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Topic 1 Food safety hazards, regulations and programs

The Food Standards
Code and government
regulations provide laws
and guidelines aimed at
preventing occurrences
of food poisoning. It is up
to everyone who handles
food or who has contact
with food surfaces in their
job to follow food safety
procedures to keep food
safe for customers, clients,
co-workers and themselves.

In this topic you will learn about: **1A** Health hazards

1B Laws, regulations and regulators

1C Food safety programs

1A

Health hazards

A hazard is anything that has the potential to cause harm. There are a number of hazards associated with food that can cause illness or even poisoning. These are managed through food safety programs and information provided to the public.

If you handle food or touch surfaces used to prepare food, such as benches, you could contaminate food, which can cause illness to yourself and others. Food contamination largely occurs when hygiene practices are not followed carefully.

Food served in cafes, restaurants, market stalls and homes is more diverse than in past years, largely due to food trends and greater influences from around the world. This creates a range of health hazards, including:

- · infectious diseases
- · airborne diseases
- foodborne diseases
- biological, physical or chemical contamination

You may have read or heard about incidents of food poisoning or have personal experience of the discomfort and, in some cases, danger that can be caused by contaminated food.

Lily has just started work as a waitress and she is having a discussion about food safety with Dave, a chef.

Read the discussion between Lily and Dave.

Lily



Hi Dave, I haven't seen salami included in our menu dishes before. Is that what you are cutting up over there?

Dave







I heard it is a risky product to handle. Last Christmas someone in Victoria died and six others were really sick. You have to take care refrigerating those foods and then cooking them to the right temperature.



Yeah and staff training is also important, as well as our food safety program. It helps us monitor the safety and cleanliness of the restaurant.

If you ever have any questions about it, ask me, but I think it was covered pretty well in your induction.



Yes, I will and thanks. I'd better get back to clearing the tables!

Infectious diseases

Infectious diseases are caused by microorganisms, such as bacteria, viruses, parasites and fungi. They can spread from one person to another either directly or indirectly.

Examples of infectious diseases include influenza (flu), shingles, measles, whooping cough, staph infections and gastroenteritis.

In contrast, non-infectious diseases, such as cancer and heart disease, can't be spread from one person to another.

It is important not to work when you are ill, especially if you handle food. Infectious diseases can spread in small drops of saliva when coughing or talking. Contamination can also occur from direct contact such as shaking hands, touching a door knob or a dirty tea towel.

You can take simple measures to prevent disease transmission, like washing your hands and wearing gloves.

You will read more about preventing food contamination later in this learner guide.

Airborne diseases

Airborne diseases are spread when droplets of saliva travel through the air due to coughing, sneezing or talking.

Viruses and bacteria can become airborne and infect another person.

Examples of viruses include meningitis and influenza (flu).

Bacteria and viruses can be spread and infect another person when an infected person:

- breathes on food
- · coughs or sneezes on a surface
- makes direct contact with another person.

What do you think a food handler should do if they have a cold?



Potentially hazardous foods and foodborne diseases

Foodborne diseases can occur from natural contaminants in food from high-risk food groups.



The Australia New Zealand Food Standards Code defines potentially hazardous foods as food that has to be kept at certain temperatures to minimise multiplication of any food-poisoning bacteria that may be present in the food or to prevent the formation of toxins in the food. A toxin is a harmful matter caused by bacteria in food.

Potentially hazardous foods must be kept at 5°C or colder, or at 60°C or hotter. This is to minimise the growth of bacteria that could cause food poisoning and to stop toxins from growing. Some of these foods contain bacteria such as salmonella or listeria. They should be cooked thoroughly and stored correctly.

High-risk and potentially hazardous foods include:

- raw, cooked and processed meats and meat substitutes, such as tofu
- · poultry, eggs and egg products
- · all canned goods once opened
- shellfish, crustaceans and fish
- · dairy and dairy products
- · salad, coleslaw and fruit salad
- · cooked rice and pasta
- beans and legumes, such as chickpeas, that are partially cooked or reconstituted (restoring food to its natural state)
- · stuffings and offal
- · dried food that has been reconstituted.

You can read more about foodborne illnesses by searching for 'Foodborne illness' at: www.health.gov.au.

Contamination

Contamination means making something impure or unclean.
Something that causes contamination is called a contaminant.

Food can become contaminated when bacteria, foreign particles or chemicals come into contact with it. Some types of bacteria are pathogens, causing disease.

Standard 3.1.1 of the Food Safety Standards Code defines a 'contaminant' as any biological or chemical agent, foreign matter or other substance that may compromise food safety or suitability. It defines contamination as 'the introduction or occurrence of a contaminant in food'.

It also provides details of different types of contamination, as outlined here.

Biological contamination

Biological contaminants include mould, viruses, parasites and insects. Raw food contains bacteria which is also a biological contaminant. If raw food is cooked thoroughly, to over 75°C, most bacteria will be killed.

If food that has been cooked comes into contact with raw food or any other contaminant, bacteria can contaminate this cooked food. This is called cross-contamination.

To avoid this, take the following steps:

- Do not use the same knives, chopping boards or other equipment for different types of food.
- If it is not possible to use different equipment, wash equipment thoroughly in hot soapy water.
- Follow your organisation's colour chopping board system.
- Clean and sanitise equipment before each use.
- Wash your hands as per hand-washing recommendations.
- Thoroughly rinse all fruit and vegetables in clean water.
- Always use clean tea towels to dry food.

Physical contamination

Physical contamination is the most identifiable cause of food spoilage. It can be intentional or accidental, but either way the food will be contaminated to the point where it is unable to be consumed and may cause harm.

The most common examples of physical contamination are things such as:

- bandaids
- labels
- hair
- · pieces of steel wool from cleaning
- pieces of plastic or glass.

To help avoid this contamination you should use the personal protective equipment (PPE) provided by your workplace (for example, gloves and hair ties). You must follow the policies and procedures that are in place. Always be diligent with the work you do to ensure the safety of the food you handle.

Chemical contamination

Common causes of chemical contamination include cleaning products, fly spray, and unwashed fruit and vegetables.

Oxidation is another type of chemical contamination. Apples, pears, fats and wines are good examples of foods that will oxidise. For example, oxidation may occur when cut fruit is exposed to the air and reacts with the oxygen, causing the fruit to turn brown.

You can watch videos on cross-contamination and other food safety advice at: http://foodsafety.asn.au/video-resources.





Activity 3: Contamination

Think about the sources of food contamination that you have read about.

Read each statement and select either true or false.

Question 1	Raw beef that comes into contact with cooked beef is causes chemical contamination.		
	★ True	★ False	
Question 2	Hair in food is a physical contamination.		
	⊀ True	★ False	
Question 3	Unwashed fruit is a potential source of a physical contamination.		
	⊀ True	★ False	
Question 4	Food that is cooked according to the organisation's procedures is a hazard.		
	★ True	★ False	
Question 5	An unclean tea towel is a source of biological contamination.		
	★ True	★ False	
Question 6	Using fly spray in a food preparation area is an example of a physical contamination.		
	★ True	★ False	

Identify health hazards when handling food

Health and safety is about keeping everyone safe: your customers, coworkers and yourself. It is everyone's responsibility to do the right thing.

Each workplace has policies and procedures in place, not just because it is a legal requirement, but also to protect staff and customers. The procedures are there to maintain everyone's safety and to help you complete tasks in a logical order.

Food must be stored, prepared and handled in a safe manner. You need to keep food items, equipment and premises safe by reporting and fixing any identified issues. You will also be expected to follow specific workplace policies.

Health and safety is about identifying hazards and taking actions to minimise risks to everyone you interact with at work.

These are two hazards to watch out for that may affect the health of customers, co-workers and yourself.



Identify food spoilage

You need to be aware of and notice changes in the appearance of the food, including its colour, texture, sound (such as bubbling) and smell. Its taste can also indicate that it's spoiled. You must discard anything that is spoiled – if in doubt throw it out!

If you can minimise food spoilage, you can help to reduce food poisoning in your workplace.

Identify food contamination

You cannot always see, smell or taste contamination in food, so following correct practices such as consuming food before its use-by date are important.

Food poisoning is not always easy to identify, which can make it difficult to determine what food was contaminated and why. Food poisoning can incubate in the body for up to six weeks. If the cause cannot be found, action to prevent it from occurring again might not be taken.

1B Laws, regulations and regulators

Food handlers work in a wide range of settings and handle food for a variety of clients. The risk of hazards depends on both the setting and the type of customers you are working with.

Consider differences between these settings:

- restaurants, cafes, clubs, hotels, bars and tour operators
- attractions, functions, events, exhibitions and conferences
- educational institutions, including childcare centres
- · aged care facilities
- · correctional centres, such as prisons
- hospitals
- · defence forces
- · cafeterias, kiosks, canteens and fast food outlets
- residential catering
- in-flight and other transport catering.

Consider how risky a foodborne infection such as a cold might be to someone who is in hospital with a reduced immune system.

When dealing with food that is provided to customers, it is important that to do everything you can to make the food safe for consumption. The food and beverage industry has been separated into classifications. These classifications help to businesses and employees determine and set critical limits for the storage, production, preparation and service of food.



Food safety laws and procedures

Laws and regulations are developed to protect everyone's safety when consuming food and drinks.

It is your employer's responsibility and your responsibility as an employee to participate in hygienic practices. This includes following:

- your organisation's food safety program
- food safety laws, Standards and regulations set by the Commonwealth, state and territory governments and local councils
- procedures for hygienic practices, including hand-washing and cleaning procedures.



The Department of Health, which is part of the Commonwealth Government, develops policies to protect the safety of the public when they consume food and beverages. For example, it has developed policies on health and nutrition to guide Australians to making healthier choices.

State and territory governments then develop and implement legislation, in which the policy becomes an enforceable law. Examples of these laws are the Queensland *Food Act 2006* and the Tasmanian *Food Act 2003*. The acts specifically state what a food business and its employees must or must not do by law, and include details of penalties.

The local council is then able to enforce these laws in the workplace. For example, environmental health officers are employed by the council to monitor food safety at businesses selling food in their local area.

All these government bodies work together to provide Australia and New Zealand with strong food safety standards. The standards apply to:

- food safety programs and practices
- business premises that prepare or sell food
- equipment and practices used to prepare and serve food, including serving food to vulnerable people.

You can find information about food safety and standards that apply to food handlers at:

• www.foodstandards.gov.au.

Australia New Zealand Food Standards Code

All food businesses operating in Australia and New Zealand have codes and standards that they must work within to operate legally and to maintain the safety of staff and customers.

Standard 3.2.2 of the Food Safety Practices and General Requirements sets out food-handling controls for:

- receiving, storing and processing food
- · displaying, packaging and transporting food
- · disposing of and recalling food.

Other requirements relate to:

- the skills and knowledge of food handlers and their supervisors
- the health and hygiene of food handlers
- cleaning, sanitising and maintaining the food premises
- cleaning, sanitising and maintaining equipment.

These requirements ensure that food does not become unsafe or unsuitable. To operate, food businesses must comply with this standard and all food handlers they employ must meet their responsibilities

The Food Standards Code applies widely in the food industry. For example, labels on canned foods must follow the Food Standards Code.

Many state, territory and local government food safety authorities produce plain English versions of regulatory documents.

You can find examples of these at the food standards website (www.foodstandards.gov.au). Search for user guides to the Food Standards Code.



Industry classifications

Food businesses are classified for safety and regulation purposes when they are registered with local councils. This is based on the food being served and the level of risk posed to clients it is served to. The level of risk depends partly on the client group; for example, elderly people and young children have more difficulty fighting illness.

In the Victorian system of classification illustrated below, you can see that regulations are less strict in Class 3 and Class 4 businesses than Class 1 and Class 2 businesses as the risks in serving food are not as great. Other states and territories classify food businesses in a similar way.

Use the internet to find the industry classifications for your state or territory.

Class 1

Businesses that handle and serve potentially hazardous foods to high-risk groups, e.g. hospitals, aged care homes and childcare centres.

Class 2

General retail and food businesses that serve high-risk food to the public, e.g. restaurants, cafes, delicatessens and caterers.

Class 3

Includes fruiterers selling cut fruit, wholesalers of pre-packaged fresh food and bakeries.

Class 4

Businesses with low-risk packaged goods such as confectionery.

Food hazards in specific industry sectors

Food businesses have specific issues because of the quality of the food that is served, the nature of the business and the characteristics of customers.

The following provides a brief explanation of hazards, and sources and effects of microbiological contamination of food in each classification.

Each classification has the same workplace hygiene hazards when handling food and food contact surfaces:

- bacterial
- chemical
- physical.

Classification	Examples of industry sectors and food safety hazards	Sources of microbiological contamination	Other causes of contamination and foodborne illness
Class 1	 Early childcare, aged care and hospitals including hospice care. Kitchens in care centres that serve high-risk food to vulnerable people. 	Hazardous food groups such as meat, dairy, seafood and poultry	 Lack of personal hygiene Cross-contamination Poor storage Incorrect cooking temperatures Allergic reactions Bacterial growth
Class 2	 Restaurants, hotels, tour operators, event catering, cafeterias and fast food outlets. Businesses that handle unpackaged potentially hazardous foods that need correct temperature control during the foodhandling process. 	Hazardous food groups such as meat, dairy, seafood and poultry	 Lack of personal hygiene Allergic reactions Cross-contamination Poor storage Incorrect cooking temperatures Bacterial growth
Class 3	 Kiosks, canteens, convenience stores, milk bars and wholesalers. Businesses that supply or handle unpackaged low-risk foods, or sell pre-packaged potentially hazardous foods that need refrigeration to keep them safe. 	 Selling low-risk foods (pre-packaged or unpackaged) Selling pre-packaged high-risk foods Reheating and selling pre-packaged foods Other lower risk activities 	 Lack of personal hygiene Cross-contamination Poor storage Incorrect reheating temperatures Bacterial growth
Class 4	 Bottle shops, pharmacies, green grocers, wine tastings. Businesses that have pre-packaged confectionery, uncut fruit and vegetables, and simple sausage sizzles where the sausages are cooked and served immediately. Food-handling activities that pose low risk to public health. 	 Fruit, vegetables, canned goods and dried products Some ready-to-eat meat products such as sausages 	 Lack of personal hygiene Cross-contamination Poor storage Incorrect cooking/ reheating temperatures Bacterial growth

1C

Food safety programs

A food safety program outlines policies and procedures that are required by law and will also help to maintain the safety of the food, the customers and staff.



It is a legal requirement for all Class 1 and Class 2 food businesses to have a food safety program. Class 3 businesses are recommended to train staff in food safety and must keep simple food safety records. Class 4 has no compulsory requirements.

Records need to be completed to monitor the food and the food-handling practices in the workplace.

There is a very large range of organisational records that a workplace is required to complete. These include:

- · Cleaning schedule
- · Illness record
- · Food handler training record
- · Approved food suppliers list
- · Goods receiving form
- Pest control inspection report
- Cold storage record

All records need to be completed accurately and consistently.

What is a food safety program?

A food safety program is a written plan that shows how your business will manage the safety of the food you prepare, serve, manufacture or sell.

It is your plan for serving safe food. You need to be able to identify and understand documents that are part of the plan and relevant to your work role.

Food safety programs are based on the principles of an internationally accepted system for reducing the risk of food hazards called Hazard Analysis Critical Control Point (HACCP).

Food safety programs must identify, evaluate and control hazards associated with the organisation's food processes. They look at food preparation from the time food is purchased from the supplier to the time it is consumed by customers.

The program provides guidance to:

- · food handlers
- · food safety supervisors
- · environmental health officers
- · auditors.

The food safety program must be reviewed annually to ensure it is still appropriate and fits with your business.



Read the following workplace example to see how the concepts you have learned are applied in a real-life situation.

Workplace example for Topic 1

A workplace should have plans and schedules in place for completing the food safety information. Templates should also be developed to complete induction training and ongoing training with staff.

Shaun arrives in the kitchen ready to begin work and follows the kitchen opening procedure:

- 1. He opens the doors and turns the lights on.
- 2. He changes into his uniform.
- 3. He washes his hands.
- 4. He inspects the workplace for pests and inspects storage areas for any signs of contamination to ensure all food is safe.
- 5. He disposes of any contaminated or out-of-date food.
- 6. He completes records for storage areas.
- 7. He identifies and resolves hazards as they arise.
- 8. He sanitises the benches.
- 9. He sets up the workstation.
- 10. Finally, he plans a logical work order for the preparation of food.

Watch the workplace example video [00m:52s] here.







Summary of Topic 1

- 1. Food safety is everyone's responsibility.
- 2. There are three types of food contamination: physical, chemical and biological.
- 3. Bacteria can spread onto surfaces by breathing, coughing or sneezing on them.
- 4. Infectious diseases can spread by touching contaminated surfaces, such as a door handle.
- 5. Food poisoning can cause short-term and long-term symptoms and effects.
- 6. Early identification of hazards will minimise harm.
- 7. Commonwealth, state/territory and local governments work together to provide Australia and New Zealand with strong food safety standards.
- 8. Local government environmental health officers inspect venues to ensure safety and compliance.
- 9. Penalties can apply to all people in the industry who negligently mishandle food.
- 10. A food safety program will outline policies and procedures that are required by law and will also help to maintain the safety of the food, customers and staff.
- 11. HACCP documents and guidelines provide information about handling food safety at critical control points, such as when food is received and when it is stored.



Topic 2 Personal health and hygiene

If you handle food as part of your work, what you do at work could directly affect the food and the customers who eat it.

A food handler is someone who directly handles food or touches food contact surfaces. This includes people who may only have contact with cutlery and crockery, such as a room attendant in a hotel. Many different roles require workers to use good hygienic practices to keep food safe.

You need to understand how you can protect food. You have a legal and moral obligation to make sure that the customers you prepare food for will be safe from food-related illness.

Your workplace should supply you with the equipment and supplies needed to prepare and handle food in a safe manner, including aprons and disposable gloves. You must take responsibility for your own actions and work within the policies and procedures in the workplace.

In this topic you will learn about:

2A Hygienic work practices

2B Hand-washing procedures

2A

Hygienic work practices

Food handlers have a legal responsibility to do everything they can to avoid making others sick.



The Australia New Zealand Food Safety Standards require that food handlers take all reasonable measures to make sure that nothing from their bodies or clothes contaminates food or surfaces used to prepare food. You can be prosecuted if you handle food negligently; for example, putting food that has fallen on the floor back onto a dish to be served. Follow workplace procedures and do not take shortcuts such as preparing food with bare hands instead of using gloves.

Food handlers should not:

- sneeze, breathe or cough over unprotected food or food surfaces
- spit, smoke or use tobacco in food preparation areas
- undertake any other unhygienic practices such as touching their nose, mouth or hair during food preparation
- work with food when they are unwell
- store personal belongings in food preparation areas
- sit or lean on food preparation benches or areas.

Follow procedures

Each workplace involved in handling food should have procedures to ensure hygienic work practices protect staff and customers.

Common hygiene procedures to keep food safe in all industry sectors and organisations involve:

- · maintaining personal hygiene
- handling food and beverages safely and hygienically
- undertaking regular hand washing
- wearing suitable dress and personal protective equipment (PPE)
- following training and procedures, including procedures required by the Food Standards Code.

In industry sectors where high-risk foods are handled, you may need to follow additional procedures, including:

- storing food correctly; for example, discarding food that has been kept at room temperature for more than four hours
- avoiding cross-contamination; for example, by using utensils and wearing a uniform and gloves
- safe handling of dirty linen, including tablecloths, serviettes, aprons and towels
- storing, preparing, cooking and serving food according to the organisation's food safety program.

Report personal health issues and instances of contamination

You must protect customers and coworkers from any illness you experience before, during or after handling food or food contact surfaces.

If you experience vomiting or diarrhoea, or symptoms that indicate a cold or infection, report this to your supervisor immediately.

Sometimes you may learn much later that you have unknowingly been a carrier of an infectious illness such as Hepatitis A. If you think you may have contaminated food, you should report it straight away to reduce the risk of infection being spread further. If this is the case, the food will need to be recalled.

Report hazards to your supervisor quickly so that the safety in the workplace can be managed at all times. Certain serious food incidents must be reported so that health authorities can communicate with members of the public to minimise harm.



If you see another staff member not working in a safe manner when handling food, it is up to you to take action. You may need to talk to them and inform them of the potential risks. Always be tactful and consider any possible barriers to your message.

If this does not work, you will need to report the unsafe practices to your supervisor or manager.

Organisational procedures may require that you or your supervisor complete an incident report. Always complete these legibly and carefully. If you are unsure of how to complete one, ask your supervisor or a co-worker for help.

When a hazard is identified, take action to minimise it. Remove the hazard if possible and inform your manager or supervisor. For example, if you notice that some meat pies have been cooked and left in a cold oven, this indicated they have spent too long at an unsuitable temperature. Place the pies in a bin and advise your supervisor.

You can read about how governments respond to food incidents such as salmonella contamination of food at: www.foodstandards.gov.au/industry/ FoodIncidents/Pages/default.aspx.

Hygienic work practices for specific job roles

Everyone has a responsibility to prevent food contamination. The level of responsibility varies based on a person's job role.

Now that you have read about the various ways to prevent food from becoming contaminated, it is important to understand how this differs for different job roles in different sectors.

Everyone in every sector that handles or sells food has a responsibility to use hygienic work practices to prevent food contamination. However, if a food business is small and serves only low-risk foods, such as packaged goods, one staff member may be responsible for establishing and maintaining the overall hygienic work practices.

Here are the responsibilities for specific job roles.

Head chef



- Ensures all food safety and HACCP plans are developed and maintained.
- Ensures that laws and regulations are complied with.

Chef



- Completes cooking, preparation and storage of food in a safe and hygienic manner.
- Maintains the safety of the kitchen within the policies and procedures from the HACCP plan.
- Assists with training junior staff in hygiene and other daily tasks.

Caterer



 Cooks, prepares, stores and transports food in a safe and hygienic manner.

Kitchen steward



- Washes and sanitises dishes.
- Maintains the safety and hygiene of the kitchen.
- Prepares food following the supervisor's instructions.

Kitchen hand



- Washes and sanitises dishes.
- Maintains the safety and hygiene of the kitchen.

Bar staff



- Maintains hygiene and cleanliness.
- Prepares some food items under the supervision of a food safety supervisor.

Food and beverage attendant



- Serves customers with hygiene and safety in mind.
- Clears dishes and cleans tables.

Use hygienic cleaning practices

Hospitality businesses must maintain their venue and equipment to a high standard of cleanliness. This involves ensuring that garbage, recycled material, food waste, dirt and grease are controlled and kept to a minimum.

When fresh food comes into contact with dirty equipment or surfaces, bacteria will be transferred. This will include the surface area of the preparation and storage areas, and the utensils that are been used.

Sanitisers are designed to kill or limit the growth of bacteria. There are two types of sanitisers: heat and chemical.

Temperatures above 75°C can kill most bacteria. Commercial dishwashers operate above this temperature, making them an efficient way to sanitise large amounts of items in one go. Hot water from a tap will generally only reach about 53°C, which is not suitable for sanitising dishes.

Chemicals are used after detergents to sanitise. Sanitisers will kill and reduce the number of bacteria. Make sure your chemical sanitiser is 'food grade' and is diluted correctly. Check the label or with your supplier.

Follow this process when completing cleaning duties:

1. Pre-clean	Scrape, wipe or sweep away food scraps and rinse with water.
2. Wash	Use hot water and detergent to remove any grease and dirt. Soak if needed.
3. Rinse	Rinse off any remaining loose dirt or detergent.
4. Sanitise	Use a sanitiser to kill any remaining bacteria.
5. Rinse	Wash off sanitiser if required by the manufacturer's instructions.
6. Dry	Allow to air dry.

Remember that using hygienic cleaning practices must be followed to avoid foodborne illnesses.