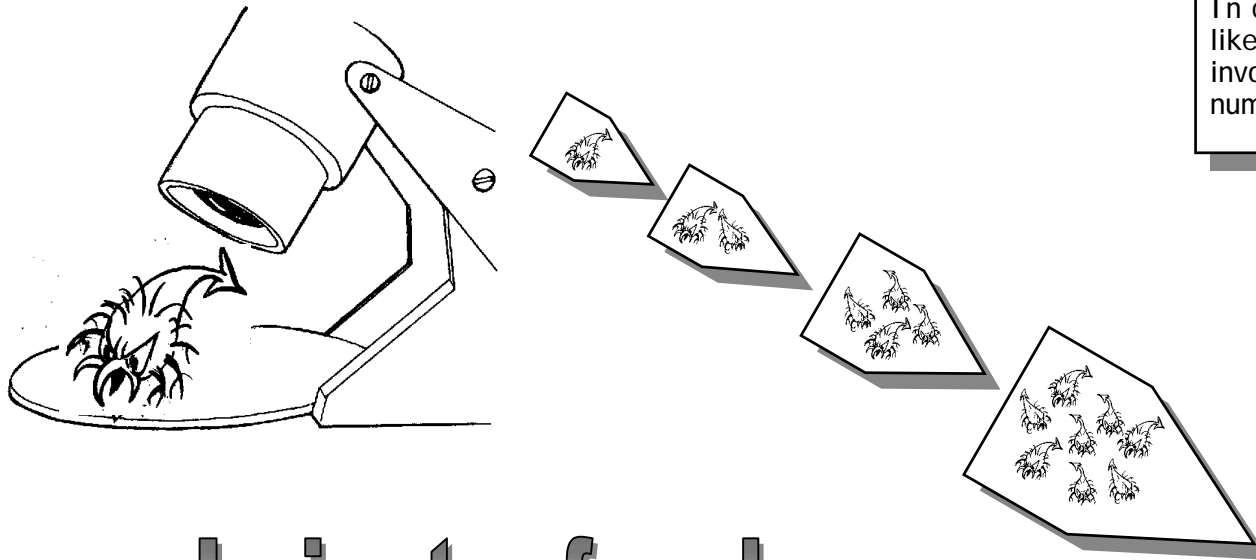
Given the right conditions of food, moisture and warmth, **some bacteria can divide into two every twenty minutes.** If there is sufficient time, a few bacteria can multiply to such an extent that there are enough present to cause food poisoning. For this reason it is essential that high-risk foods are not left in the danger zone for longer than is absolutely necessary.

Note

One germ can grow and divide to become two in twenty minutes, after 40 minutes we have four germs after 60 minutes 8 germs, after two hours 64 after 8 hours 16,777,216.

That's sixteen million seven hundred and seventy seven thousand, two hundred and sixteen bacteria from just ONE germ.

In cases of even the slightest contamination it is likely that tens of thousands of germs are involved at the start - so just imagine to what numbers they can grow to!



In just a few hours
germs can multiply to millions



"Get the Knowledge, Make the Commitment, Walk the Talk"

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Preparing and Processing Food

You must use safe food handling practices for preparing food to prevent food poisoning, for example:

- **Raw food and high-risk food** should be prepared in separate areas with separate equipment. Raw vegetables should be washed thoroughly in a separate sink, which is not used for other things¹.
- **Handling food** should be kept to a minimum. Food must not be left in warm humid atmospheres. Food handlers should keep their places well organised and make sure that working surfaces are kept as clean and tidy as possible. Spills and waste food should be quickly cleared up.
- **Thorough cooking** is important to destroy harmful germs. Food thermometers should be used to check that the centre of food has reached at least 75°C [167°F] (preferably 83°C [181°F])². After cooking, food should be eaten as soon as possible. If the food is to be kept hot before serving, it must be kept above 65°C [149°F].
- **Serving utensils** must be stored properly, especially ice cream scoops³. Food placed on tables, such as bread rolls, must not be re-used. All plates and utensils must be clean and dry, and those parts likely to come into contact with high-risk food should not be mis-handled. Things like tomato sauce, sugar, milk etc. should be kept in clean containers, and kept covered if not in sealed containers.
- **Food that is to be refrigerated** should be cooled as quickly as possible and then placed in the refrigerator. It is better to use smaller joints of meat as they cool more rapidly⁴. **Re-warming of high-risk foods** (particularly left-overs) is bad practice and a critical food safety risk. If food is reheated, it must be 're-cooked' thoroughly to at least 83°C [181°F] for immediate consumption. Any reheated food must be discarded, not used later. The time that high-risk food is kept in the danger zone temperatures must be kept as short as possible (maximum total time must be less than 2 hours).

Note

¹In small food places where there is no separate sink for washing vegetables or other raw foods such as raw meats, it's important that the sink is cleaned really well before it is used for anything else.

Note

²Some germs produce toxins, which need to be destroyed by boiling for 30 minutes. Spores may also survive cooking.

Note

³Ice cream scoops must not be stored in water and if you use water to help roll ice cream that water must be changed at least every 2 hours.

Note

⁴Alternatively you can slice the meat hot and place in thin layers on trays to cool much quicker. Things like soups will also cool quicker in shallow dishes less than 50mm [2 inches] deep.

Large joints of meat or large pots of food may take several hours to cool so make sure when cooling it is protected from contamination.



Safe Food Storage

Correct storage of food is essential for food safety.

You must have satisfactory conditions of cleanliness, temperature, humidity and **stock rotation** otherwise you may get problems of unsafe or spoiled food, and you are more likely to get insect and rat/mice problems.

Stock rotation has been much easier since date marking was introduced.

However, some products still do not have 'use by' dates and in this case you should use your own code system to keep track of when the food was delivered.

The golden rule is that the food brought into the place first should be the first to be used or sold.

Storage conditions should ensure that the goodness, appearance, taste as well as the food safety of the product are of the highest standard. Storage areas must not be overloaded and the space you have left for storing food must be taken into account when purchasing food.

All deliveries should be checked for freshness, temperature, colour, odour, contamination, insects or rat/mice droppings. Any pre-packaged foods must be checked for labelling and really make sure the 'sell by' or 'best before' dates on high risk foods are in order (check to make sure the 'sell by' date has not been tampered with. Any problems should be notified to your supervisor straight away.

Keep any external packaging that may be dusty or dirty away from food preparation areas¹.

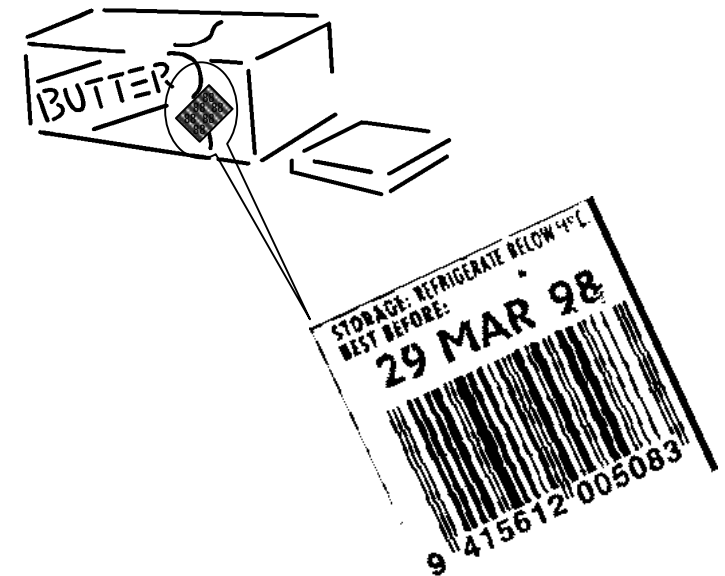


Meaning of Word

'**Stock Rotation**' means making sure the oldest food is used first. The purpose is to make sure no food is left forgotten on the back of the shelf and all food is used within its 'best before' date.

Note

¹Cans are often very dusty so make sure they are washed on the outside before opening them otherwise that dirt could go into the food.

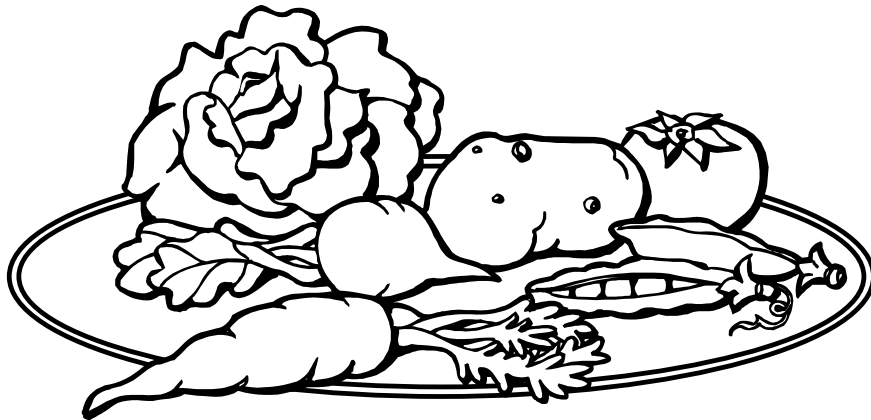


Dry-Food Stores

Rooms used for the storage of dried and canned foods should be kept clean and tidy. They must have good lighting and ventilation, be cool and dry and in good repair to keep insects and rats/mice out. Food should be stored away from the walls and be up about 200mm [8 inches] off the floor on suitable shelves¹ such as tubular stainless steel racks or in food grade mobile bins. Spillages should be cleared away promptly. All goods should be inspected before placing in storage.

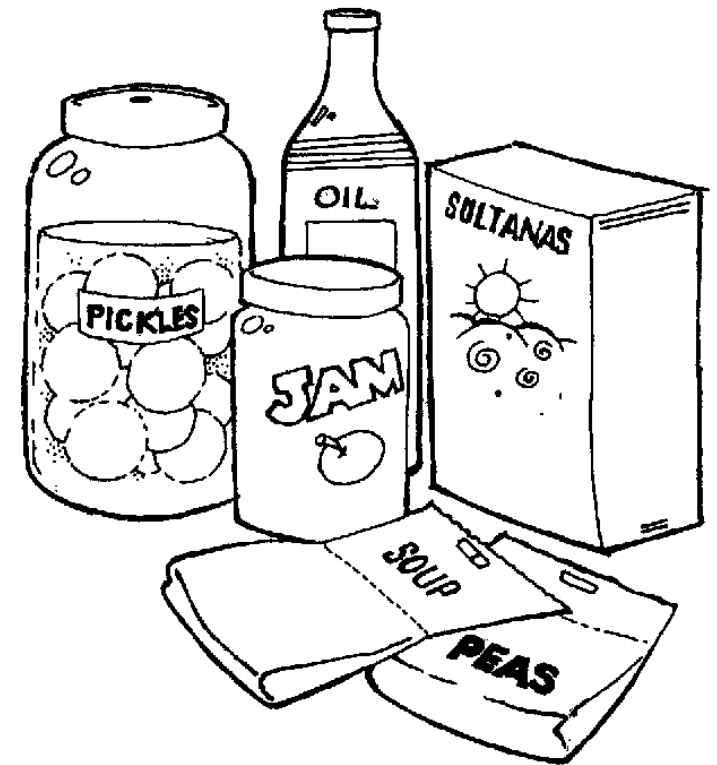
Problems you should be watching for include soiled delivery trays, insects or rat/mice droppings, damaged or leaking cartons, rusty cans and out-of-date stock.

If possible, fruit and vegetables should be stored in dry, cool, well-ventilated areas preferably separate from other food. Fruit should be examined regularly as mould spreads rapidly. Also watch for small flies (fruit flies) that hover around rotting fruit.



Note

¹Shelves may be of other material such as dressed (untreated) wood if all food is in sealed containers and there is no chance of spillages.



Canned Foods

The risk from canned foods is very small compared with the number produced and this safety record will continue if:

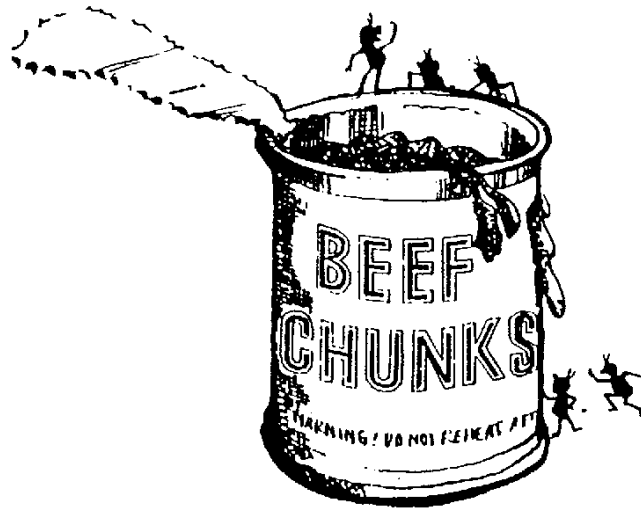
- blown cans are not used;
- badly-dented, seam-damaged cans are discarded;
- holed or rusty cans are rejected;
- stock rotation is carried out.

Remember to clean the outside (especially the tops) of cans before opening them as they can get dusty and dirty through long storage and/or mis-handling. They could also be contaminated by insects, rats or mice and therefore could have harmful germs on the outside of the can.

Canned foods will keep for very long period if unopened. In most cases you can safely keep canned food a few years. If kept longer the food will not present a health risk as long as the can is in good condition but there may be changes in colour, texture and flavour of the food.

Remember to always use opened canned food quickly, store in the fridge and preferably tip the contents into a non-metal food container to stop any chemical reaction between the food and the tin.

You can also get plastic lids for opened cans, which stops insects and other contaminants from getting into the food.



Meaning of Word

'Blown Can' means one that is bulging under pressure.

In all cases blown cans should not be used.

Of course this does not apply to soft drinks or beer in cans!

Note

Canned food should normally have a vacuum but if germs have got into the food or if acid food like fruit has reacted with the metal can then gas will produce and 'blow' the can.

Don't try opening a blown can they can sometimes explode!



Refrigerators

Refrigerators must be maintained between 2-4°C [35-39°F], which is suitable for most high risk foods to be stored for up to 2-3 days¹.

The following rules are a guide to safe food refrigerated storage:

- Refrigerate food as soon as possible after cooking (and when cooled) or processing;
- Place prepared food in shallow dishes to ensure it cools quickly;
- Leave space between containers in the refrigerator to allow for good circulation of cold air. Never pack foods tightly together;
- Cover all foods to protect them from possible **taints** or contamination from other foods;
- Food that has been in the fridge the longest (first-in) must be the first-out to ensure good stock rotation of refrigerated food;
- Use leftovers within 24 hours²;
- Meat and meat dishes, fish, milk, milk products, egg dishes and artificial cream should be covered and kept as cold as possible³;
- Make sure that anything spilt, especially milk or cream, is cleaned up really well straight away;
- Make sure your refrigerators are regularly cleaned and maintained to keep them working well;
- Cooked and uncooked foods must be kept in separate areas to prevent the cooked food from being contaminated with micro-organisms from the raw food⁴;
- Refrigerators must not be overloaded or have large quantities of hot food placed straight into the fridge as this will raise the fridge temperature for some time – make sure hot foods are in small quantities and are cooled quickly (and safely) before placing in the fridge.



Note

¹Putting food into a refrigerator slows down the growth of germs and spoilage. The fridge cannot improve the food quality if its already bad!

Meaning of Word

'*Taint*' means a colour, taste or smell that is OK for one food passing onto another food where it's not OK - such as fish next to ice-cream!

Note

²It's not good safe food practice to use leftovers. Reheating leftovers is a top ten cause of food poisoning, so if you must use them heat them through to near boiling temperature (piping hot).

Note

³Raw meat and fish should be kept between 1-2°C [34-35°F] to keep them fresher longer.

Note

⁴One of the most important safe food rules to remember is to keep cooked high-risk food away from raw foods. The best is a separate fridge but if using the same fridge always keep cooked foods above and raw foods below.

The Correct Use of Refrigerators

The common food poisoning organisms are very slow to multiply and producing poisons at temperatures below 4°C [39°F]. At this temperature spoilage of food by bacteria and mould is also reduced. As can be seen from the 'ten main reasons for food poisoning', temperature control is one of the most important factors that prevents food poisoning. Therefore, it is essential for food handlers to receive clear instructions on the use of refrigerators to ensure that they operate correctly.

Operating Temperature

Units should normally operate between 1°C and 4°C [34-39°F]¹. A thermometer should be permanently positioned in the warmest part of the refrigerator and the temperature checked at least daily². Remember that in warmer weather fridges may not work as efficiently so keep doors closed as much as possible to conserve energy.

Defrosting and Cleaning

Defrosting and cleaning should be carried out frequently to avoid build-up of ice, which reduces the efficiency of the fridge. Units that defrost automatically should still be cleaned at least weekly. Bicarbonate of soda (one tablespoon to 4 litres of water) makes a good cleaner.

Freezers

Modern freezers should keep food below -18°C [0°F], which is low enough so that bacteria will not grow. However over time changes to the appearance and texture of frozen food may reduce quality, therefore try and keep food no longer than 3-6 months in the freezer³.

In older commercial and domestic type freezers food temperatures will normally not be much below -12°C so food should not be kept longer than a few weeks (a month at most) in these types of freezer.

Always keep food below load lines in display freezers. Food that thaws and re-freezes will deteriorate from ice crystals forming inside the food. Thawing food can also allow germs to grow over time⁴.

Note

¹It is very important to have an accurate thermometer in each refrigerator so that you can check food is being kept at safe temperatures.

Note

²Placing the thermometer (simple alcohol type preferred) in a cup/glass of water in the fridge will give you a more accurate reading of the food temperature rather than the air temperature of the fridge.

Note

³Always wrap food in freezer bags. This will stop a condition known as freezer burn caused by dehydration of the food surface by freezing.

⁴Also remember that germs are not killed in the freezer so wrapping foods is very important so as to protect against cross-contamination (be especially careful of contamination between raw meat to cooked meat).



Personal Hygiene

Most people carry some type of food poisoning organism at one time or another, and safe food handlers have a moral and legal responsibility to observe high standards of personal cleanliness to ensure that they do not contaminate food. Always start each day with a shower and hair shampoo.

Hands and Skin

As your hands are often in direct contact with food, they are the main routes for passing on food poisoning bacteria. Hands must be kept very clean at all times by washing **thoroughly**¹ in hot water with liquid soap² (it is best to use soap that is specially made to kill germs).

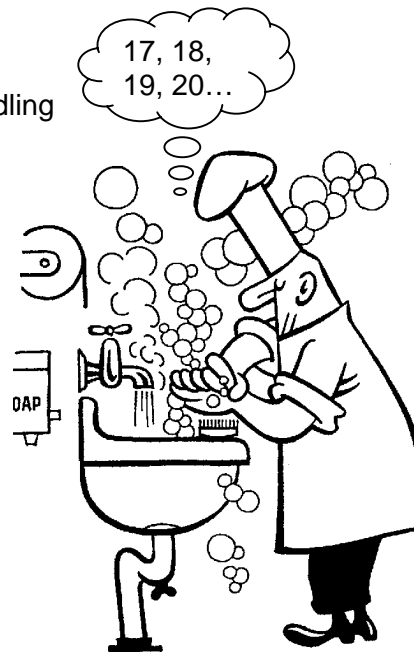
Nail varnish may contaminate food and should not be used.

It is very important that your hands are well dried after washing them by using disposable paper towels, hot air dryers or continuous roller towels³.

Food handlers must wash their hands regularly throughout the working day and especially:

- after visiting the toilet;
- on entering the food room and before handling any food or food equipment;
- in between handling raw and cooked food
- after combing or touching the hair⁴;
- after eating, smoking, coughing or nose blowing;
- after handling waste food or rubbish;
- after handling cleaning chemicals.

As fingernails easily pick up dirt and germs, they must be kept short and thoroughly cleaned by using a nailbrush every time hands are washed.



Notes

¹Washing your hands **thoroughly** means that you should count slowly to 20 while washing your hands to make sure you have given them a really good clean (and don't forget to rinse well afterwards!).

Commercial hand cleaners that are suitable for food workers often contain something to kill off germs.

Whilst these products may better clean the skin on your hands you must never forget to use a nailbrush to clean out the dirt from under your fingernails.

Note

²Liquid soap is the best

Bars of soap can become dirty by being dropped on the floor or left in 'gooey' soap dishes.

Note

³Using single use type roller or paper towels are the only way to keep your hands clean.

If you use a reusable hand towel you will probably have as many (or possibly even more) germs on your hands than before you washed them!

Note

⁴Bad habits like nail biting and licking fingers have to be stopped.



The Nose, Mouth and Ears

Up to 40 percent of healthy adults carry a particularly nasty food poisoning germ called Staphylococci in their nose and mouth.

Coughs and sneezes can carry droplet infection for a considerable distance and persons with bad colds should not work in food rooms. Disposable single-use paper tissues are preferable to handkerchiefs. Picking or scratching the nose is an unacceptable bad habit.

As the mouth may also have harmful germs, food handlers should not smoke, eat sweets, chew gum, taste food with the finger or an unwashed spoon or blow into glasses to polish them. Apart from being totally unacceptable behaviour, spitting can obviously result in food contamination.

Discharges from the ears, eyes and nose may contaminate food and employees must report these health problems to their supervisor or see your doctor. The doctor must give the person a letter to say that they are well enough to go back to work.

Cuts, Boils, and Sores

Cuts, spots and sores provide an ideal place for germs to grow.

To prevent contamination of food by harmful bacteria, spots or sores must be completely covered by a waterproof dressing, preferably coloured blue or green so that if it accidentally comes off it can be easily seen.

Cuts on fingers may need the extra protection of waterproof fingerstalls to ensure no blood or other infectious material gets on food. Waterproof dressings will also assist in preventing cuts going septic.

The germs in raw foods (particularly raw meat and poultry) can be a risk to food handlers as they can enter cuts on the skin and can cause severe illness (and even death in the worst cases).



Jewellery and Perfume

Food handlers should not wear earrings, watches, jewelled rings or brooches, as they catch hold of dirt and bacteria. Stones and small pieces of metal from jewellery may end up in the food and result in a customer complaint. You might also be upset if it was an expensive item! Food handlers should not wear strong-smelling perfume or aftershave, as it may taint foods.

Hair

Hair is constantly falling out and, along with dandruff, can result in contamination of food. Your scalp often contains harmful germs and must be shampooed daily. Food handlers should wear the right kind head covering which completely covers the hair.

Combing your hair and fixing your cap or hair net if you have one should only be done in non-food rooms such as the toilet or cloakrooms. Be careful to remove any hairs that end up on your shoulders as these can also get into the food. (Remember to wash your hands afterwards!).

Smoking

In most countries it is illegal to smoke in food rooms. Apart from the obvious disgust customers would have seeing someone smoking while preparing food there is a real risk of butt ends and ash contaminating food, and also people touch their lips whilst smoking which may transfer their germs onto food.

Other equally bad things about smoking is that it makes you cough (perhaps over food), cigarette ends contaminated with spit could be placed on working surfaces and you're also likely to burn the surface so you have to pay for a new one!

Your non-smoking work mates will not be happy if you pollute their air.

And – oh yes – smoking will kill you!



Protective Clothing

All food handlers should wear clean, washable, light-coloured over-clothing¹. Over-clothing should be appropriate for the work being carried out and should completely cover ordinary clothing. Jumper and shirt sleeves must not protrude and, if short-sleeved overalls are worn, only clean forearms must be visible.

Staff must be aware that protective clothing is worn to protect the food from risk of contamination and not to keep their own clothes clean. Dust, pet hairs and woollen fibres are just a few of the contaminants carried on ordinary clothing.

Outdoor clothing and personal effects must not be brought into food rooms, unless stored in suitable lockers.

General Health of Food Workers

Food handlers should be in all very good health. Any food handlers suffering from diarrhoea (the trots), vomiting or a food-poisoning type of infection **must not** be at work.

Food handlers who have eaten a meal known to have caused food poisoning or live in the same household as someone who is known to have suffered from diarrhoea or vomiting should also report to their boss at work or see their doctor. Food handlers who still have food poisoning germs in their bowels must not return to food-handling duties without the doctors OK. Persons with skin infections, sores, heavy colds and ear or eye discharge should also not be at work until their health problem has cleared up.

Hygiene Education

It's really important that all food handlers have safe food handling knowledge so that they are aware of the dangers of poor food safety and know how to break the chain of events that can result in outbreaks of food poisoning².



Notes

¹The type of over-clothing needed depends on the type of food business.

For example, food handlers working in a fish factory will need plenty of protective gear but working in a small store, such as fruit and vegetable shop, you may only need an apron or, if all the food is pre-wrapped to protect it from contamination, you may need no special over-clothing at all.

If you are handling open food you should also have a hat or hair net. Otherwise tie your hair back if it's long.

Some types of food workers such as meat carriers must wear head and neck covering to protect the meat and themselves.

Note

²This set of study notes will give you the very basics of safe food handling.

There are a number of other courses run by government and private tutors that will give you more information.

Whilst you are encouraged to learn more about safe food handling the most important objective of food safety is to DO IT!



The Purpose of Cleaning

Unless the equipment that comes in contact with foods is adequately cleaned and **sanitised**, it may be a serious source of food contamination from germs.

The reasons for cleaning:

- to remove the stuff on which bacteria could grow, and so reduce the risk of food poisoning and food spoilage;
- to **disinfect** special equipment and surfaces;
- to remove waste which would encourage insects or rats and mice;
- to reduce the risk of contamination;
- to have a pleasant, clean and safe working environment;
- to give a good image to customers.

The Cleaning Procedure

Cleaning and disinfection/sanitising normally consists of six basic stages:

- **pre-cleaning** - removing excess dirt by sweeping, wiping or pre-rinsing;
- **main clean** - loosening of the surface grease and dirt using a detergent;
- **rinse** - removal of loose dirt and detergent;
- **disinfection/sanitising** - killing germs using, for example, bleach or scalding hot water¹;
- **final rinse** - removal of any chemical disinfectant such as bleach;
- **drying** - allowing hot things to air dry is best².

Meaning of Word

'**Sanitise**' means to remove harmful germs to a level that the equipment is safe to use for food processing and storage.

'**Disinfection**' means a similar thing to sanitising.

Hot water at 83°C [181°F], steam and bleach are the commonest sanitisers/disinfectants.

Meaning of Word

'**Scalding Hot**' means water above 83°C [181°F].

Note that water at this temperature is dangerous so make sure you keep to all safety rules.

Note

¹No matter how good the cleaning and sanitising chemicals are that you use, remember that there is no substitute for good, honest, hard work – so get scrubbing!

Note

²If you dry food equipment or utensils using reusable towels or tea cloths, you will very likely be putting germs back on them.



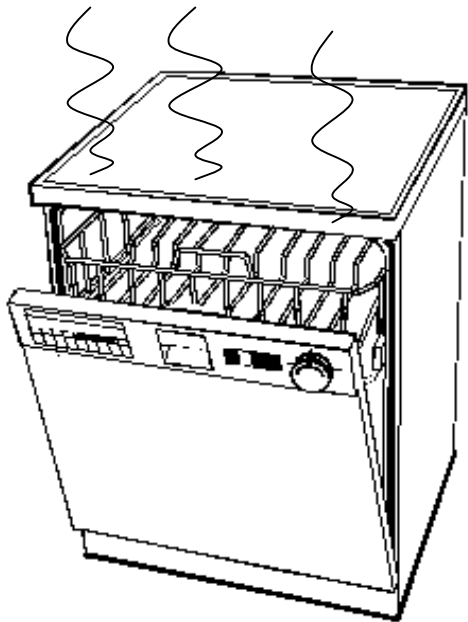
Dish and Glass Washing Machines

Special treatment needs to be given to the cleaning of all cutlery, crockery and glassware used in restaurants and cafes¹.

To ensure these items are properly cleaned and sanitised they should be washed in a commercial dish or glass washer that has its own boiler set at 83°C [181°F] for the rinse water.

These machines should be manufactured to meet any legal requirements and be designed to effectively wash and sanitise things. The scalding rinse water temperature makes sure that not only that the utensils are virtually sterile but also that they are hot enough to air dry therefore avoiding use of drying cloths or tea-towels which can re-contaminate them².

The machine must be maintained and regularly serviced to ensure that it is operating effectively and also meeting any legally required washing and sanitising temperatures.



Note

¹Crockery should be washed and sanitised in an approved commercial dishwasher but rinsing excess amounts of food off first will ensure no baked-on food remains.



Note

²Leave the things in the dish washing machine until they have air dried, this saves having to use a tea towel which is likely to contaminate them.



The Design of Food Premises

The design and layout of all types of food premises must take account of any legal requirements relating to their construction and facilities.

The Design of Food Equipment

The materials from which food processing equipment is made are very important. Materials used in the product areas should be corrosion resistant (rust-free) and smooth. No materials should be used that may contaminate the food product. Only food grade materials should be used.

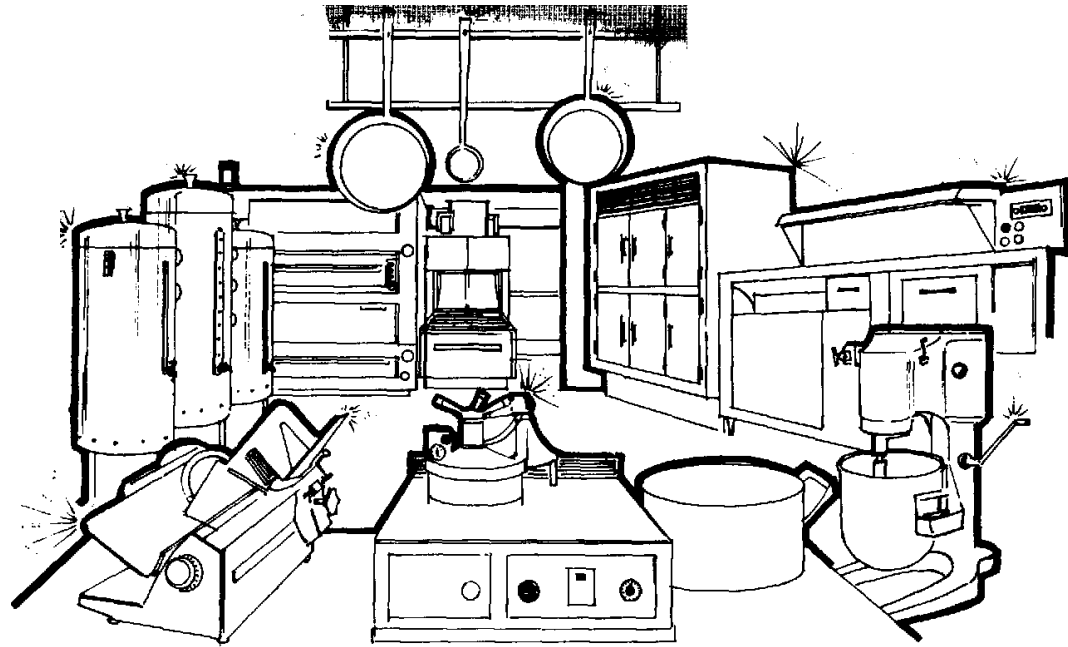
Enough space for easy and safe operation and maintenance must be provided between each piece of equipment and between equipment and walls.

Areas beneath the equipment area must have access for maintenance by lifting the equipment above the floor.

Remember these important points.

Food equipment should:

- be suitable for the job for which it will be used;
- be easy to clean and inspect;
- be able to protect food from contamination;
- have no 'hard to reach' spots where food scraps, grease and dirt can build up;
- have no places for rats, mice or insects to hide;
- be safe to use.



Construction of Food Premises

In most countries there are legal requirements for how food places are built. The following may be considered as guidelines but check with your food safety regulator first:

- **Construction** - good state of repair, no access or hiding places for pests;
- **Floors** - smooth, *impervious* material *coved* to walls; suited to process carried out;
- **Walls** - smooth non-absorbent; easily cleaned material; impervious where wet processing; light colour finish;
- **Ceilings** - much the same requirements as for walls; no exposed ledges or beams that might be a dust trap; not less than 2.4 m [8 feet] high at any part;
- **Lighting** - natural or artificial; adequate to allow good cleaning and inspection; no shadows or glare¹;
- **Ventilation** - natural/artificial as necessary, to maintain comfortable working conditions and prevent condensation and odour;
- **Space** - sufficient to allow good cleaning and work flow;
- **Changing facilities** - adequate lockers, hangers; a separate room may be required if there are a large number staff;
- **Toilets** – close to, but not in, work places and in good working order and of course clean²;
- **Wash hand basins** - close to where needed; 1 basin required for about every 10 staff and also in or next to all toilets³;
- **Water supply** - hot and cold; adequate piped supply and approved storage capacity;
- **Plumbing** - sinks, and other appliances as required by your Food Safety Regulator;
- **Sewage disposal** – proper drains in good condition plus any special food or grease traps;
- **Yard** - impervious surface to yard and paths; adequately drained; reasonable access to the yard from other parts of the premises⁴.



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Meaning of Words

'*Impervious*' means waterproof - such as vinyl flooring or a concrete yard.

'*Coved*' means rounded so that there is no sharp corner between the floor and wall or permanent fixtures/fittings.

Note

¹Although natural lighting is the best be sure not to get direct sun into the room as this could affect food by warming it.

Note

²Every toilet should have a wash hand basin close by and preferably within the compartment.

Always have a spare toilet roll (or two) in the compartment - you need to use plenty to keep your hands clean when finishing the job!

Note

³Remember each wash hand basin must have soap, nailbrush and single use paper or roller towels.

Note

⁴Yard areas used for rubbish bin storage should have a 300mm impervious stand to assist cleaning and stop rats and other pest getting in the bin.

Food Safety Programmes

As well as legal requirements for the construction of food premises, many countries are now adopting a system to ensure safe food quality from the very beginning to the very end of the process (farm to fork); this system is known as **Food Safety Programmes**.

HACCP

Most food safety programmes are based on the principles known as HACCP (pronounced hassip) which stands for 'Hazard Analysis, Critical Control Points'.

What this means in plain English is that you find out what the risks are to the food and then you make sure you eliminate them, correct them or reduce them. You then write down what you've done (keep records) so that you can check and show that the food processes are safe.

HACCP is now being used by many countries. It is promoted by the World Health Organisation (WHO) as the world-wide standard for food safety. The WHO has detailed seven principles that make up HACCP – we talk about this on page 36.

The History of HACCP

It is one of the unfortunate things about food safety that, what is a very simple and sure way of providing safe food, has such an awful name - HACCP!

The reason for this is that HACCP was first introduced in the 1960's to ensure astronauts did not get food poisoning (or food borne illnesses) during space flights. (Imagine being sick inside the helmet of a space suit!). Now our good friends at NASA, at that time had the strange idea that simple activities had to have complicated names. For example a 'space walk' was called 'EVA' or 'Extra-Vehicular Activity'.

So before you turn away in terror that HACCP is something complicated, just remember it's just an awkward name for a straightforward and practical set of procedures to make sure that food is safe.



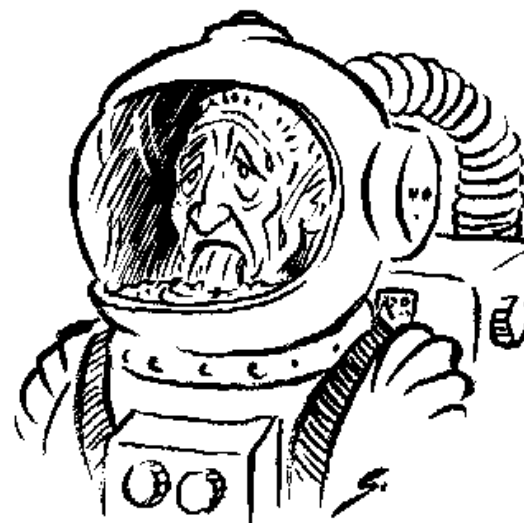
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Meaning of Words

'*Food Safety Programmes*' are programmes designed to ensure food is safe to eat by knowing what the food safety risks are, then making sure those risks are sorted and then writing down what has been done so that you can prove to anyone that you have taken actions to keep food safe.

Meaning of Words

'*Farm to Fork*' means that to make sure that food is safe, we must know what the safe history of the food is from the time it is grown/reared to the time it is eaten.



**NEVER
ALLOW
SICKNESS IN
ASTRONAUTS!**

HACCP is Everywhere!

We use principles based on HACCP in many ordinary activities in our lives and we don't even realise that we're doing it!

For example when we cross the street we 'Analyse the Hazards' – that is we know that there could be vehicles that could knock us down and injure us so we use 'Critical Control Points' – that is we look for a safe place to cross such as a pedestrian crossing. If the crossing has lights or a flag we make sure it says it is safe for us to cross or if no signals we check to make sure that no traffic is coming and we then cross the road quickly and carefully to reach the other side safely.

In more complicated processes such as flying an aeroplane HACCP includes processes such as checking and writing down steps that we must take to ensure that the aeroplane (and its passengers!) are safe. For example airline pilots use a check sheet and look at their instrument panels to make sure that the correct and safe flying procedures are followed. The purpose of the check sheet and instruments is to make sure that they don't miss any important step and the instruments are there to tell us things like the speed and height of the aircraft which otherwise they would not be able to tell accurately from just 'looking out the window'.

HACCP, Food Safety Programmes and the SafeFoodHandler.com Programme

As already said a food safety programme is about knowing the risks and doing things (taking action) to control those risks and record what you did.

Now that you are near the end of these 'Easy Learn Notes' you will have sufficient knowledge to know what the food safety the risks are.

In signing the agreement provided with the SafeFoodHandler.com programme, you will be making the commitment to do what is needed to avoid the risks, correct them or reduce them.

Now if you put what you know into action, you will have followed the principles of HACCP. This is what we call 'Walking the Talk'.



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Note

When you think about it, HACCP is just common sense.

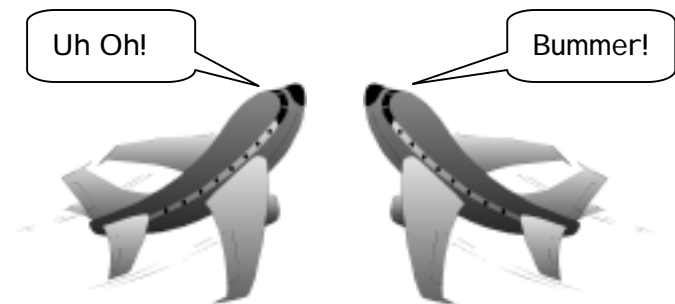
The reason why pilots have check sheets and instruments is because without them it can be unsafe to fly.

Imagine what it would be like if pilots were not trained, did not worry too much about flight safety, had aeroplanes that did not have to meet any safety standards etc!

Would you like to fly in such circumstances – we think not!

Yet in many cases food handlers are not trained in food safety, and there are some who are not very concerned about food safety, and/or who have unhygienic premises and poor quality equipment and who hardly ever use check sheets or systems to monitor cooking times, temperatures and/or chiller/freezer storage temperatures.

It's no wonder therefore that so many people are getting sick from food poisoning and food borne illnesses!



HACCP in Practice

You are encouraged to further your knowledge on Food Safety Programmes. These 'Easy Learn Notes' are written to provide you with the basic principles of what a Food Safety programme is and how it works.

If your workplace already has a Food Safety Programme ask your boss to explain it to you and what your job in the programme is. Remember that no matter how good the programme might look 'on the shelf' what really matters is what you and your co-workers and bosses know about food safety, what your attitude is and what you do that ensures your food is safe.

Also its important to understand that no matter how good you think that your food safety programme and actions are, that you can always do it better, smarter and safer.

Remember that everyone can contribute to the Food Safety Programme - it's not just up to the bosses! After having completed these 'Easy Learn Notes' you will have '*excellent knowledge*' (comments from New Zealand Ministry of Health – May 2000). You probably will know the most about your job and what is good and what can be done better – write it down and give it to your boss. The Food Safety Programme should be a 'living document', this means that it be continually updated and where possible improved.

Remember that it is important to cover all the safety aspects from 'Farm to Fork'. The chances are that your part will be somewhere towards the end of the process. So it is important to know the quality of the product when you receive it. This may involve asking the supplier if they have an approved food safety programme. You will need to check the quality (including sell-by date) and any temperature of the food as soon as it is delivered. Check that chilled food is below 4°C [39°F], frozen food is below –18°C [0°F]. Hot food should be above 65°C [149°F]. It is best to use the thermometer that your workplace has as well as check the one provided by the delivery driver.

The example on the right is a basic food safety check from the delivery, to the sale of pies. This is not a Food Safety programme but includes some critical control points (riskiest things) that you really must check to make sure that the pies are safe.



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Safe Pies Check List

Provided by courtesy of Hutt Valley Health NZ

Safe Delivery

- ✓ Buy from an approved supplier.
- ✓ Check for any visible contamination (mould, dirt).
- ✓ Check temperature which should be less than -18°C [0°F] if frozen, 4°C [39°F] if chilled.
- ✓ Check the 'sell-by' date.

Safe Storage

- ✓ Place pies immediately into freezer or chiller.
- ✓ Check temperature of freezer is below -18°C or chiller below 4°C – check daily and keep record.
- ✓ Ensure good stock rotation (first in, first out).

Safe Cooking

- ✓ Defrost pies in chiller overnight or microwave.
- ✓ Heat pies in oven or microwave until food is piping hot (83°C) – follow suppliers cooking instructions when given.

Safe Hot Holding

- ✓ Preheat pie warmer to at least 65c [149°F].
- ✓ Transfer pies immediately from oven to preheated pie warmer.
- ✓ Check pie warmer temperature daily and record that it keeps pies hot at 65c [149°F].

Discarding (Better Safe Than Sorry!)

- ✓ Throw out any hot pies not sold that day.
- ✓ You must immediately recall (get back) any pies if they are sold and found to be bad.

The Seven HACCP Principles

1. Analyse the hazards

Know what hazards (safety problems) that the food may have and the ways to eliminate, correct or reduce them at each step in the process from the very start (farm) to the very end (fork).

2. Identify the critical control points

These are the critical (riskiest) food safety points. Again they are from the origin of the food through the various handling and processing steps to the delivery to the consumer for eating.

3. Establish preventive measures

Set the critical safety limits for each control point.

4. Check the critical control points

Set-up procedures for checking food safety – you can't afford to leave things to chance!

5. Act to correct problems

Action must be taken when your checks shows that a critical safety limit has not been met.

6. Ensure your safety checks are OK

You need to double check that all your monitoring systems are working properly – make sure someone in charge knows if they're not, and that they do something to fix the problem!

7. Keep records

Like a recipe, you need to show how (to your boss or Food Safety Regulator) that your food safety procedures work.

Check these points against the Safe Pies check list on the previous page

1 The risks to food are: **germs** such as from unwashed hands or by contamination of raw food to cooked food; **chemicals**, such as cleaning fluid or rat poison; or **unwanted and/or dangerous things**, such as glass or metal fragments.

2 We need to know the points at which the food risk can be eliminated corrected or reduced. Examples are refrigeration, cooking, and packaging.

3 For a cooked food, this would include setting the minimum cooking temperature and time required to ensure any harmful germs are killed.

4 Such checks (monitoring) include determining what, when, how and by whom cooking time and temperature should be checked and what is to be recorded (written down) and what has to be done and by whom if things need correcting.

5 For example, re-cooking or disposing of food if the minimum cooking temperature is not met.

6 This could include testing your oven thermometer and/or thermostat to verify that a cooking unit is working properly.

7 This would include records of hazards and their control methods, checks done and things fixed – make sure you can repeat good things and change bad things.



Revision of the Basics

1) Stop germs growing:

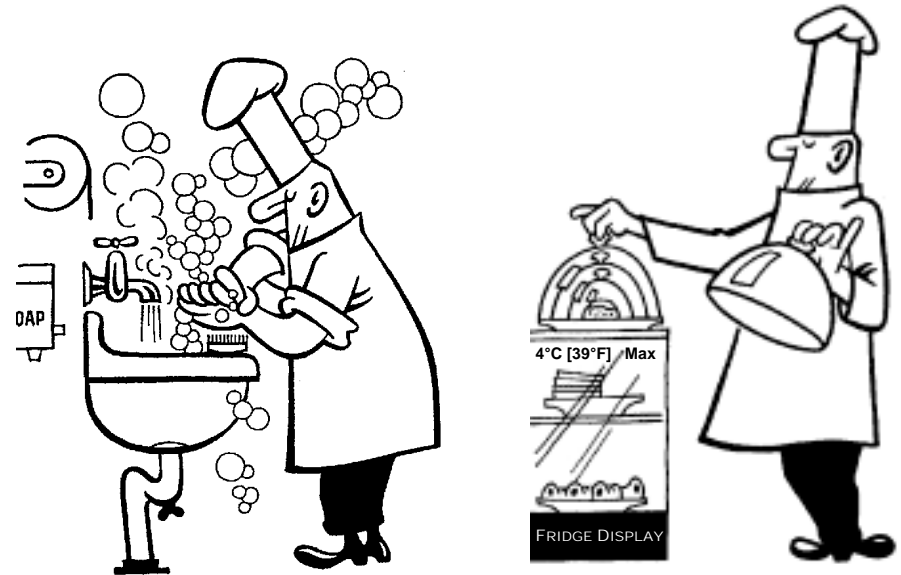
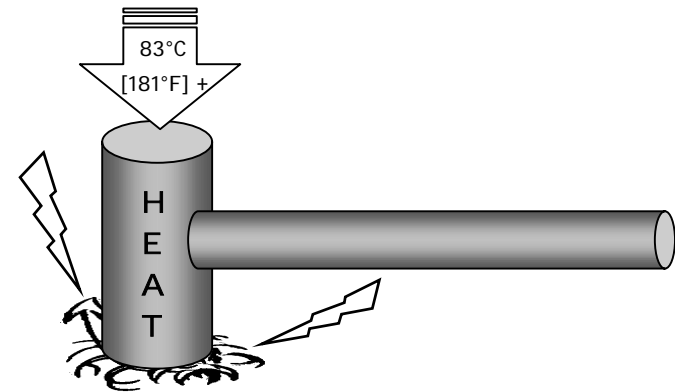
- store foods at a temperature out of the 'danger zone' (between 4°C [39°F] and 65°C [149°F] – that is store in fridge or keep piping hot);
- do not leave high risk food at room temperature for more than a maximum total of two hours!
- food should be recooked rather than reheated, especially meat and poultry, so they are piping hot throughout;
- use cooked foods that have been stored in the refrigerator, within two to three days;
- never reheat (recook) food more than once;
- wash all fruit and vegetables thoroughly;
- thaw frozen food in the refrigerator or microwave, don't re-freeze thawed foods.

2) Protect food:

- keep raw and prepared foods separate during preparation, serving and storage;
- store prepared foods above raw foods if in the same refrigerator (separate refrigerators for raw and cooked foods is best);
- store foods in covered containers whether in the fridge or the cupboard;
- keep food storage, preparation areas and equipment clean by using hot soapy water. It is a really good idea to have separate cutting boards (use different coloured boards) for raw foods such as meat and poultry, and ready to eat foods such as cheese, cooked meats and salads.

3) Keep clean:

- ensure good personal hygiene including hand washing and nail brushing after handling raw foods, money, refuse (garbage), using the toilet or habits such as blowing nose or wiping hair;
- do not cough or sneeze over food;
- do not smoke anywhere in or near a food room (handling cigarettes puts saliva and bacteria from skin or lips onto your hands which may then contaminate the food) – in fact the best thing is don't smoke at all!



Last Words

Why is Hand Washing Important?

Obviously because food handlers touch food! As soon as hands touch food any germs your hands can be transferred to the food, and once there they are going to grow to levels that can cause sickness given the right conditions. Washing hands after visiting the toilet is a golden rule – studies have shown that human faeces (poo) contains on average 1000,000,000 germs in every gram. A gram of poo would easily fit under your fingernails!! Food workers hands should be so clean that you could happily put their fingers in your mouth (after all that's where the food is going to once they have touched it isn't it!).

Food Gloves

Use of gloves does not stop the need for hand washing – plastic gloves can transfer germs just as quickly as bare hands – gloves can give a dangerous false sense of security. Best plan is to use them once for a specific job (such as handling cooked meat) then dispose them! Also make sure you use only food safe gloves, latex gloves can make allergic people sick!

The Importance of a “Clean Image”

It is one of the strange things about food safety that it is possible to prepare clean, safe, quality food in very poor surroundings and on the other hand, unsafe food can be produced in a place that looks as clean as a hospital operating theatre! The main issue is the way that you and your co-workers handle the food safety factors. HOWEVER a bright and clean shop, store or kitchen together with bright and clean staff produces two rewards:

- 1 Your customers will have a sense of confidence in that your food will be safe because you and your premises look (and smell) clean and tidy;
- 2 Your food workers will be more careful about food safety in a bright and clean premises simply because they are working in a clean and tidy environment. If the environment is untidy, and looks unclean, workers are more likely to think that food safety and hygiene are not important issues. So will your customers who will go elsewhere!

Walking the Talk

If anyone gets sick after eating at your workplace, chances are high your workplace will get the blame! Such things can be a real risk to your job. This is one time that you are 'presumed guilty' and its up to you to prove yourself innocent! No matter how good your food safety standards are, the customer who bought the food may have no idea about food safety. The safe quality food you have just sold them can become dangerous to eat through their unsafe handling. It is therefore absolutely essential that you have good written records of safety checks, from the time you receive the food to the time it is sold. You must be able to prove that it was just about impossible for the food to have become unsafe whilst in your hands. It's not just the concern that someone has become ill or worse. Suppose your workplace gets closed down? Where will you get another job? You must be able to prove that your systems are without fault. So make sure that you 'Walk the Talk'.



"Get the Knowledge, Make the Commitment, Walk the Talk"

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You've Finished!

Congratulations, you have finished the 'Easy Learn Notes' and are close to completing the learning part of the SafeFoodHandler.com Programme.

On the SafeFoodHandler.com web you will find the Application Form and payment on a secure web-site for your next step to becoming a **'Safe Food Handler'**.

When you have completed the on-line payment/application form, you will be sent your personal 'SafeFoodHandler' registration number. You will also be given a web link to the 'check sheet' stage of the programme. Note that multiple applications can be made on one form and that these will receive a discounted price.

The 'Easy Learn Notes' and Check Sheet have been carefully designed for you to fully understand the basics of food safety.

The Check Sheet is not a memory or intelligence 'test' - it is simply to assess that you have read the notes and have a basic understanding of food safety.

You are encouraged to revise (go over again) the 'Easy Learn Notes' whilst completing the Check Sheet and to discuss the questions on the Check Sheet with others.

The important thing is to make sure you understand the basic principles of food safety, so if you have any difficulties please let us know.

The next step is to send us your completed check sheet form. Note you must answer 45 out of the 50 questions correctly to continue onto the next stage in the programme – your check sheet results will be sent to you so that you can recheck on any areas where you may have gone wrong. If for any reason you do not correctly answer at least 45 questions, you will be informed and invited to try another attempt at no further cost.

Finally your Agreement, signed by an Environmental Health Officer will be mailed to you together with your **'SafeFoodHandler.com'** badge, which is a trademark that may only be worn by those who have completed the programme.

When you countersigned the agreement that completes the programme.

That's all there is to it!

If you have any questions about the 'Easy Learn Notes', Check Sheet or any other queries about the SafeFoodHandler.com programme please do not hesitate to contact Environmental Outcomes or visit our web site: **SafeFoodHandler.com**



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